ENVIRONMENTAL ENGINEERING, INC
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SECOND QUARTER 2002
GROUNDWATER MONITORING REPORT
TEXACO GASOLINE SERVICE STATION
15101 FREEDOM AVENUE
SAN LEANDRO, CALIFORNIA

June 19, 2002

Project 2551

Prepared for

Mr. Mohammad Pazdel
35840 Alcazar Court
Fremont, California

Prepared by

SOMA Environmental Engineering, Inc.
2680 Bishop Drive, Suite 203
San Ramon, California

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June 19, 2002

JUN 2 4 2002

Mr. Scott O. Seery
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Texaco Gasoline Service Station (Formerly Freedom ARCO Station)
Site Address: 15101 Freedom Avenue, San Leandro, California
STID 4473/RO0000473

Dear Scott:

A copy of SOMA's "Second Quarter 2002 Groundwater Monitoring Report" for the subject property is enclosed.

Thank you for your time in reviewing our report. If you have any questions or comments, please call me at (925) 244-6600.

Sincerely,

Mansour Sepehr, Ph.D.,P.E.
Principal Hydrogeologist

Enclosure

cc: Mr. Mohammad Pazdel w/enclosure
Mr. Farrokh Hosseinyoun w/enclosure

JUN 2 4 2002

Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Mohammad Pazdel, for the property located at 15101 Freedom Avenue, San Leandro, California, to comply with the Alameda County Health Care Service's requirements for the Second Quarter 2002 groundwater monitoring event.

Mansour Sepehr, Ph.D., P.E.
Principal Hydrogeologist

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1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc., (SOMA) on behalf of Mr. Mohammad Pazdel, the property owner. The property is located at 15101 Freedom Avenue, between 151st Street and Fairmont Boulevard, just west of the 580 Freeway in San Leandro, California (the "Site"). Formerly, the property was known as Freedom ARCO Station, however, currently, the Site is an operating service station under the brand name of Texaco.

Since the 1960's, the Site has been used as a gasoline service station. In 1985, Mr. Mohammad Pazdel purchased the business and in 1992 he purchased the property from Mr. Mohammad Mashhoon. From 1985 until 1997, when Mr. Pazdel sold the business, the Site was known as "Freedom ARCO Station".

This groundwater monitoring report summarizes the results of the Second Quarter 2002 groundwater monitoring event conducted at the Site on May 10, 2002. This was the first monitoring event conducted at the Site by SOMA Environmental Engineering, Inc. This report includes the results of on-site measurements of some physical and chemical properties of the groundwater. During this monitoring event, five monitoring wells (MW-1 to MW-5) were sampled and analyzed for the following chemicals:

- Total petroleum hydrocarbons as gasoline (TPH-g)
- Benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX)
- Methyl tertiary Butyl Ether (MtBE)
- Total Lead

These activities were performed in accordance with the general guidelines of the California Regional Water Quality Control Board (RWQCB).

1.1 Previous Activities

On May 20, 1999, in order to comply with underground storage tank (UST) upgrade regulations, three 10,000-gallon single walled USTs were removed and replaced with new double-walled fuel tanks. Geo-Logic oversaw the removal three 10,000-gallon USTs, approximately 250 feet of product piping and six dispensers at the Site. Paradiso Mechanical, Inc. removed the old USTs and installed the new USTs. The on-site participating agency was the Alameda County Health Care Services (ACHCS). During the upgrade of the USTs, petroleum chemicals were detected in subsurface soils beneath the old USTs and over-excavation of the UST cavity was performed.

After excavation and removal, the three USTs and product piping were transported to the ECI facility in Richmond, California for proper disposal. On May 20 to May 21, 1999, Geo-Logic collected soil samples from beneath the USTs, product piping, and dispenser area. On May 20, 1999, seven soil samples were collected from the west and east sides of the tank excavation pit ranging in depth from 12 to 14 feet below ground surface (bgs). In addition, six soil samples were collected from beneath the dispensers ranging in depth from 2.5 to 3 feet bgs. One soil sample was collected beneath the product lines at 2.5 feet bgs. On May 21, 1999, eight additional soil samples were collected beneath the product piping and in the area of the dispensers at depths ranging from 3 to 3.5 feet bgs. Stockpile soil samples were also collected on May 21, 1999.

On June 2, 1999, additional soil samples were collected during over-excavation activities from beneath the product piping and the bottom of the tank excavation pit. An additional soil sample was collected beneath the product piping at a depth of 5 feet bgs. To define the vertical extent of hydrocarbon contamination

three additional soil samples were collected in the western portion of the tank cavity and ranged in depth from 16.5 to 24.5 feet bgs.

The soil samples collected during the removal and over-excavation activities were submitted to Calcoast Analytical in Emeryville, California. Soil samples were analyzed for TPH-g using EPA Method 8015, BTEX compounds and MtBE using EPA Method 8020 and total lead using EPA 6010A. The presence of MTBE was confirmed using EPA Method 8260. The concentration of TPH-g in the soil samples ranged between 0.76 mg/Kg and 4,000 mg/Kg. Benzene concentrations ranged between 28 mg/Kg and non-detectable levels at depths ranging from 2.5 to 3 feet bgs. MtBE concentrations ranged between 0.93 mg/Kg and non-detectable levels.

On July 7, 1999, a 20,000-gallon gasoline UST, a 8,000-gallon gasoline UST, and a 6,000-gallon diesel tank were installed in the tank cavity by Paradiso Mechanical, Inc.

In July 2001, CSS Environmental Services (CSS) of San Rafael, California, at the request of ACHCS, conducted an additional soil and groundwater investigation to further investigate the potential petroleum hydrocarbon contamination discovered during the removal and upgrade of the USTs at the Site. During this investigation, CSS drilled five hydropunches (SB-1 through SB-5) using the direct-push method. The soil boring locations are presented in SOMA's "Workplan to Conduct Soil and Groundwater Investigation Report" dated October 2, 2001. The soil borings were advanced to the maximum depth of 31 feet bgs. It appeared that the groundwater beneath the Site is semi-confined upon drilling, the groundwater stabilized at depths of 17 to 20 feet bgs. The results of this investigation indicated that the petroleum-impacted soils are generally encountered below a 19-foot depth interval and are predominantly present within the capillary fringe, just above the saturated zone. The maximum concentrations of TPH-g and BTEX in soil samples collected between 19 and 25.5 feet bgs were

470, 2.6, 16, 12, and 73 mg/Kg, respectively. MtBE was not detected in any of the soil samples at the analytical method reporting limit of 0.005 mg/Kg. The maximum concentrations of TPH-g and BTEX in the groundwater samples collected from the soil borings were 83, 19, 1.8, 1.5, and 73 mg/L, respectively. MtBE was detected in the groundwater at each of the borings except SB-4. The maximum reported concentration was 87 mg/L at SB-2.

On April 22-23 2002, SOMA Environmental Engineering, Inc., installed 5 (4-inch diameter) on-site groundwater monitoring wells (MW-1 to MW-5) to evaluate the groundwater flow gradient, and the extent of the petroleum hydrocarbons and MtBE contamination beneath the Site. The wells were developed and sampled following their installation. Figure 2 displays the location of the monitoring wells. On May 7, 2002, Kier Wright, a licensed surveyor, surveyed the monitoring wells. The wells were surveyed relative to the assumed datum of 67.07 mean sea level (msl). The survey elevations and coordinates are shown in Appendix A.

2.0 Field Activities

On May 10, 2002, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the RWQCB. During this groundwater monitoring event, a total of five monitoring wells (MW-1 to MW-5) were monitored. Figure 2 displays the locations of the monitoring wells.

The depths to groundwater were measured from the top of the casings to the nearest 0.01 foot using an electric sounder. At each groundwater monitoring well, top of the casing elevation and depth to groundwater were used to calculate the groundwater elevation relative to the assumed datum of 67.07 msl. The thickness of floating product was measured using a petroleum gauging paste on the sounder.

Prior to collecting samples, each well was purged using a battery operated 2-inch diameter pump (Model ES-60 DC).

In order to ensure that the final samples were in equilibrium with (and representative of) the surrounding groundwater, during purging several samples were taken for field measurements of pH, temperature and electrical conductivity (EC). The field measurements were tested using a Hanna pH, conductivity, and temperature meter. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer. Appendix B details the field measurements taken during the monitoring event.

The purging continued until these parameters stabilized or three casing volumes were purged. For sampling purposes, after purging, a disposable polyethylene bailer was used to collect sufficient samples from each monitoring well for laboratory analyses. The groundwater samples collected from each monitoring well were transferred into four 40-mL VOA vials, which had been prepared with HCl preservative. The vials were sealed properly to prevent the development of any air bubbles within the headspace area. These groundwater samples were analyzed for TPH-g, BTEX, and MtBE. The groundwater samples collected from each monitoring well were also transferred into a 500 mL polyethylene container preserved with nitric acid (HNO_3). These groundwater samples were analyzed for total lead. After the groundwater samples were collected, they were placed in an ice chest, along with a chain of custody (COC) form. On that same day, May 10, 2002, SOMA's field crew delivered the groundwater samples to Curtis and Tompkins, Ltd. laboratory in Berkeley, California.

3.0 Laboratory Analysis

Curtis & Tompkins, Ltd., a state certified laboratory, analyzed the groundwater samples for TPH-g, BTEX, MtBE, and total lead. TPH-g was prepared and measured using EPA Methods 5030B and 8015B(M). EPA Method 8021B was

used to measure BTEX and MtBE concentrations. Detections of MtBE were confirmed using EPA Method 8260B. Total Lead was prepared and analyzed using EPA Methods 3010 and 6010B.

4.0 Results

The following sections provide the results of field measurements and laboratory analyses for the May 10, 2002 groundwater monitoring event and the follow-up depth to groundwater monitoring on June 7, 2002.

4.1 Field Measurements

Table 1 presents the measured groundwater elevations at each groundwater monitoring well. No free product was detected in any of the wells.

As Table 1 shows, depths to groundwater ranged from 19.23 feet in monitoring well MW-5 to 22.95 feet in monitoring well MW-1. The corresponding groundwater elevations ranged from 28.56 feet in monitoring well MW-5 to 28.76 feet in monitoring well MW-1.

Table 2 presents the historical groundwater elevations at different groundwater monitoring wells. SOMA conducted the first monitoring event on the newly installed wells during the Second Quarter 2002. Further monitoring events will determine more detailed groundwater elevation trends.

The groundwater elevation contour map, in feet, is displayed in Figure 3. As Figure 3 shows the groundwater flow is generally to the south. The highest groundwater elevation was measured in monitoring well MW-1, which is located west of the USTs. The average groundwater gradient on-site is 0.002 feet/feet.

Table 3 summarizes the field measurements of the physical and chemical properties of groundwater samples collected from the groundwater monitoring wells at the time of sampling. The pH measurements ranged from 6.78 in monitoring well MW-4 to 7.17 in monitoring well MW-2. The temperature measurements ranged from 19.10 °C in monitoring well MW-4 to 20.50 °C in monitoring well MW-5. EC ranged from 1,249 µS/cm in monitoring well MW-3 to 1,590 µS/cm in monitoring well MW-4.

4.2 Laboratory Analysis

Table 4 presents the results of the laboratory analyses on the groundwater samples. In general, the analytical results indicate that the groundwater samples collected from monitoring wells MW-3 and MW-5 were the most impacted, with the exception of MtBE in monitoring well MW-4. The high concentrations detected in monitoring wells MW-3 and MW-5 can be attributed to a possible earlier release of the former USTs in the vicinity. High concentrations were detected during the UST upgrade.

TPH-g concentrations were detected in all of the monitoring wells. TPH-g concentrations ranged from 880 µg/L in monitoring well MW-4 to 44,000 µg/L in monitoring well MW-3. Figure 4 displays the contour map of TPH-g concentrations in the groundwater on May 10, 2002. The highest TPH-g concentration reported was in the vicinity of the USTs, in monitoring well MW-3.

The following trends were observed for BTEX analytes during this monitoring event. All BTEX analytes were detected in all of the monitoring wells. The least impacted monitoring well was MW-4. BTEX concentrations in monitoring well MW-4 were 25 µg/L, 1.0 µg/L, 110 µg/L, and 52 µg/L, respectively. The highest benzene, ethylbenzene, and total xylene concentrations were detected in monitoring well MW-3. Benzene, ethylbenzene, and total xylenes were 6,000 µg/L, 1,500 µg/L, and 6,200 µg/L, respectively. The highest toluene

concentration was detected in monitoring well MW-5, at 1,200 µg/L. Figure 5 displays the contour map of benzene concentrations in the groundwater on May 10, 2002. Similar to the results for TPH-g, the highest benzene concentration was detected in the vicinity of the USTs, in monitoring well MW-3.

MtBE concentrations were detected in all of the monitoring wells. MtBE concentrations ranged from 2 µg/L in monitoring well MW-1 to 12,000 µg/L in monitoring well MW-4. Figure 6 displays the contour map of MtBE concentrations in the groundwater on May 10, 2002. As Figure 6 shows, the highest MtBE concentration was detected in the vicinity of the dispenser islands, in monitoring well MW-4.

Total lead was also analyzed during this monitoring event. Total lead was below the laboratory reporting limits for monitoring wells MW-1, MW-2, and MW-4. Total lead concentrations in monitoring wells MW-3 and MW-5 were 15 µg/L and 3.5 µg/L, respectively. No concentration map for total lead is displayed in this report.

Table 5 presents the historical groundwater analytical data. SOMA conducted the first monitoring event on the newly installed wells during the Second Quarter 2002. Further monitoring events will determine more detailed concentration trends.

5.0 CONCLUSION AND RECOMMENDATIONS

The results of the May 10, 2002 groundwater monitoring event and the follow-up groundwater depth monitoring on June 10, 2002 can be summarized as follows:

- In general, the groundwater flow is to the south. The highest groundwater elevation was measured in monitoring well MW-1, which is located west of the USTs. The average groundwater gradient on-site is 0.002 feet/feet.

- The highest TPH-g and benzene concentrations were detected in the vicinity of the USTs, in monitoring wells MW-3 and MW-5. The high TPH-g and benzene concentrations detected in monitoring wells MW-3 and MW-5 can be attributed to a possible earlier release from the former USTs. During the upgrade of the USTs in May 1999, petroleum chemicals were detected in subsurface soils beneath the old USTs.

- The highest concentration of MtBE was detected in monitoring well MW-4. This can be attributed to the high solubility and high mobility of MtBE. Monitoring well MW-4 is west of the dispenser islands.

- With elevated TPH-g, benzene and MtBE concentrations in the on-site wells and groundwater flowing to the south, the contaminant groundwater plume has migrated off-site toward adjacent residential areas and is undefined.

- To properly define the extent of the off-site plume, additional groundwater monitoring wells should be installed downgradient (south) of the Site. Upon the request of the ACHCS, SOMA will submit a workplan describing the number and location of proposed off-site wells.

- Monitoring wells (MW-1 through MW-5) were recently installed on April 22-23 2002, by SOMA Environmental Engineering, Inc. This was the first monitoring event conducted. Further groundwater monitoring events and the installation of off-site monitoring wells will provide more complete and detailed information on the extent of the plume, groundwater flow directions, groundwater elevation changes, and concentration trends.

6.0 Report Limitations

This report is the summary of work done by SOMA, including observations and descriptions of the Site's conditions. It includes the analytical results produced by Curtis & Tompkins Laboratories for the current groundwater monitoring event. The number and location of the wells were selected to provide the required information, but may not be completely representative of the entire Site's conditions. All conclusions and recommendations are based on the results of the laboratory analysis. Conclusions beyond those specifically stated in this document should not be inferred from this report.

SOMA warrants that the services provided were done in accordance with the generally accepted practices in the environmental engineering and consulting field at the time of this sampling.

7.0 REFERENCES

SOMA Environmental Engineering, Inc., October 2, 2001. "Workplan to Conduct Soil and Groundwater Investigation at the Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California".

Alameda County Health Care Services, August 23, 2001. A letter in connection with a request to conduct a subsurface investigation.

CSS Environmental Services, Inc. August 15, 2001. "Preliminary Site Assessment for the Property Located at 15101 Freedom Avenue, San Leandro, California".

Geo-logic , Geotechnical and Environmental Consulting Services, June 11, 1999. "Report of Soil Sampling During Tank Removal and Station Upgrade".

Figures

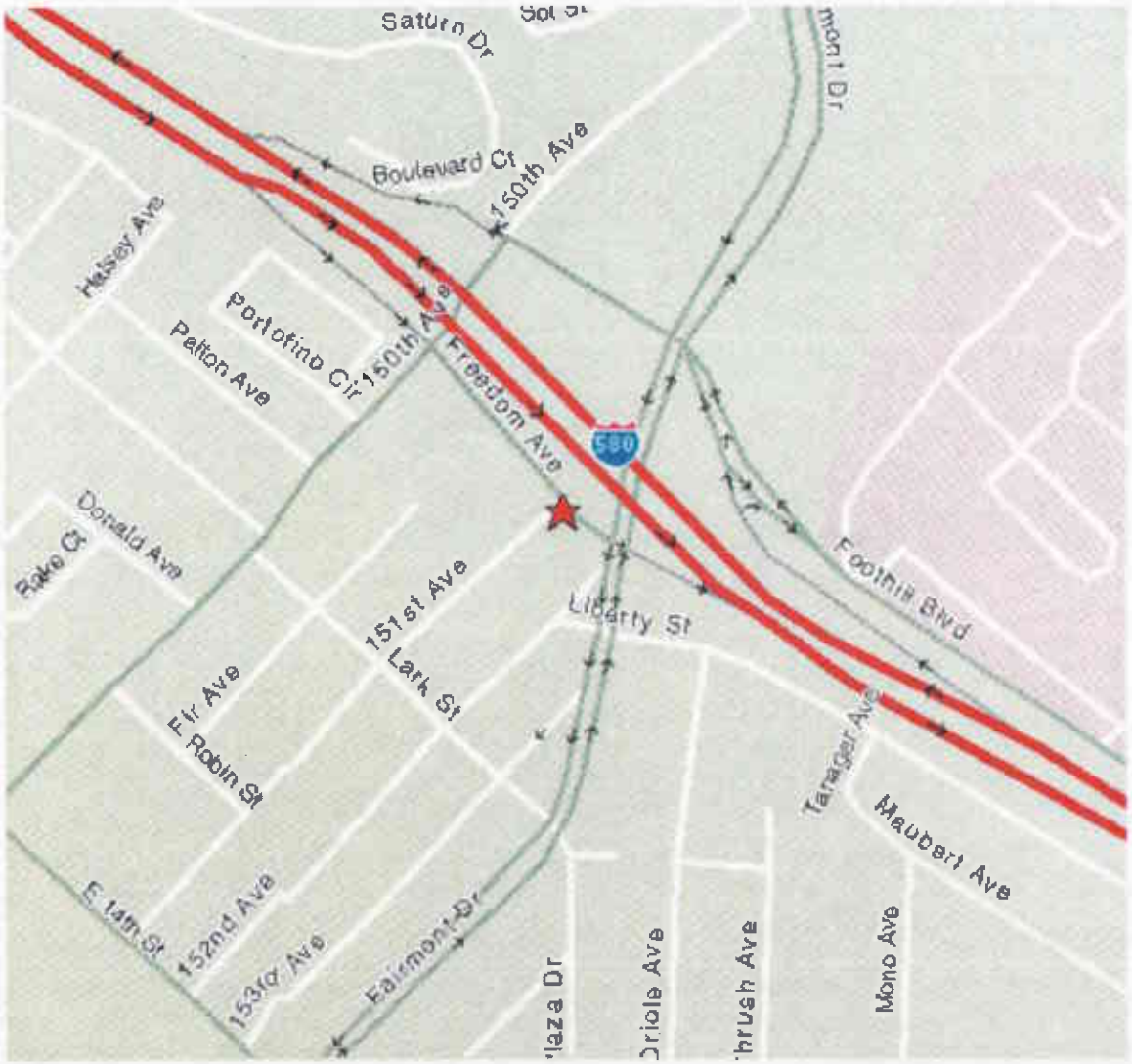


Figure 1: Site vicinity map.

SOMA ENVIRONMENTAL ENGINEERING, INC.

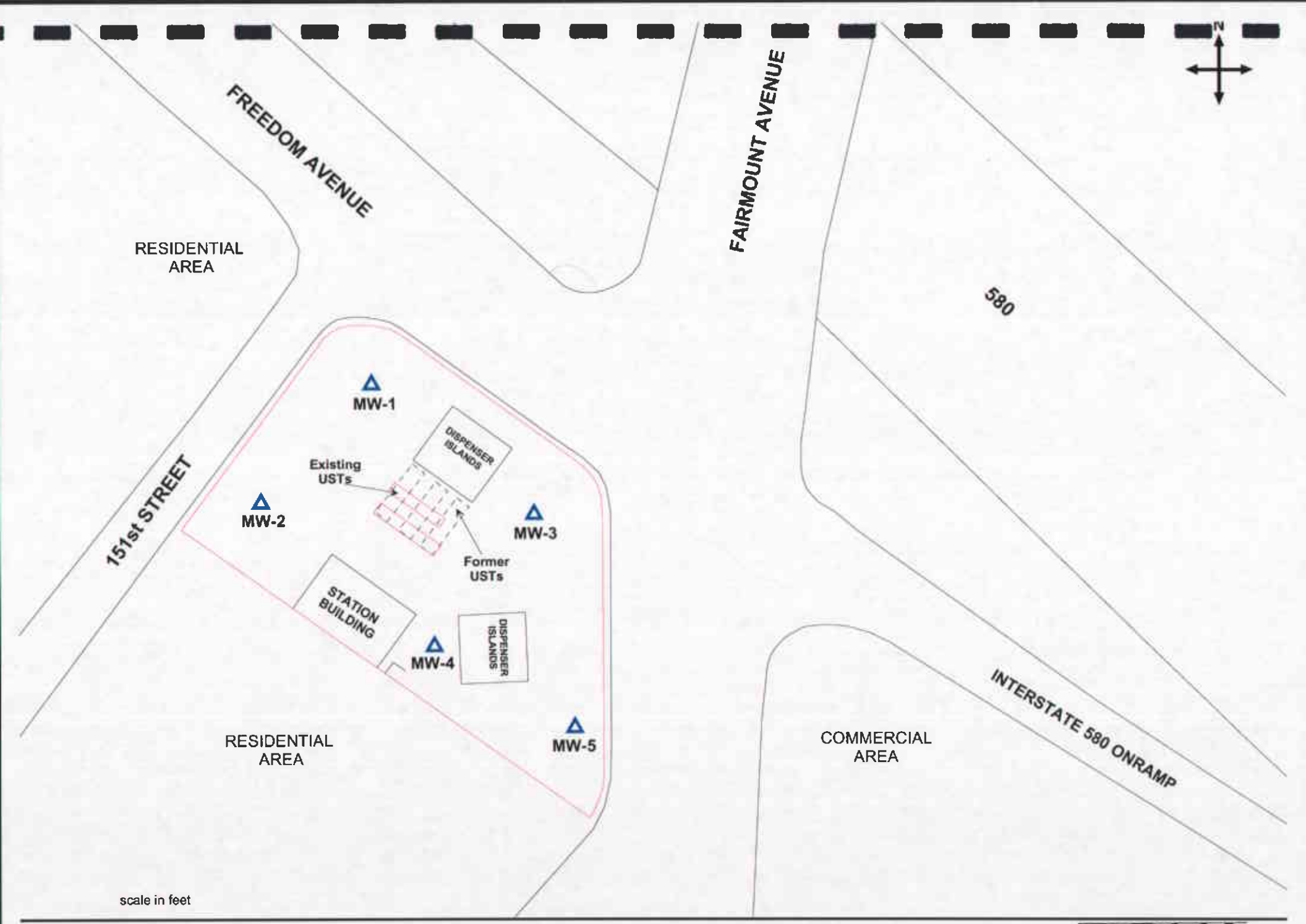


Figure 2: Site map showing locations of groundwater monitoring wells.

SOMA ENVIRONMENTAL ENGINEERING, INC.

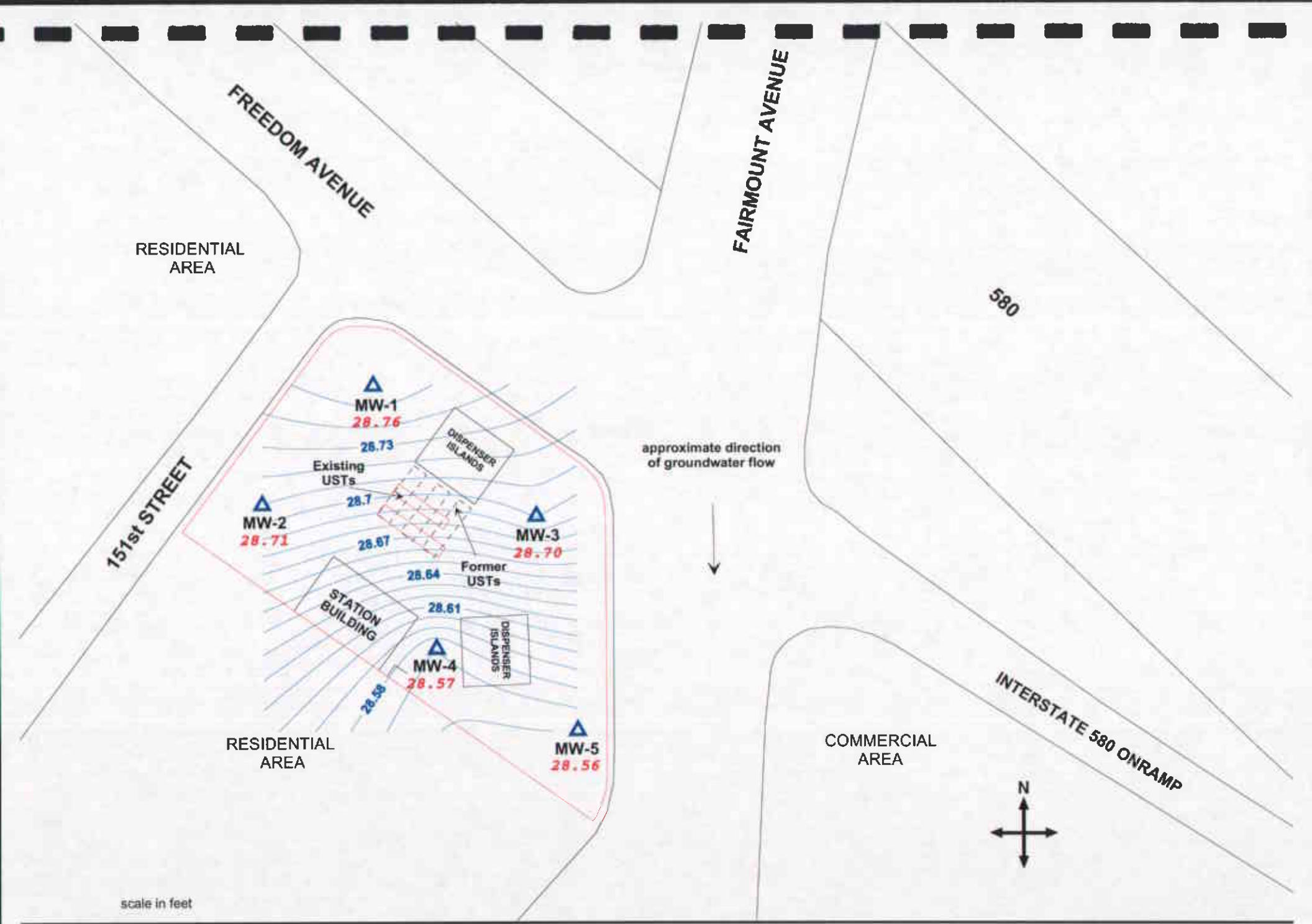


Figure 3: Groundwater elevation contour map in feet.
June 7, 2002.

SOMA ENVIRONMENTAL ENGINEERING, INC.

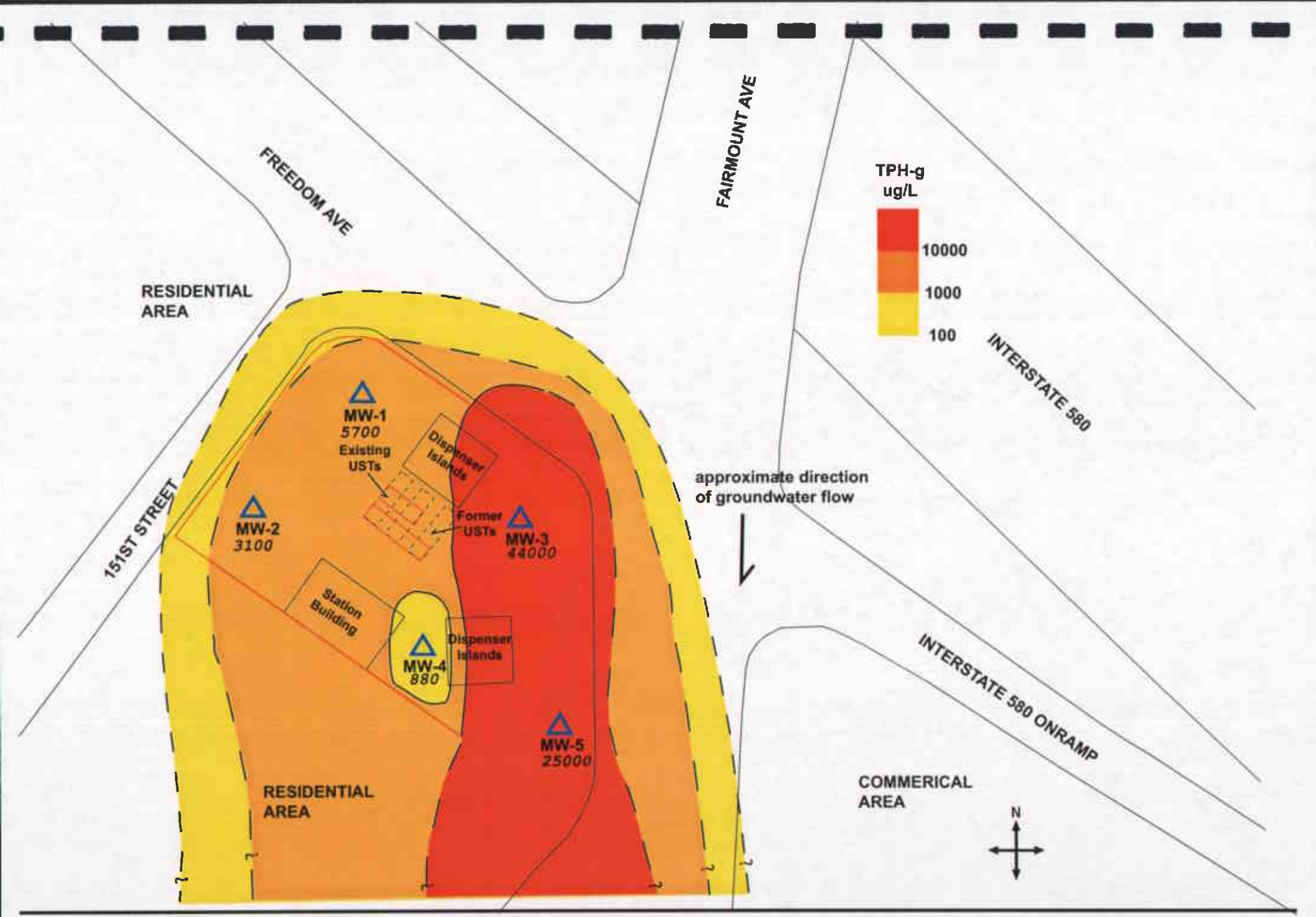


Figure 4: Contour map of TPH-g concentrations in groundwater.
May10, 2002.

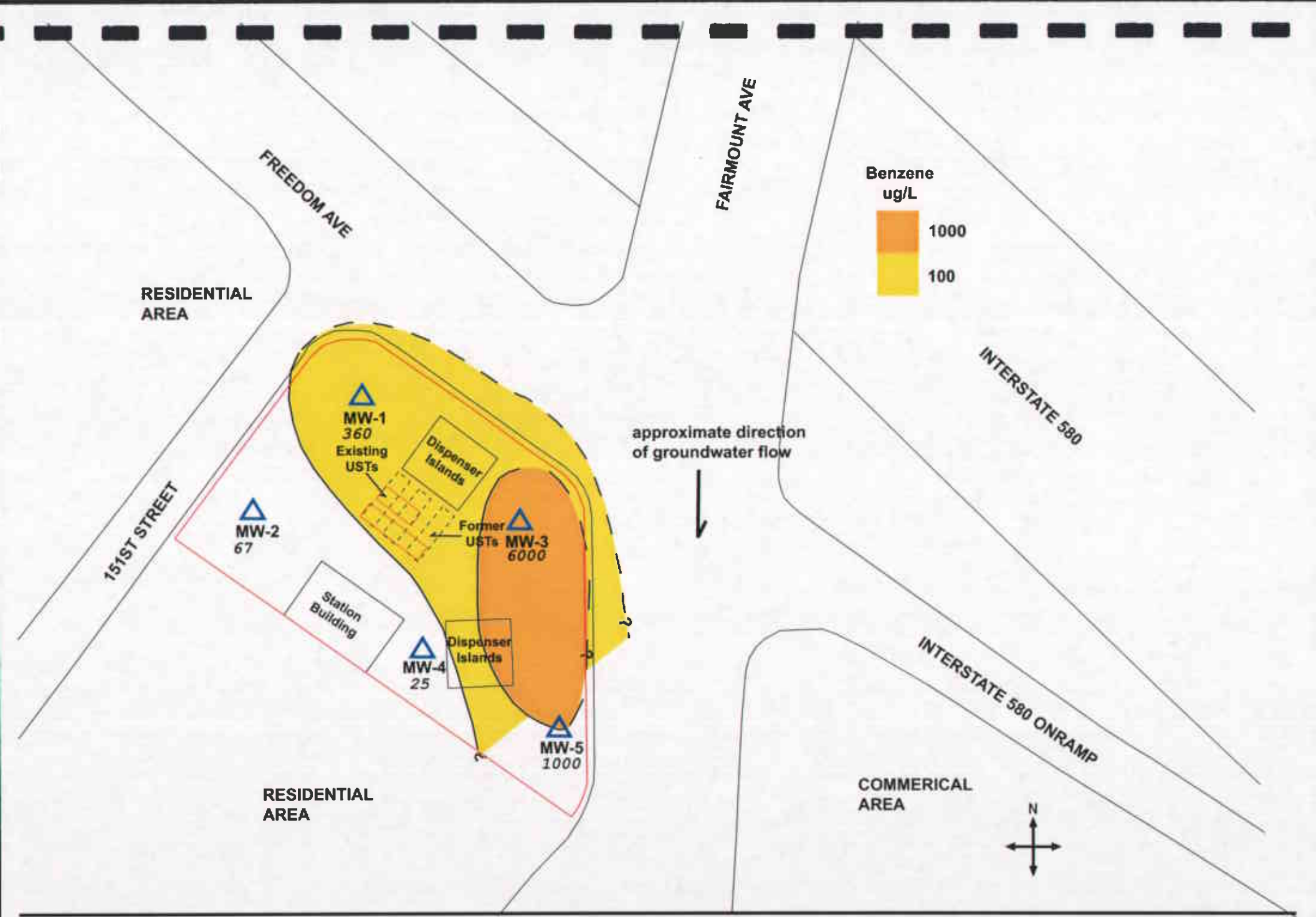


Figure 5: Contour map of Benzene concentrations in groundwater.
May10, 2002.

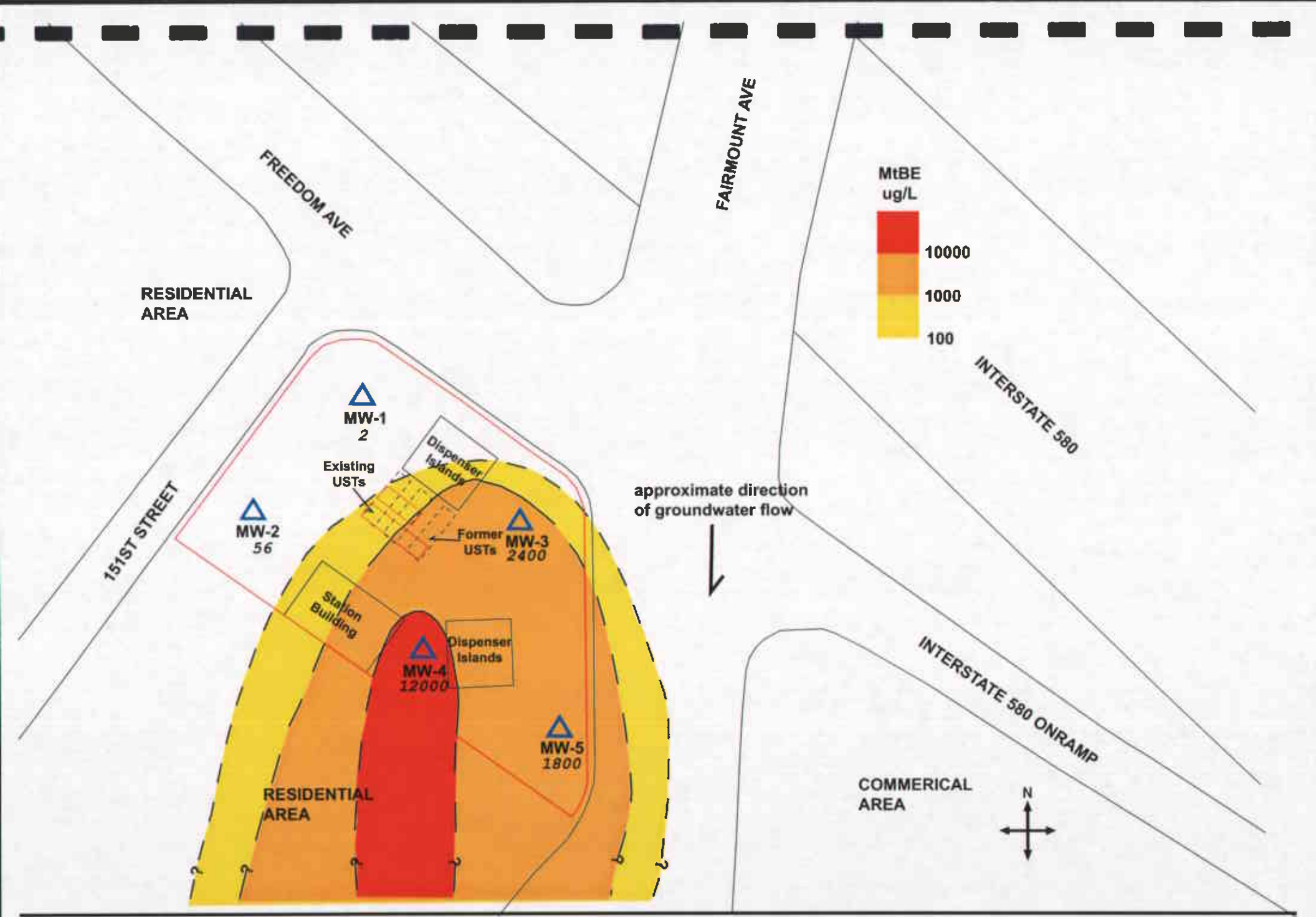


Figure 6: Contour map of MtBE concentrations in groundwater.
May10, 2002.

Tables

Table 1
Groundwater Elevation Data, June 7, 2002
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Top of Casing Elevation [1] (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)
MW-1	51.71	22.95	28.76	0
MW-2	49.66	20.95	28.71	0
MW-3	51.16	22.46	28.70	0
MW-4	50.54	21.97	28.57	0
MW-5	47.79	19.23	28.56	0

Notes:
Monitoring wells were surveyed by Kier and Wright Civil Engineer & Land Surveyors.
Surveying was conducted on May 7, 2002.
[1] : Top of casing elevations were surveyed to an assumed datum of 67.07 M.S.L

Table 2
Historical Groundwater Elevation Data
15101 Freedom Avenue, San Leandro, CA

Date	MW-1	MW-2	MW-3	MW-4	MW-5
Jun-02	**28.76**	**28.71**	**28.70**	**28.57**	**28.56**

Notes:
The first time SOMA monitored this Site was in May 2002.

Table 3

Field Measurements at the Time of Sampling, May 10, 2002

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	pH	Temp (°C)	E.C. (uS/cm)
MW-1	6.88	19.90	1342
MW-2	7.17	19.60	1496
MW-3	6.80	20.40	1249
MW-4	6.78	19.10	1590
MW-5	6.79	20.50	1276

Table 4

Groundwater Analytical Data, May 10, 2002

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MtBE [1] (µg/L)	Total Lead (µg/L)
MW-1	5,700	360	4.5	340	450	2	<3
MW-2	3,100	67	8.0	250	215	56	<3
MW-3	44,000	6,000	900	1,500	6,200	2,400	15
MW-4	880	25	1.0 [c]	110	52	12,000	<3
MW-5	25,000	1,000	1,200	1,100	3,060	1,800	3.5

Notes:

< : Not detected above laboratory reporting limits.

[c] Presence confirmed, but confirmation concentration differed by more than a factor of two.

[1] MtBE Confirmed by EPA Method 8260B.

Table 5
Historical Groundwater Analytical Data
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE[1] (µg/L)	Total Lead (µg/L)
MW-1	May-02	5700	360	4.5	340	450	2	<3
MW-2	May-02	3100	67	8	250	215	56	<3
MW-3	May-02	44000	6000	900	1500	6200	2400	15
MW-4	May-02	880	25	1.0C	110	52	12,000	<3
MW-5	May-02	25,000	1000	1200	1,100	3,060	1800	3.5

Notes:

<: Not detected above laboratory detection limits.

C Presence confirmed, but confirmation concentration differed by more than a factor of two.

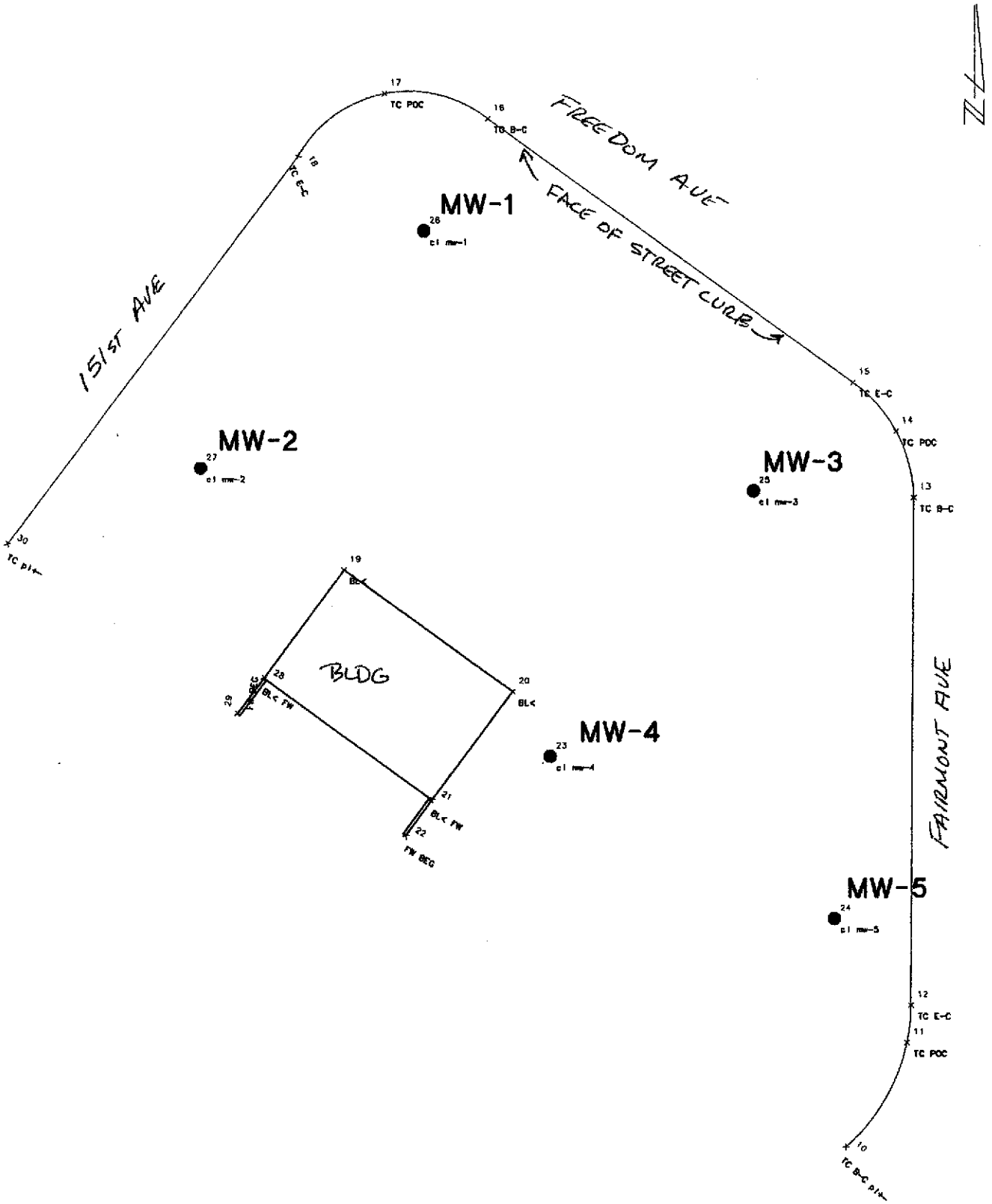
1 MtBE confirmed by EPA Method 8260B.

The first time SOMA monitored this Site was in May 2002.

Appendix A

Survey Data for Monitoring Wells

5-7-02
Job # A02545
1" = 30'
TEXACO S/S, 15101 FREEDOM AVE
San Leandro



Survey Date 05/07/02
Job No. A02545

Table of Elevations & Coordinates

On Monitoring Wells
Texaco Service Station
15101 Freedom Avenue
San Leandro, California

Well No.	Northing	Easting	Elevation
MW-1	5106.89	4812.60	51.71 -Top of PVC casing, North side @ Punch Mark 52.08 – Top North Rim of Box
MW-2	5056.82	4766.17	49.66 – Top of PVC Casing, North Side @ Punch Mark 50.19 - Top North Rim of Box
MW-3	5051.97	4881.26	51.16 - Top of PVC Casing, North side @ Punch Mark 51.60 - Top North Rim of Box
MW-4	4996.14	4839.06	50.54 – Top of PVC Casing, North side @ Punch Mark 50.98 - Top North Rim of Box
MW-5	4961.75	4898.20	47.79 – Top of PVC Casing, North side @Punch Mark 48.25 - Top North Rim of Box
Building Corner	5035.26	4796.09	
Building Corner	5009.72	4831.30	
Building Corner	4979.40	4808.97	
Building Corner	5005.06	4773.92	

Benchmark: Alameda County Benchmark "Fair-580"
Alameda County disc stamped "Fair-580 – 1976" set in the top of the Northwesterly concrete walk at the Northwest corner of the Fairmont Drive over-crossing of I-580, 1' southeast of the northwesterly concrete bridge rail, 1.9' southwesterly of the northeasterly end of the northwest concrete walk for the bridge.

Elevation = 67.07 M.S.L. Datum

Kier & Wright Civil Engineer & Land Surveyors, Inc.
1233 Quarry Lane, Suite 145 ♦ PLEASANTON, CALIFORNIA 94566 ♦ (925) 249-6555 ♦ (925) 249-6563

Appendix B

Field Notes, Laboratory Reports and
Chain of Custody Form

ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-1
Casing Diameter: 4 inches
Depth of Well: 30.10 feet
Top of Casing Elevation: 51.71 feet
Depth to Groundwater: 22.85 feet
Groundwater Elevation: 28.86 feet
Height of Water Column: 7.35 feet
Purged Volume: 12 gallons

Project No.: 2551
Address: 15101 Freedom Ave.
San Leandro, CA
Date: May 10 2002
Sampler: Roger Papler & Nazer Bakaou

Purging Method: Bailer ☐ Pump ☑

Sampling Method: Bailer ☒ Pump ☐

Sheen: Yes ☐ No ☑ Describe:
Color: Yes ☑ No ☐ Describe: lt gray
Odor: Yes ☐ No ☒ Describe:

Field Measurements

Time	Volume (gal.)	pH	Temp (°F)C	E.C. (µs/cm)
9.40	4	7.13	19.3	1369
9.42	8	6.95	19.7	1392
9.44	12	6.83	19.9	1342
Sampled 4 VOA's	1 poly			

1010

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-2	Project No.:	2551
Casing Diameter:	4 inches	Address:	15101 Freedom Ave.
Depth of Well:	30.0 feet		San Leandro, CA
Top of Casing Elevation:	49.66 feet	Date:	May 10, 2002
Depth to Groundwater:	22.83 feet	Sampler:	Roger Papler & Naser Pakrou
Groundwater Elevation:	26.83 feet		
Height of Water Column:	7.17 feet		
Purged Volume:	16 gallons		

Purging Method: Bailer ☐ Pump ☑

Sampling Method: Bailer ☑ Pump ☐

Sheen:	Yes ☐ No ☑	Describe:	
Color:	Yes ☑ No ☐	Describe:	Light brn
Odor:	Yes ☐ No ☑	Describe:	

Field Measurements

Time	Volume (gal.)	pH	Temp (°F)	E.C. (µs/cm)
9:05	4	7.23	18.7	1602
9:07	8	7.15	19.1	1568
9:09	12	7.13	19.5	1570
9:11	16	7.17	19.6	1496

920 Sampled → 4 VOA + 1 poly

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-3	Project No.:	2551
Casing Diameter:	4 inches	Address:	15101 Freedom Ave.
Depth of Well:	29.90 feet		San Leandro, CA
Top of Casing Elevation:	51.16 feet	Date:	May 10, 2002
Depth to Groundwater:	22.28 feet	Sampler:	Roger Papier & Nasser Pakravan
Groundwater Elevation:	28.88 feet		
Height of Water Column:	7.62 feet		
Purged Volume:	16 gallons		

Purging Method: Bailer ☐ Pump ☒

Sampling Method: Bailer ☒ Pump ☐

Sheen:	Yes ☒	No ☐	Describe:	Slight
Color:	Yes ☐	No ☒	Describe:	
Odor:	Yes ☒	No ☐	Describe:	Strong gas

Field Measurements

Time	Volume (gal.)	pH	Temp (°F) C	E.C. (µs/cm)
1122 A	4	6.95	20°	1784
1124 A	8	6.83	20.3	1781
1126 A	12	6.80	20.4	1755
1128 A	16	6.80	20.4	1749

1st ⊕ sampled → 4 VOAs + 1 poly

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-4	Project No.:	2551
Casing Diameter:	4 inches	Address:	15101 Freedom Ave.
Depth of Well:	30.1 feet		San Leandro, CA
Top of Casing Elevation:	50.54 feet	Date:	May10,2002
Depth to Groundwater:	21.78 feet	Sampler:	Roger Papler & Naser Bakrou
Groundwater Elevation:	28.76 feet		
Height of Water Column:	8.32 feet		
Purged Volume:	15 gallons		

Purging Method: Bailer ☐ Pump ☒

Sampling Method: Bailer ☒ Pump ☐

Sheen:	Yes ☐ No ☒	Describe:	
Color:	Yes ☐ No ☒	Describe:	
Odor:	Yes ☒ No ☐	Describe:	sl. gas

Field Measurements

Time	Volume (gal.)	pH	Temp (°F)C	E.C. (µs/cm)
10:38 A	4	6.94	18.0	1735
10:39 A	8	6.88	18.4	1707
10:41 A	12	6.79	18.9	1626
10:43 A	15	6.78	19.1	1590

12:00 P Sampled → 4 VOA + 1 poly

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-5	Project No.:	2551
Casing Diameter:	4 inches	Address:	15101 Freedom Ave.
Depth of Well:	29.70 feet		San Leandro, CA
Top of Casing Elevation:	47.79 feet	Date:	May 10 2002
Depth to Groundwater:	19.02 feet	Sampler:	Roger Papler & Naseer Paleras
Groundwater Elevation:	28.77 feet		
Height of Water Column:	10.68 feet		
Purged Volume:	16 gallons		

Purging Method: Bailer ☐ Pump ☑

Sampling Method: Bailer ☒ Pump ☐

Sheen:	Yes ☐	No ☒	Describe:	
Color:	Yes ☑	No ☐	Describe:	lt gray
Odor:	Yes ☒	No ☐	Describe:	slt

Field Measurements

Time	Volume (gal.)	pH	Temp (°F)	E.C. (µs/cm)
10:58	4	6.95	19.8	1196
10:59	8	6.97	19.8	1187
11:01	12	6.82	20.2	1181
11:03	16	6.79	20.5	1276
12:20 pm sampled →	4 VOA	+ 1 poly		

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

SOMA Environmental Engineering Inc.
2680 Bishop Dr.
Suite 203
San Ramon, CA 94583

Date: 17-MAY-02
Lab Job Number: 158570
Project ID: 2551
Location: 15101 Freedom

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: Paul Predergast
Project Manager

Reviewed by:
Operations Manager

Curtis & Tompkins, Ltd.

Laboratory Number: **158570**
Client: **Soma Environmental Engineering, Inc.**
Project Name: **15101 Freedom**
Project #: **2551**
Receipt Date: **05/10/02**

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for five water samples received from the above referenced project on May 10th, 2002. The samples were received cold and intact.

Total Volatile Hydrocarbons (EPA 8015B(M)):

The recovery for the trifluorotoluene surrogate was over the acceptable QC limits for client ID MW-1 (C&T ID 158570-001) due to coelution of sample hydrocarbons with this surrogate. No other analytical problems were encountered.

BTXE (EPA 8021B):

No analytical problems were encountered.

Purgeable Aromatics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Metals (EPA 6010B):

No analytical problems were encountered.

CHAIN OF CUSTODY FORM

Page 1 of 1

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Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 158570

Project No: 2551
Project Name: Pardee/St: 1510 Freedom
Project P.O.: —
Turnaround Time: standard

Sampler: RW Pappler & N. Pakravi
Report To: Roger Pappler
Company: SOMA Env. Eng.
Telephone: (925) 244-6600
Fax: (925) 244-6601

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO	HNO_3	ICE	Field Notes	Analyses: TPH-g 8015	BTEX & MTBE 8020	MTBE confirm. 8260B	Total Lead 6010
-1	MW-1	10 May 02/1040		X		5	X		X	X	Mon. Well MW-1	X	X		X
-2	MW-2	920		X		5	X		X	X	MW-2	X	X		X
-3	MW-3	1300		X		5	X		X	X	MW-3	X	X		X
-4	MW-4	1200		X		5	X		X	X	MW-4	X	X		X
-5	MW-5	1240		X		5	X		X	X	MW-5	X	X		X
For Laboratory Use Only															

Notes: Pls confirm positive MTBE results w/ 8260 B.

Received ☑ On Ice ☑ Cold ☐ Ambient ☑ Intact

Received Directly from cooler with Ice

Signature

RELINQUISHED BY:

RW Pappler — 10 May 02/1740 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

DATE/TIME

DATE/TIME

5/10/02/1740 DATE/TIME

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	8015B(M)
Matrix:	Water	Sampled:	05/10/02
Units:	ug/L	Received:	05/10/02
Batch#:	72280	Analyzed:	05/15/02

Field ID:	MW-1	Lab ID:	158570-001
Type:	SAMPLE	Diln Fac:	1.000

Analyte	Result	RL
Gasoline C7-C12	5,700	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	163 *	68-145
Bromofluorobenzene (FID)	116	66-143

Field ID:	MW-2	Lab ID:	158570-002
Type:	SAMPLE	Diln Fac:	1.000

Analyte	Result	RL
Gasoline C7-C12	3,100	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	121	68-145
Bromofluorobenzene (FID)	113	66-143

Field ID:	MW-3	Lab ID:	158570-003
Type:	SAMPLE	Diln Fac:	50.00

Analyte	Result	RL
Gasoline C7-C12	44,000	2,500

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	68-145
Bromofluorobenzene (FID)	116	66-143

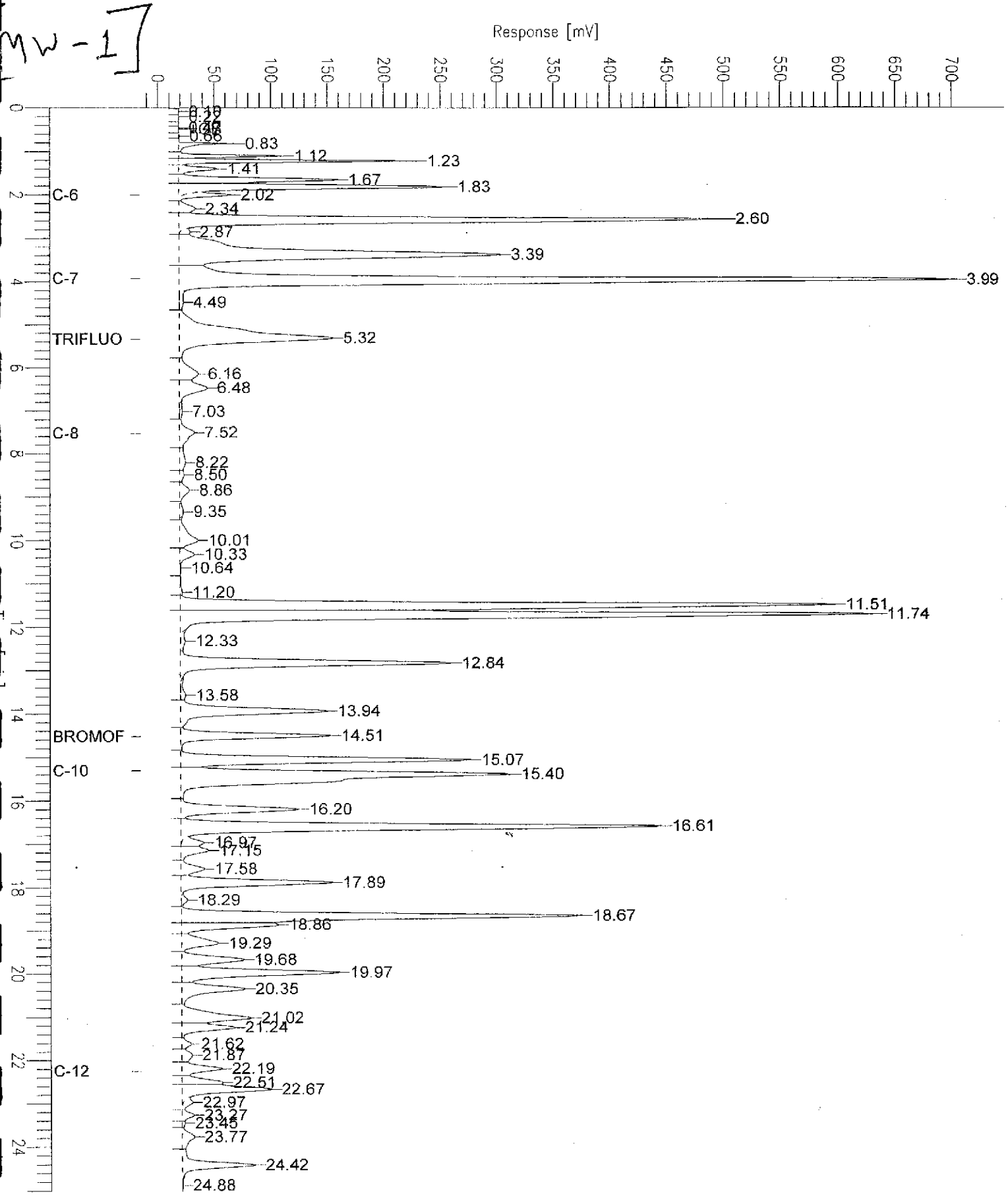
*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Chromatogram

mple Name : 158570-001,72280
leName : G:\GC05\DATA\134G018.raw
thod : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -16 mV

Sample #: A1 Page 1 of 1
Date : 5/15/02 01:55 AM
Time of Injection: 5/15/02 01:30 AM
Low Point : -15.62 mV High Point : 704.30 mV
Plot Scale: 719.9 mV

MW-1

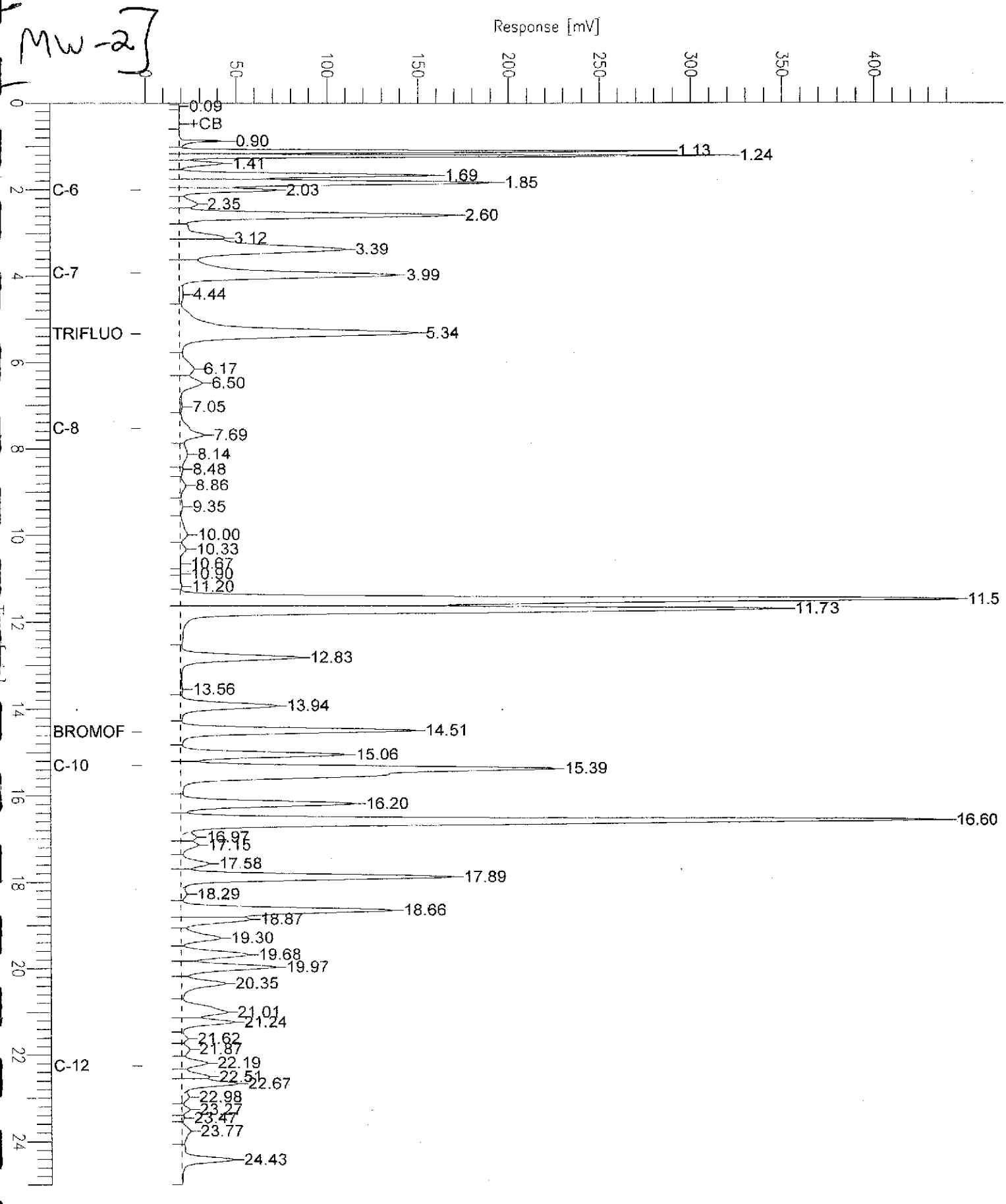


Chromatogram

mple Name : 158570-002,72280
leName : G:\GC05\DATA\134G019.raw
thod : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -3 mV

Sample #: A1 Page 1 of 1
Date : 5/15/02 02:28 AM
Time of Injection: 5/15/02 02:03 AM
Low Point : -2.55 mV High Point : 444.96 mV
Plot Scale: 447.5 mV

MW-2

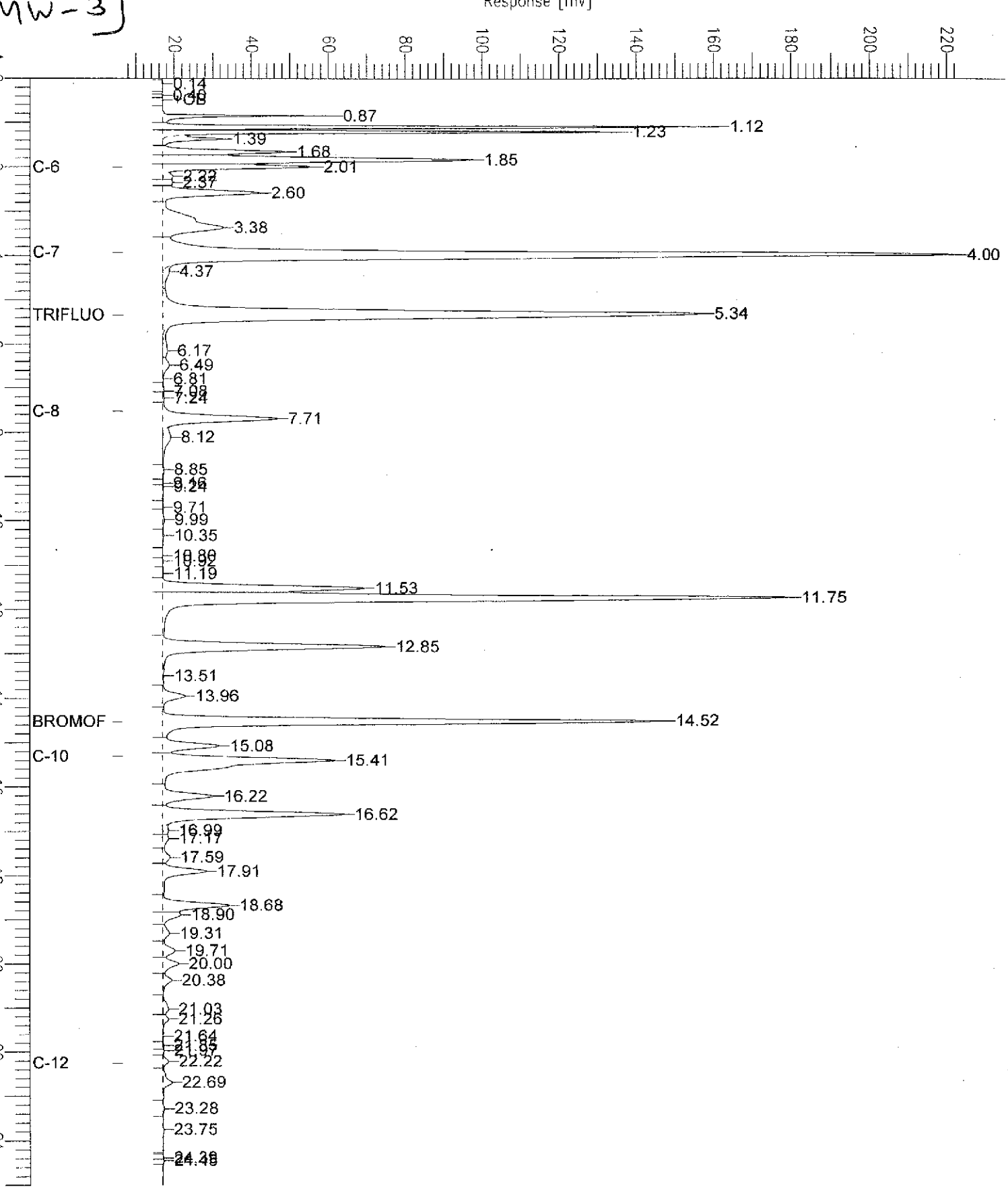


Chromatogram

Sample Name : 158570-003,72280
FileName : G:\GC05\DATA\134G037.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: B1 Page 1 of 1
Date : 5/15/02 01:42 PM
Time of Injection: 5/15/02 01:17 PM
Low Point : 6.64 mV High Point : 222.58 mV
Plot Scale: 215.9 mV

[MW-3]



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Total Volatile Hydrocarbons

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	8015B(M)
Matrix:	Water	Sampled:	05/10/02
Units:	ug/L	Received:	05/10/02
Batch#:	72280	Analyzed:	05/15/02

Field ID: MW-4 Lab ID: 158570-004
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	880	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	122	68-145
Bromofluorobenzene (FID)	117	66-143

Field ID: MW-5 Lab ID: 158570-005
Type: SAMPLE Diln Fac: 25.00

Analyte	Result	RL
Gasoline C7-C12	25,000	1,300

Surrogate	%REC	Limits
Trifluorotoluene (FID)	104	68-145
Bromofluorobenzene (FID)	112	66-143

Type: BLANK Diln Fac: 1.000
Lab ID: QC178362

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	68-145
Bromofluorobenzene (FID)	112	66-143

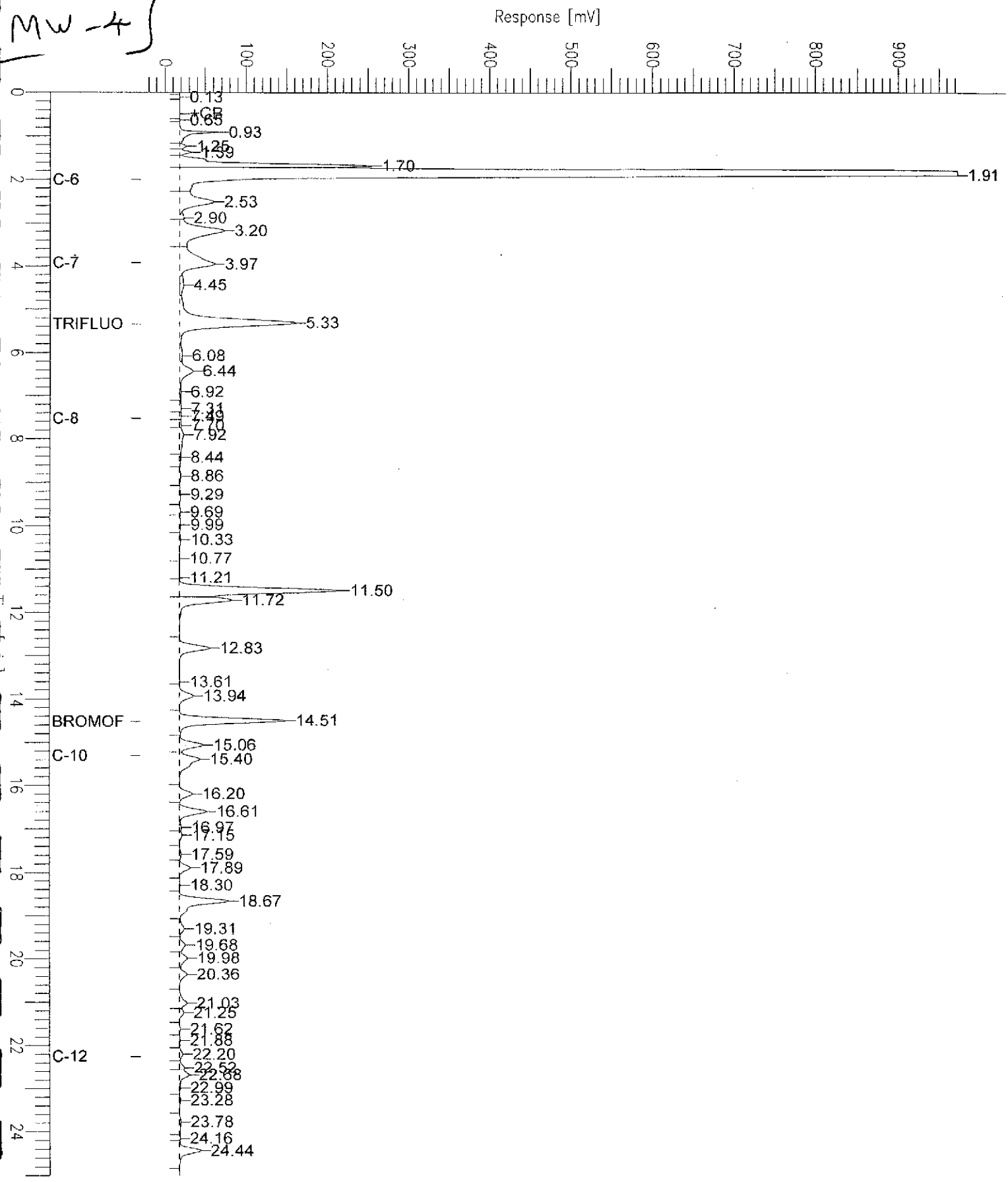
*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 158570-004,72280
FileName : G:\GC05\DATA\134G021.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -29 mV

Sample #: A1 Page 1 of 1
Date : 5/15/02 07:24 AM
Time of Injection: 5/15/02 03:10 AM
Low Point : -29.41 mV High Point : 972.77 mV
Plot Scale: 1002.2 mV

MW-4

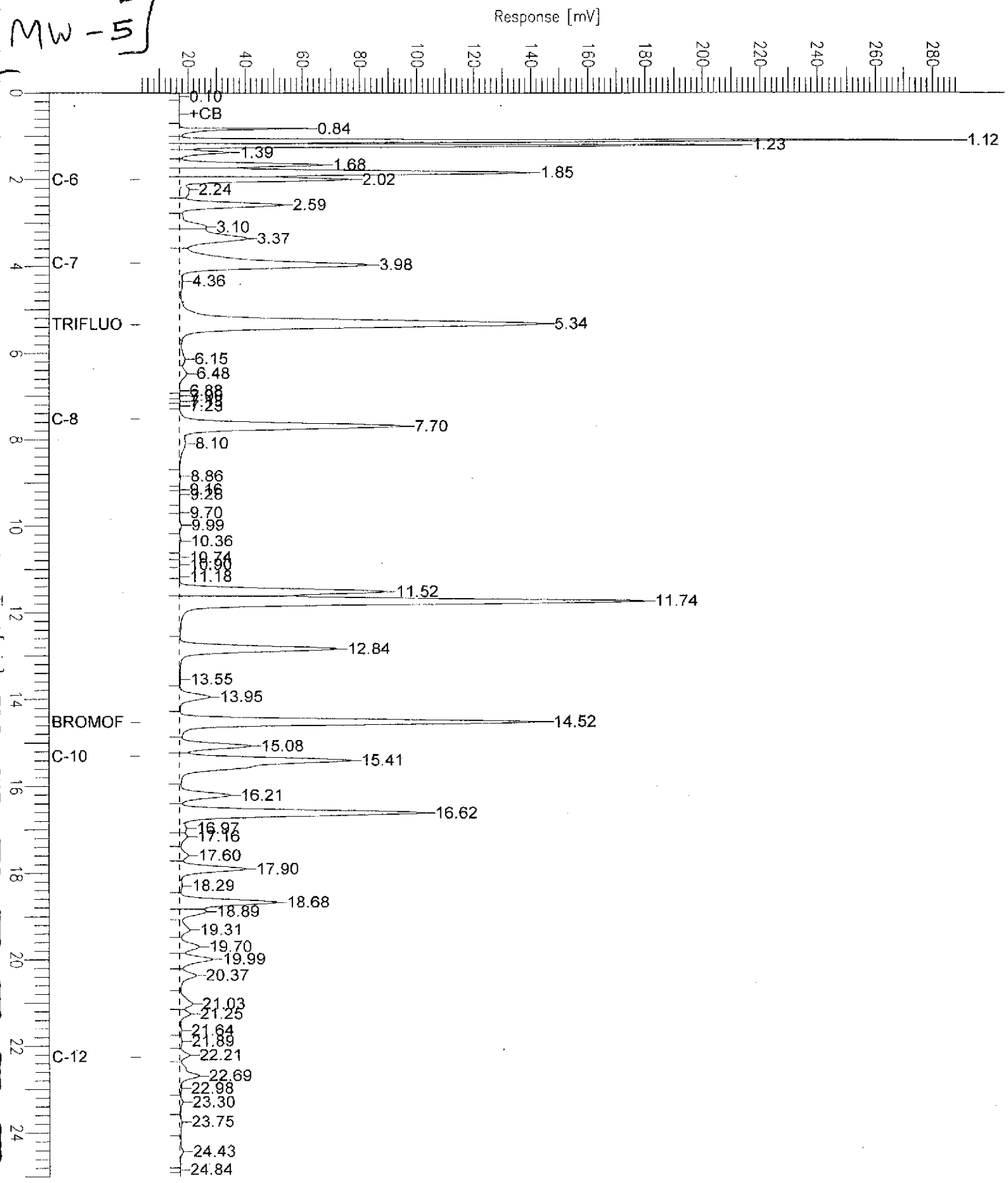


Chromatogram

[redacted]mple Name : 158570-005,72280
[redacted]leName : G:\GC05\DATA\134G038.raw
[redacted]thod : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 3 mV

Sample #: B1 Page 1 of 1
Date : 5/15/02 02:15 PM
Time of Injection: 5/15/02 01:50 PM
Low Point : 3.25 mV High Point : 288.59 mV
Plot Scale: 285.3 mV

MW-5

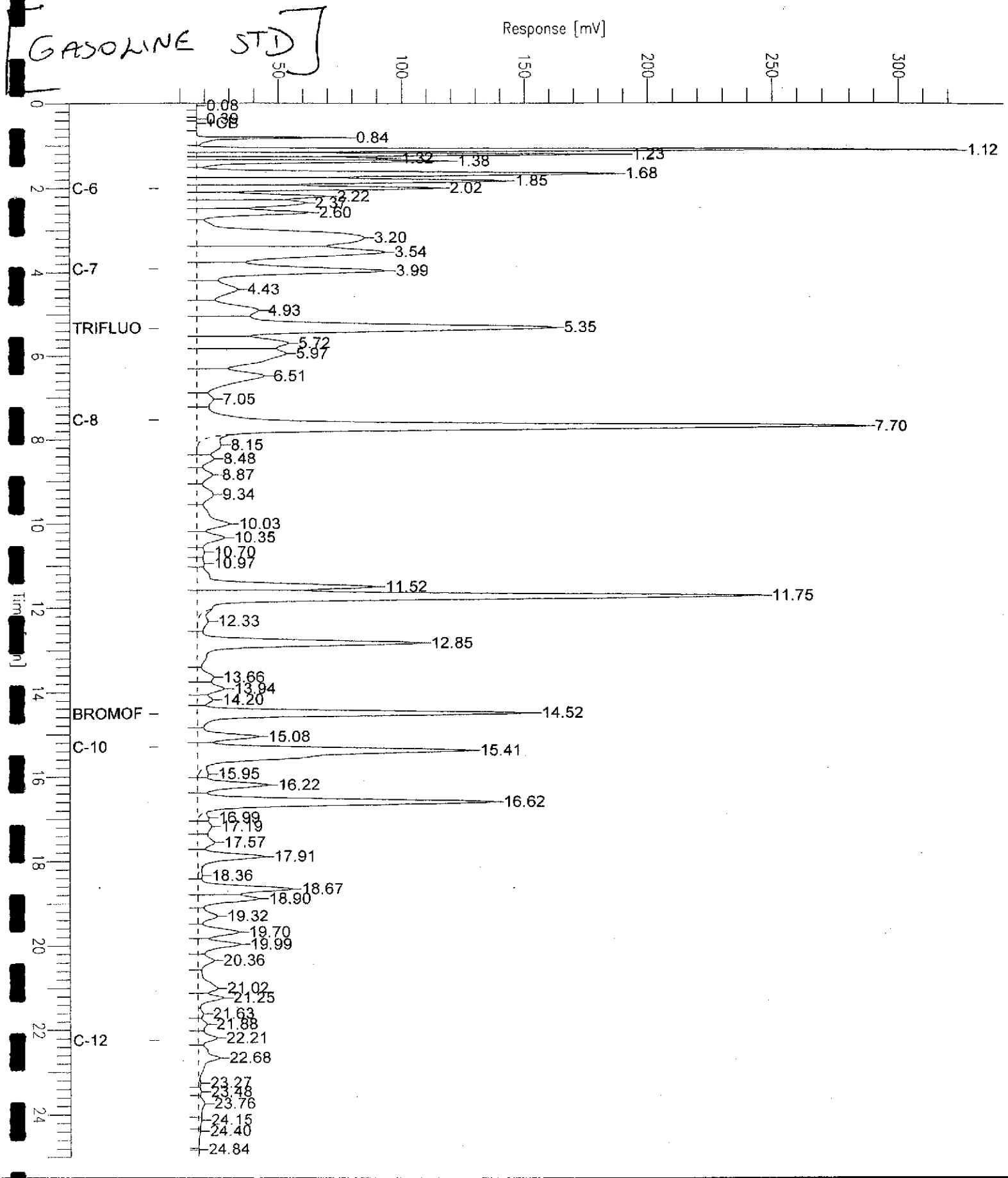


Chromatogram

Sample Name : CCV/LCS,QC178363,72280,02WS0791,5/5000
FileName : G:\GC05\DATA\134G004.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 1 mV

Sample #: Page 1 of 1
Date : 5/14/02 06:04 PM
Time of Injection: 5/14/02 05:38 PM
Low Point : 1.25 mV High Point : 323.58 mV
Plot Scale: 322.3 mV

GASOLINE STD



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	8015B(M)
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC178363	Batch#:	72280
Matrix:	Water	Analyzed:	05/14/02
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,174	109	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	128	68-145
Bromofluorobenzene (FID)	123	66-143

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	8015B(M)
Field ID:	ZZZZZZZZZZ	Batch#:	72280
MSS Lab ID:	158524-001	Sampled:	05/09/02
Matrix:	Water	Received:	05/09/02
Units:	ug/L	Analyzed:	05/14/02
Diln Fac:	1.000		

Type: MS Lab ID: QC178365

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	322.6	2,000	2,378	103	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	141	68-145
Bromofluorobenzene (FID)	127	66-143

Type: MSD Lab ID: QC178366

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,378	103	67-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	140	68-145
Bromofluorobenzene (FID)	127	66-143

RPD= Relative Percent Difference

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Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8021B
Matrix:	Water	Sampled:	05/10/02
Units:	ug/L	Received:	05/10/02
Batch#:	72280	Analyzed:	05/15/02

Field ID: MW-1 Lab ID: 158570-001
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL
Benzene	360	0.50
Toluene	4.5	0.50
Ethylbenzene	340	0.50
m,p-Xylenes	320	0.50
o-Xylene	130	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	126	53-143
Bromofluorobenzene (PID)	114	52-142

Field ID: MW-2 Lab ID: 158570-002
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL
Benzene	67	0.50
Toluene	8.0	0.50
Ethylbenzene	250	0.50
m,p-Xylenes	180	0.50
o-Xylene	35	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	108	53-143
Bromofluorobenzene (PID)	113	52-142

Field ID: MW-3 Lab ID: 158570-003
Type: SAMPLE Diln Fac: 50.00

Analyte	Result	RL
Benzene	6,000	25
Toluene	900	25
Ethylbenzene	1,500	25
m,p-Xylenes	4,600	25
o-Xylene	1,600	25

Surrogate	%REC	Limits
Trifluorotoluene (PID)	108	53-143
Bromofluorobenzene (PID)	117	52-142

C= Presence confirmed, but confirmation concentration differed by more than a factor of two
D= Not Detected
L= Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8021B
Matrix:	Water	Sampled:	05/10/02
Units:	ug/L	Received:	05/10/02
Batch#:	72280	Analyzed:	05/15/02

Field ID: MW-4 Lab ID: 158570-004
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL
Benzene	25	0.50
Toluene	1.0 C	0.50
Ethylbenzene	110	0.50
m,p-Xylenes	34	0.50
o-Xylene	18	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	108	53-143
Bromofluorobenzene (PID)	113	52-142

Field ID: MW-5 Lab ID: 158570-005
Type: SAMPLE Diln Fac: 25.00

Analyte	Result	RL
Benzene	1,000	13
Toluene	1,200	13
Ethylbenzene	1,100	13
m,p-Xylenes	2,300	13
o-Xylene	760	13

Surrogate	%REC	Limits
Trifluorotoluene (PID)	101	53-143
Bromofluorobenzene (PID)	112	52-142

Type: BLANK Diln Fac: 1.000
Lab ID: QC178362

Analyte	Result	RL
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	99	53-143
Bromofluorobenzene (PID)	110	52-142

C= Presence confirmed, but confirmation concentration differed by more than a factor of two
D= Not Detected
L= Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8021B
Type:	BS	Diln Fac:	1.000
Lab ID:	QC178364	Batch#:	72280
Matrix:	Water	Analyzed:	05/14/02
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	20.00	22.61	113	65-122
Toluene	20.00	22.09	110	67-121
Ethylbenzene	20.00	21.91	110	70-121
m,p-Xylenes	40.00	41.65	104	72-125
o-Xylene	20.00	19.58	98	73-122

Surrogate	%REC	Limits
Trifluorotoluene (PID)	108	53-143
Bromofluorobenzene (PID)	115	52-142

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8021B
Type:	BSD	Diln Fac:	1.000
Lab ID:	QC178367	Batch#:	72280
Matrix:	Water	Analyzed:	05/14/02
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	20.00	22.69	113	65-122	0	20
Toluene	20.00	22.29	111	67-121	1	20
Ethylbenzene	20.00	23.25	116	70-121	6	20
m,p-Xylenes	40.00	42.59	106	72-125	2	20
o-Xylene	20.00	20.27	101	73-122	3	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	109	53-143
Bromofluorobenzene (PID)	117	52-142

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	72299
Lab ID:	158570-001	Sampled:	05/10/02
Matrix:	Water	Received:	05/10/02
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	2.0	2.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	116	77-130
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	72299
Lab ID:	158570-002	Sampled:	05/10/02
Matrix:	Water	Received:	05/10/02
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	6.250		

Analyte	Result	RL
MTBE	56	13

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	117	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	108	80-120

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	72299
Lab ID:	158570-003	Sampled:	05/10/02
Matrix:	Water	Received:	05/10/02
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	20.00		

Analyte	Result	RL
MTBE	2,400	40

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	77-130
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-120

RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	72299
Lab ID:	158570-004	Sampled:	05/10/02
Matrix:	Water	Received:	05/10/02
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	83.33		

Analyte	Result	RL
MTBE	12,000	170

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	124	77-130
Toluene-d8	106	80-120
Bromofluorobenzene	108	80-120

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	72299
Lab ID:	158570-005	Sampled:	05/10/02
Matrix:	Water	Received:	05/10/02
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	40.00		

Analyte	Result	RL
MTBE	1,800	80

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	120	77-130
Toluene-d8	106	80-120
Bromofluorobenzene	111	80-120

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC178439	Batch#:	72299
Matrix:	Water	Analyzed:	05/15/02
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	2.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	122	77-130
Toluene-d8	105	80-120
Bromofluorobenzene	111	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC178440	Batch#:	72299
Matrix:	Water	Analyzed:	05/15/02
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	2.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	125	77-130
Toluene-d8	105	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected
RL= Reporting Limit

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Purgeable Aromatics by GC/MS

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	72299
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	1.000		

Type: BS Lab ID: QC178437

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	55.47	111	54-131

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	118	77-130
Toluene-d8	101	80-120
Bromofluorobenzene	111	80-120

Type: BSD Lab ID: QC178438

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	52.15	104	54-131	6	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	115	77-130
Toluene-d8	106	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

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Lead

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3010
Project#:	2551	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	05/10/02
Matrix:	Water	Received:	05/10/02
Units:	ug/L	Prepared:	05/13/02
Diln Fac:	1.000	Analyzed:	05/15/02
Batch#:	72260		

Field ID	Type	Lab ID	Result	RL
MW-1	SAMPLE	158570-001	ND	3.0
MW-2	SAMPLE	158570-002	ND	3.0
MW-3	SAMPLE	158570-003	15	3.0
MW-4	SAMPLE	158570-004	ND	3.0
MW-5	SAMPLE	158570-005	3.5	3.0
	BLANK	QC178270	ND	3.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Lead

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3010
Project#:	2551	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	72260
Matrix:	Water	Prepared:	05/13/02
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC178271	100.0	92.40	92	78-120		
BSD	QC178272	100.0	94.00	94	78-120	2	20

RPD= Relative Percent Difference

Lead

Lab #:	158570	Location:	15101 Freedom
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3010
Project#:	2551	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	72260
Field ID:	ZZZZZZZZZZ	Sampled:	05/08/02
MSS Lab ID:	158559-001	Received:	05/10/02
Matrix:	Water	Prepared:	05/13/02
Units:	ug/L	Analyzed:	05/15/02
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC178273	36.60	100.0	120.0	83	58-129		
MSD	QC178274		100.0	122.0	85	58-129	2	28

RPD= Relative Percent Difference

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