

ENVIRONMENTAL  
PROTECTION

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**QUARTERLY GROUNDWATER  
MONITORING AND SAMPLING  
AT THE PROPERTY  
LOCATED AT 5175 BROADWAY STREET  
OAKLAND, CALIFORNIA  
MARCH 3, 1999**

**PREPARED FOR:  
MR. MOHAMMAD MEHDIZADEH  
678 LA CORSO DRIVE  
WALNUT CREEK, CALIFORNIA 94598**

**BY:  
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**ENVIRO SOIL TECH CONSULTANTS**

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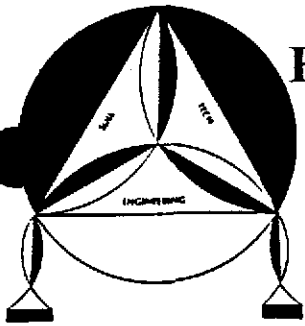
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March 3, 1999

File No. 8-90-420-GI

**Mr. Mohammad Mehdizadeh**

678 La Corso Drive

Walnut Creek, California 94598

**SUBJECT: QUARTERLY GROUNDWATER MONITORING  
AND SAMPLING AT THE PROPERTY**

Located at 5175 Broadway Street, in  
Oakland, California

Dear Mr. Mehdizadeh:

This report presents the results of quarterly groundwater monitoring and sampling conducted on January 28, 1999, by Enviro Soil Tech Consultants (ESTC), at the subject site located at 5175 Broadway Street, in Oakland, California (Figure 1).

The five monitoring wells (MW-1 through MW-3, STMW-4 and STMW-5) located on-site (Figure 2) were monitored for presence of floating product and/or distinctive odor and sampled for analyses.

This quarterly monitoring and sampling was conducted in accordance with STE's work plan dated October 5, 1994 and October 10, 1996 letter from Alameda County Health Department requesting immediate initiation of quarterly monitoring program.

**PURPOSE:**

**SITE DESCRIPTION:**

The site is located at 5175 Broadway Street, in Oakland, California. The area in the vicinity of the site consists mainly of residential and light commercial (Figure 1).

**BACKGROUND:**

In January 1990, Tank Protect Engineering, Inc. (TPE), was retained to supervise the removal of underground fuel tanks and to conduct soil sampling, soil excavation, soil treatment and disposal. In addition, TPE installed three monitoring wells on-site.

Initial analytical results of soil samples collected from the tank excavation area showed moderate levels of Total Petroleum Hydrocarbons as gasoline (TPHg) in two locations. The rest of the samples showed TPHg ranging from non-detected to less than 120 parts per million (ppm). Due to the presence of elevated levels of TPHg detected in the excavation, TPE installed three on-site monitoring wells (MW-1 to MW-3), as required by state and local regulatory agencies (Figure 2). TPE's preliminary groundwater assessment also indicated that the shallow groundwater had been impacted.

The Alameda County Health Department (ACHD) requested the property owner to conduct further investigation in order to define the extent of dissolved hydrocarbon contamination in the groundwater.

Soil Tech Engineering, Inc. (STE), was retained in September 1990 to conduct monitoring and sampling of the on-site monitoring wells. The objective of the quarterly groundwater sampling program was to monitor seasonal and long-term variations in the conditions of the shallow aquifer beneath the site and to assess the direction of groundwater flow for further investigation.

STE sampled the three on-site groundwater monitoring wells (MW-1 to MW-3) on September 26, 1990, and January 14, 1991. The sampling was conducted in accordance with ACHD and California Regional Water Quality Control Board (CRWQCB) guidelines and STE's Standard Operating Procedures (SOP) included in Appendix "C".

The three on-site wells contained moderate to high levels of dissolved hydrocarbons. A comparison of the September 1990 sampling with TPE's analytical results of April 1990 showed an increase in dissolved hydrocarbons in wells MW-1 and MW-2. In well MW-3 (the down-gradient well), TPHg and Toluene levels decreased, whereas Benzene, Ethylbenzene and Total Xylenes increased slightly.

The analytical results for groundwater samples collected on January 14, 1991, showed an increase in TPH and BTEX levels in well MW-2 compared to those reported in September 1990. Well MW-1 also showed a slight increase in TPH and Benzene, but showed a decrease in Toluene, Ethylbenzene and Total Xylenes levels. Well MW-3 showed a substantial decrease in TPH and BTEX.

The Alameda County Health Department (ACHD) in a letter dated March 29, 1991, requested additional investigation to define the extent of dissolved hydrocarbon plume. STE installed two additional monitoring wells STMW-1 (STMW-4) and STMW-2 (STMW-5) on June 21, 1991. The July 3, 1991, water sampling results showed low levels of dissolved Total Hydrocarbons as gasoline (TPHg) and Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX) in all five wells. The presence of low levels of TPHg and BTEX in the up-gradient well, STMW-1 (STMW-4), (located on the east corner of the property) indicated a potential off-site source. Based on the water level data, the groundwater direction was west to southwest on July 3, 1991. The detail of this investigation is summarized in STE's report dated July 23, 1991. STE recommended a quarterly monitoring and sampling of five on-site wells for at least a year.

The second quarterly sampling was conducted in November 1991. The detail of the sampling is described in STE's report dated November 22, 1991. The quarterly monitoring and samplings conducted by STE are described in STE's report dated March 10, 1992, June 1992, October 1992 and January 1993.

The last quarterly monitoring and sampling was conducted by STE on August 15, 1994, details in STE report dated September 20, 1994. STE prepared a work plan proposal for additional soil and groundwater investigation of the property dated October 5, 1994 but no further activity on the subject site was authorized by the owner. Hence, there was a discontinuation of quarterly monitoring and sampling activity from August 15, 1994 to November 7, 1996. The quarterly monitoring and sampling activity resumed on November 7, 1996.

#### **SCOPE OF PRESENT WORK:**

The scope of present work are as follow:

- 1) Measure the depth-to-groundwater and monitor the presence of dissolved petroleum hydrocarbons in the five on-site wells.
- 2) Collect groundwater samples from the monitoring wells for analyses of Total Petroleum Hydrocarbons as diesel and gasoline (TPHd and TPHg), Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX) and Methyl Tertiary Butyl Ether (MTBE).
- 3) Per new regulations, groundwater samples were also analyzed for petroleum hydrocarbons constituents adaptive Volatile Organic Compounds (VOC's) per EPA Method 8260B].
- 4) Update the database for water level/dissolved hydrocarbon level and groundwater



**CURRENT FIELD WORK:**

On January 28, 1999, the five on-site wells were monitored, purged and sampled in accordance with ESTE's Standard Operating Procedures (SOP) (Appendix "C"), which comprise state and local guidelines.

*GROUNDWATER MONITORING:*

During field observation, ESTC staff detected light rainbow sheen and slight sewerage odors in monitoring well MW-1. Only slight sewerage odor was noted in monitoring well MW-2. Rainbow sheen and strong sewerage odors were noted in monitoring wells MW-3 and STMW-4. Rainbow sheen and strong petroleum odor were noted in monitoring well STMW-5. Table 1 summarizes the groundwater monitoring data and laboratory analytical results.

*GROUNDWATER SAMPLING:*

Following groundwater monitoring, the on-site wells were purged at least five well volumes and sampled. The water samples were collected in 40 millimeter glass vials and 1 liter amber bottles with teflon-lined caps, labeled and placed in an ice-cooled chest for transportation to Entech Analytical Labs, a State-Certified laboratory with appropriate chain-of-custody record.

**GROUNDWATER FLOW DIRECTION:**

Groundwater elevation data was used to determine the direction of groundwater flow. Groundwater flow was approximately in a westerly direction as of January 28, 1999.

**LABORATORY RESULTS:**

The groundwater samples were analyzed for TPHd, TPHg, BTEX and MTBE. In addition, per new regulations, groundwater samples were also analyzed for petroleum hydrocarbons constituents [Volatile Organic Compounds (VOC's) per EPA Method 8260B].

Groundwater sample from monitoring well MW-1 detected only low level of TPHg at 0.11 milligrams per liter (mg/L). Groundwater sample from monitoring well MW-2 detected low levels of TPHg at 1.6 mg/L; BTX at (0.082 mg/L; 0.016 mg/L and 0.04 mg/L) and MTBE at 0.059 mg/L. TPHd and Ethylbenzene concentrations were below laboratory detection limit in water sample from monitoring well MW-2. Water sample from monitoring well MW-3 detected moderate level of TPHg at 33 mg/L and low levels of BTX at (0.27 mg/L; 0.11 mg/L and 0.77 mg/L) and MTBE at 0.17 mg/L. Monitoring well MW-3 detected TPHd and Ethylbenzene concentrations below laboratory detection limit in the water sample. Monitoring well STMW-4 detected moderate level of TPHg at 32 mg/L and BTEX at (0.66 mg/L; 0.016 mg/L; 0.016 mg/L and 0.15 mg/L), respectively. TPHd and MTBE concentrations were below laboratory detection limit in water sample from monitoring well STMW-4. Monitoring well STMW-5 detected low levels of TPHg at 0.95 mg/L; BTEX at (0.15 mg/L; 0.0038 mg/L; 0.0014 mg/L and 0.014 mg/L) and MTBE at 0.011 mg/L. TPHd concentration was below laboratory detection limit in water sample from monitoring well STMW-5.. Monitoring wells MW-1, MW-3, STMW-4 and STMW-5 detected low levels of VOC's in the groundwater samples. Only monitoring well MW-2 detected VOC's concentrations below laboratory detection limit. Table 1, Table 2 and Table 3 summarizes the groundwater samples analytical results.

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#### **RECOMMENDATIONS:**

Since dissolved hydrocarbons continue to be present in the wells and some of the hydrocarbon constituents decreased and some have increased in the wells, ESTC recommends the continuation of monitoring and sampling of the five monitoring wells. In addition, ESTE recommends a meeting with ACEHD and the Regional Water Quality Control Board to discuss the results and obtain a sense of direction as to the additional investigation(s) necessary for the site.

A copy of this report should be sent to the Alameda County Health Department (ACHD) and the California Regional Water Quality Control Board (CRWQCB).

**LIMITATIONS:**

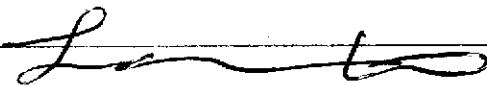
This report was prepared in accordance with the currently accepted standards for environmental investigations. The contents of this report reflect the conditions of the subject site at this particular time. No other warranties, expressed or implied, as to the professional advice provided are made.

The findings of this report are based on the results of independent laboratory analyses and are valid at the present date and conditions. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man, on this property or adjacent properties.

Should you have any questions or require additional information, please feel free to contact our office at (408) 297-1500 at your convenience.

Sincerely,

*ENVIRO SOIL TECH CONSULTANTS*



LAWRENCE KOO, P. E.  
C. E. #34928

FRANK HAMEDI-FARD  
GENERAL MANAGER

**A P P E N D I X "A"**

**ENVIRO SOIL TECH CONSULTANTS**

**TABLE 1**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
4/30/89	MW-1 (97.71)	23	10	N/A	N/A	No sheen or odor	0.2	NA	0.018	0.005	0.002	0.012	NA
5/17/90				9.26	88.45	N/A	NA	NA	NA	NA	NA	NA	NA
9/26/90				9.92	87.79	No sheen/Mild petroleum odor	1.3	NA	0.055	0.031	0.12	0.1	NA
1/14/91				9.54	88.17	No sheen/Mild petroleum odor	3.1	NA	0.35	0.083	0.086	0.13	NA
7/03/91	(102.04) resurveyed			9.42	92.62	No sheen/Light petroleum odor	0.58	NA	0.032	0.041	0.04	0.055	NA
11/11/91				9.45	92.59	No sheen/Mild petroleum odor	0.33	NA	0.02	0.002	0.002	0.011	NA
3/04/92	(101.83) resurveyed			7.93	93.90	No sheen/Light petroleum odor	0.81	NA	0.011	0.005	0.01	0.023	NA
6/01/92				8.98	92.85	No sheen/Mild sewerage odor	2.2	NA	0.093	0.032	0.04	0.12	NA
9/28/92				9.29	92.54	No sheen/Mild sewerage odor	2.9	NA	0.024	0.0078	0.019	0.037	NA
1/11/93				7.56	94.27	No sheen/Light sewerage odor	1.7	NA	0.0057	0.006	0.011	0.028	NA
8/15/94				9.19	92.64	No sheen/Mild sewerage odor	2.0	NA	0.12	0.003	0.006	0.016	NA
11/07/96	(97.50) resurveyed			8.73	88.77	No sheen/Light sewerage odor	1.2	0.27	0.003	0.0011	0.0015	0.0038	ND
2/12/97				7.92	89.58	No sheen/Light sewerage odor	1.8	ND	0.013	0.0057	0.0048	0.017	ND

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
6/16/97	MW-1 (97.50)	23	10	9.04	88.46	No sheen/Very light sewerage odor	0.33	ND	0.0027	ND	ND	0.0012	ND
9/30/97				7.56	89.94	No sheen or odor	ND	ND	ND	ND	ND	ND	ND
1/27/98				7.96	89.54	No sheen or odor	ND	ND	ND	ND	ND	ND	ND
4/24/98				7.98	89.52	Light rainbow sheen Light sewerage odor	ND	ND	ND	ND	ND	ND	ND
8/17/98				8.98	88.52	No sheen Light sewerage odor	ND	ND	ND	ND	ND	ND	ND
11/16/98				8.90	88.90	No sheen Light sewerage odor	ND	ND	ND	ND	ND	ND	ND
1/28/99				8.64	88.86	Light rainbow sheen Slight sewerage odor	0.11	ND	ND	ND	ND	ND	ND
4/30/89	MW-2 (97.78)	23	15	N/A	N/A	No sheen or odor	0.23	NA	0.039	0.018	0.005	0.023	NA
5/17/90				10.00	87.78	N/A	NA	NA	NA	NA	NA	NA	NA
9/26/90				10.83	86.95	No sheen/Mild petroleum odor	0.85	NA	0.94	0.005	0.025	0.047	NA
1/14/91				10.63	87.15	No sheen or odor	3.1	NA	0.35	0.083	0.086	0.13	NA
7/03/91	(102.02) resurveyed			10.08	91.94	No sheen/Light petroleum odor	1.59	NA	0.03	0.052	0.024	0.034	NA
11/11/91				10.21	91.81	No sheen/Mild petroleum odor	0.96	NA	0.32	0.015	0.004	0.029	NA
3/04/92	(101.67) resurveyed			8.70	92.97	No sheen/Light petroleum odor	1.5	NA	0.0095	0.0084	0.0098	0.022	NA

**TABLE 1 CONT'D  
GROUNDWATER MONITORING DATA (feet)  
AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
6/01/92	MW-2 (101.67)	23	15	9.52	92.15	No sheen Mild sewerage odor	2.8	NA	0.084	0.041	0.059	0.095	NA
9/28/92				10.09	91.58	No sheen Mild sewerage odor	1.6	NA	0.047	0.02	0.047	0.097	NA
1/11/93				8.52	93.15	No sheen Light sewerage odor	2.5	NA	0.0086	0.01	0.017	0.032	NA
8/15/94	(97.49) resurveyed			9.91	91.76	No sheen/Light petroleum odor	6	NA	0.45	0.06	0.1	0.095	NA
11/07/96				10.02	87.47	No sheen/Very light sewerage odor	4.2	0.78	0.025	0.0049	0.0081	0.014	ND
2/12/97				8.91	88.58	No sheen/Very light sewerage odor	1.8	5.7	0.016	0.0031	0.0034	0.0088	ND
6/16/97				9.75	87.74	No sheen/Very light sewerage odor	2.5	ND	0.022	0.0051	0.0078	0.011	ND
9/30/97				7.98	89.51	No sheen or odor	ND	ND	ND	ND	ND	ND	ND
1/27/98				8.38	89.11	No sheen or odor	ND	ND	ND	ND	ND	ND	ND
4/24/98				8.68	88.81	No sheen/Slight sewerage odor	2.1	1.4	0.018	0.0065	0.0048	0.021	ND
8/17/98				9.74	87.75	No sheen or odor	2.9	ND	0.0051	0.0045	0.0058	0.017	ND
11/16/98				10.14	87.35	No sheen Light sewerage odor	1.4	ND	0.0021	0.0019	0.0023	0.0048	ND
1/28/99				8.92	88.57	No sheen Slight sewerage odor	1.6	ND	0.082	0.016	ND	0.04	0.059
4/30/90	MW-3 (98.14)	27	20	N/A	N/A	No sheen/Mild petroleum odor	56	NA	3.6	8.6	1.3	7.2	NA

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
5/17/90	MW-3 (98.14)	27	20	12.42	85.72	N/A	NA	NA	NA	NA	NA	NA	NA
9/26/90				13.50	84.64	No sheen/Mild petroleum odor	54	NA	5.1	0.42	1.6	8	NA
1/14/91				12.58	85.56	Light sheen/Strong petroleum odor	35	NA	2.6	6.6	1.5	5.7	NA
7/03/91	(102.46) resurveyed			12.08	90.38	Rainbow sheen Strong petroleum odor	33	NA	4.12	4.3	1.4	4.8	NA
11/11/91				12.29	90.17	Very light rainbow sheen Mild petroleum odor	57	NA	3.9	8.4	2.1	14	NA
3/04/92	(102.18) resurveyed			10.26	91.92	Brown sheen Strong petroleum odor	57	NA	0.72	0.87	0.81	3.1	NA
6/01/92	(97.94) resurveyed			11.40	90.78	Rainbow sheen/Mild petroleum odor	50	NA	0.24	0.24	0.22	0.74	NA
9/28/92				12.64	89.54	Rainbow sheen spots Strong petroleum odor	64	NA	0.11	0.093	0.097	0.25	NA
1/11/93				10.10	92.08	Rainbow sheen/Mild petroleum odor	68	NA	0.21	0.28	0.36	0.99	NA
8/15/94				12.20	89.98	Brown sheen spots Mild petroleum odor	50	NA	0.87	1.2	1.3	3	NA
11/07/96				12.40	85.54	Very thin layer of brown sheen/Light petroleum odor	68	0.47	0.033	0.027	0.063	0.12	ND
2/12/97				10.23	87.71	Brown sheen spots Light petroleum odor	25	3.5	0.039	0.043	0.015	0.091	ND



**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
6/16/97	MW-3 (97.94)	27	20	11.79	86.15	Light brown sheen spots/Very light petroleum odor	9.7	ND	0.026	0.029	0.045	0.081	ND
9/30/97				9.40	88.54	No sheen or odor	6	1.6	0.043	0.036	0.012	0.11	ND
1/27/98				9.80	88.14	No sheen or odor	0.38	0.56	0.0057	0.0041	0.0017	0.0091	ND
4/24/98				9.90	88.04	Rainbow sheen Light sewerage odor	ND	0.68	ND	ND	ND	ND	ND
8/17/98				11.46	86.48	No sheen or odor	16	ND	0.02	0.018	0.031	0.082	ND
11.16/98				12.40	85.54	Rainbow sheen Strong sewerage odor	68	ND	0.086	0.054	0.069	0.13	ND
1/28/99				10.72	87.22	Rainbow sheen Strong sewerage odor	33	ND	0.27	0.11	ND	0.77	0.17
7/03/91	STMW-1 (103.58)	19.50	11.50	11.00	92.58	Light rainbow sheen Mild petroleum odor	3.1	NA	0.61	0.062	0.039	0.15	NA
11/11/91	STMW-4 (renamed)			11.08	92.50	Light rainbow sheen Strong pet. odor	3.6	NA	0.99	0.015	0.0026	0.18	NA
3/04/92	(103.08) resurveyed			9.44	93.64	Brown sheen spots Mild petroleum odor	5	NA	0.035	0.02	0.022	0.071	NA
6/01/92	(98.80) resurveyed			10.32	92.76	No sheen Light petroleum odor	13	NA	0.14	0.045	0.063	0.21	NA
9/28/92				10.76	92.32	Brown sheen spots Mild petroleum odor	40	NA	0.035	0.02	0.048	0.11	NA
1/11/93				9.28	93.80	Brown sheen spots Mild petroleum odor	24	NA	0.026	0.088	0.092	0.28	NA

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
8/15/94	STMW-4 (98.80)	19.50	11.50	10.54	92.54	Light rainbow sheen spots/Light petroleum odor	9	NA	0.5	0.034	0.046	0.13	NA
11/07/96				10.37	88.43	Rainbow sheen spots Very light petroleum odor	13	0.18	0.04	0.0029	0.0078	0.019	ND
2/12/97				9.36	89.44	Rainbow sheen spots Very light petroleum odor	5.3	5.7	0.095	0.0053	0.0059	0.018	ND
6/16/97				10.40	88.40	No sheen/Very light sewerage odor	5.3	ND	0.037	0.0062	0.0017	0.011	ND
9/30/97				8.50	90.30	No sheen or odor	2.7	ND	0.042	0.0077	0.0057	0.026	ND
1/27/98				8.90	89.90	No sheen or odor	3	0.3	0.06	0.017	0.012	0.049	ND
4/24/98				9.50	89.30	Rainbow sheen Strong sewerage odor	ND	ND	ND	ND	ND	ND	ND
8/17/98				10.36	88.44	Rainbow sheen Light petroleum odor	29	ND	0.036	0.024	0.059	0.16	ND
11/16/98				10.56	88.24	Rainbow sheen Strong sewerage odor	13	ND	0.026	0.021	0.02	0.041	NA
1/28/99				9.64	89.16	Rainbow sheen Strong sewerage odor	32	ND	0.66	0.016	0.016	0.15	ND
7/03/91	STMW-2 (101.99)	24	16	13.92	88.07	No sheen or odor	0.69	NA	0.099	0.081	0.019	0.098	NA

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
11/11/91	STMW-5 (renamed)	24	16	14.00	87.99	No sheen/Very light petroleum odor	0.41	NA	0.061	0.0024	0.0014	0.02	NA
3/04/92	(101.36) resurveyed			11.80	89.56	No sheen/Very light petroleum odor	0.46	NA	0.013	0.0065	0.011	0.018	NA
6/01/92				13.06	88.30	No sheen Mild petroleum odor	1.8	NA	0.027	0.02	0.021	0.043	NA
9/28/92				14.04	87.32	No sheen Mild sewerage odor	1.5	NA	0.014	0.0061	0.018	0.022	NA
1/11/93				11.61	89.75	No sheen Light sewerage odor	0.8	NA	0.0018	0.003	0.0031	0.0094	NA
8/15/94				13.85	87.51	No sheen Mild sewerage odor	3	NA	0.32	0.062	0.034	0.22	NA
11/07/96	(97.14) resurveyed			13.67	87.51	Rainbow sheen spots Very light pet. odor	1.2	0.33	0.011	0.0017	0.0044	0.013	ND
2/12/97				12.07	85.07	Rainbow sheen spots Very light pet. odor	1	3.7	0.011	0.0017	0.0017	0.0097	ND
6/19/97				13.33	83.81	No sheen/Very light sewerage odor	0.95	2.3	0.0074	0.001	0.001	0.0072	ND
9/30/97				11.24	85.90	No sheen Light sewerage odor	0.71	1.1	0.0058	0.004	0.001	0.011	ND
1/27/98				11.64	85.50	No sheen Light sewerage odor	0.34	1.1	0.002	0.0018	0.0016	0.0082	ND
4/24/98				11.84	85.30	Rainbow sheen Strong sewerage odor	3.3	ND	0.012	0.0094	0.0085	0.037	ND

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS (mg/L)**

Date	Well No./ Elevation	Depth of Well	Perf. Length	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
8/17/98	STMW-5 (97.14)	24	16	13.20	83.94	Rainbow sheen Light sewerage odor	5.3	ND	0.026	0.017	0.014	0.039	ND
11/16/98				13.74	83.40	Rainbow sheen Strong sewerage odor	ND	ND	ND	ND	ND	ND	ND
1/28/99				12.22	84.92	Rainbow sheen Strong sewerage odor	0.95	ND	0.15	0.0038	0.0014	0.014	0.011

**TPHd** - Total Petroleum Hydrocarbons as diesel  
**BTEX** - Benzene, Toluene, Ethylbenzene, Total Xylenes  
**GW Elev.** - Groundwater Elevation  
**ND** - Not Detected  
**N/A** - Not Applicable

**TPHg** - Total Petroleum Hydrocarbons as gasoline  
**MTBE** - Methyl Tertiary Butyl Ether  
**Perf.** - Perforation  
**NA** - Not Analyzed

**TABLE 2**  
**GROUNDWATER SAMPLES ANALYZED**  
**FOR TOTAL LEAD (Pb) IN mg/L**

Date	Sample Number	Lead (Pb) Results
11/07/98	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
	STMW-5	Not Detected
2/12/97	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
	STMW-5	Not Detected
6/16/97	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
	STMW-5	Not Detected
9/30/97	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
	STMW-5	Not Detected
1/27/98	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
	STMW-5	Not Detected

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**TABLE 2 CONT'D**  
**GROUNDWATER SAMPLES ANALYZED**  
**FOR TOTAL LEAD (Pb) IN mg/L**

Date	Sample Number	Lead (Pb) Results
4/24/98	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
8/17/98	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
	STMW-5	Not Detected
11/16/98	MW-1	Not Detected
	MW-2	Not Detected
	MW-3	Not Detected
	STMW-4	Not Detected
	STMW-5	Not Detected
1/28/99	MW-1	Not Analyzed
	MW-2	Not Analyzed
	MW-3	Not Analyzed
	STMW-4	Not Analyzed
	STMW-5	Not Analyzed

**TABLE 3  
GROUNDWATER ANALYTICAL RESULTS FOR  
VOLATILE ORGANIC COMPOUNDS (EPA 8260B)**

Date	Well I.D.	Volatile Organic Compounds	Concentration (mg/L)
4/30/89	MW-1	Not Analyzed	
5/17/90		Not Analyzed	
9/26/90		Not Analyzed	
1/14/91		Not Analyzed	
7/03/91		Not Analyzed	
11/11/91		Not Analyzed	
3/04/92		Not Analyzed	
6/01/92		Not Analyzed	
9/28/92		Not Analyzed	
1/11/93		Not Analyzed	
8/15/94		Not Analyzed	
11/07/96		Not Analyzed	
2/12/97		Not Analyzed	
6/16/97		Not Analyzed	
9/30/97		Not Analyzed	
1/27/98		Not Analyzed	
4/24/98		Not Analyzed	
8/14/98		Not Analyzed	
11/16/98		Not Analyzed	
1/28/99		Diisopropyl Ether	0.12
4/30/89	MW-2	Not Analyzed	
5/17/90		Not Analyzed	
9/26/90		Not Analyzed	
1/14/91		Not Analyzed	
7/03/91		Not Analyzed	
11/11/91		Not Analyzed	
3/04/92		Not Analyzed	
6/01/92		Not Analyzed	
9/28/92		Not Analyzed	
1/11/93		Not Analyzed	
8/15/94		Not Analyzed	
11/07/96		Not Analyzed	
2/12/97		Not Analyzed	
6/16/97		Not Analyzed	
9/30/97		Not Analyzed	
1/27/98		Not Analyzed	

**ENVIRO SOIL TECH CONSULTANTS**

**TABLE 3 CONT'D  
GROUNDWATER ANALYTICAL RESULTS FOR  
VOLATILE ORGANIC COMPOUNDS (EPA 8260B)**

Date	Well I.D.	Volatile Organic Compounds	Concentration (mg/L)
4/24/98	MW-2	Not Analyzed	
8/17/98		Not Analyzed	
11/16/98		Not Analyzed	
1/28/99		None Detected	
4/30/90	MW-3	Not Analyzed	
5/17/90		Not Analyzed	
9/26/90		Not Analyzed	
1/14/91		Not Analyzed	
7/03/91		Not Analyzed	
11/11/91		Not Analyzed	
3/04/92		Not Analyzed	
6/01/92		Not Analyzed	
9/28/92		Not Analyzed	
1/11/93		Not Analyzed	
8/15/94		Not Analyzed	
11/07/96		Not Analyzed	
2/12/97		Not Analyzed	
6/16/97		Not Analyzed	
9/30/97		Not Analyzed	
1/27/98		Not Analyzed	
4/24/98		Not Analyzed	
8/17/98		Not Analyzed	
11/16/98		Not Analyzed	
1/28/99		Benzene	0.28
		Naphthalene	0.089
		Toluene	0.14
		1,2,4-Trimethylbenzene	0.99
		1,3,5-Trimethylbenzene	0.41
		Total Xylenes	0.92
7/03/91	STMW-4	Not Analyzed	
11/11/91		Not Analyzed	
3/04/92		Not Analyzed	
6/01/92		Not Analyzed	
9/28/92		Not Analyzed	
1/11/93		Not Analyzed	

**ENVIRO SOIL TECH CONSULTANTS**



**TABLE 3 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**VOLATILE ORGANIC COMPOUNDS (EPA 8260B)**

Date	Well I.D.	Volatile Organic Compounds	Concentration (mg/L)
8/15/94	STMW-4	Not Analyzed	
11/07/96		Not Analyzed	
2/12/97		Not Analyzed	
6/16/97		Not Analyzed	
9/30/97		Not Analyzed	
1/27/98		Not Analyzed	
4/24/98		Not Analyzed	
8/17/98		Not Analyzed	
11/16/98		Not Analyzed	
1/28/99		Benzene	0.91
		1,2,4-Trimethylbenzene	0.24
		1,3,5-Trimethylbenzene	0.11
		Total Xylenes	0.2
7/03/91	STMW-5	Not Analyzed	
11/11/91		Not Analyzed	
3/04/92		Not Analyzed	
6/01/92		Not Analyzed	
9/28/92		Not Analyzed	
1/11/93		Not Analyzed	
8/15/94		Not Analyzed	
11/07/96		Not Analyzed	
2/12/97		Not Analyzed	
6/19/97		Not Analyzed	
9/30/97		Not Analyzed	
1/27/98		Not Analyzed	
4/24/98		Not Analyzed	
8/17/98		Not Analyzed	
11/16/98		Not Analyzed	
1/28/99		Benzene	0.079
		1,2,4-Trimethylbenzene	0.0053
		1,3,5-Trimethylbenzene	0.0066
		Total Xylenes	0.053

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**A P P E N D I X "B"**

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**ENVIRO SOIL TECH CONSULTANTS**



# ENVIRO SOIL TECH CONSULTANTS

Figure 1

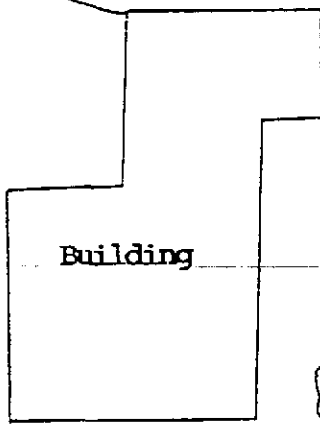
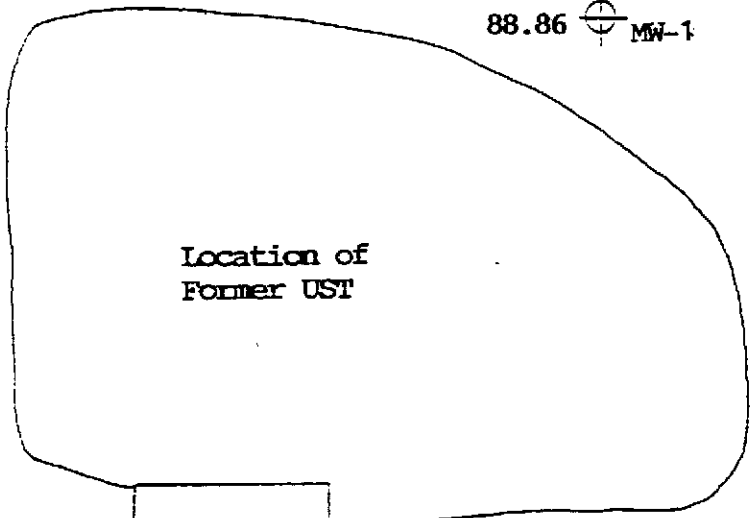
CORONADO AVENUE

Approximate Direction  
of Groundwater Flow  
as of 1/28/99



Residential Building

BROADWAY STREET



Location of Former UST

88.86 MW-1

89.16 SIMW-4

87.22 MW-3

88.57 MW-2

84.92 SIMW-5

Commercial Building

Street Flow Line

Monitoring Well

SCALE: 1"=20'

Figure 2

**A P P E N D I X "C"**

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## GROUNDWATER SAMPLING

Prior to collection of groundwater samples, all of the sampling equipment (i.e. bailer, cables, bladder pump, discharge lines and etc...) was cleaned by pumping TSP water solution followed by distilled water.

Prior to purging, the well "Water Sampling Field Survey Forms" were filled out (depth to water and total depth of water column were measured and recorded). The well was then bailed or pumped to remove four to ten well volumes or until the discharged water temperature, conductivity and pH stabilized. "Stabilized" is defined as three consecutive readings within 15% of one another.

The groundwater sample was collected when the water level of the well recovered to 80% of its static level.

Forty milliliter (ml) glass volatile organic analysis (VOA) vials with Teflon septa were used as sample containers. The groundwater sample was decanted into each VOA vial in such a manner that there was a meniscus at the top. The cap was quickly placed over the top of the vial and securely tightened. The VOA vial was then inverted and tapped to see if air bubbles were present. If none were present, the sample was labeled and refrigerated for delivery under chain-of-custody to the laboratory. The label information would include a sample identification number, job identification number, date, time, type of analysis requested and the sampler's name.

**A P P E N D I X "D"**

**ENVIRO SOIL TECH CONSULTANTS**

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**Enviro Soil Tech Consultants**  
 131 Tully Road  
 San Jose, CA 95111  
 Attn: Frank Hamedi

Date: 3/1/99  
 Date Received: 2/17/99  
 Project: 8-90-420  
 PO #:  
 Sampled By: Client

## Certified Analytical Report

### Water Sample Analysis:

Sample ID	MW-1			MW-2			MW-3				
Sample Date	2/16/99			2/16/99			2/16/99				
Sample Time	10:30			11:40			1:45				
Lab #	G4097			G4098			G4099				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
<b>Results in µg/Liter:</b>											
Analysis Date	2/19/99			2/19/99			2/19/99				
TPH-Diesel	ND	1.0	50	ND	1.0	50	ND	1.0	50	50	8015M
Analysis Date	2/22/99			2/19/99			2/25/99				
TPH-Gas	110 <sup>x</sup>	1.0	50	1,600	5.0	250	33,000	10	500	50	8015M
MTBE	ND	1.0	5.0	59	5.0	25	170	10	50	5.0	8020
Benzene	ND	1.0	0.50	82	5.0	2.5	270	10	5.0	0.50	8020
Toluene	ND	1.0	0.50	16	5.0	2.5	110	10	5.0	0.50	8020
Ethyl Benzene	ND	1.0	0.50	ND	5.0	2.5	ND	10	5.0	0.50	8020
Xylenes	ND	1.0	0.50	40	5.0	2.5	770	10	5.0	0.50	8020

DF=Dilution Factor      ND= None Detected above DLR      PQL=Practical Quantitation Limit      DLR=Detection Reporting Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

  
 Michelle L. Anderson, Lab Director



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**Enviro Soil Tech Consultants**  
 131 Tully Road  
 San Jose, CA 95111  
 Attn: Frank Hamedi

Date: 3/1/99  
 Date Received: 2/17/99  
 Project: 8-90-420  
 PO #:  
 Sampled By: Client

## Certified Analytical Report

### Water Sample Analysis:

Sample ID	STMW-4			STMW-5						
Sample Date	2/16/99			2/16/99						
Sample Time	2:55			3:50						
Lab #	G4100			G4101						
	Result	DF	DLR	Result	DF	DLR			PQL	Method
<b>Results in µg/Liter:</b>										
Analysis Date	2/19/99			2/19/99						
TPH-Diesel	ND	1.0	50	ND	1.0	50			50	8015M
Analysis Date	2/25/99			2/22/99						
TPH-Gas	32,000	20	1000	950	1.0	50			50	8015M
MTBE	ND	20	100	11	1.0	5.0			5.0	8020
Benzene	660	20	10	150	1.0	0.50			0.50	8020
Toluene	16	20	10	3.8	1.0	0.50			0.50	8020
Ethyl Benzene	16	20	10	1.4	1.0	0.50			0.50	8020
Xylenes	150	20	10	14	1.0	0.50			0.50	8020

DF=Dilution Factor    ND=None Detected above DLR    PQL=Practical Quantitation Limit    DLR=Detection Reporting Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #1-2346)



Michelle L. Anderson, Lab Director

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## STANDARD LAB QUALIFIERS July, 1998

All Entech lab reports now reference standard lab qualifiers. These qualifiers are noted in the adjacent column to the analytical result and are adapted from the U.S. EPA CLP program. The current qualifier list is as follows:

<b>Qualifier</b>	<b>Description</b>
U	Compound was analyzed for but not detected
J	Estimated valued for tentatively identified compounds or if result is below PQL but above MDL
N	Presumptive evidence of a compound (for Tentatively Identified Compounds)
B	Analyte is found in the associated Method Blank
E	Compounds whose concentrations exceed the upper level of the calibration range
D	Multiple dilutions reported for analysis; discrepancies between analytes may be due to dilution
X	Results within quantitation range; chromatographic pattern not typical of fuel

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March 1, 1999

Frank Hamedi  
Enviro Soil Tech Consultants  
131 Tully Road  
San Jose, CA 95111

Subject: 5 Water Samples  
Lab #'s: G4097 through G4101  
Project Name: 5175 Broadway Street Oakland  
Project Number: 8-90-420  
P.O. Number:  
Method(s): EPA 8260

Dear Frank Hamedi,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#I-2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson  
Lab Director

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B


Client: Enviro Soil Tech  
 Sample Matrix: Water  
 Sample Date/Time: 2/16/99 10:30  
 Lab #: G4097  
 Client ID: MW-1

Date Reported: 3/1/99  
 Date Received: 2/17/99  
 Date Analyzed: 2/22/99  
 Dilution Factor: 1

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
Acetone	ND	20	20	Chloroform	ND	5	5
Acrylonitrile	ND	5	5	Chloromethane	ND	5	5
Allyl Chloride	ND	5	5	2-Chlorotoluene	ND	5	5
tert-Amyl Methyl Ether	ND	5	5	4-Chlorotoluene	ND	5	5
Benzene	ND	5	5	Dibromochloromethane	ND	5	5
Benzyl Chloride	ND	5	5	1,2-Dibromo-3-chloropropane	ND	5	5
Bromobenzene	ND	5	5	1,2-Dibromoethane	ND	5	5
Bromochloromethane	ND	5	5	Dibromomethane	ND	5	5
Bromodichloromethane	ND	5	5	cis-1,4-Dichloro-2-butene	ND	20	20
Bromoform	ND	5	5	trans-1,4-Dichloro-2-butene	ND	20	20
Bromomethane	ND	5	5	Dichlorodifluoromethane	ND	5	5
tert-Butanol	ND	20	20	1,2-Dichlorobenzene	ND	5	5
2-Butanone (MEK)	ND	20	20	1,3-Dichlorobenzene	ND	5	5
tert-Butyl Ethyl Ether	ND	5	5	1,4-Dichlorobenzene	ND	5	5
n-Butylbenzene	ND	5	5	1,1-Dichloroethane	ND	5	5
sec-Butylbenzene	ND	5	5	1,2-Dichloroethane	ND	5	5
tert-Butylbenzene	ND	5	5	1,1-Dichloroethene	ND	5	5
Carbon Disulfide	ND	5	5	cis-1,2-Dichloroethene	ND	5	5
Carbon Tetrachloride	ND	5	5	trans-1,2-Dichloroethene	ND	5	5
Chlorobenzene	ND	5	5	1,2-Dichloropropane	ND	5	5
Chloroethane	ND	5	5	1,3-Dichloropropane	ND	5	5
2-Chloroethyl Vinyl Ether	ND	5	5	2,2-Dichloropropane	ND	5	5

Surrogate	Recovery (%)
Dibromofluoromethane	108
Toluene-d8	102
4-Bromofluorobenzene	102

- Results are reported in ug/Liter (ppb)
- DLR = DF x PQL
- Analysis performed by Entech Analytical Labs, Inc.  
(CAELAP #I-2346)



Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B

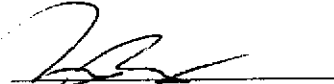
Client: Enviro Soil Tech  
 Sample Matrix: Water  
 Sample Date/Time: 2/16/99 10:30  
 Lab #: G4097  
 Client ID: MW-1

Date Reported: 3/1/99  
 Date Received: 2/17/99  
 Date Analyzed: 2/22/99  
 Dilution Factor: 1

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
1,1-Dichloropropene	ND	5	5	Tetrachloroethene	ND	5	5
cis-1,3-Dichloropropene	ND	5	5	Toluene	ND	5	5
trans-1,3-Dichloropropene	ND	5	5	1,2,3-Trichlorobenzene	ND	5	5
Diisopropyl Ether	120	5	5	1,2,4-Trichlorobenzene	ND	5	5
Ethyl Methacrylate	ND	5	5	1,2,3-Trichloropropane	ND	5	5
Ethylbenzene	ND	5	5	1,1,1-Trichloroethane	ND	5	5
Hexachlorobutadiene	ND	5	5	1,1,2-Trichloroethane	ND	5	5
2-Hexanone	ND	20	20	Trichloroethene	ND	5	5
Iodomethane	ND	5	5	Trichlorofluoromethane	ND	5	5
Isopropylbenzene	ND	5	5	1,2,4-Trimethylbenzene	ND	5	5
p-Isopropyltoluene	ND	5	5	1,3,5-Trimethylbenzene	ND	5	5
Methacrylonitrile	ND	5	5	Xylenes (total)	ND	5	5
Methyl Methacrylate	ND	5	5	Vinyl Chloride	ND	5	5
4-Methyl-2-Pentanone (MIBK)	ND	20	20				
Methyl-tert-butyl Ether	ND	5	5				
Methylene Chloride	ND	5	5				
Naphthalene	ND	5	5				
Pentachloroethane	ND	5	5				
Propionitrile	ND	5	5				
n-Propylbenzene	ND	5	5				
Styrene	ND	5	5				
1,1,1,2-Tetrachloroethane	ND	5	5				
1,1,2,2-Tetrachloroethane	ND	5	5				

Surrogate	Recovery (%)
Dibromofluoromethane	108
Toluene-d8	102
4-Bromofluorobenzene	102

- Results are reported in ug/Liter (ppb)
- DLR = DF x PQL
- Analysis performed by Entech Analytical Labs, Inc. (CAELAP #I-2346)

  
 Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B

**Client:** Enviro Soil Tech  
**Sample Matrix:** Water  
**Sample Date/Time:** 2/16/99 11:40  
**Lab #:** G4098  
**Client ID:** MW-2

**Date Reported:** 3/1/99  
**Date Received:** 2/17/99  
**Date Analyzed:** 2/22/99  
**Dilution Factor:** 5

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
Acetone	ND	20	100	Chloroform	ND	5	25
Acrylonitrile	ND	5	25	Chloromethane	ND	5	25
Allyl Chloride	ND	5	25	2-Chlorotoluene	ND	5	25
tert-Amyl Methyl Ether	ND	5	25	4-Chlorotoluene	ND	5	25
Benzene	ND	5	25	Dibromochloromethane	ND	5	25
Benzyl Chloride	ND	5	25	1,2-Dibromo-3-chloropropane	ND	5	25
Bromobenzene	ND	5	25	1,2-Dibromoethane	ND	5	25
Bromochloromethane	ND	5	25	Dibromomethane	ND	5	25
Bromodichloromethane	ND	5	25	cis-1,4-Dichloro-2-butene	ND	20	100
Bromoform	ND	5	25	trans-1,4-Dichloro-2-butene	ND	20	100
Bromomethane	ND	5	25	Dichlorodifluoromethane	ND	5	25
tert-Butanol	ND	20	100	1,2-Dichlorobenzene	ND	5	25
2-Butanone (MEK)	ND	20	100	1,3-Dichlorobenzene	ND	5	25
tert-Butyl Ethyl Ether	ND	5	25	1,4-Dichlorobenzene	ND	5	25
n-Butylbenzene	ND	5	25	1,1-Dichloroethane	ND	5	25
sec-Butylbenzene	ND	5	25	1,2-Dichloroethane	ND	5	25
tert-Butylbenzene	ND	5	25	1,1-Dichloroethene	ND	5	25
Carbon Disulfide	ND	5	25	cis-1,2-Dichloroethene	ND	5	25
Carbon Tetrachloride	ND	5	25	trans-1,2-Dichloroethene	ND	5	25
Chlorobenzene	ND	5	25	1,2-Dichloropropane	ND	5	25
Chloroethane	ND	5	25	1,3-Dichloropropane	ND	5	25
2-Chloroethyl Vinyl Ether	ND	5	25	2,2-Dichloropropane	ND	5	25

Surrogate	Recovery (%)
Dibromofluoromethane	113
Toluene-d8	105
4-Bromofluorobenzene	107

1. Results are reported in ug/Liter (ppb)
2.  $DLR = DF \times PQL$
3. Sample diluted due to high concentrations of non-target hydrocarbons
4. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #I-2346)



Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B


Client: Enviro Soil Tech  
 Sample Matrix: Water  
 Sample Date/Time: 2/16/99 11:40  
 Lab #: G4098  
 Client ID: MW-2

Date Reported: 3/1/99  
 Date Received: 2/17/99  
 Date Analyzed: 2/22/99  
 Dilution Factor: 5

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
1,1-Dichloropropene	ND	5	25	Tetrachloroethene	ND	5	25
cis-1,3-Dichloropropene	ND	5	25	Toluene	ND	5	25
trans-1,3-Dichloropropene	ND	5	25	1,2,3-Trichlorobenzene	ND	5	25
Diisopropyl Ether	ND	5	25	1,2,4-Trichlorobenzene	ND	5	25
Ethyl Methacrylate	ND	5	25	1,2,3-Trichloropropane	ND	5	25
Ethylbenzene	ND	5	25	1,1,1-Trichloroethane	ND	5	25
Hexachlorobutadiene	ND	5	25	1,1,2-Trichloroethane	ND	5	25
2-Hexanone	ND	20	100	Trichloroethene	ND	5	25
Iodomethane	ND	5	25	Trichlorofluoromethane	ND	5	25
Isopropylbenzene	ND	5	25	1,2,4-Trimethylbenzene	ND	5	25
p-Isopropyltoluene	ND	5	25	1,3,5-Trimethylbenzene	ND	5	25
Methacrylonitrile	ND	5	25	Xylenes (total)	ND	5	25
Methyl Methacrylate	ND	5	25	Vinyl Chloride	ND	5	25
4-Methyl-2-Pentanone (MIBK)	ND	20	100				
Methyl-tert-butyl Ether	ND	5	25				
Methylene Chloride	ND	5	25				
Naphthalene	ND	5	25				
Pentachloroethane	ND	5	25				
Propionitrile	ND	5	25				
n-Propylbenzene	ND	5	25				
Styrene	ND	5	25				
1,1,1,2-Tetrachloroethane	ND	5	25				
1,1,2,2-Tetrachloroethane	ND	5	25				

Surrogate	Recovery (%)
Dibromofluoromethane	113
Toluene-d8	105
4-Bromofluorobenzene	107

1. Results are reported in ug/Liter (ppb)
2. DLR= DF x PQL
3. Sample diluted due to high concentrations of non-target hydrocarbons
4. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #I-2346)

  
 Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B

Client: Enviro Soil Tech  
 Sample Matrix: Water  
 Sample Date/Time: 2/16/99 1:45  
 Lab #: G4099  
 Client ID: MW-3

Date Reported: 3/1/99  
 Date Received: 2/17/99  
 Date Analyzed: 2/25/99  
 Dilution Factor: 10

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
Acetone	ND	20	200	Chloroform	ND	5	50
Acrylonitrile	ND	5	50	Chloromethane	ND	5	50
Allyl Chloride	ND	5	50	2-Chlorotoluene	ND	5	50
tert-Amyl Methyl Ether	ND	5	50	4-Chlorotoluene	ND	5	50
Benzene	280	5	50	Dibromochloromethane	ND	5	50
Benzyl Chloride	ND	5	50	1,2-Dibromo-3-chloropropane	ND	5	50
Bromobenzene	ND	5	50	1,2-Dibromoethane	ND	5	50
Bromochloromethane	ND	5	50	Dibromomethane	ND	5	50
Bromodichloromethane	ND	5	50	cis-1,4-Dichloro-2-butene	ND	20	200
Bromoform	ND	5	50	trans-1,4-Dichloro-2-butene	ND	20	200
Bromomethane	ND	5	50	Dichlorodifluoromethane	ND	5	50
tert-Butanol	ND	20	200	1,2-Dichlorobenzene	ND	5	50
2-Butanone (MEK)	ND	20	200	1,3-Dichlorobenzene	ND	5	50
tert-Butyl Ethyl Ether	ND	5	50	1,4-Dichlorobenzene	ND	5	50
n-Butylbenzene	ND	5	50	1,1-Dichloroethane	ND	5	50
sec-Butylbenzene	ND	5	50	1,2-Dichloroethane	ND	5	50
tert-Butylbenzene	ND	5	50	1,1-Dichloroethene	ND	5	50
Carbon Disulfide	ND	5	50	cis-1,2-Dichloroethene	ND	5	50
Carbon Tetrachloride	ND	5	50	trans-1,2-Dichloroethene	ND	5	50
Chlorobenzene	ND	5	50	1,2-Dichloropropane	ND	5	50
Chloroethane	ND	5	50	1,3-Dichloropropane	ND	5	50
2-Chloroethyl Vinyl Ether	ND	5	50	2,2-Dichloropropane	ND	5	50

Surrogate	Recovery (%)
Dibromofluoromethane	97
Toluene-d8	107
4-Bromofluorobenzene	108

- Results are reported in ug/Liter (ppb)
- DLR= DF x PQL
- Analysis performed by Entech Analytical Labs, Inc.  
(CAELAP #I-2346)

  
 Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor



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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B


**Client:** Enviro Soil Tech  
**Sample Matrix:** Water  
**Sample Date/Time:** 2/16/99 1:45  
**Lab #:** G4099  
**Client ID:** MW-3

**Date Reported:** 3/1/99  
**Date Received:** 2/17/99  
**Date Analyzed:** 2/25/99  
**Dilution Factor:** 10

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
1,1-Dichloropropene	ND	5	50	Tetrachloroethene	ND	5	50
cis-1,3-Dichloropropene	ND	5	50	Toluene	140	5	50
trans-1,3-Dichloropropene	ND	5	50	1,2,3-Trichlorobenzene	ND	5	50
Diisopropyl Ether	ND	5	50	1,2,4-Trichlorobenzene	ND	5	50
Ethyl Methacrylate	ND	5	50	1,2,3-Trichloropropane	ND	5	50
Ethylbenzene	ND	5	50	1,1,1-Trichloroethane	ND	5	50
Hexachlorobutadiene	ND	5	50	1,1,2-Trichloroethane	ND	5	50
2-Hexanone	ND	20	200	Trichloroethene	ND	5	50
Iodomethane	ND	5	50	Trichlorofluoromethane	ND	5	50
Isopropylbenzene	ND	5	50	1,2,4-Trimethylbenzene	990	5	50
p-Isopropyltoluene	ND	5	50	1,3,5-Trimethylbenzene	410	5	50
Methacrylonitrile	ND	5	50	Xylenes (total)	920	5	50
Methyl Methacrylate	ND	5	50	Vinyl Chloride	ND	5	50
4-Methyl-2-Pentanone (MIBK)	ND	20	200				
Methyl-tert-butyl Ether	ND	5	50				
Methylene Chloride	ND	5	50				
Naphthalene	89	5	50				
Pentachloroethane	ND	5	50				
Propionitrile	ND	5	50				
n-Propylbenzene	ND	5	50				
Styrene	ND	5	50				
1,1,1,2-Tetrachloroethane	ND	5	50				
1,1,2,2-Tetrachloroethane	ND	5	50				

Surrogate	Recovery (%)
Dibromofluoromethane	97
Toluene-d8	107
4-Bromofluorobenzene	108

1. Results are reported in ug/Liter (ppb)
2. DLR= DF x PQL
3. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #I-2346)

  
 Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B

**Client:** Enviro Soil Tech  
**Sample Matrix:** Water  
**Sample Date/Time:** 2/16/99 2:55  
**Lab #:** G4100  
**Client ID:** STMW-4

**Date Reported:** 3/1/99  
**Date Received:** 2/17/99  
**Date Analyzed:** 2/23/99  
**Dilution Factor:** 10

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
Acetone	ND	20	200	Chloroform	ND	5	50
Acrylonitrile	ND	5	50	Chloromethane	ND	5	50
Allyl Chloride	ND	5	50	2-Chlorotoluene	ND	5	50
tert-Amyl Methyl Ether	ND	5	50	4-Chlorotoluene	ND	5	50
Benzene	910	5	50	Dibromochloromethane	ND	5	50
Benzyl Chloride	ND	5	50	1,2-Dibromo-3-chloropropane	ND	5	50
Bromobenzene	ND	5	50	1,2-Dibromoethane	ND	5	50
Bromochloromethane	ND	5	50	Dibromomethane	ND	5	50
Bromodichloromethane	ND	5	50	cis-1,4-Dichloro-2-butene	ND	20	200
Bromoform	ND	5	50	trans-1,4-Dichloro-2-butene	ND	20	200
Bromomethane	ND	5	50	Dichlorodifluoromethane	ND	5	50
tert-Butanol	ND	20	200	1,2-Dichlorobenzene	ND	5	50
2-Butanone (MEK)	ND	20	200	1,3-Dichlorobenzene	ND	5	50
tert-Butyl Ethyl Ether	ND	5	50	1,4-Dichlorobenzene	ND	5	50
n-Butylbenzene	ND	5	50	1,1-Dichloroethane	ND	5	50
sec-Butylbenzene	ND	5	50	1,2-Dichloroethane	ND	5	50
tert-Butylbenzene	ND	5	50	1,1-Dichloroethene	ND	5	50
Carbon Disulfide	ND	5	50	cis-1,2-Dichloroethene	ND	5	50
Carbon Tetrachloride	ND	5	50	trans-1,2-Dichloroethene	ND	5	50
Chlorobenzene	ND	5	50	1,2-Dichloropropane	ND	5	50
Chloroethane	ND	5	50	1,3-Dichloropropane	ND	5	50
2-Chloroethyl Vinyl Ether	ND	5	50	2,2-Dichloropropane	ND	5	50

Surrogate	Recovery (%)
Dibromofluoromethane	100
Toluene-d8	105
4-Bromofluorobenzene	106

1. Results are reported in ug/Liter (ppb)
2. DLR= DF x PQL
3. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #I-2346)



Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B


**Client:** Enviro Soil Tech  
**Sample Matrix:** Water  
**Sample Date/Time:** 2/16/99 2:55  
**Lab #:** G4100  
**Client ID:** STMW-4

**Date Reported:** 3/1/99  
**Date Received:** 2/17/99  
**Date Analyzed:** 2/23/99  
**Dilution Factor:** 10

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
1,1-Dichloropropene	ND	5	50	Tetrachloroethene	ND	5	50
cis-1,3-Dichloropropene	ND	5	50	Toluene	ND	5	50
trans-1,3-Dichloropropene	ND	5	50	1,2,3-Trichlorobenzene	ND	5	50
Diisopropyl Ether	ND	5	50	1,2,4-Trichlorobenzene	ND	5	50
Ethyl Methacrylate	ND	5	50	1,2,3-Trichloropropane	ND	5	50
Ethylbenzene	ND	5	50	1,1,1-Trichloroethane	ND	5	50
Hexachlorobutadiene	ND	5	50	1,1,2-Trichloroethane	ND	5	50
2-Hexanone	ND	20	200	Trichloroethene	ND	5	50
Iodomethane	ND	5	50	Trichlorofluoromethane	ND	5	50
Isopropylbenzene	ND	5	50	1,2,4-Trimethylbenzene	240	5	50
p-Isopropyltoluene	ND	5	50	1,3,5-Trimethylbenzene	110	5	50
Methacrylonitrile	ND	5	50	Xylenes (total)	200	5	50
Methyl Methacrylate	ND	5	50	Vinyl Chloride	ND	5	50
4-Methyl-2-Pentanone (MIBK)	ND	20	200				
Methyl-tert-butyl Ether	ND	5	50				
Methylene Chloride	ND	5	50				
Naphthalene	ND	5	50				
Pentachloroethane	ND	5	50				
Propionitrile	ND	5	50				
n-Propylbenzene	ND	5	50				
Styrene	ND	5	50				
1,1,1,2-Tetrachloroethane	ND	5	50				
1,1,2,2-Tetrachloroethane	ND	5	50				

Surrogate	Recovery (%)
Dibromofluoromethane	100
Toluene-d8	105
4-Bromofluorobenzene	106

1. Results are reported in ug/Liter (ppb)
2. DLR= DF x PQL
3. Analysis performed by Entech Analytical Labs, Inc.  
(CAELAP #I-2346)

  
 Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B

Client: Enviro Soil Tech  
 Sample Matrix: Water  
 Sample Date/Time: 2/16/99 3:50  
 Lab #: G4101  
 Client ID: STMW-5

Date Reported: 3/1/99  
 Date Received: 2/17/99  
 Date Analyzed: 2/23/99  
 Dilution Factor: 1

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
Acetone	ND	20	20	Chloroform	ND	5	5
Acrylonitrile	ND	5	5	Chloromethane	ND	5	5
Allyl Chloride	ND	5	5	2-Chlorotoluene	ND	5	5
tert-Amyl Methyl Ether	ND	5	5	4-Chlorotoluene	ND	5	5
Benzene	79	5	5	Dibromochloromethane	ND	5	5
Benzyl Chloride	ND	5	5	1,2-Dibromo-3-chloropropane	ND	5	5
Bromobenzene	ND	5	5	1,2-Dibromoethane	ND	5	5
Bromochloromethane	ND	5	5	Dibromomethane	ND	5	5
Bromodichloromethane	ND	5	5	cis-1,4-Dichloro-2-butene	ND	20	20
Bromoform	ND	5	5	trans-1,4-Dichloro-2-butene	ND	20	20
Bromomethane	ND	5	5	Dichlorodifluoromethane	ND	5	5
tert-Butanol	ND	20	20	1,2-Dichlorobenzene	ND	5	5
2-Butanone (MEK)	ND	20	20	1,3-Dichlorobenzene	ND	5	5
tert-Butyl Ethyl Ether	ND	5	5	1,4-Dichlorobenzene	ND	5	5
n-Butylbenzene	ND	5	5	1,1-Dichloroethane	ND	5	5
sec-Butylbenzene	ND	5	5	1,2-Dichloroethane	ND	5	5
tert-Butylbenzene	ND	5	5	1,1-Dichloroethene	ND	5	5
Carbon Disulfide	ND	5	5	cis-1,2-Dichloroethene	ND	5	5
Carbon Tetrachloride	ND	5	5	trans-1,2-Dichloroethene	ND	5	5
Chlorobenzene	ND	5	5	1,2-Dichloropropane	ND	5	5
Chloroethane	ND	5	5	1,3-Dichloropropane	ND	5	5
2-Chloroethyl Vinyl Ether	ND	5	5	2,2-Dichloropropane	ND	5	5

Surrogate	Recovery (%)
Dibromofluoromethane	102
Toluene-d8	105
4-Bromofluorobenzene	105

1. Results are reported in ug/Liter (ppb)
2. DLR= DF x PQL
3. Analysis performed by Entech Analytical Labs, Inc.  
(CAELAP #I-2346)



Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

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## Certified Analytical Report Volatile Organic Compounds by EPA Method 8260B


Client: Enviro Soil Tech  
 Sample Matrix: Water  
 Sample Date/Time: 2/16/99 3:50  
 Lab #: G4101  
 Client ID: STMW-5

Date Reported: 3/1/99  
 Date Received: 2/17/99  
 Date Analyzed: 2/23/99  
 Dilution Factor: 1

Compound	Value	PQL	DLR	Compound	Value	PQL	DLR
1,1-Dichloropropene	ND	5	5	Tetrachloroethene	ND	5	5
cis-1,3-Dichloropropene	ND	5	5	Toluene	ND	5	5
trans-1,3-Dichloropropene	ND	5	5	1,2,3-Trichlorobenzene	ND	5	5
Diisopropyl Ether	ND	5	5	1,2,4-Trichlorobenzene	ND	5	5
Ethyl Methacrylate	ND	5	5	1,2,3-Trichloropropane	ND	5	5
Ethylbenzene	ND	5	5	1,1,1-Trichloroethane	ND	5	5
Hexachlorobutadiene	ND	5	5	1,1,2-Trichloroethane	ND	5	5
2-Hexanone	ND	20	20	Trichloroethene	ND	5	5
Iodomethane	ND	5	5	Trichlorofluoromethane	ND	5	5
Isopropylbenzene	ND	5	5	1,2,4-Trimethylbenzene	5.3	5	5
p-Isopropyltoluene	ND	5	5	1,3,5-Trimethylbenzene	6.6	5	5
Methacrylonitrile	ND	5	5	Xylenes (total)	53	5	5
Methyl Methacrylate	ND	5	5	Vinyl Chloride	ND	5	5
4-Methyl-2-Pentanone (MIBK)	ND	20	20				
Methyl-tert-butyl Ether	ND	5	5				
Methylene Chloride	ND	5	5				
Naphthalene	ND	5	5				
Pentachloroethane	ND	5	5				
Propionitrile	ND	5	5				
n-Propylbenzene	ND	5	5				
Styrene	ND	5	5				
1,1,1,2-Tetrachloroethane	ND	5	5				
1,1,2,2-Tetrachloroethane	ND	5	5				

Surrogate	Recovery (%)
Dibromofluoromethane	102
Toluene-d8	105
4-Bromofluorobenzene	105

1. Results are reported in ug/Liter (ppb)
2. DLR= DF x PQL
3. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #I-2346)

  
 Michelle L. Anderson, Lab Director

ND: None Detected at or above DLR  
 DLR: Detection Reporting Limit

PQL: Practical Quantitation Limit  
 DF: Dilution Factor

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds

QC Batch #: WGCMS990219

Matrix: Water

Units: µg/L

Date analyzed:

02/19/99

Spiked Sample:

Blank Spike

PARAMETER	Method #	SA	SR	SP	SP	SPD	SPD	RPD	QC LIMITS	
		µg/L	µg/L	µg/L	%R	µg/L	%R		RPD	%R
1,1- Dichloroethene	8240/8260	25	ND	27	108%	28	110%	2.2	25	70-130
Methyl-tert-butyl ether	8240/8260	25	ND	27	107%	29	114%	6.1	25	70-130
Benzene	8240/8260	25	ND	27	109%	28	111%	1.5	25	70-130
Trichloroethene	8240/8260	25	ND	26	105%	26	104%	0.4	25	70-130
Toluene	8240/8260	25	ND	27	106%	27	110%	3.0	25	70-130
Chlorobenzene	8240/8260	25	ND	29	114%	29	115%	1.0	25	70-130

Definition of Terms:

na: Not Analyzed in QC batch

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP Spike Result

SP (%R) Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

NC: Not Calculated

**QUALITY CONTROL RESULTS SUMMARY**

METHOD: Gas Chromatography

QC Batch #: GBG2990223

Matrix: Water

Units: µg/L

Date Analyzed: 02/23/99

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	SP % R	SPD µg/L	SPD %R	RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<0.50	40	ND	39	99	44	109	9.9	25	80-117
Toluene	8020	<0.50	40	ND	39	98	43	108	9.1	25	81-116
Ethyl Benzene	8020	<0.50	40	ND	40	100	44	109	8.3	25	82-116
Xylenes	8020	<0.50	120	ND	121	100	131	109	8.2	25	82-116
Gasoline	8015	<50.0	500	ND	475	95	434	87	8.9	25	76-121

Note: LCS and LCSD results reported for the following Parameters:  
All

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

NC: Not Calculated

## QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG2990222

Matrix: Water

Units: µg/L

Date Analyzed: 02/22/99

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	SP % R	SPD µg/L	SPD %R	RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<0.50	40	ND	46	114	40	101	12.3	25	80-117
Toluene	8020	<0.50	40	ND	45	113	40	101	11.3	25	81-116
Ethyl Benzene	8020	<0.50	40	ND	46	115	41	102	12.3	25	82-116
Xylenes	8020	<0.50	120	ND	138	115	124	103	11.3	25	82-116
Gasoline	8015	<50.0	500	ND	517	103	524	105	1.3	25	76-121

Note: LCS and LCSD results reported for the following Parameters:

All

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

## Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike % Recovery
- NC: Not Calculated



**QUALITY CONTROL RESULTS SUMMARY**

METHOD: Gas Chromatography

QC Batch #: GBG2990218

Matrix: Water

Units: µg/L

Date Analyzed: 02/18/99

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	SP % R	SPD µg/L	SPD %R	RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<0.50	40	ND	38	96	42	106	10.2	25	80-117
Toluene	8020	<0.50	40	ND	38	96	42	105	9.6	25	81-116
Ethyl Benzene	8020	<0.50	40	ND	38	96	42	106	9.9	25	82-116
Xylenes	8020	<0.50	120	ND	116	96	127	106	9.8	25	82-116
Gasoline	8015	<50.0	500	ND	517	103	507	101	1.9	25	76-121

Note: LCS and LCSD results reported for the following Parameters:

All

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

NC: Not Calculated

**QUALITY CONTROL RESULTS SUMMARY**

METHOD: Gas Chromatography  
Laboratory Control Spikes

QC Batch #: DW990206  
Matrix: Water  
Units: µg/L

Date analyzed: 02/18/99  
Date extracted: 02/18/99  
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	QC LIMITS	
										RPD	%R
Diesel	8015M	<50.0	950	ND	1030	108	1044	110	1.4	25	64-129

Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R) Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R) Spike Duplicate % Recovery
- NC: Not Calculated

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds

QC Batch #: WGCMS990223

Matrix: Water

Units: µg/L

Date analyzed:

02/23/99

Spiked Sample:

Blank Spike

PARAMETER	Method #	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	QC LIMITS	
									RPD	%R
1,1- Dichloroethene	8240/8260	25	ND	26	104	27	108	3.4	25	50-150
Methyl-tert-butyl ether	8240/8260	25	ND	30	119	29	115	3.8	25	50-150
Benzene	8240/8260	25	ND	29	114	29	116	1.7	25	50-150
Trichloroethene	8240/8260	25	ND	28	113	28	113	0.0	25	50-150
Toluene	8240/8260	25	ND	27	108	27	109	1.1	25	50-150
Chlorobenzene	8240/8260	25	ND	28	111	28	110	0.4	25	50-150

Definition of Terms:

- na: Not Analyzed in QC batch
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP Spike Result
- SP (%R) Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R) Spike Duplicate % Recovery
- NC: Not Calculated

## QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG4990224

Matrix: Water

Units: µg/L

Date Analyzed: 02/24/99

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	SP % R	SPD µg/L	SPD %R	RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<0.50	40	ND	40	99	40	99	0.1	25	83-111
Toluene	8020	<0.50	40	ND	40	100	39	98	2.0	25	81-112
Ethyl Benzene	8020	<0.50	40	ND	41	104	41	102	2.1	25	81-112
Xylenes	8020	<0.50	120	ND	124	103	121	101	2	25	82-112
Gasoline	8015	<50.0	500	ND	549	110	548	110	0.2	25	66-132

Note: LCS and LCSD results reported for the following Parameters:

All

## Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

NC: Not Calculated

PROJ NO: 89040 NAME: 5175 BROADWAY ST OAKLAND

SAMPLERS: (Signature)

*Richard Munn*

NO.	DATE	TIME	SOIL	WATER	LOCATION
1	2-16/99	10:30		✓	MW-1 G4097
2	2-16/99	11:40		✓	MW-2 G4098
3	/	1:45		✓	MW-3 G4099
4	/	2:55		✓	SMW-4 G4100
5	/	3:50		✓	SMW-5 G4101

CONTAINER

ANALYSES REQUESTED:  
 TPH<sub>3</sub> / P/B/V  
 TPH<sub>10</sub>  
 MTH<sub>17</sub>  
 B26c

REMARKS

Relinquished by: (Signature) <i>Richard Munn</i>	Date / Time 2-17-99	Received by: (Signature) <i>J. McNeil</i>	Relinquished by: (Signature) <i>J. McNeil</i>	Date / Time 2-17-99 5:00	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) <i>netwazp</i>	Date / Time 2/17/99 5:15pm	Remarks	



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