

R139

File No. 8-90-420-GI

Alameda County

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Environmental Health

**QUARTERLY GROUNDWATER MONITORING  
AND SAMPLING AT THE PROPERTY  
LOCATED AT 5175 BROADWAY STREET  
OAKLAND, CALIFORNIA  
OCTOBER 25, 2002**

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

**BY  
ENVIRO SOIL TECH CONSULTANTS  
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**LIST OF TABLES**

TABLE 1 ... Groundwater Monitoring Data and Analytical Results

TABLE 2 ... Groundwater Analytical Results for Fuel Oxygenate Constituents (EPA 8260B)

**LIST OF FIGURES**

FIGURE 1 ... Site Vicinity Map showing 5175 Broadway Street, Oakland, California

FIGURE 2 ... Site Plan showing location of Buildings, Former UST Excavation Areas, Monitoring Wells, Groundwater Flow Direction and Groundwater Elevation Contour Lines

FIGURE 3 ... TPHg Concentration Contour Map

FIGURE 4 ... Benzene Concentration Contour Map

FIGURE 5 ... MTBE Concentration Contour Map

**LIST OF APPENDICES**

APPENDIX "A" ... Table 1 and Table 2

APPENDIX "B" ... Figures 1, 2, 3, 4 and 5

APPENDIX "C" ... Graphs of Historical Chemical Concentrations and  
Groundwater Elevations

APPENDIX "D" ... Standard Operation Procedures

APPENDIX "E" ... Laboratory Report and Chain-of-Custody  
Documentation

## TABLE OF CONTENTS

## PAGE NO.

Letter of Transmittal	1
Purpose	2
Site Description	2
Background	2-4
Scope of Present Work	5
Current Field Work	5
<i>Groundwater Monitoring</i>	5
<i>Groundwater Sampling</i>	6
Groundwater Flow Direction	6
Laboratory Analytical Results	6
Recommendations	7
Limitations	7-8

## APPENDIX "A"

TABLE 1 - Groundwater Monitoring Data and Analytical Results	T1-T12
TABLE 2 - Groundwater Analytical Results for Fuel Oxygenate Constituents	T13-T21

**TABLE OF CONTENTS CONT'D**      **PAGE NO.**

**APPENDIX "B"**

Figure 1 - Vicinity Map	M1
Figure 2 - Groundwater Elevation Contour Map	M2
Figure 3 - TPHg Concentration Contour Map	M3
Figure 4 - Benzene Concentration Contour Map	M4
Figure 5 - MTBE Concentration Contour Map	M5

**APPENDIX "C"**

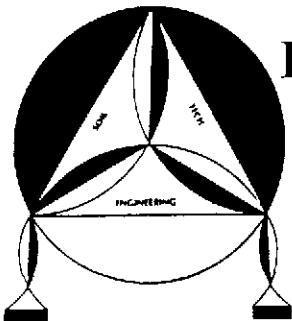
Graphs of Historical Chemical Concentrations  
and Groundwater Elevations

**APPENDIX "D"**

Groundwater Sampling      SOP1

**APPENDIX "E"**

Entech Analytical Labs Report and Chain-of-Custody Documentation



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October 25, 2002

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:

Enviro Soil Tech Consultants (ESTC) has conducted groundwater monitoring and sampling on October 4, 2002, 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 groundwater monitoring and sampling was conducted in accordance with SOMA's recommendations in the letter dated October 16, 2001, for preparation of risk-based corrective action (RBCA).

**PURPOSE:**

The purpose of this groundwater monitoring and sampling investigation was to collect additional data for preparation of RBCA.

**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, and the last quarterly monitoring and sampling was conducted on February 16, 2001.

## **SCOPE OF PRESENT WORK:**

The scope of present work is 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 gasoline and diesel (TPHg and TPHd) by EPA Method 8015 MOD; EPA Method 8310; Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) and Methyl tert-butyl Ether (MTBE) by EPA Method 8020 and other fuel oxygenate constituents per EPA Method 8260.
- 3) Update the database for water level/dissolved hydrocarbon level and groundwater field observation data.
- 4) Review analytical results and prepare a report.

## **CURRENT FIELD WORK:**

On October 4, 2002, the five on-site wells were monitored, purged and sampled in accordance with ESTC's Standard Operating Procedures (SOP) (Appendix "D"), which comprise of state and local guidelines.

## ***GROUNDWATER MONITORING:***

During field observation, ESTC staff detected rainbow sheen and sewerage odor in monitoring well MW-1. Sewerage odor was detected in water sample from monitoring well MW-2. Rainbow sheen and petroleum odor were noted in monitoring wells MW-3, STMW-4 and 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 1 liter amber glass bottles and 40 milliliter glass vials 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 southwesterly direction as of October 4, 2002 (Figure 2).

### ***LABORATORY RESULTS:***

The groundwater samples were analyzed for TPHg & TPHd by EPA Method 8015 MOD (purgeable and extractable); BTEX, MTBE and other fuel oxygenate constituents per EPA Method 8260B.

Groundwater sample from monitoring wells detected TPHg ranging from 1400 micrograms per liter ( $\mu\text{g/L}$ ) to a maximum of 13000  $\mu\text{g/L}$ ; TPHd ranging from 60  $\mu\text{g/L}$  to a maximum of 4900  $\mu\text{g/L}$ ; Benzene ranging from 71  $\mu\text{g/L}$  to a maximum of 590  $\mu\text{g/L}$ ; Toluene ranging from 7.8  $\mu\text{g/L}$  to a maximum of 170  $\mu\text{g/L}$ ; Ethylbenzene ranging from 8.1  $\mu\text{g/L}$  to a maximum of 450  $\mu\text{g/L}$  and Total Xylenes ranging from 14  $\mu\text{g/L}$  to maximum of 730  $\mu\text{g/L}$ . MTBE was below laboratory detection limit in groundwater samples from all five wells. All five monitoring wells detected other fuel oxygenate constituents (EPA 8260) in the groundwater samples. Table 1 and Table 2 summarize the groundwater samples analytical results.

## **RECOMMENDATION:**

Due to the unusual elevated level of contamination in the recent sampling event, we highly recommend continuation of water sampling to confirm the results prior to preparing the Risk Based Corrective Action (RBCA).

## **LIMITATIONS:**

This report and the associated work have been provided in accordance with the general principles and practices currently employed in the environmental consulting profession. The contents of this report reflect the conditions of the site at this particular time. The findings of this report are based on:

- 1) The observations of field personnel.
- 2) The results of laboratory analyses performed by a state-certified laboratory.

It is possible that variations in the soil and groundwater could exist beyond the points explored in this investigation. Also, changes in groundwater conditions of a property can occur with the passage of time due to variations in rainfall, temperature, regional water usage and other natural processes or the works of man on this property or adjacent properties.

The services that ESTC provided have been in accordance with generally accepted environmental professional practices for the nature and conditions of the work completed in the same or similar localities at the time the work was performed.

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.

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

Sincerely,

*Frank Hamed-Fard* **ENVIRO SOIL TECH CONSULTANTS**

*Frank Hamed-Fard*  
FRANK HAMEDI-FARD  
*General Manager*

*Lawrence Koo* **LAWRENCE KOO, P. E.**  
*C. E. #34928*

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

**ENVIRO SOIL TECH CONSULTANTS**

**TABLE 1**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	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	200	NA	18	5	2	12	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	1300	NA	55	31	120	100	NA
1/14/91				9.54*	88.17	No sheen Mild petroleum odor	3100	NA	350	83	86	130	NA
7/03/91	(102.04) resurveyed			9.42*	92.62	No sheen Light petroleum odor	580	NA	32	41	40	55	NA
11/11/91				9.45*	92.59	No sheen Mild petroleum odor	330	NA	20	2	2	11	NA
3/04/92	(101.83) resurveyed			7.93*	93.90	No sheen Light petroleum odor	810	NA	11	5	10	23	NA
6/02/92				8.98*	92.85	No sheen Mild sewerage odor	2200	NA	93	32	40	120	NA
9/28/92				9.29*	92.54	No sheen Mild sewerage odor	2900	NA	24	78	19	37	NA
1/11/93				7.56*	94.27	No sheen Light sewerage odor	1700	NA	5.7	6	11	28	NA
8/15/94				9.19*	92.64	No sheen Mild sewerage odor	2000	NA	120	3	6	16	NA
11/07/96	(97.50) resurveyed			8.73*	88.77	No sheen Light sewerage odor	1200	270	3	1.1	1.5	3.8	ND<0.5
2/12/97				7.92*	89.58	No sheen Light sewerage odor	1800	ND<50	13	5.7	4.8	17	ND<0.5
6/16/97				9.04*	88.46	No sheen/Very light sewerage odor	330	ND<50	2.7	ND<0.5	ND<0.5	1.2	ND<0.5

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
9/30/97	MW-1 (97.50)	23	10	7.56*	89.94	No sheen or odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/27/98				7.96*	89.54	No sheen or odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
4/24/98				7.98*	89.52	Light rainbow sheen Light sewerage odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
8/17/98				8.98*	88.52	No sheen Light sewerage odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
11/16/98				8.90*	88.90	No sheen Light sewerage odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2/16/99				8.64*	88.86	Light rainbow sheen Slight sewerage odor	110	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5/17/99				8.50*	89.00	No sheen Strong sewerage odor	280	NA	1.1	0.6	ND<0.5	ND<0.5	ND<0.5
8/17/99				9.24*	88.26	Light sheen Sewerage odor	790	86	5.6	4.3	4.5	11	ND<5
11/17/99				10.44**	87.06	Light rainbow sheen Light sewerage odor	1300	NA	3.6	1.9	2.7	6.6	ND<1
2/17/00				8.48*	89.02	Light rainbow sheen Light sewerage odor	580	NA	1.1	2.3	3.6	4.9	ND<5
5/17/00				8.24*	89.26	Light rainbow sheen Light sewerage odor	1500	NA	130	6.8	6.1	ND<5	ND<5
8/17/00				8.77*	88.73	Rainbow sheen Light sewerage odor	550	NA	160	ND<25	ND<25	ND<25	ND<25
11/15/00				9.04*	88.46	Light rainbow sheen Light sewerage odor	130	NA	ND<5	ND<5	ND<5	ND<5	ND<5

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
2/16/01	MW-1 (97.50)	23	10	7.60*	89.90	No sheen Light sewerage odor	400	NA	26	ND<5	ND<5	ND<5	ND<5
1/11/02†				8.08*	89.42	No sheen Sewerage odor	600	160A	74	53	14	52	110
7/01/02	(161.03)• resurveyed			9.02*	152.01	No sheen Sewerage odor	670	280LY	25	ND<5	ND<5	ND<5	ND<5
10/04/02				9.74	151.29	Rainbow sheen Sewerage odor	1800	520-	130	7.8	8.1	14	ND<5
4/30/89	MW-2 (97.78)	23	15	N/A	N/A	No sheen or odor	230	NA	39	18	5	23	NA
5/17/90				10.00*	87.78	NA	NA	NA	NA	NA	NA	NA	NA
9/29/90				10.83*	86.95	No sheen Mild petroleum odor	850	NA	940	5	25	47	NA
1/14/91				10.63*	87.15	No sheen or odor	3100	NA	30	52	24	34	NA
7/03/91	(102.02) resurveyed			10.08*	91.94	No sheen Light petroleum odor	1590	NA	30	52	24	34	NA
11/11/91				10.21*	91.81	No sheen Mild petroleum odor	960	NA	320	15	4	29	NA
3/04/92				8.70*	92.97	No sheen Light petroleum odor	1500	NA	9.5	8.4	9.8	22	NA
6/02/92				9.52*	92.15	No sheen Mild sewerage odor	2800	NA	84	41	59	95	NA
9/28/92				10.09*	91.58	No sheen Mild sewerage odor	1600	NA	47	20	47	97	NA
1/11/93				8.52*	93.15	No sheen Light sewerage odor	2500	NA	8.6	10	17	32	NA

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
8/15/94	MW-2 (97.49) resurveyed	23	15	9.91*	91.76	No sheen Light petroleum odor	6000	NA	450	60	100	95	NA
11/07/96	MW-2 (97.49)	23	15	10.02*	87.47	No sheen/Very light sewerage odor	4200	780	25	4.9	8.1	14	ND<0.5
2/12/97				8.91*	88.58	No sheen/Very light sewerage odor	1800	5700	16	3.1	3.4	8.8	ND<0.5
6/16/97				9.75*	87.74	No sheen/Very light sewerage odor	2500	ND<50	22	5.1	7.8	11	ND<0.5
9/30/97				7.89*	89.51	No sheen or odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/27/98				8.38*	89.11	No sheen or odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
4/24/98				8.68*	88.81	No sheen Slight sewerage odor	2100	1400	18	6.5	4.8	21	ND<0.5
8/17/98				9.74*	87.75	No sheen or odor	2900	ND<50	5.1	4.5	5.8	17	ND<0.5
11/16/98	.			10.14*	87.35	No sheen Light sewerage odor	1400	ND<50	2.1	1.9	2.3	4.8	ND<0.5
2/16/99				8.92*	88.57	No sheen Slight sewerage odor	1600	ND<50	82	16	ND<2.5	40	59
5/17/99				9.26*	88.23	No sheen Mild sewerage odor	8200	NA	43	73	140	100	ND<250
8/17/99				10.04*	87.45	No sheen Sewerage odor	2900	260	20	81	17	38	ND<5
11/17/99				11.52*	85.97	Light rainbow sheen Light sewerage odor	2600	ND<50	7	3.7	5.3	12.9	ND<1
2/17/00				9.50*	87.99	Light rainbow sheen Light sewerage odor	1700	NA	3.2	6.8	11	12.3	ND<5

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

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
5/17/00	MW-2 (97.49)	23	15	8.84*	88.65	No sheen Light sewerage odor	3800	NA	450	65	110	80	ND<25
8/17/00				8.50*	88.99	No sheen or odor	4300	NA	440	ND<50	78	ND<50	ND<50
11/15/00				9.94*	87.55	No sheen Light sewerage odor	5800	NA	320	41	78	64	ND<25
2/16/01	MW-2 (97.49)	23	15	8.52*	88.97	No sheen or odor	2200	NA	110	20	38	33	ND<5
1/11/02†				8.82*	88.67	No sheen or odor	3100	620A	280	86	84	110	ND<50
7/01/02	(160.98)• resurveyed			9.64*	151.34	No sheen or odor	2600	940LY	300	29	45	27	ND<10
10/04/02				10.52*	150.46	No sheen Sewerage odor	4000	390-	440	66	140	120	ND<25
4/30/90	MW-3 (98.14)	27	20	N/A	N/A	No sheen Mild petroleum odor	56000	NA	3600	8600	1300	7200	NA
5/17/90				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	54000	NA	5100	420	1600	8000	NA
1/14/91				12.58*	85.56	Light sheen Strong petroleum odor	35000	NA	2600	6600	1500	5700	NA
7/03/91	(102.46) resurveyed			12.08*	90.38	Rainbow sheen Strong petroleum odor	33000	NA	4120	4300	1400	4800	NA
11/11/91				12.29*	90.17	Very light rainbow sheen Mild petroleum odor	57000	NA	3900	8400	2100	14000	NA
3/04/92	(102.18) resurveyed			10.26*	91.92	Brown sheen Strong petroleum odor	57000	NA	720	870	81	3100	NA
6/02/92	(97.94) resurveyed			11.40*	90.78	Rainbow sheen Mild petroleum odor	50000	NA	240	240	220	740	NA

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
9/28/92	MW-3 (97.94)	27	20	12.64*	89.54	Rainbow sheen spots Strong petroleum odor	64000	NA	110	93	97	250	NA
1/11/93				10.10*	92.08	Rainbow sheen Mild petroleum odor	68000	NA	210	280	360	990	NA
8/15/94				12.20*	89.98	Brown sheen spots Mild petroleum odor	50000	NA	870	1200	1300	3000	NA
11/07/96				12.40*	85.54	Very thin layer of brown sheen/Light petroleum odor	68000	470	33	27	63	120	ND<0.5
2/12/97				10.23*	87.71	Brown sheen spots Light petroleum odor	25000	3500	39	43	15	91	ND<0.5
6/16/97				11.79*	86.15	Light brown sheen spots Very light petroleum odor	9700	ND<50	26	29	45	81	ND<0.5
9/30/97				9.40*	88.54	No sheen or odor	6000	1600	43	36	12	11	ND<0.5
1/27/98				9.80*	88.14	No sheen or odor	380	560	5.7	4.1	1.7	9.1	ND<0.5
4/24/98				9.90*	88.04	Rainbow sheen Light sewerage odor	ND<50	680	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
8/17/98				11.46*	86.48	No sheen or odor	16000	ND<50	200	18	31	82	ND<0.5
11/16/98				12.40*	85.54	Rainbow sheen Strong sewerage odor	68000	ND<50	86	54	69	130	ND<0.5
2/16/99				10.72*	87.2	Rainbow sheen Strong sewerage odor	33000	ND<50	270	110	ND<5	770	170
5/17/99				10.54*	87.40	Rainbow sheen Strong petroleum odor	72000	NA	280	230	320	890	ND <250
8/17/99				11.92*	86.02	Rainbow sheen Strong petroleum odor	20000	1800	51	41	61	130	ND<5
11/17/99				13.60*	84.34	Rainbow sheen Strong petroleum odor	1700	NA	39	22	31	84	ND<1

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
2/17/00	MW-3 (97.94)	27	20	10.68*	87.26	Rainbow sheen Strong petroleum odor	8800	NA	16	39	74	90	ND<5
5/17/00				10.25*	87.69	Rainbow sheen Strong petroleum odor	22000	NA	300	260	410	940	ND<5
8/17/00				11.84*	86.10	Rainbow sheen Strong petroleum odor	15000	NA	230	140	470	750	ND<50
11/15/00				11.82*	86.12	Rainbow sheen Strong petroleum odor	12000	NA	250	210	390	700	ND<25
2/16/01				9.68*	88.26	Rainbow sheen Strong petroleum odor	7400	NA	40	72	100	250	ND<25
1/11/02†				9.58*	88.36	Rainbow sheen Petroleum odor	9300	1900B	230	200	290	580	ND<25
7/01/02	(161.43)• resurveyed			11.14*	150.29	Rainbow sheen Sewerage odor	13000	5200L Y	230	220	450	890	ND<13
10/04/02				12.82*	148.61	Rainbow sheen Petroleum odor	11000	4900+	280	170	450	730	ND<25
7/03/91	STMW-1 (103.58)	19.50	11.50	11.00*	92.58	Light rainbow sheen Mild petroleum odor	3100	NA	610	62	39	150	NA
11/11/91	STMW-4 Renamed			11.08*	92.50	Light rainbow sheen Strong petroleum odor	3600	NA	990	15	2.6	180	NA
3/04/92	(101.08) resurveyed			9.44*	91.64	Rainbow sheen spots Mild petroleum odor	5000	NA	35	20	22	71	NA
6/02/92	(98.80) resurveyed			10.32*	92.76	No sheen Light petroleum odor	13000	NA	140	45	63	210	NA
9/28/92				10.76*	92.32	Brown sheen spots Mild petroleum odor	40000	NA	35	20	48	110	NA

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

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
1/11/93	STMW-4 (98.80)	19.50	11.50	9.28*	93.80	Brown sheen spots Mild petroleum odor	24000	NA	26	88	92	280	NA
8/15/94				10.54*	92.54	Light rainbow sheen spots Light petroleum odor	9000	NA	500	34	46	130	NA
11/07/96				10.37*	88.43	Rainbow sheen spots Very light petroleum odor	13000	180	40	2.9	7.8	19	ND<0.5
2/12/97				9.36*	89.44	Rainbow sheen spots Very light petroleum odor	5300	5700	95	5.3	5.9	18	ND<0.5
6/16/97				10.40*	88.40	No sheen Very light sewerage odor	5300	ND<50	37	6.2	1.7	11	ND<0.5
9/30/97				8.50*	90.30	No sheen or odor	2700	ND<50	42	7.7	5.7	26	ND<0.5
1/27/98				8.90*	89.90	No sheen or odor	3000	300	60	17	12	49	ND<0.5
4/24/98				9.50*	89.30	Rainbow sheen Strong sewerage odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
8/17/98				10.36*	88.44	Rainbow sheen Light petroleum odor	29000	ND<50	36	24	59	160	ND<0.5
11/16/98				10.56*	88.24	Rainbow sheen Strong petroleum odor	13000	ND<50	26	21	20	41	NA
2/16/99				9.64*	89.16	Rainbow sheen Strong petroleum odor	32000	ND<50	660	16	16	150	ND<100
5/17/99				9.96*	88.84	Rainbow sheen String petroleum odor	13000	NA	1600	30	45	78	ND<250
8/17/99				10.64*	88.16	Rainbow sheen Light petroleum odor	12000	990	260	22	33	72	ND<5
11/17/99				12.02**	86.78	Rainbow sheen Light petroleum odor	7900	NA	21	12	17	40	ND<1
2/17/00				9.32*	98.48	Rainbow sheen Light petroleum odor	4900	NA	8.9	21	38	50	ND<5

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

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
5/17/00	STMW-4 (98.80)	19.50	11.50	9.65*	89.15	Rainbow sheen Strong petroleum odor	9600	NA	840	ND<50	61	ND<50	ND<50
8/17/00				10.34*	88.46	Rainbow sheen Strong petroleum odor	5100	NA	680	ND<50	62	ND<50	ND<50
11/15/00				10.52*	88.28	Rainbow sheen Strong petroleum odor	3900	NA	640	ND<25	26	27	ND<25
2/16/01	STMW-4 (98.80)	19.50	11.50	9.20*	89.60	Rainbow sheen Light petroleum odor	5700	NA	560	ND<25	ND<25	ND<25	ND<25
1/11/02†				9.58*	89.22	No sheen or odor	4900	930A	560	59	25	ND<25	ND<250
7/01/02	(162.31)• resurveyed			10.28*	152.03	Rainbow sheen Sewerage odor	6700	6700L Y	470	18	32	45	ND<13
10/04/02				11.08*	151.23	Rainbow sheen Petroleum odor	13000	2900•	590	26	65	110	ND<25
7/03/91	STMW-2 (101.99)	24	16	13.29*	88.07	No sheen or odor	690	NA	99	81	19	98	NA
11/11/91	STMW-5 Renamed			14.00*	87.99	No sheen Very light petroleum odor	410	NA	61	2.4	1.4	20	NA
3/04/92	(101.36) resurveyed			11.80*	89.56	No sheen Very light petroleum odor	460	NA	13	6.5	11	18	NA
6/02/92				13.06*	88.30	No sheen Mild petroleum odor	1800	NA	27	20	21	43	NA
9/28/92				14.04*	87.32	No sheen Mild sewerage odor	1500	NA	14	6.1	18	22	NA
1/11/93				11.61*	89.75	No sheen Light sewerage odor	800	NA	1.8	3	3.1	9.4	NA
8/15/94				13.85*	87.51	No sheen Mild sewerage	3000	NA	320	62	34	220	NA

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
11/07/96	STMW-5 (97.14) resurveyed	24	16	13.67*	83.47	Rainbow sheen spots Very light petroleum odor	1200	330	11	1.7	4.4	13	ND<0.5
2/17/97				12.07*	82.07	Rainbow sheen spots Very light petroleum odor	1000	3700	11	17	1.7	. 9.7	ND<0.5
6/19/97				13.33*	83.81	No sheen Very light sewerage odor	950	2300	7.4	1	1	7.2	ND<0.5
9/30/97				11.24*	85.90	No sheen Light sewerage odor	710	1100	5.8	4	1	1	ND<0.5
1/27/98				11.64*	85.50	No sheen Light sewerage odor	340	1100	2	1.8	1.6	8.2	ND<0.5
4/24/98				11.84*	85.30	Rainbow sheen Strong petroleum odor	3300	ND<50	12	9.4	8.5	37	ND<0.5
8/17/98				13.20*	83.94	Rainbow sheen Light sewerage odor	5300	ND<50	26	17	14	39	ND<0.5
11/16/98				13.74*	83.40	Rainbow sheen Strong sewerage odor	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2/16/99				12.22*	84.92	Rainbow sheen Strong sewerage odor	950	ND<50	150	3.8	1.4	14	11
5/17/99				12.58*	84.56	Rainbow sheen Mild petroleum odor	2800	NA	67	9.4	ND<2.5	16	30
8/17/99				13.48*	83.66	Rainbow sheen Light petroleum odor	2800	230	18	17	18	36	ND<5
11/17/99				14.88*	82.26	Rainbow sheen Light petroleum odor	1600	NA	3.9	2.3	3.2	7.5	ND<1
2/17/00				12.56*	84.58	Rainbow sheen Light petroleum odor	770	NA	1.5	3.2	5.8	7	ND<5

**TABLE 1 CONT'D**  
**GROUNDWATER MONITORING DATA (feet)**  
**AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

Date	Well No./Elevation	Depth of Well	Depth of Perf.	Depth to Water	GW Elev.	Well Observation	TPHg	TPHd	B	T	E	X	MTBE
5/17/00	STMW-5 (97.14)	24	16	12.08*	85.06	Rainbow sheen Strong petroleum odor	4500	NA	ND<25	ND<25	ND<25	ND<25	ND<25
8/17/00				13.56*	83.58	Rainbow sheen Strong petroleum odor	2900	NA	170	64	100	250	ND<10
11/15/00				13.28*	83.86	Rainbow sheen Strong petroleum odor	2100	NA	120	24	40	54	ND<5
2/16/01				11.60*	85.54	Rainbow sheen Light petroleum odor	850	NA	58	9.8	9.4	18	ND<5
1/11/02†				11.72*	85.42	Rainbow sheen Sewerage odor	920	ND<50	76	16	16	28	13
7/01/02	(160.65)• resurveyed			13.14*	147.51	Rainbow sheen Sewerage odor	4300	1500L Y	71	14	14	36	ND<5
10/04/02				14.52	146.13	Rainbow sheen Petroleum odor	1400	60-	71	17	26	35	ND<5

**TABLE 1 CONT'D  
GROUNDWATER MONITORING DATA (feet)  
AND ANALYTICAL RESULTS ( $\mu\text{g/L}$ )**

**TPHg** - Total Petroleum Hydrocarbons as gasoline

**BTEX** - Benzene, Toluene, Ethylbenzene, Total Xylenes

**GW Elev.** - Groundwater Elevation

**ND** - Not detected (Below Laboratory Detection Limit)

**N/A** - Not Applicable

\*\* Well casings are not submerged

† TPHg was analyzed by EPA 8015 MOD (Purgeable); TPHd was analyzed by EPA 8015 MOD (Extractable),  
BTEX and MTBE were analyzed by EPA 8020

A - Reported TPH as Diesel value is a result of carry over from light hydrocarbons into the diesel quantitation range

B - There are two fuels present, one in the TPH as Diesel quantitation range and a second in the TPH as Hydraulic Oil range.  
Both are a typical of normal Diesel and Hydraulic Oil patterns and both carry over into each other's range

L - Lighter hydrocarbons contributed to the quantitation

Y - Sample exhibits fuel pattern which does not resemble standard

• Mean Sea Level. Groundwater elevation benchmarks are NGVD 1929 Datum

▪ Reported TPH as diesel value is a result of overlap from the Kerosene range into the diesel quantitation range

▫ Reported TPH as diesel value is a result of an overlap from the Kerosene and Motor Oil range into the diesel quantitation range

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection (µg/L)
1/28/99	MW-1	Not Analyzed	
5/17/99		Diisopropyl Ether	120
8/17/99		Benzene o-Xylene p-Xylene	5.2 5.4 5.3
11/17/99		Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	3.6 2.7 1.9 2.5 1.8 2.3
2/17/00		Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	1.1 3.6 2.3 2.1 1.2 1.6
5/17/00		1,2,4-Trimethylbenzene Benzene Diisopropyl Ether Ethylbenzene Isopropylbenzene n-Propylbenzene Toluene	9.8 130 130 6.1 5.3 5.6 6.8
8/17/00		Benzene	160
11/15/00		Diisopropyl Ether	22
2/16/01		Benzene Diisopropyl Ether	26 110
1/11/02		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Diisopropyl Ether Ethylbenzene Isopropylbenzene* Methyl tert-butyl Ether n-Propylbenzene sec-Butylbenzene* Toluene Xylenes, Total	7 10 74 110 13 3.5 7.9 5.1 0.6 60 54

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection ( $\mu\text{g/L}$ )
7/01/02	MW-1	Benzene	25
10/04/02		1,2,4-Trimethylbenzene	9.4
		Benzene	130
		Diisopropyl Ether	60
		Ethylbenzene	8.1
		Isopropylbenzene	5.9
		n-Propylbenzene	8.2
		Naphthalene	6
		Toluene	7.8
		Xylenes, Total	14
1/28/99	MW-2	Not Analyzed	
5/17/99		Benzene	400
		Ethylbenzene	140
8/17/99		Benzene	19
		Ethylbenzene	19
		Toluene	18
		o-Xylene	14
		m-Xylene	11
		p-Xylene	15
11/17/99		Benzene	7
		Ethylbenzene	5.3
		Toluene	3.7
		o-Xylene	4.9
		m-Xylene	3.6
		p-Xylene	4.4
2/17/00		Benzene	3.2
		Ethylbenzene	11
		Toluene	6.8
		o-Xylene	5.9
		m-Xylene	3.4
		p-Xylene	3.9
5/17/00		1,2,4-Trimethylbenzene	51
		Benzene	450
		Ethylbenzene	110
		Toluene	65
		Xylenes, Total	80
8/17/00		Benzene	440
		Ethylbenzene	78

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection ( $\mu\text{g/L}$ )
11/15/00	MW-2	1,2,4-Trimethylbenzene Benzene Ethylbenzene Toluene Xylenes, Total	48 320 78 41 64
2/16/01		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene n-Propylbenzene Naphthalene Toluene Xylenes, Total	22 5.7 110 38 5.1 6.6 20 33
1/11/02		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene* n-Butylbenzene n-Propylbenzene* Toluene Xylenes, Total	28 33 220 63 6 5.6 13 71 94
7/01/02		Benzene Toluene Ethylbenzene m,p-Xylenes Propylbenzene	300 29 45 27 13
10/04/02		1,2,4-Trimethylbenzene Benzene Ethylbenzene Naphthalene Toluene Xylenes, Total	52 440 140 35 66 120
1/28/99	MW-3	Not Analyzed	
5/17/99		Benzene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Xylenes, Total	190 480 290 590

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection ( $\mu\text{g/L}$ )
8/17/99	MW-3	Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	39 31 22 31 21 30
11/17/99		Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	39 31 22 31 21 30
2/17/00		Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	16 74 39 37 22 31
5/17/00		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Naphthalene Toluene Xylenes, Total	930 290 300 410 160 260 940
8/17/00		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene n-Butylbenzene n-Propylbenzene Naphthalene Toluene Xylenes, Total	900 290 230 470 51 100 100 160 140 750

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection ( $\mu\text{g/L}$ )
11/15/00	MW-3	1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene n-Propylbenzene Naphthalene Toluene Xylenes, Total	760 240 250 390 34 92 180 210 700
2/16/01		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene n-Butylbenzene n-Propylbenzene Naphthalene Toluene Xylenes, Total	300 110 40 100 43 30 41 72 250
1/11/02		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene* n-Butylbenzene* n-Propylbenzene* Toluene Xylenes, Total	400 220 150 250 20 35 60 170 510
7/01/02		Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene Isopropylbenzene Propylbenzene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene n-Butylbenzene Naphthalene	230 220 450 720 170 35 120 180 490 57 140

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection ( $\mu\text{g/L}$ )
10/04/02	MW-3	1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene n-Butylbenzene n-Propylbenzene Naphthalene Toluene Xylenes, Total	350 120 280 450 39 44 130 150 170 730
1/28/99	STMW-4	Not Analyzed	
5/24/99		Benzene	1600
8/17/99		Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	24 31 25 28 21 26
11/17/99		Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	21 17 12 15 11 14
2/17/00		Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene	8.9 38 21 19 14 17
5/17/00		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene n-Butylbenzene n-Propylbenzene	170 87 840 61 53 85 84
8/17/00		1,2,4-Trimethylbenzene Benzene Ethylbenzene	69 680 62

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection ( $\mu\text{g/L}$ )
11/15/00	STMW-4	1,2,4-Trimethylbenzene Benzene Diisopropyl Ether Ethylbenzene n-Propylbenzene tert-Butanol Xylenes, Total	31 640 34 26 28 100 27
2/16/01		1,2,4-Trimethylbenzene Benzene Diisopropyl Ether Hexane n-Propylbenzene	48 560 26 140 26
1/11/02		1,2,4-Trimethylbenzene* 1,3,5-Trimethylbenzene* Benzene Ethylbenzene* Isopropylbenzene* n-Butylbenzene* n-Propylbenzene* Toluene* Xylenes, Total*	25 30 460 22 13 7.6 20 48 63
7/01/02		Benzene Toluene Ethylbenzene m,p-Xylenes Isopropylbenzene Propylbenzene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene n-Butylbenzene Naphthalene	470 18 32 45 20 31 41 75 16 20
10/04/02		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Diisopropyl Ether Ethylbenzene Isopropylbenzene n-Propylbenzene Naphthalene Toluene Xylenes, Total	190 66 590 35 65 36 61 85 26 110

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection ( $\mu\text{g/L}$ )
1/28/99	STMW-5	Not Analyzed	
5/17/99		Benzene	88
8/17/99		Benzene	19
		Ethylbenzene	21
		Toluene	16
		o-Xylene	14
		m-Xylene	11
		p-Xylene	16
11/17/99		Benzene	3.9
		Ethylbenzene	3.2
		Toluene	2.3
		o-Xylene	2.9
		m-Xylene	2.1
		p-Xylene	2.5
2/17/00		Benzene	1.5
		Ethylbenzene	5.8
		Toluene	3.2
		o-Xylene	2.5
		m-Xylene	2.2
		p-Xylene	2.3
5/17/00		1,2,4-Trimethylbenzene	59
8/17/00		1,2,4-Trimethylbenzene	38
		Benzene	170
		Ethylbenzene	100
		Isopropylbenzene	10
		n-Butylbenzene	11
		n-Propylbenzene	24
		Naphthalene	20
		Toluene	64
		Xylenes, Total	250
11/15/00		1,2,4-Trimethylbenzene	26
		Benzene	120
		Ethylbenzene	40
		Isopropylbenzene	6.5
		n-Butylbenzene	9.4
		n-Propylbenzene	23
		Naphthalene	15
		Toluene	24
		Xylenes, Total	54

**TABLE 2 CONT'D**  
**GROUNDWATER ANALYTICAL RESULTS FOR**  
**FUEL OXYGENATE CONSTITUENTS (8260)**

Date	Sample Number	Compounds	Detection (µg/L)
2/16/01	STMW-5	Benzene Ethylbenzene n-Propylbenzene Toluene Xylenes, Total	58 9.4 9.9 9.8 18
1/11/02		1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Benzene Ethylbenzene Isopropylbenzene n-Butylbenzene n-Propylbenzene sec-Butylbenzene* Toluene Xylenes, Total	6.8 7.9 87 18 5.1 5.6 16 1.3 16 32
7/01/02		Benzene Toluene Ethylbenzene m,p-Xylenes Isopropylbenzene Propylbenzene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene n-Butylbenzene Naphthalene	71 14 14 36 5.9 22 6.8 15 18 5.6
10/04/02		1,2,4-Trimethylbenzene Benzene Ethylbenzene n-Propylbenzene Naphthalene Toluene Xylenes, Total	5.2 71 26 12 9.6 17 35

µg/L - Micrograms Per Liter

\* Estimated value for tentatively identified compounds or if result is below Practical Quantitation Limit but above Method Detection Limit

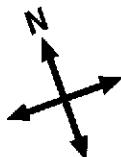
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**ENVIRO SOIL TECH CONSULTANTS**



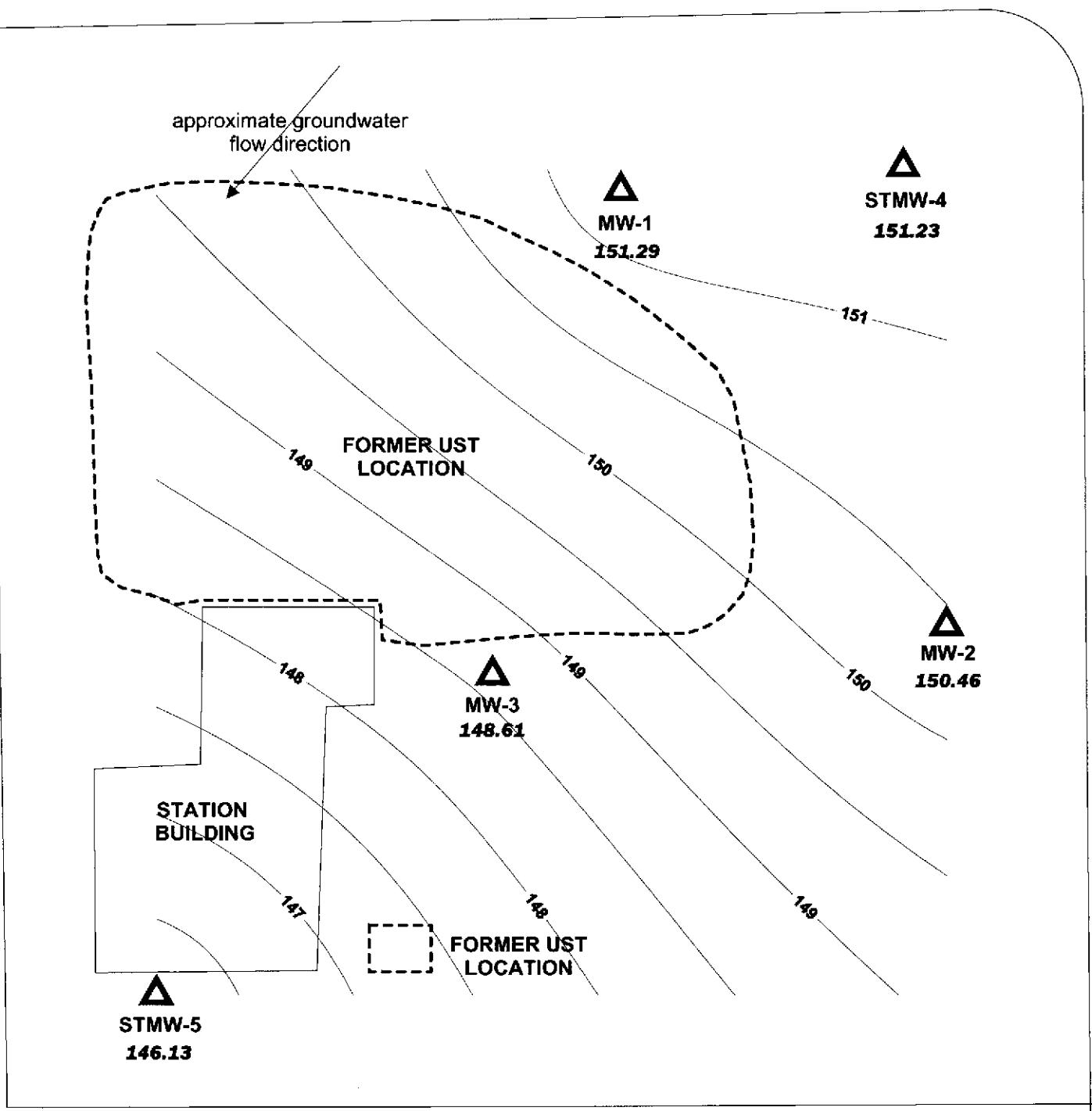
**ENVIRO SOIL TECH CONSULTANTS**

Figure 1



CORONADO AVENUE

BROADWAY



approximate scale in feet

COMMERCIAL  
AREA

△ Monitoring Well

Figure 2: Groundwater elevation contour in feet.  
October 4, 2002.ENVIRO SOIL  
CONSULTANTS  
M2

CORONADO AVENUE

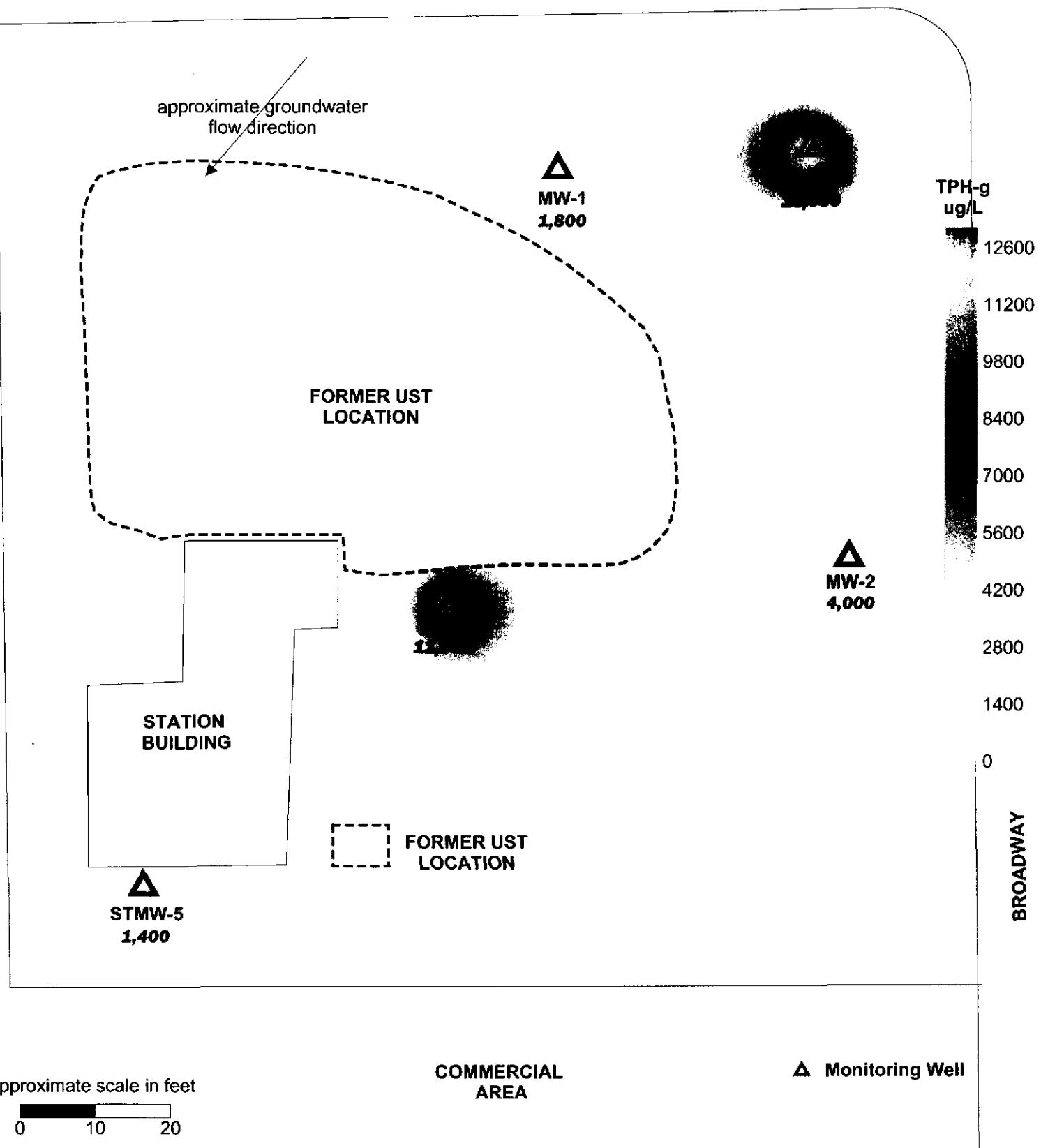
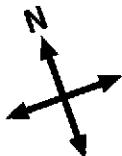


Figure 3: Contour map of TPH-g concentrations in groundwater.  
October 4, 2002.



CORONADO AVENUE

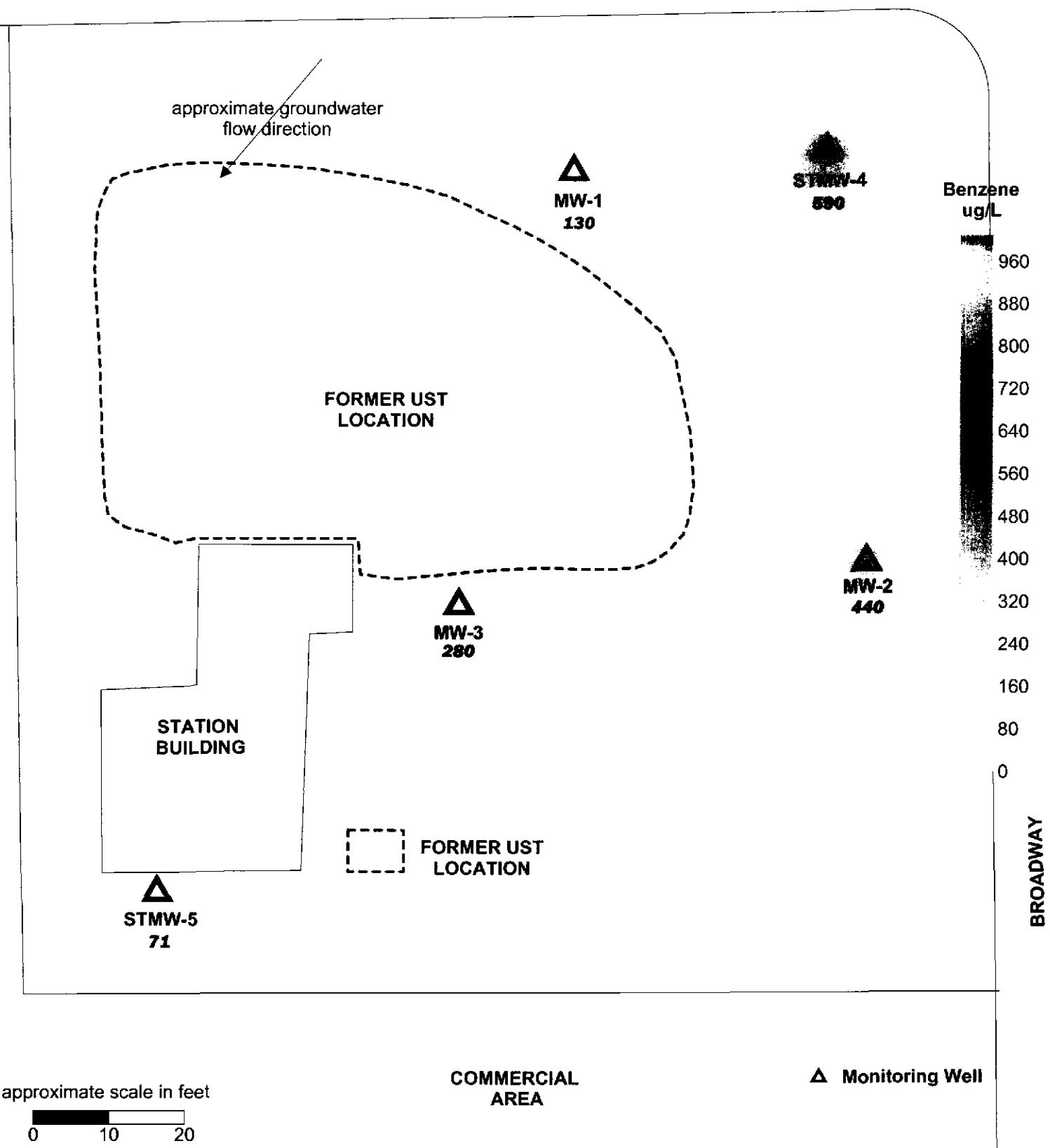
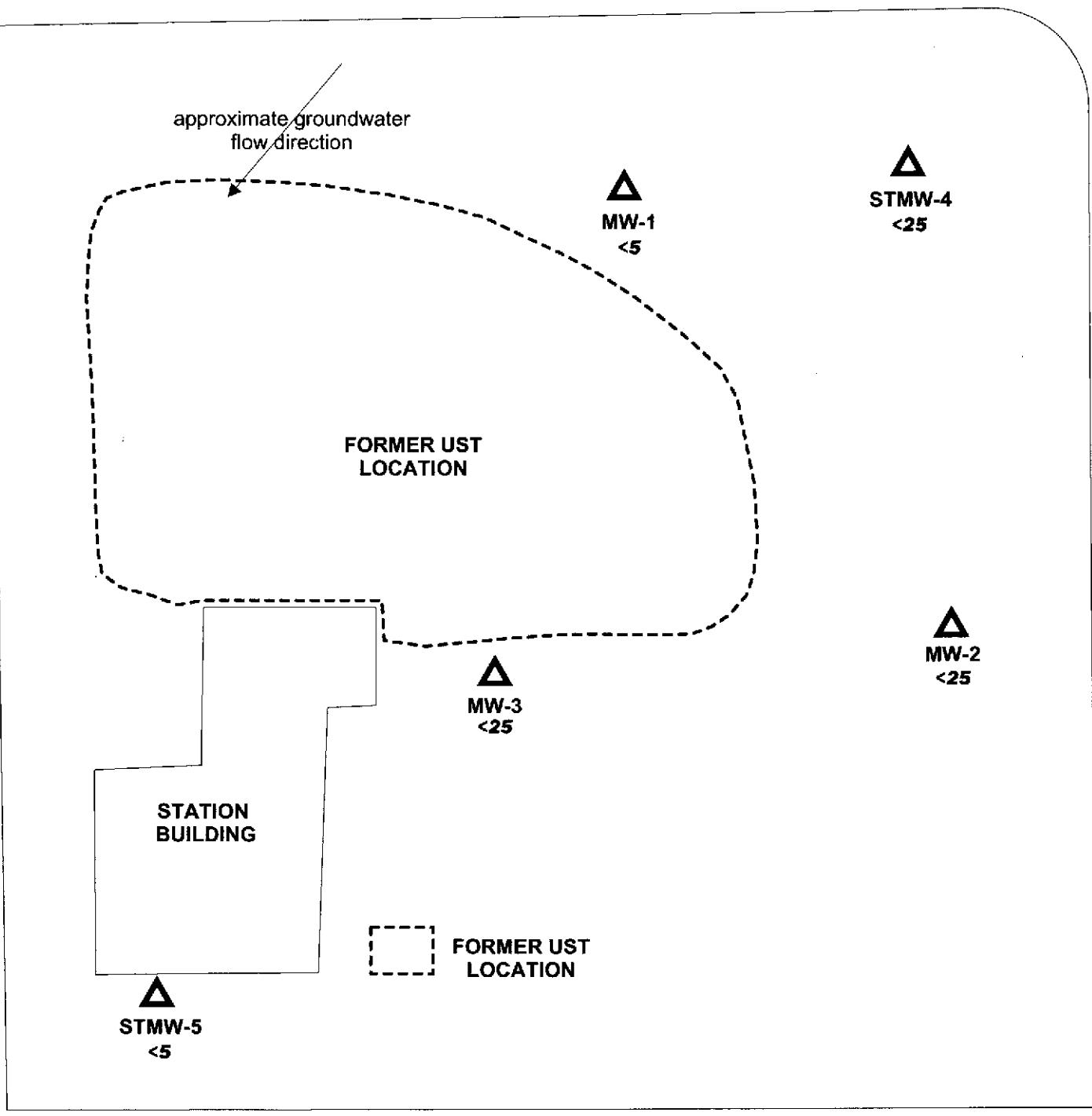


Figure 4: Contour map of Benzene concentrations in groundwater.  
October 4, 2002.



CORONADO AVENUE



approximate scale in feet

0 10 20

COMMERCIAL AREA

△ Monitoring Well  
< Less than Lab reporting limits

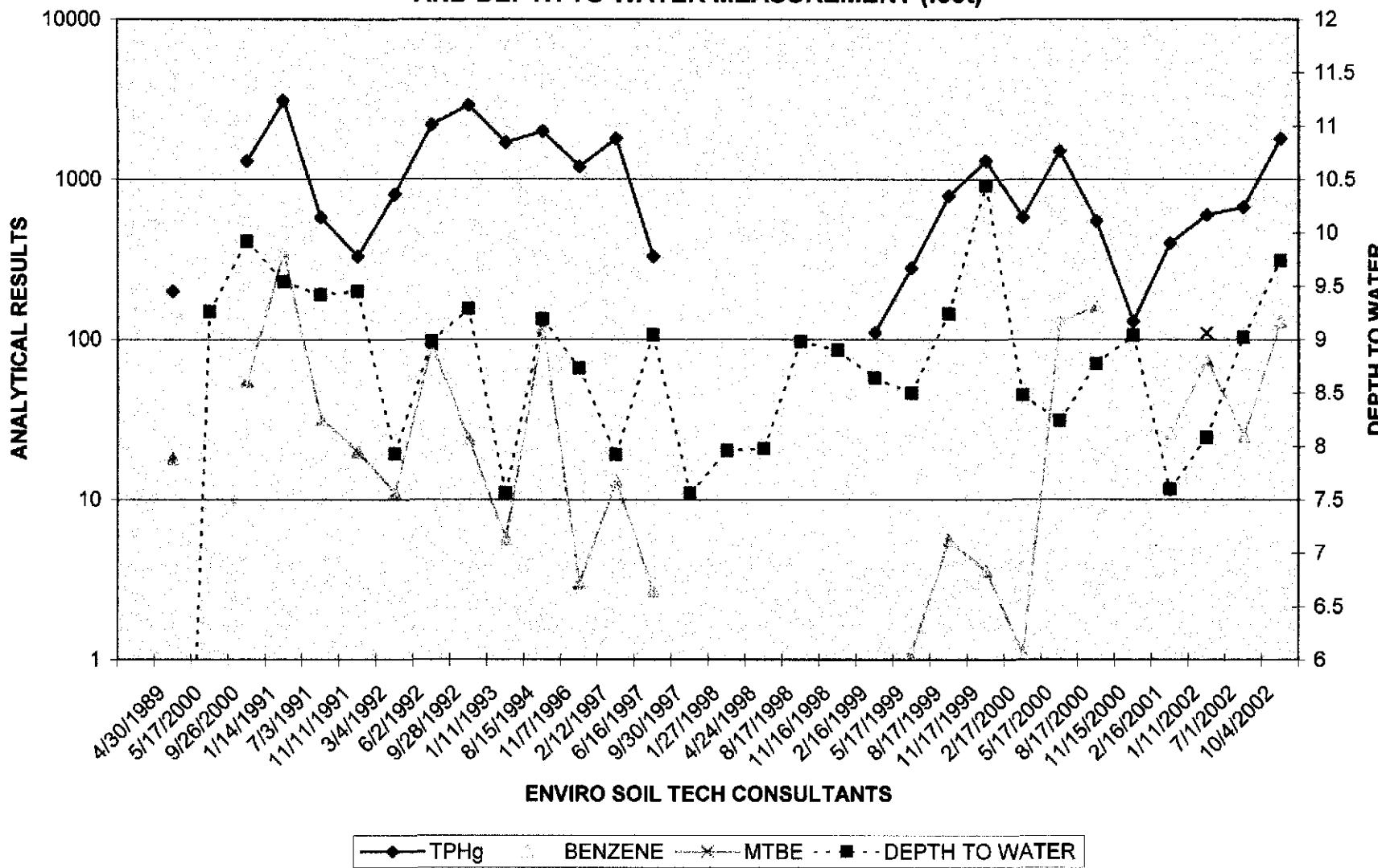
Figure 5: Map of MtBE (ug/L) concentrations in groundwater.  
October 4, 2002.

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CONSULTANTS

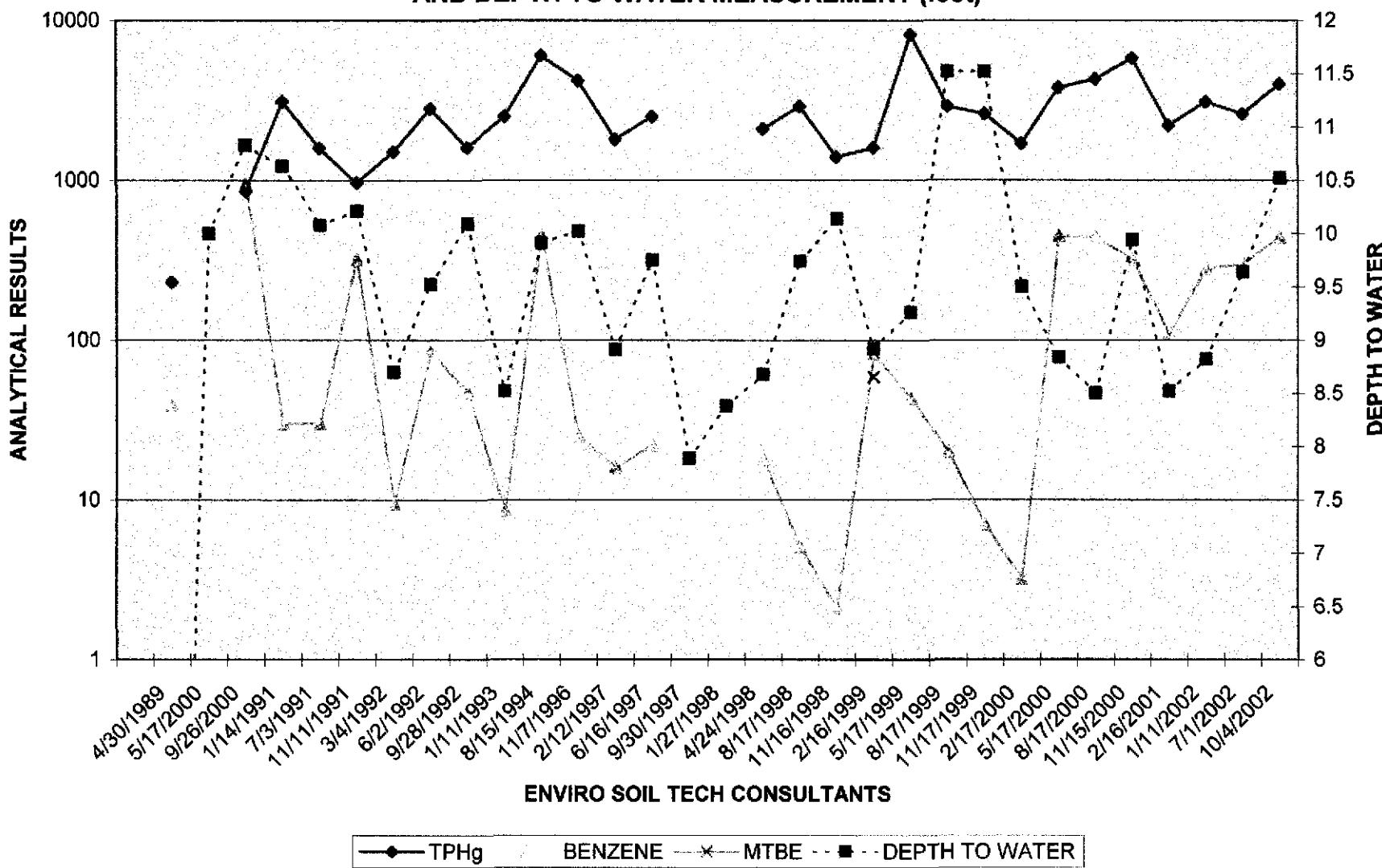
**A P P E N D I X "C"**

**ENVIRO SOIL TECH CONSULTANTS**

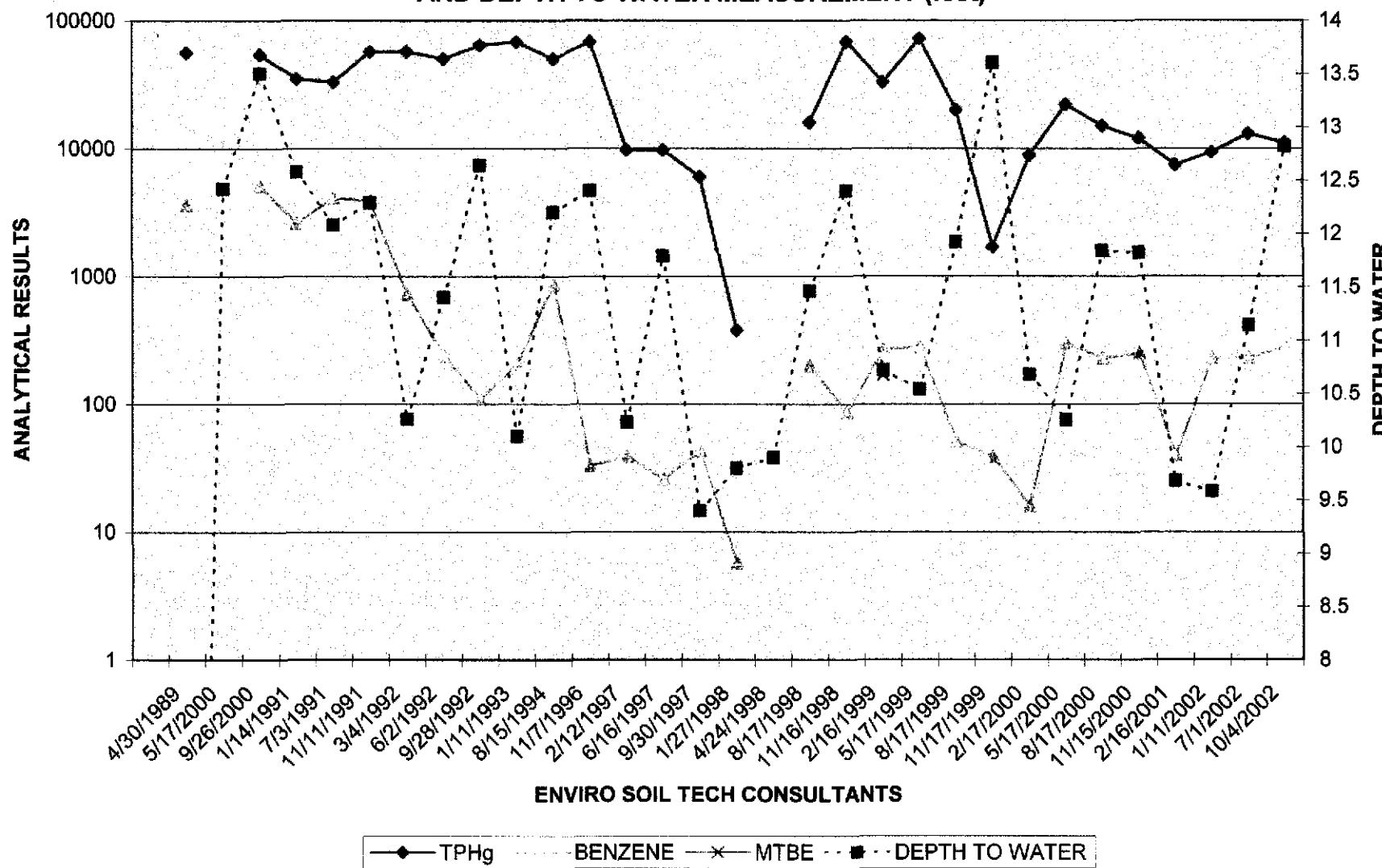
**File No.: 8-90-420-GI**  
**TPHg, BENZENE & MTBE RESULTS FOR MW-1 ( $\mu\text{g/L}$ )**  
**AND DEPTH TO WATER MEASUREMENT (feet)**



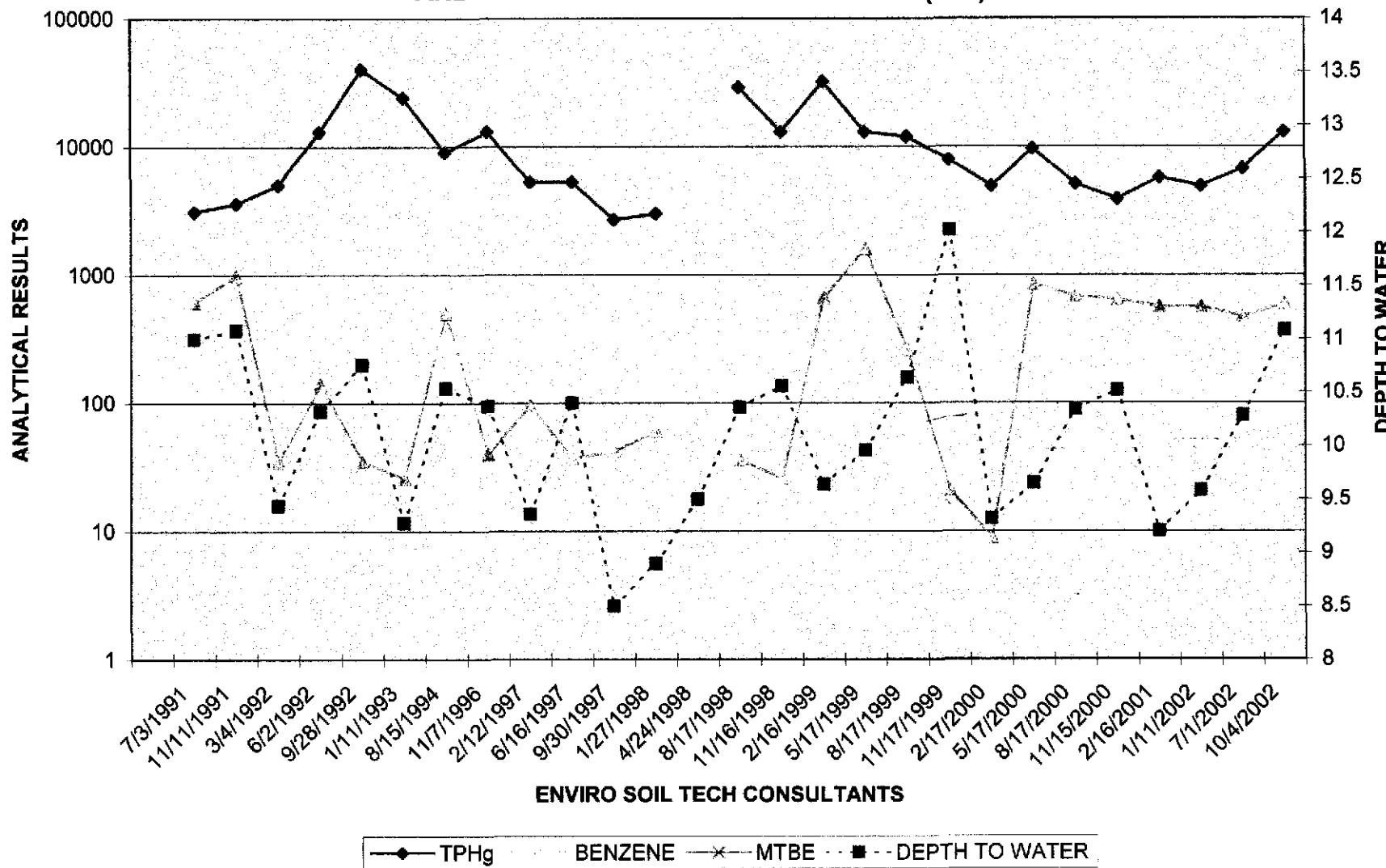
File No.: 8-90-420-GI  
TPHg, BENZENE & MTBE RESULTS FOR MW-2 ( $\mu\text{g/L}$ )  
AND DEPTH TO WATER MEASUREMENT (feet)



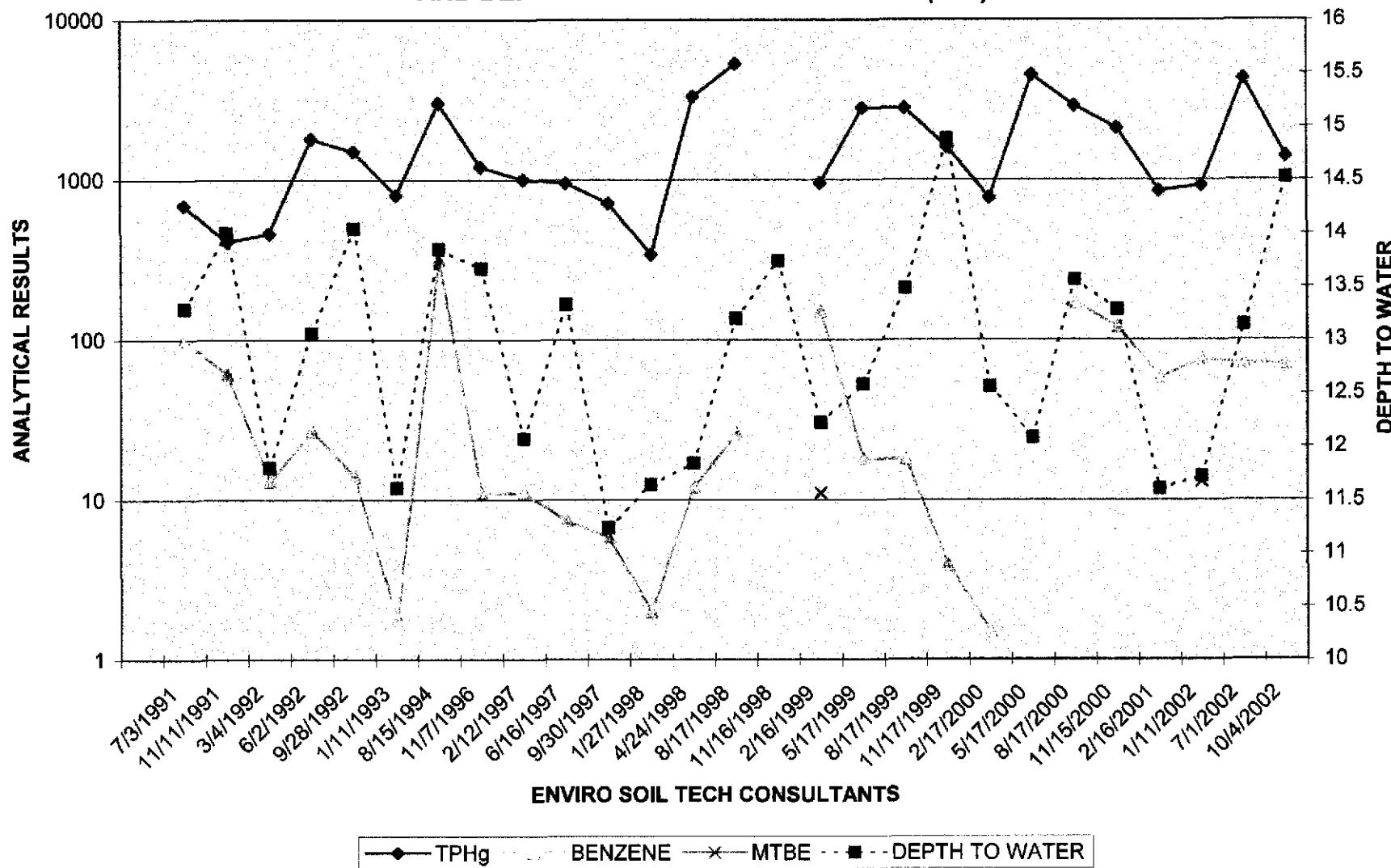
File No.: 8-90-420-GI  
TPHg, BENZENE & MTBE RESULTS FOR MW-3 ( $\mu\text{g/L}$ )  
AND DEPTH TO WATER MEASUREMENT (feet)



File No.: 8-90-420-GI  
TPHg, BENZENE & MTBE RESULTS FOR STMW-4 ( $\mu\text{g/L}$ )  
AND DEPTH TO WATER MEASUREMENT (feet)



File No.: 8-90-420-GI  
TPHg, BENZENE & MTBE RESULTS FOR STMW-5 ( $\mu\text{g/L}$ )  
AND DEPTH TO WATER MEASUREMENT (feet)



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

**ENVIRO SOIL TECH CONSULTANTS**

## **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.

One liter amber glass bottles and 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.

File No. 8-90-420-GI

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

**ENVIRO SOIL TECH CONSULTANTS**

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

October 19, 2002

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

**Order:** 31515

**Date Collected:** 10/4/2002

**Project Name:** 5175 Broadway Street

**Date Received:** 10/7/2002

**Project Number:** 8-90-420-GI

**P.O. Number:** 8-90-420-GI

**Project Notes:**

On October 07, 2002, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	EDF Deliverables	EDF
	EPA 8260B	EPA 8260B
	TPH as Diesel	EPA 8015 MOD. (Extractable)
	TPH as Gasoline	EPA 8015 MOD. (Purgeable)

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-588-0200.

Sincerely,



Patti Sandrock  
QA/QC Manager

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

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

Date: 10/19/02  
Date Received: 10/7/2002  
Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-001					Client Sample ID: MW-1				
Sample Time: 10:57 AM		Sample Date: 10/4/2002					Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Diesel	520	x	1	50	50	µg/L	10/8/2002	10/9/2002	DW4236A	EPA 8015 MOD. (Extractable)	
Surrogate o-Terphenyl					Surrogate Recovery 86.0					Control Limits (%) 32 - 145	

Comment: Reported TPH as Diesel value is a result of overlap from the Kerosene range into the Diesel quantitation range.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Gasoline	1800		10	50	500	µg/L	N/A	10/11/2002	WGC62601B	EPA 8015 MOD. (Purgeable)	
Surrogate 4-Bromofluorobenzene					Surrogate Recovery 116.6					Control Limits (%) 65 - 135	

Order ID: 31515		Lab Sample ID: 31515-002					Client Sample ID: MW-2				
Sample Time: 9:50 AM		Sample Date: 10/4/2002					Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Diesel	390	x	1	50	50	µg/L	10/8/2002	10/9/2002	DW4236A	EPA 8015 MOD. (Extractable)	
Surrogate o-Terphenyl					Surrogate Recovery 48.0					Control Limits (%) 32 - 145	

Comment: Reported TPH as Diesel value is a result of overlap from the Kerosene range into the Diesel quantitation range.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Gasoline	4000		10	50	500	µg/L	N/A	10/10/2002	WGC62601	EPA 8015 MOD. (Purgeable)	
Surrogate 4-Bromofluorobenzene					Surrogate Recovery 131.4					Control Limits (%) 65 - 135	

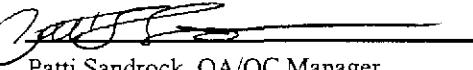
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Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

  
Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

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Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-003					Client Sample ID: MW-3				
Sample Time: 12:00 PM			Sample Date: 10/4/2002				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Diesel	4900	x	5	50	250	µg/L	10/8/2002	10/10/2002	DW4236A	EPA 8015 MOD. (Extractable)	
Surrogate o-Terphenyl					Surrogate Recovery 65.0					Control Limits (%) 32 - 145	

Comment: Reported TPH as Diesel value is a result of an overlap from the Kerosene and Motor Oil range into the Diesel quantitation range.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Gasoline	11000		10	50	500	µg/L	N/A	10/10/2002	WGC62601	EPA 8015 MOD. (Purgeable)	
Surrogate 4-Bromofluorobenzene					Surrogate Recovery 133.8					Control Limits (%) 65 - 135	

Order ID: 31515		Lab Sample ID: 31515-004					Client Sample ID: STMW-4				
Sample Time: 1:02 PM			Sample Date: 10/4/2002				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Diesel	2900	x	5	50	250	µg/L	10/8/2002	10/10/2002	DW4236A	EPA 8015 MOD. (Extractable)	
Surrogate o-Terphenyl					Surrogate Recovery 76.0					Control Limits (%) 32 - 145	
Comment: Reported TPH as Diesel value is a result of overlap from the Kerosene range into the Diesel quantitation range.											
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method	
TPH as Gasoline	13000		25	50	1250	µg/L	N/A	10/10/2002	WGC62601	EPA 8015 MOD. (Purgeable)	
Surrogate 4-Bromofluorobenzene					Surrogate Recovery 134.4					Control Limits (%) 65 - 135	

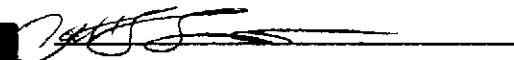
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Patti Sandrock, QA/QC Manager

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131 Tully Road  
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Attn: Frank Hamedi

Date: 10/19/02  
Date Received: 10/7/2002  
Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-005					Client Sample ID: STMW-5				
Parameter		Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel		60	x	1	50	50	µg/L	10/8/2002	10/9/2002	DW4236A	EPA 8015 MOD. (Extractable)
<b>Surrogate</b> o-Terphenyl											
<b>Surrogate Recovery</b> 59.0											
<b>Control Limits (%)</b> 32 - 145											
Comment: Reported TPH as Diesel value is a result of overlap from the Kerosene range into the Diesel quantitation range.											
Parameter		Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline		1400		5	50	250	µg/L	N/A	10/11/2002	WGC62601B	EPA 8015 MOD. (Purgeable)
<b>Surrogate</b> 4-Bromofluorobenzene											
<b>Surrogate Recovery</b> 115.0											
<b>Control Limits (%)</b> 65 - 135											

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## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-001				Client Sample ID: MW-1			
Sample Time: 10:57 AM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
1,1,1,2-Tetrachloroethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,1,1-Trichloroethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,1,2-Trichloroethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,1-Dichloroethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,1-Dichloroethene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,1-Dichloropropene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2,3-Trichlorobenzene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2,3-Trichloropropane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2,4-Trimethylbenzene	9.4	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2-Dibromo-3-Chloropropane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2-Dichlorobenzene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2-Dichloroethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,2-Dichloropropane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,3,5-Trimethylbenzene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,3-Dichlorobenzene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,3-Dichloropropane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
1,4-Dichlorobenzene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
2,2-Dichloropropane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
2-Butanone (MEK)	ND	1	20	20	μg/L	10/10/2002	WMS21744B	EPA 8260B	
2-Chloroethyl-vinyl Ether	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
2-Chlorotoluene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
2-Hexanone	ND	1	20	20	μg/L	10/10/2002	WMS21744B	EPA 8260B	
4-Chlorotoluene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
4-Methyl-2-Pentanone(MIBK)	ND	1	20	20	μg/L	10/10/2002	WMS21744B	EPA 8260B	
Acetone	ND	1	100	100	μg/L	10/10/2002	WMS21744B	EPA 8260B	
Benzene	130	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
Bromobenzene	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
Bromochloromethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
Bromodichloromethane	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	
Bromoform	ND	1	5	5	μg/L	10/10/2002	WMS21744B	EPA 8260B	

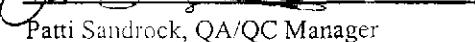
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Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)



Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

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Date: 10/19/02  
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Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-001				Client Sample ID: MW-1			
Sample Time: 10:57 AM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Bromomethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Disulfide	ND		1	15	15	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Tetrachloride	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chlorobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroform	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,2-Dichloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,3-Dichloropropene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromochloromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromomethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dichlorodifluoromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Diisopropyl Ether	60		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Ethyl Benzene	8.1		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Freon 113	ND		1	10	10	µg/L	10/10/2002	WMS21744B	EPA 8260B
Hexachlorobutadiene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropanol	ND		1	40	40	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropylbenzene	5.9		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methylene Chloride	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Butylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Propylbenzene	8.2		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Naphthalene	6.0		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
p-Isopropyltoluene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
sec-Butylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Styrene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butanol	ND		1	20	20	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butyl Ethyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrachloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrahydrofuran	ND		1	20	20	µg/L	10/10/2002	WMS21744B	EPA 8260B
Toluene	7.8		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B

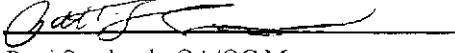
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Sample Time: 10:57 AM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
trans-1,2-Dichloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
trans-1,3-Dichloropropene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichlorofluoromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Vinyl Chloride	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Xylenes, Total	14		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Surrogate		Surrogate Recovery				Control Limits (%)			
4-Bromofluorobenzene		102.3				73 - 151			
Dibromofluoromethane		99.5				57 - 139			
Toluene-d8		103.9				77 - 150			

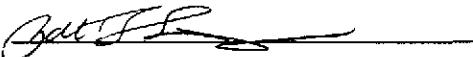
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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

  
Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

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

Date: 10/19/02  
Date Received: 10/7/2002  
Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-002				Client Sample ID: MW-2			
Sample Time: 9:50 AM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
1,1,1,2-Tetrachloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,1-Trichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2,2-Tetrachloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2-Trichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trimethylbenzene	52		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromo-3-Chloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromoethane (EDB)	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3,5-Trimethylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,4-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2,2-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Butanone (MEK)	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chloroethyl-vinyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chlorotoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Hexanone	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Chlorotoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Methyl-2-Pentanone(MIBK)	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
Acetone	ND		5	100	500	µg/L	10/10/2002	WMS21744B	EPA 8260B
Benzene	440		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromochloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromodichloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromoform	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B

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

  
Patti Sandrock, QA/QC Manager

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Enviro Soil Tech Consultants  
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Date: 10/19/02  
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Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-002				Client Sample ID: MW-2			
Sample Time: 9:50 AM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Bromomethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Disulfide	ND		5	15	75	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Tetrachloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroform	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,2-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,3-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromochloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromomethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dichlorodifluoromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Diisopropyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Ethyl Benzene	140		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Freon 113	ND		5	10	50	µg/L	10/10/2002	WMS21744B	EPA 8260B
Hexachlorobutadiene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropanol	ND		5	40	200	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methyl-t-butyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methylene Chloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Propylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Naphthalene	35		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
p-Isopropyltoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
sec-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Styrene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Amyl Methyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butanol	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butyl Ethyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrachloroethylene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrahydrofuran	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
Toluene	66		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B

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

  
Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

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

Date: 10/19/02  
Date Received: 10/7/2002  
Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-002				Client Sample ID: MW-2			
Sample Time: 9:50 AM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
trans-1,2-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
trans-1,3-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichlorofluoromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Vinyl Chloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Xylenes, Total	120		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Surrogate		Surrogate Recovery				Control Limits (%)			
4-Bromofluorobenzene		99.7				73 - 151			
Dibromofluoromethane		99.4				57 - 139			
Toluene-d8		104.1				77 - 150			

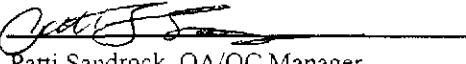
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Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-003				Client Sample ID: MW-3			
Sample Time: 12:00 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
1,1,1,2-Tetrachloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,1-Trichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2,2-Tetrachloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2-Trichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trimethylbenzene	350		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromo-3-Chloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromoethane (EDB)	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3,5-Trimethylbenzene	120		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,4-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2,2-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Butanone (MEK)	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chloroethyl-vinyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chlorotoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Hexanone	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Chlorotoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Methyl-2-Pentanone(MIBK)	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
Acetone	ND		5	100	500	µg/L	10/10/2002	WMS21744B	EPA 8260B
Benzene	280		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromochloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromodichloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromoform	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B

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

  
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Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-003				Client Sample ID: MW-3			
Sample Time: 12:00 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Bromomethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Disulfide	ND		5	15	75	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Tetrachloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroform	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,2-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,3-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromochloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromomethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dichlorodifluoromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Diisopropyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Ethyl Benzene	450		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Freon 113	ND		5	10	50	µg/L	10/10/2002	WMS21744B	EPA 8260B
Hexachlorobutadiene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropanol	ND		5	40	200	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropylbenzene	39		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methyl-t-butyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methylene Chloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Butylbenzene	44		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Propylbenzene	130		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Naphthalene	150		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
p-Isopropyltoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
sec-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Styrene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Amyl Methyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butanol	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butyl Ethyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrachloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrahydrofuran	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
Toluene	170		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B

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## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-003				Client Sample ID: MW-3			
Sample Time: 12:00 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
trans-1,2-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
trans-1,3-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichlorofluoromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Vinyl Chloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Xylenes, Total	730		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Surrogate		Surrogate Recovery				Control Limits (%)			
4-Bromofluorobenzene		102.9				73 - 151			
Dibromofluoromethane		100.9				57 - 139			
Toluene-d8		104.4				77 - 150			

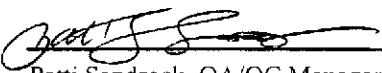
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Patti Sandrock, QA/QC Manager

*Environmental Analysis Since 1983*

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

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

Date: 10/19/02  
Date Received: 10/7/2002  
Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-004				Client Sample ID: STMW-4			
Sample Time: 1:02 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
1,1,1,2-Tetrachloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,1-Trichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2,2-Tetrachloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2-Trichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trimethylbenzene	190		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromo-3-Chloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromoethane (EDB)	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3,5-Trimethylbenzene	66		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,4-Dichlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2,2-Dichloropropane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Butanone (MEK)	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chloroethyl-vinyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chlorotoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Hexanone	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Chlorotoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Methyl-2-Pentanone(MIBK)	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
Acetone	ND		5	100	500	µg/L	10/10/2002	WMS21744B	EPA 8260B
Benzene	590		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromochloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromodichloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromoform	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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

  
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Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

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Order ID: 31515		Lab Sample ID: 31515-004				Client Sample ID: STMW-4			
Sample Time: 1:02 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Bromomethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Disulfide	ND		5	15	75	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Tetrachloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chlorobenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroform	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,2-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,3-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromochloromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromomethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dichlorodifluoromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Diisopropyl Ether	35		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Ethyl Benzene	65		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Freon 113	ND		5	10	50	µg/L	10/10/2002	WMS21744B	EPA 8260B
Hexachlorobutadiene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropanol	ND		5	40	200	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropylbenzene	36		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methyl-t-butyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methylene Chloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Propylbenzene	61		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Naphthalene	85		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
p-Isopropyltoluene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
sec-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Styrene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Amyl Methyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butanol	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butyl Ethyl Ether	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butylbenzene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrachloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrahydrofuran	ND		5	20	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
Toluene	26		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B

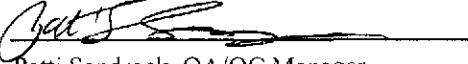
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Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-004				Client Sample ID: STMW-4			
Sample Time: 1:02 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
trans-1,2-Dichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
trans-1,3-Dichloropropene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichloroethene	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichlorofluoromethane	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Vinyl Chloride	ND		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Xylenes, Total	110		5	5	25	µg/L	10/10/2002	WMS21744B	EPA 8260B
Surrogate		Surrogate Recovery				Control Limits (%)			
4-Bromofluorobenzene		103.2				73 - 151			
Dibromofluoromethane		101.0				57 - 139			
Toluene-d8		104.5				77 - 150			

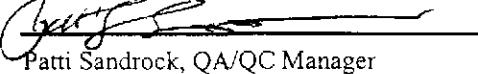
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Project Name: 5175 Broadway Street  
Project Number: 8-90-420-GI  
P.O. Number: 8-90-420-GI  
Sampled By: Richard Munley

## Certified Analytical Report

Order ID: 31515		Lab Sample ID: 31515-005				Client Sample ID: STMW-5			
Sample Time: 2:10 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
1,1,1,2-Tetrachloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,1-Trichloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2,2-Tetrachloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1,2-Trichloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,1-Dichloropropene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichlorobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,3-Trichloropropane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trichlorobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2,4-Trimethylbenzene	5.2		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromo-3-Chloropropane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dibromoethane (EDB)	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichlorobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,2-Dichloropropane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3,5-Trimethylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichlorobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,3-Dichloropropane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
1,4-Dichlorobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
2,2-Dichloropropane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Butanone (MEK)	ND		1	20	20	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chloroethyl-vinyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Chlorotoluene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
2-Hexanone	ND		1	20	20	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Chlorotoluene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
4-Methyl-2-Pentanone(MIBK)	ND		1	20	20	µg/L	10/10/2002	WMS21744B	EPA 8260B
Acetone	ND		1	100	100	µg/L	10/10/2002	WMS21744B	EPA 8260B
Benzene	71		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromochloromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromodichloromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Bromoform	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B

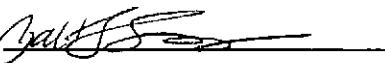
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Sampled By: Richard Munley

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Order ID: 31515		Lab Sample ID: 31515-005				Client Sample ID: STMW-5			
Sample Time: 2:10 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Bromomethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Disulfide	ND		1	15	15	µg/L	10/10/2002	WMS21744B	EPA 8260B
Carbon Tetrachloride	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chlorobenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloroform	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Chloromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,2-Dichloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
cis-1,3-Dichloropropene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromochloromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dibromomethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Dichlorodifluoromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Diisopropyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Ethyl Benzene	26		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Freon 113	ND		1	10	10	µg/L	10/10/2002	WMS21744B	EPA 8260B
Hexachlorobutadiene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropanol	ND		1	40	40	µg/L	10/10/2002	WMS21744B	EPA 8260B
Isopropylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Methylene Chloride	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Butylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
n-Propylbenzene	12		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Naphthalene	9.6		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
p-Isopropyltoluene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
sec-Butylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Styrene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butanol	ND		1	20	20	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butyl Ethyl Ether	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
tert-Butylbenzene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrachloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Tetrahydrofuran	ND		1	20	20	µg/L	10/10/2002	WMS21744B	EPA 8260B
Toluene	17		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B

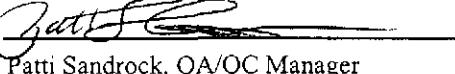
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Sample Time: 2:10 PM		Sample Date: 10/4/2002				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
trans-1,2-Dichloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
trans-1,3-Dichloropropene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichloroethene	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Trichlorofluoromethane	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Vinyl Chloride	ND		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Xylenes, Total	35		1	5	5	µg/L	10/10/2002	WMS21744B	EPA 8260B
Surrogate		Surrogate Recovery				Control Limits (%)			
4-Bromofluorobenzene		99.8				73 - 151			
Dibromofluoromethane		98.3				57 - 139			
Toluene-d8		103.8				77 - 150			

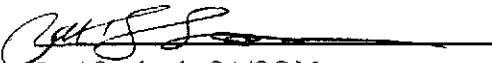
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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

  
Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

## STANDARD LAB QUALIFIERS (FLAGS)

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:

Qualifier (Flag)	Description
U	Compound was analyzed for but not detected
J	Estimated value 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
Y	PQL is reported below MDL but verified against a standard analyzed at the client requested reporting limit of 0.5 ppb
C	Reported results affected by contaminated reagent materials. See narrative for further explanation

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: DW4236A  
Matrix: Liquid

Units: µg/L

Date Analyzed: 10/9/2002

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: TPH as Diesel</b>											
TPH as Diesel	EPA 8015 M	ND		1000		579.18	LCS	57.9			44.3 - 137.5
	Surrogate		Surrogate Recovery				Control Limits (%)				
	o-Terphenyl			78.0			32 - 145				
<b>Test: TPH as Diesel</b>											
TPH as Diesel	EPA 8015 M	ND		1000		468.73	LCSD	46.9	21.08	25.00	44.3 - 137.5
	Surrogate		Surrogate Recovery				Control Limits (%)				
	o-Terphenyl			52.0			32 - 145				

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: WGC62601  
Matrix: Liquid

Units: µg/L

Date Analyzed: 10/9/2002

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND		100		106.4	LCS	106.4			65.0 - 135.0
	Surrogate				Surrogate Recovery		Control Limits (%)				
	4-Bromofluorobenzene			108.6		65 - 135					
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND		100		90.2	LCSD	90.2	16.48	25.00	65.0 - 135.0
	Surrogate				Surrogate Recovery		Control Limits (%)				
	4-Bromofluorobenzene			90.7		65 - 135					

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: WGC62601B  
Matrix: Liquid

Units: µg/L

Date Analyzed: 10/11/2002

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015	M ND		100		105.8	LCS	105.8			65.0 - 135.0
	Surrogate				Surrogate Recovery		Control Limits (%)				
	4-Bromofluorobenzene			113.8		65 - 135					
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015	M ND		100		101.4	LCSD	101.4	4.25	25.00	65.0 - 135.0
	Surrogate				Surrogate Recovery		Control Limits (%)				
	4-Bromofluorobenzene			110.7		65 - 135					

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: WMS21744B

Units: µg/L

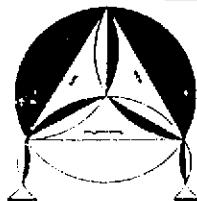
Matrix: Liquid

Date Analyzed: 10/10/2002

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: EPA 8260B</b>											
1,1-Dichloroethene	EPA 8260B	ND		20		20.8064	LCS	104.0		57.3 - 132.4	
Benzene	EPA 8260B	ND		20		22.0253	LCS	110.1		65.0 - 135.0	
Chlorobenzene	EPA 8260B	ND		20		23.503	LCS	117.5		65.0 - 135.0	
Methyl-t-butyl Ether	EPA 8260B	ND		20		17.5052	LCS	87.5		56.0 - 135.0	
Toluene	EPA 8260B	ND		20		23.2543	LCS	116.3		65.0 - 135.0	
Trichloroethene	EPA 8260B	ND		20		22.7679	LCS	113.8		65.0 - 135.0	
Surrogate				Surrogate Recovery			Control Limits (%)				
4-Bromofluorobenzene				100.9			73 - 151				
Dibromofluoromethane				94.6			57 - 156				
Toluene-d8				104.4			77 - 150				
<b>Test: EPA 8260B</b>											
1,1-Dichloroethene	EPA 8260B	ND		20		22.222	LCSD	111.1	6.58	25.00	57.3 - 132.4
Benzene	EPA 8260B	ND		20		23.2742	LCSD	116.4	5.51	25.00	65.0 - 135.0
Chlorobenzene	EPA 8260B	ND		20		24.494	LCSD	122.5	4.13	25.00	65.0 - 135.0
Methyl-t-butyl Ether	EPA 8260B	ND		20		19.4577	LCSD	97.3	10.56	25.00	56.0 - 135.0
Toluene	EPA 8260B	ND		20		24.3526	LCSD	121.8	4.61	25.00	65.0 - 135.0
Trichloroethene	EPA 8260B	ND		20		24.1471	LCSD	120.7	5.88	25.00	65.0 - 135.0
Surrogate				Surrogate Recovery			Control Limits (%)				
4-Bromofluorobenzene				100.0			73 - 151				
Dibromofluoromethane				98.4			57 - 156				
Toluene-d8				104.1			77 - 150				

## **CHAIN OF CUSTODY RECORD**

PROJ. NO. 8-90-420-GI	NAME 5175 Broadway St., Oakland					CONTAINER	ANALYSES REQUESTED (2) TPH & TDA 93160B	REMARKS
SAMPLERS: (Signature)	Richard Manley							
NO.	DATE	TIME	SOIL	WATER	LOCATION			
	10/04/02	10 <sup>51</sup>	✓		MW-1	8	✓ ✓ ✓	31515-001
		9 <sup>50</sup>	✓		MW-2	8	✓ ✓ ✓	002
		12 <sup>00</sup>	✓		MW-3	8	✓ ✓ ✓	003
		13 <sup>02</sup>	✓		STMW-4	8	✓ ✓ ✓	004
V		14 <sup>10</sup>	✓		STMW-5	8	✓ ✓ ✓	005
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Richard Manley		10/7 14 <sup>30</sup>	C L Thom					
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)		Date / Time	Remarks		
						<p>Please send lab report to Frank Nemedi</p>		
ENVIRO SOIL TECH CONSULTANTS								



**ENVIRO SOIL TECH CONSULTANTS**

Environmental & Geotechnical Consultants

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