



ENVIRONMENTAL ENGINEERING, INC

6620 Owens Drive, Suite A • Pleasanton, CA 94588-3334  
TEL (925) 734-6400 • FAX (925) 734-6401

December 29, 2005

**RECEIVED**

*By lopprojectop at 1:21 pm, Jan 04, 2006*

Mr. Don Hwang  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Subject: **#RO0000346**

Site Address: 3519 Castro Valley Boulevard, Castro Valley, CA  
Castro Valley Gasoline Service Station

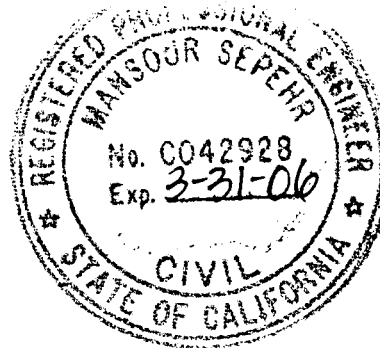
Dear Mr. Hwang:

Enclosed for your review is SOMA's "Fourth Quarter 2005 Groundwater Monitoring Report" for the subject site.

Thank you for your time in reviewing our report. If you have any questions or comments, please call me at (925) 734-6400.

Sincerely,

Mansour Sepehr, Ph.D., PE  
Principal Hydrogeologist



Enclosure

cc: Mr. Azim Shakoory w/enclosure  
Ms. Lynelle Onishi, URS Corporation

**RECEIVED**

*By loppjectop at 1:21 pm, Jan 04, 2006*



ENVIRONMENTAL ENGINEERING, INC  
6620 Owens Drive, Suite A • Pleasanton, CA 94588-3334  
TEL (925)734-6400 • FAX(925)734-6401

**Fourth Quarter 2005**  
**Groundwater Monitoring Report**  
**Castro Valley Gasoline Service Station**  
**3519 Castro Valley Boulevard**  
**Castro Valley, California**

December 29, 2005

Project 2761

Prepared for

**Mr. Mirazim Shakoori**

**3519 Castro Valley Boulevard**

**Castro Valley, California 94546**

Prepared by

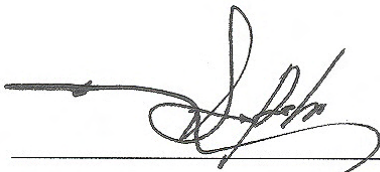
**SOMA Environmental Engineering, Inc.**

**6620 Owens Drive, Suite A**

**Pleasanton, California 94588**

## Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Mirazim Shakoori, the property owner of 3519 Castro Valley Boulevard, Castro Valley, California to comply with the Alameda County Health Care Services' requirements for the Fourth Quarter 2005 groundwater monitoring event.



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



# Table of Contents

Certification .....	i
Table of Contents.....	ii
List of Tables.....	iii
List of Figures .....	iii
List of Appendices.....	iii
1.0 Introduction .....	1
1.1 Previous Activities .....	1
2.0 Results .....	2
2.1 Field Measurements .....	2
2.2 Laboratory Analyses.....	3
3.0 Conclusions & Recommendations.....	4

## **List of Tables**

- Table 1: Historical Groundwater Elevations & Analytical Data  
TPH-g, BTEX, and MtBE
- Table 2: Historical Groundwater Analytical Data, Gasoline Oxygenates & Lead Scavengers

## **List of Figures**

- Figure 1: Site vicinity map.
- Figure 2: Site map showing locations of existing monitoring wells, decommissioned wells, offsite temporary well boreholes, and monitoring wells installed by SOMA.
- Figure 3: Groundwater elevation contour map in feet. November 2005.
- Figure 4: Contour map of MtBE concentrations in groundwater (EPA Method 8260B). November 2005.
- Figure 5: Contour map of TBA concentrations in groundwater. November 2005.

## **List of Appendices**

- Appendix A: SOMA's Groundwater Monitoring Procedures
- Appendix B: Table of Elevations & Coordinates on Monitoring Wells  
Measured by Kier Wright Civil Engineers Surveyors, Inc.  
& Field measurements of physical and chemical properties of  
the groundwater samples collected during the Fourth Quarter 2005
- Appendix C: Chain of Custody form and laboratory report for the Fourth Quarter  
2005 monitoring event

## **1.0 Introduction**

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of Mr. Mirazim Shakoori, the property owner of the former BP gasoline station located at 3519 Castro Valley Boulevard, Castro Valley, California (“the Site”), as shown in Figure 1. The Site is located in an area consisting primarily of residential and commercial properties.

This report summarizes the results of the Fourth Quarter 2005 groundwater monitoring event conducted at the Site on November 15, 2005. Included in this report are the physical and chemical properties measured in the field for each groundwater sample. The physical and chemical properties consisted of measurements of pH, temperature, and electrical conductivity (EC). This report also includes the laboratory analytical results on the groundwater samples.

These activities were performed in accordance with the general guidelines of the California Regional Water Quality Control Board (CRWQCB) and the Alameda County Health Care Services (ACHCS). Appendix A details the procedures used by SOMA during the Fourth Quarter 2005 monitoring event.

### **1.1 Previous Activities**

In 1984, three single-walled fiberglass underground storage tanks (USTs) with capacities of 6,000 gallons, 8,000 gallons, and 10,000 gallons were installed in the southeastern portion of the Site. A former dispenser island reportedly existed on the west side of the Site; however, there was no available information on the date of the dispenser removal.

In 1988, a 1,000-gallon double-walled fiberglass waste oil tank (WOT) was installed to replace the previous 380-gallon WOT. In September 1988, Kaprealian Engineering, Inc. (KEI) removed the original 380-gallon WOT and observed holes in this UST. Due to holes observed in the former WOT, confirmation soil samples were collected from the bottom of the excavation. The following analytical soil results were observed: benzene and toluene were detected at 6.8 ug/Kg and 9.5 ug/Kg, respectively. Total petroleum hydrocarbons (TPH) and total oil and grease (TOG) constituents were not detected.

In September and October 1992, Environmental Science & Engineering, Inc. (ESE) drilled five soil boreholes and converted them into monitoring wells (ESE-1 through ESE-5). Soil and groundwater samples were collected during the well installation. In the soil samples, the maximum level of soil contamination was detected in monitoring well borehole ESE-5 at 220,000 ug/Kg total petroleum hydrocarbons as gasoline (TPH-g), 1,400 ug/Kg benzene, 8,200 ug/Kg toluene, 3,300 ug/Kg ethylbenzene, and 18,000 ug/Kg xylenes. In the groundwater samples collected from ESE-1, the maximum concentrations were TPH-g 2,300 ug/L, benzene 370 ug/L, toluene 160 ug/L, ethylbenzene 17 ug/L, and xylenes

110 ug/L. Figure 2 shows the location of the wells.

In July 1995, three additional monitoring wells were installed (two on-site wells, MW-6 and MW-8, and one off-site well, MW-7). In April 1996 well MW-8 was decommissioned on the western margin of the Site to accommodate the road-widening project along Redwood Boulevard. Figure 2 shows the location of these wells.

On August 20, 2003, prior to the UST removal activities, SOMA oversaw the drilling of two boreholes by Vironex. The two boreholes were drilled in order to characterize the soil for landfill acceptance criteria. The borehole locations are shown in Figure 2. In September 2003, three single-walled fiberglass USTs, with capacities of 6,000 gallons, 8,000 gallons, and 10,000 gallons were removed and replaced with new double-walled fuel tanks. The new USTs consisted of double-walled fiberglass tanks with capacities of 12,000 gallons and 20,000 gallons. In addition to the removal and replacement of the USTs, the dispensers, product lines, and vent lines were also removed and replaced. During the Third Quarter 2003, two monitoring wells, ESE-3 and ESE-4, were decommissioned due to construction activities.

In December 2003, SOMA oversaw the drilling of off-site temporary well boreholes. The boreholes were drilled to determine the horizontal extent of the petroleum hydrocarbon contamination in the off-site areas. The locations of the temporary boreholes are displayed in Figure 2.

On June 10, 2004, SOMA installed on and off-site monitoring wells at the Site. SOMA-1 was installed in the southeastern section of the Site. SOMA-2 to SOMA-4 were installed south and southeast of the Site. Figure 2 shows the locations of these monitoring wells. Kier and Wright Engineers Surveyors, of Pleasanton, California, surveyed all site wells on June 21, 2004. Appendix B shows the elevations and coordinates of the surveyed wells.

## **2.0 Results**

The following sections provide the results of the field measurements and laboratory analyses for the November 15, 2005 groundwater monitoring event.

### **2.1 Field Measurements**

Table 1 presents the calculated groundwater elevation, as well as the depth to groundwater in each monitoring well. The depths to groundwater ranged from 7.85 feet in well ESE-5 to 12.02 feet in well SOMA-2. The corresponding groundwater elevations ranged from 166.80 feet in well SOMA-3 to 171.82 feet in monitoring well MW-6. Table 1 also presents the historical groundwater elevations in the monitoring wells.

The groundwater elevation contour map is displayed in Figure 3. The

groundwater flow direction is south to slightly southeasterly across the Site. The groundwater gradient is approximately 0.013 feet/feet.

Refer to Table 1 for detailed historical groundwater elevation site trends.

## **2.2 Laboratory Analyses**

Table 1 also presents the results of the TPH-g, benzene, toluene, ethylbenzene, total xylenes (BTEX), and Methyl tertiary Butyl Ether (MtBE) laboratory analyses on the groundwater samples. Table 2 presents the results of the gasoline oxygenate and lead scavenger laboratory analyses on the groundwater samples.

TPH-g was below the laboratory reporting limit in all of the groundwater samples, with the exception of wells ESE-1 and ESE-5. TPH-g was detected in wells ESE-1 and ESE-5 at 1,260 ug/L and 1,190 ug/L, respectively. In general, since TPH-g was mostly non-detectable throughout the Site, no iso-concentration figure was drawn.

All BTEX analytes were below the laboratory reporting limit throughout the Site, with the exception of the samples collected from wells ESE-1, ESE-5, and SOMA-1. In well ESE-5, benzene was detected at 0.51 ug/L; in well SOMA-1 ethylbenzene was detected at 1.1 ug/L. All other BTEX analytes were at non-detectable levels in both wells ESE-5 and SOMA-1. BTEX concentrations were detected in well ESE-1 at 259 ug/L, 6.2 ug/L, 8.2 ug/L, and 10.81 ug/L, respectively. Due to the low or non-detectable levels of benzene throughout the Site, no iso-concentration figure was drawn.

MtBE was below the laboratory reporting limit in well MW-6. Detectable MtBE concentrations ranged from 1.61 µg/L in well SOMA-2 to 256 ug/L in well SOMA-1. Figure 4 displays the contour map of MtBE concentrations in the groundwater. The higher MtBE concentrations in the southeastern section of the Site, especially in wells SOMA-1 and ESE-2, can be attributed to a possible earlier release in the vicinity of the former UST cavity. The migration of the MtBE plume can be attributed to the south/southeasterly groundwater flow direction and the high solubility of MtBE in groundwater. MtBE has migrated off-site as far as SOMA-4; however, MtBE was only detected at a trace concentration in this southernmost off-site region.

The main gasoline oxygenates and lead scavengers of concern are tert-Butyl-Alcohol (TBA) and Methyl tert-Amyl Ether (TAME). All Isopropyl Ether (DIPE), Ethyl tertiary Butyl Ether (EtBE), ethanol, 1,2-Dichloroethane (1,2-DCA), and 1,2-Dibromoethane (EDB) constituents were below the laboratory reporting limit in all of the groundwater samples collected during this monitoring event. TAME was detected at trace concentrations in well ESE-2 at 3.43 ug/L, in well MW-7 at 2.07 ug/L, and 5.01 ug/L in well SOMA-1; TAME was below the laboratory reporting limit in the remaining wells. Due to the low or non-detectable levels of TAME throughout the Site, no iso-concentration figure was drawn.



Figure 5 displays the contour map of the TBA concentrations in the groundwater. As displayed in Figure 5, the TBA plume, with the exception of trace concentrations detected in wells ESE-1, ESE-2, and MW-7, appears to be centralized, around well SOMA-1.

Refer to Tables 1 and 2 for detailed historical concentration site trends.

Appendix C displays the laboratory analytical results for each groundwater sample collected during this monitoring event.

### **3.0 Conclusions & Recommendations**

The findings of the Fourth Quarter 2005 groundwater monitoring event can be summarized as follows:

- The groundwater flow direction has remained south to southeasterly across the Site.
- Based on the results of the quarterly monitoring events, a hydrocarbon source may still be present in the western section of the Site, in the vicinity of well ESE-5. In 1996, in the vicinity of well ESE-5, elevated levels of petroleum hydrocarbons were encountered.
- TBA is formed in the environment through oxidation of MtBE in the atmosphere followed by hydrolysis or through microbial oxidation of MtBE in impacted aquifer materials. In general, both the MtBE and TBA plumes appear to be centrally located in southeastern section of the Site, around wells SOMA-1 and ESE-2. This can be attributed to a possible previous release in the western section of the Site and the south to southeasterly groundwater flow direction across the Site, as well as the locations of these wells to the former UST cavity.
- Due to the high mobility rate of MtBE, this constituent has migrated off-site and was detected at trace concentrations in wells SOMA-2 to SOMA-4. However, all TPH-g, BTEX, and gasoline oxygenates were at non-detectable levels in off-site wells SOMA-2 to SOMA-4. All tested constituents were below the laboratory reporting limit in the northern section of the Site (in well MW-6).

Based on the results of the Fourth Quarter 2005 monitoring event, SOMA recommends continuing the quarterly monitoring program to better understand the seasonal variations in the groundwater quality conditions, extent of the on-site contamination, and the rate of contaminant migration to the off-site regions.

# Tables

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>Top of casing elevation<sup>1</sup> (feet)</b>	<b>Depth to Groundwater (feet)</b>	<b>Groundwater Elevation (feet)</b>	<b>TPH-g (µg/L)</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethyl benzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>	<b>MtBE (µg/L) 8260B</b>
ESE-1	Oct-92	177.69	11.22	166.47	2100	370	150	17	110	NA
	Oct-92	177.69	NM	NM	2300	370	160	16	110	NA
	Apr-93	177.69	8.79	168.90	5900	1500	410	110	390	NA
	Jun-93	177.69	10.34	167.35	7600	2900	390	130	460	NA
	Sep-93	177.69	10.91	166.78	2000	490	40	20	56	600
	Sep-93	177.69	NM	NM	1500	420	39	19	56	550
	Dec-93	177.69	9.93	167.76	1800	480	42	19	66	921
	Dec-93	177.69	NM	NM	1500	380	38	17	55	770
	Feb-94	177.69	9.64	168.05	1900	380	48	24	80	585
	Feb-94	177.69	NM	NM	2200	430	42	19	65	491
	Aug-94	177.69	11.72	165.97	2100	450	46	16	50	760
	Oct-94	177.69	10.48	167.21	760	240	16	51	39	230
	Jan-95	177.69	7.77	169.92	840	600	120	22	58	NA
	May-95	177.69	8.69	169.00	2000	640	67	24	98	NA
	Jul-95	177.69	10.12	167.57	190	<0.50	<0.50	<0.50	<1.0	NA
	Nov-95	177.69	10.57	167.12	200	3.4	<1.0	1	<2.0	600
	Feb-96	177.69	7.41	170.28	750	370	23	21	64	680
	Apr-96	177.69	9.12	168.57	310	100	<1.0	<1.0	<1.0	1500
	Jul-96	177.69	10.12	167.57	730	230	74	13	63	750
	Oct-96	177.69	10.80	166.89	420	26	1.6	7.3	12	430
	Jan-97	177.69	10.52	167.17	660	290	4.2	13	36	450
	Apr-97	177.69	9.77	167.92	410	<0.5	<1.0	<1.0	<1.0	580
	Jul-97	177.69	10.55	167.14	420	<0.5	<1.0	<1.0	<1.0	370
	Oct-97	177.69	10.36	167.33	300	56	<1.0	6.5	<1.0	220
	Jan-98	177.69	7.52	170.17	4200	440	9	15	17.7	1300
	Apr-98	177.69	8.80	168.89	15000	3400	190	910	900	4900
	Apr-98	177.69	NM	NM	15000	2800	140	730	730	4400
	Jul-98	177.69	9.73	167.96	NA	NA	NA	NA	NA	NA
	Jul-98	177.69	NM	NM	15000	<2.5	<5.0	<5.0	<5.0	15000
	Dec-98	177.69	9.51	168.18	2400	73	1	2.8	4.6	2000
	Mar-99	177.69	8.65	169.04	4700	58	<1.0	<1.0	<1.0	4700
	Jun-99	177.69	10.51	167.18	600	170	<1.0	7.2	5	3900
	Sep-99	177.69	10.32	167.37	920	200	<25	<25	<25	4900
	Dec-99	177.69	10.24	167.45	460	130	1.2	5.2	1.5	5100
	Mar-00	177.69	7.72	169.97	3000	1300	120	80	140	7300
	Jun-00	177.69	9.40	168.29	2900	540	9.7	20	17	5200
	Sep-00	177.69	10.05	167.64	890	3.4	<0.5	1.4	<0.5	2800

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-1 cont.	Dec-00	177.69	8.20	169.49	1600	11.1	<0.5	<0.5	<0.5	2730
	Mar-01	177.69	9.75	167.94	5700	2.28	<0.5	0.51	<1.5	6810
	Jun-01	177.69	10.21	167.48	2000	152	0.669	3.62	2.34	1980
	Sep-01	177.69	10.30	167.39	2500	57.1	<5.0	6.25	<15	2090
	Dec-01	177.69	9.82	167.87	2800	208	6.05	8.54	9.66	2030
	Mar-02	177.69	9.10	168.59	1800	140	6.31	4.5	9.41	1970
	Jun-02	177.69	9.92	167.77	1100	220	2.02	4.23	3.8	1280
	Sep-02	177.69	10.21	167.48	490	39	2.9	<2.0	4.9	670
	Dec-02	177.69	8.56	169.13	730	140	6	3.2	9.1	670
	Mar-03	177.69	9.40	168.29	1700	490	21	22	41	530
	Jun-03	177.69	9.86	167.83	1300	140	<10	<10	<10	480
	Dec-03	177.69	9.32	168.37	1400	390	12	14	26.1	260
	Feb-04	177.69	7.71	169.98	3200	880	50	44	89	200
	May-04	177.69	10.19	167.50	1500	370	10	14	25.2	140
	Aug-04	180.24	10.41	169.83	460	390	7	8.1	15.4	110
	Oct-04	180.24	10.40	169.84	1600	490	13	12	25.3	110
	Jan-05	180.24	8.26	171.98	790 Z	420	26	19	52	91
	Apr-05	180.24	8.77	171.47	3020	766	25.6	21.3	25.26	88.2
	Jul-05	180.24	9.94	170.30	1940	440	15.5	15.7	21	80.6
Nov-05	180.24	10.21	170.03	1260	259	6.2	8.2	10.81	45.8	
ESE-2	Oct-92	178.23	11.68	166.55	300	5.4	16	3.9	45	NA
	Apr-93	178.23	9.17	169.06	240	27	<0.5	17	2.6	123
	Jun-93	178.23	10.88	167.35	1700	260	24	110	23	NA
	Jun-93	178.23	NM	NM	1300	240	17	110	25	NA
	Sep-93	178.23	11.56	166.67	240	3.1	0.5	0.6	2.5	643
	Dec-93	178.23	10.48	167.75	250	2.4	2.4	1.5	11	940
	Feb-94	178.23	10.06	168.17	900	<0.5	<0.5	<0.5	<0.5	930
	Aug-94	178.23	11.11	167.12	750	<0.5	<0.5	<0.5	<0.5	1400
	Oct-94	178.23	11.31	166.92	1700	<0.5	<0.5	<0.5	<0.5	3000
	Jan-95	178.23	8.25	169.98	300	2	0.9	0.7	1	NA
	May-95	178.23	9.21	169.02	1200	4	<2.5	<2.5	<5	NA
	Jul-95	178.23	10.64	167.59	2000	<2.5	<2.5	<2.5	<5	NA
	Nov-95	178.23	11.13	167.10	3600	<25	<25	<25	<50	12000
	Nov-95	178.23	NM	NM	3400	<25	<25	<25	<50	12000
	Feb-96	178.23	7.94	170.29	450	<0.5	<1	<1	<1	2300
	Apr-96	178.23	9.73	168.50	260	0.9	<1	<1	<1	8600
	Jul-96	178.23	10.70	167.53	780	<2.5	<5	<5	<5	13393
	Oct-96	178.23	11.39	166.84	2900	<0.5	<1	<1	<1	12000
	Jan-97	178.23	9.04	169.19	<250	<2.5	<5	<5	<5	13000
Apr-97	178.23	10.31	167.92	2700	<0.5	<1	<1	<1	15000	
Jul-97	178.23	11.02	167.21	11000	<5	<10	<10	<10	11000	
Oct-97	178.23	10.93	167.30	6100	<2.5	<5.0	<5.0	<5.0	7100	

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>Top of casing elevation<sup>1</sup> (feet)</b>	<b>Depth to Groundwater (feet)</b>	<b>Groundwater Elevation (feet)</b>	<b>TPH-g (µg/L)</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethyl benzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>	<b>MtBE (µg/L) 8260B</b>
<b>ESE-2 cont.</b>	Oct-97	178.23	NM	NM	6600	<2.5	<5.0	<5.0	<5.0	7400
	Jan-98	178.23	7.93	170.30	13000	<0.5	<1	<1	<1	10000
	Jan-98	178.23	NM	NM	13000	<0.5	<1	<1	<1	10000
	Apr-98	178.23	9.34	168.89	19000	<5	<10	<10	<10	36000
	Jul-98	178.23	10.29	167.94	NA	NA	NA	NA	NA	NA
	Jul-98	178.23	NM	NM	19000	<5	<10	<10	<10	36000
	Dec-98	178.23	10.20	168.03	12000	<5	<5	<5	<5	13000
	Mar-99	178.23	9.02	169.21	18000	160	<1	<1	<1	18000
	Jun-99	178.23	9.99	168.24	280	<1	<1	<1	<1	16000
	Sep-99	178.23	10.69	167.54	<500	<25	<25	<25	<25	12000
	Dec-99	178.23	11.26	166.97	<50	<0.3	<0.3	<0.3	<0.6	12000
	Mar-00	178.23	7.95	170.28	<50	1.6	<0.5	<0.5	<0.5	7900
	Jun-00	178.23	9.66	168.57	1600	<0.5	0.73	<0.5	2.2	9400
	Dec-00	178.23	11.15	167.08	6000	0.75	<0.5	<0.5	<0.5	11200
	Mar-01	178.23	10.35	167.88	6900	786	45.7	37.7	71.5	3790
	Jun-01	178.23	11.24	166.99	6400	<2.5	<2.5	<2.5	<7.5	9320
	Sep-01	178.23	11.35	166.88	4800	<12.5	<12.5	<12.5	<37.5	6960
	Dec-01	178.23	10.97	167.26	59000	0.592	<0.5	<0.5	<1	5940

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-2 cont.	Mar-02	178.23	10.13	168.10	4500	76	<0.5	<0.5	<1	6660
	Jun-02	178.23	10.91	167.32	250	<12.5	<12.5	<12.5	<25	4900
	Sep-02	178.23	10.82	167.41	1500	<5	<5	<5	6.3	3100
	Dec-02	178.23	7.87	170.36	1400	<5	<5	<5	<5	2400
	Mar-03	178.23	10.24	167.99	2800	<10	<10	<10	<10	4800
	Jun-03	178.23	10.19	168.04	10000	<100	<100	<100	<100	4400
	Dec-03	178.23	9.97	168.26	<50	<0.5	<0.5	<0.5	<0.5	3400
	Feb-04	178.23	7.89	170.34	<50	<0.5	<0.5	<0.5	<0.5	3000
	May-04	178.23	10.70	167.53	<50	<0.5	<0.5	<0.5	<0.5	1100
	Aug-04	180.79	10.99	169.80	<50	<0.5	<0.5	<0.5	<0.5	550
	Oct-04	180.79	10.46	170.33	<50	<0.5	<0.5	<0.5	<0.5	410
	Jan-05	180.79	8.66	172.13	<50	<8.3	<8.3	<8.3	<8.3	1200
	Apr-05	180.79	9.38	171.41	<860	<2.15	<2.15	<2.15	<4.30	1020
	Jul-05	180.79	10.46	170.33	<860	<2.15	<8.60	<2.15	<4.30	378
	<b>Nov-05</b>	<b>180.79</b>	<b>10.55</b>	<b>170.24</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;1.0</b>	<b>210</b>
<b>Separator</b>										
ESE-3	Oct-92	178.20	10.58	167.62	430	57	31	3.6	34	NA
	Apr-93	178.20	8.14	170.06	2400	460	220	74	210	NA
	Jun-93	178.20	9.72	168.48	280	56	14	15	13	NA
	Sep-93	178.20	10.46	167.74	72	13	3.5	1.7	4.1	NA
	Dec-93	178.20	9.30	168.90	270	71	32	6.1	33	NA
	Feb-94	178.20	8.97	169.23	520	140	10	20	33	5.74
	Aug-94	178.20	10.02	168.18	<50	8.8	1.6	1.6	2.3	<5.0
	Oct-94	178.20	10.32	167.88	470	190	6.4	15	18	<5.0

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-3 cont.	Jan-95	178.20	7.40	170.80	330	260	27	21	20	NA
	May-95	178.20	8.26	169.94	530	180	30	23	44	NA
	Jul-95	178.20	9.54	168.66	<50	<0.50	<0.50	<0.50	<1	NA
	Nov-95	178.20	10.04	168.16	<50	1.7	<0.50	<0.50	<1	<5.0
	Feb-96	178.20	7.08	171.12	<50	8.6	<1	<1	<1	<10
	Apr-96	178.20	8.79	169.41	<50	7.6	<1	<1	<1	65
	Jul-96	178.20	10.09	168.11	<50	12	2.6	2	3.9	26
	Oct-96	178.20	10.48	167.72	NA	NA	NA	NA	NA	NA
	Oct-96	178.20	NM	NM	260	140	<1	<1	2.6	<10
	Jan-97	178.20	8.65	169.55	<50	1.5	1.7	<1	<1	14
	Apr-97	178.20	10.02	168.18	<50	<0.5	<1	<1	<1	14
	Jul-97	178.20	10.66	167.54	10000	1400	1400	300	1280	<250
	Oct-97	178.20	9.83	168.37	<250	<2.5	<5.0	<5.0	36	<50
	Jan-98	178.20	7.06	171.14	130	<0.5	<1.0	<1.0	<1.0	120
	Apr-98	178.20	8.44	169.76	4800	560	<10	15	<10	4000
	Jul-98	178.20	9.27	168.93	NA	NA	NA	NA	NA	NA
	Jul-98	178.20	NM	NM	1800	6.2	<5.0	<5.0	<5.0	1700
	Dec-98	178.20	9.15	169.05	600	54	<1.0	2.1	4.9	340/480
	Mar-99	178.20	8.14	170.06	2000	260	4.4	13	28	870
	Jun-99	178.20	9.44	168.76	290	91	<1.0	8.3	16	240
	Sep-99	178.20	9.69	168.51	130	35	<1.0	2.7	3.8	100
	Dec-99	178.20	10.99	167.21	380	84	1.7	8.7	6.3	160
	Mar-00	178.20	7.12	171.08	950	190	4.6	39	62	350
	Jun-00	178.20	10.92	167.28	300	37	<0.5	2.3	1.3	400
	Sep-00	178.20	11.12	167.08	920	140	1.3	15	4.8	170
	Dec-00	178.20	9.70	168.50	320	64	<0.5	6.24	1.76	201
	Mar-01	178.20	10.07	168.13	680	80.5	0.546	21.1	18.2	398
	Jun-01	178.20	11.42	166.78	380	47	<0.5	3.11	<1.5	242
	Sep-01	178.20	11.55	166.65	340	54.8	<0.5	4.36	<1.5	79.7
	Dec-01	178.20	10.12	168.08	270	31.4	<0.5	1.31	2.24	129
	Mar-02	178.20	9.84	168.36	670	89.8	0.769	23.4	30.4	413
	Jun-02	178.20	10.57	167.63	130	18.6	<0.5	<0.5	<1	166
	Sep-02	178.20	9.90	168.30	88	12	<0.5	<0.5	<0.5	93
	Dec-02	178.20	9.23	168.97	290	55	17	3.7	14	78
	Mar-03	178.20	9.05	169.15	100	3.4	<0.5	0.54	<0.50	140
	Jun-03	178.20	9.30	168.90	520	17	<5	5.3	<5	130
ESE-4	Oct-92	177.73	10.33	167.40	98	7.2	1.3	1.1	6.1	NA
	Apr-93	177.73	7.88	169.85	550	93	20	23	33	NA
	Jun-93	177.66	8.33	169.33	150	23	0.6	5.4	0.5	54
	Sep-93	177.66	10.05	167.61	110	14	1.7	3.2	4.6	NA
	Dec-93	177.66	8.95	168.71	110	21	7.2	4.2	10	28.75
	Feb-94	177.66	8.65	169.01	210	26	1.2	4.7	11	113
	Aug-94	177.66	9.76	167.90	76	9.6	<0.5	2	<0.5	62
	Oct-94	177.66	9.62	168.04	<50	<0.5	<0.5	<0.5	<0.5	44

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-4 cont.	Jan-95	177.66	6.97	170.69	140	56	14	24	23	NA
	May-95	177.66	7.85	169.81	130	21	2.8	8.6	8.2	NA
	Jul-95	177.66	9.20	168.46	<50	<0.5	<0.5	<0.5	<1	NA
	Nov-95	177.66	9.68	167.98	<50	<0.5	0.6	<0.5	<1	18
	Feb-96	177.66	6.59	171.07	100	2.6	<1	1.6	4.1	42
	Apr-96	177.66	8.30	169.36	160	37	15	16	31	43
	Jul-96	177.66	9.21	168.45	60	17	1.5	6.8	11.6	27
	Oct-96	177.66	9.97	167.69	NA	NA	NA	NA	NA	NA
	Oct-96	177.66	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	18
	Jan-97	177.66	7.68	169.98	<50	<0.5	<1.0	<1.0	<1.0	130
	Apr-97	177.66	9.15	168.51	<250	<2.5	<5.0	<5.0	<5.0	<50
	Jul-97	177.66	9.71	167.95	<50	15	<10	<10	<10	<100
	Oct-97	177.66	9.38	168.28	<250	<2.5	<5.0	<5.0	<5.0	<50
	Jan-98	177.66	6.59	171.07	<50	<0.5	<1.0	<1.0	<1.0	<10
	Apr-98	177.66	7.90	169.76	<250	<2.5	<5.0	<5.0	<5.0	<50
	Jul-98	177.66	8.96	168.70	NA	NA	NA	NA	NA	NA
	Jul-98	177.66	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
	Dec-98	177.66	8.32	169.34	NA	NA	NA	NA	NA	NA
	Mar-99	177.66	7.71	169.95	NA	NA	NA	NA	NA	NA
	Jun-99	177.66	8.78	168.88	NA	NA	NA	NA	NA	NA
	Sep-99	177.66	9.27	168.39	NA	NA	NA	NA	NA	NA
	Dec-99	177.66	9.21	168.45	NA	NA	NA	NA	NA	NA
	Mar-00	177.66	6.82	170.84	NA	NA	NA	NA	NA	NA
	Jun-00	177.66	8.72	168.94	NA	NA	NA	NA	NA	NA
	Sep-00	177.66	8.72	168.94	NA	NA	NA	NA	NA	NA
	Dec-00	177.66	8.61	169.05	NA	NA	NA	NA	NA	NA
	Mar-01	177.66	8.61	169.05	NA	NA	NA	NA	NA	NA
	Jun-01	177.66	9.24	168.42	NA	NA	NA	NA	NA	NA
	Sep-01	177.66	9.35	168.31	NA	NA	NA	NA	NA	NA
	Dec-01	177.66	8.53	169.13	NA	NA	NA	NA	NA	NA
	Mar-02	177.66	8.44	169.22	NA	NA	NA	NA	NA	NA
	Jun-02	177.66	10.97	166.69	NA	NA	NA	NA	NA	NA
	Sep-02	177.66	9.27	168.39	NA	NA	NA	NA	NA	NA
	Dec-02	177.66	6.90	170.76	NA	NA	NA	NA	NA	NA
	Mar-03	177.66	8.83	168.83	NA	NA	NA	NA	NA	NA
	Jun-03	177.66	8.84	168.82	NA	NA	NA	NA	NA	NA
ESE-5	Oct-92	176.08	9.22	166.86	1300	200	3.8	1.2	18	NA
	Apr-93	176.08	7.02	169.06	13000	2200	26	730	1000	NA
	Apr-93	176.08	NM	NM	13000	2500	25	740	1100	NA
	Jun-93	176.08	10.21	165.87	7600	1500	9.3	170	100	NA
	Sep-93	176.08	10.64	165.44	560	19	1.2	0.9	1.8	NA
	Dec-93	176.08	9.42	166.66	1700	300	3	76	110	14.07



**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5 cont.	Feb-94	176.08	9.35	166.73	3500	640	7.8	90	130	45.13
	Aug-94	176.08	8.76	167.32	2600	210	4.6	9.4	4.4	33
	Aug-94	176.08	NM	NM	2500	230	4.6	13	4.8	32
	Oct-94	176.08	8.95	167.13	5600	560	9.5	75	21	79.2
	Oct-94	176.08	NM	NM	6000	550	10	78	22	77
	Jan-95	176.08	5.40	170.68	1900	620	<5	95	15	NA
	Jan-95	176.08	NM	NM	1600	620	<5	93	17	NA
	May-95	176.08	6.48	169.60	5700	1100	<10	180	58	NA
	May-95	176.08	NM	NM	5300	1100	<10	180	58	NA
	Jul-95	176.08	7.97	168.11	520	15	<0.50	1.7	1.3	NA
	Nov-95	176.08	NM	NM	460	7.2	<0.50	1.9	1.5	NA
	Nov-95	176.08	8.39	167.69	850	39	1.8	7.6	2.7	24
	Feb-96	176.08	4.71	171.37	4100	670	6	190	140	<50
	Apr-96	176.08	7.35	168.73	3000	570	<5	79	100	84
	Jul-96	176.08	9.40	166.68	620	150	1.7	9.3	6.4	25
	Oct-96	176.08	9.04	167.04	1100	29	<5	<5	<5	<50
	Oct-96	176.08	NM	NM	1100	31	<5	<5	<5	<50
	Jan-97	176.08	5.82	170.26	2100	980	<25	280	80	<250
	Jan-97	176.08	NM	NM	2700	910	8.8	280	84	180
	Apr-97	176.08	7.24	168.84	NA	NA	NA	NA	NA	NA
	Apr-97	176.08	NM	NM	<250	7.9	<5.0	<5.0	<5.0	<50
	Jul-97	176.08	7.86	168.22	1200	<5	<10	<10	<10	<100
	Jul-97	176.08	NM	NM	630	31	<5.0	<5.0	<5.0	130
	Oct-97	176.08	7.91	168.17	<250	5.4	<5.0	<5.0	<5.0	<50
	Jan-98	176.08	4.64	171.44	170	7.7	<1.0	<1.0	<1.0	130
	Apr-98	176.08	6.31	169.77	720	79	<5.0	9	<5.0	180
	Jul-98	176.08	7.43	168.65	NA	NA	NA	NA	NA	NA
	Jul-98	176.08	NM	NM	840	9.8	<1.0	4	<1.0	710
	Dec-98	176.08	7.05	169.03	NA	NA	NA	NA	NA	NA
	Mar-99	176.08	5.00	171.08	<250	<5.0	<5.0	<5.0	<5.0	<5.0
	Jun-99	176.08	7.77	168.31	NA	NA	NA	NA	NA	NA
	Sep-99	176.08	8.11	167.97	450	10	<5.0	6.3	<5.0	220
	Dec-99	176.08	7.66	168.42	NA	NA	NA	NA	NA	NA
	Mar-00	176.08	5.08	171.00	1700	170	2.5	45	6.4	140
	Jun-00	176.08	7.36	168.72	NA	NA	NA	NA	NA	NA
	Sep-00	176.08	7.71	168.37	130	0.65	<0.50	0.71	<0.50	51
	Dec-00	176.08	2.36	173.72	NA	NA	NA	NA	NA	NA
	Mar-01	176.08	7.42	168.66	1000	10.3	<2.5	11	<7.5	70.8
	Jun-01	176.08	7.92	168.16	NA	NA	NA	NA	NA	NA
	Sep-01	176.26	8.23	168.03	200	0.868	<0.50	0.55	<1.5	57.5
Dec-01	176.26	7.80	168.46	NA	NA	NA	NA	NA	NA	
Mar-02	176.26	6.55	169.71	1300	17.1	1.35	15.4	1.42	37.4	
Jun-02	176.26	7.83	168.43	NA	NA	NA	NA	NA	NA	
Sep-02	176.26	8.22	168.04	680	9.9	<5.0	<5.0	<5.0	44	
Dec-02	176.26	6.58	169.68	NA	NA	NA	NA	NA	NA	

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B	
ESE-5 cont.	Mar-03	176.26	6.77	169.49	2100	14	<2.5	15	3	80	
	Jun-03	176.26	6.75	169.51	NA	NA	NA	NA	NA	NA	
	Sep-03	176.26	8.48	167.78	970	10 C	<0.5	<0.5	5.3	34	
	Dec-03	176.26	7.32	168.94	700	6.5	<0.5	3.1	2.7 C	34	
	Feb-04	176.26	5.21	171.05	2400 H	41	2.8 C	18	2.4 C	29	
	May-04	176.26	7.50	168.76	1500	2.6 C	<0.5	2.1 C	2.1 C	25	
	Aug-04	178.80	8.28	170.52	680	<0.5	<0.5	<0.5	<0.5	33	
	Oct-04	178.80	8.26	170.54	380	<0.5	<0.5	<0.5	1.4	39	
	Jan-05	178.80	5.16	173.64	2400	18	1.4	22	2.1	26	
	Apr-05	178.80	6.13	172.67	4800	7.75	1.26	14.3	<1.0	23.1	
	Jul-05	178.80	7.52	171.28	3240	0.78	<2.0	1.18	<1.0	36.6	
	<b>Nov-05</b>	<b>178.80</b>	<b>7.85</b>	<b>170.95</b>	<b>1190</b>	<b>0.51</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;1.0</b>	<b>30</b>	
	MW-6	Jul-95	179.24	10.00	169.24	<50	<0.50	<0.50	<0.50	<1.0	NA
		Nov-95	179.24	10.44	168.80	<50	<0.50	<0.50	<0.50	<1.0	<5.0
Feb-96		179.24	7.68	171.56	<50	<0.5	<1.0	<1.0	<1.0	<10	
Apr-96		179.24	9.33	169.91	<50	<0.5	<1.0	<1.0	<1.0	<10	
Jul-96		179.24	10.10	169.14	<50	<0.5	<1.0	<1.0	<1.0	<10	
Oct-96		179.24	11.00	168.24	<50	<0.5	<1.0	<1.0	<1.0	<10	
Jan-97		179.24	8.70	170.54	<50	<0.5	<1.0	<1.0	<1.0	<10	
Apr-97		179.24	10.16	169.08	<50	<0.5	<1.0	<1.0	<1.0	<10	
Jul-97		179.24	10.66	168.58	<50	<0.5	<1.0	<1.0	<1.0	<10	
Oct-97		179.24	10.25	168.99	<50	<0.5	<1.0	<1.0	<1.0	<10	
Jan-98		179.24	7.76	171.48	<50	<0.5	<1.0	<1.0	<1.0	<10	
Apr-98		179.24	9.10	170.14	<50	<0.5	<1.0	<1.0	<1.0	<10	
Jul-98		179.24	10.40	168.84	NA	NA	NA	NA	NA	NA	
Jul-98		179.24	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10	
Dec-98		179.24	9.40	169.84	NA	NA	NA	NA	NA	NA	
Mar-99		179.24	9.10	170.14	NA	NA	NA	NA	NA	NA	
Jun-99		179.24	9.79	169.45	NA	NA	NA	NA	NA	NA	
Sep-99		179.24	10.10	169.14	NA	NA	NA	NA	NA	NA	
Dec-99		179.24	9.97	169.27	NA	NA	NA	NA	NA	NA	
Mar-00		179.24	8.56	170.68	NA	NA	NA	NA	NA	NA	
Jun-00		179.24	9.11	170.13	NA	NA	NA	NA	NA	NA	
Sep-00		179.24	9.77	169.47	NA	NA	NA	NA	NA	NA	
Dec-00		179.24	9.17	170.07	NA	NA	NA	NA	NA	NA	
Mar-01		179.24	9.82	169.42	NA	NA	NA	NA	NA	NA	
Jun-01		179.24	10.19	169.05	NA	NA	NA	NA	NA	NA	
Sep-01		179.24	10.25	168.99	NA	NA	NA	NA	NA	NA	
Dec-01		179.24	9.75	169.49	NA	NA	NA	NA	NA	NA	
Mar-02		179.24	9.53	169.71	NA	NA	NA	NA	NA	NA	
Jun-02	179.24	9.87	169.37	NA	NA	NA	NA	NA	NA		
Sep-02	179.24	9.49	169.75	NA	NA	NA	NA	NA	NA		
Dec-02	179.24	8.39	170.85	NA	NA	NA	NA	NA	NA		

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-6 cont.	Mar-03	179.24	9.40	169.84	NA	NA	NA	NA	NA	NA
	Jun-03	179.24	9.71	169.53	NA	NA	NA	NA	NA	NA
	Sep-03	179.24	10.21	169.03	<50	<0.5	<0.5	<0.5	<0.5	<2.0
	Dec-03	179.24	9.66	169.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Feb-04	179.24	7.83	171.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	May-04	179.24	9.75	169.49	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Aug-04	181.80	10.28	171.52	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Oct-04	181.80	9.91	171.89	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Jan-05	181.80	8.40	173.40	<50	0.6	<0.5	<0.5	<0.5	<0.5
	Apr-05	181.80	9.04	172.76	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	Jul-05	181.80	9.94	171.86	<200	<0.5	<2.00	<0.5	<1.00	<0.5
	Nov-05	181.80	9.98	171.82	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	MW-7	Jul-95	176.55	9.25	167.30	<50	0.54	0.54	<0.50	<1.0
Nov-95		176.55	9.73	166.82	1100	<10	<10	<10	<20	4000
Feb-96		176.55	6.48	170.07	610	<0.50	<1.0	<1.0	<1.0	2500
Feb-96		176.55	NM	NM	280	<0.50	<1.0	<1.0	<1.0	2600
Apr-96		176.55	8.37	168.18	110	<0.50	<1.0	<1.0	<1.0	3500
Apr-96		176.55	NM	NM	230	<0.50	<1.0	<1.0	<1.0	3500
Jul-96		176.55	9.24	167.31	230	<0.50	<1.0	<1.0	<1.0	4296
Jul-96		176.55	NM	NM	220	<0.50	<1.0	<1.0	<1.0	4400
Oct-96		176.55	10.05	166.50	NA	NA	NA	NA	NA	NA
Oct-96		176.55	NM	NM	1600	<0.50	<1.0	<1.0	<1.0	3000
Jan-97		176.55	7.51	169.04	<50	0.63	<1.0	<1.0	<1.0	2600
Apr-97		176.55	8.79	167.76	NA	NA	NA	NA	NA	NA
Apr-97		176.55	NM	NM	1500	<0.50	<1.0	<1.0	<1.0	3600
Apr-97		176.55	NM	NM	7700	3500	<25	74	37	<250
Jul-97		176.55	9.50	167.05	1400	<0.50	<1.0	<1.0	<1.0	2600
Oct-97		176.55	9.19	167.36	420	<0.50	<1.0	<1.0	<1.0	560
Jan-98		176.55	6.45	170.10	3100	<0.50	<1.0	<1.0	1.4	2300
Apr-98		176.55	8.02	168.53	3800	<0.50	<1.0	<1.0	<1.0	3800
Jul-98		176.55	8.88	167.67	NA	NA	NA	NA	NA	NA
Jul-98		176.55	NM	NM	500	<2.5	<5.0	<5.0	<5.0	<50
Jul-98		176.55	NM	NM	4700	<12	<25	<25	<25	4700
Dec-98		176.55	8.62	167.93	NA	NA	NA	NA	NA	NA
Mar-99		176.55	7.52	169.03	3800	<1.0	<1.0	<1.0	<1.0	3800
Jun-99	176.55	9.63	166.92	NA	NA	NA	NA	NA	NA	
Sep-99	176.55	9.39	167.16	140	<10	<10	<10	<10	3800	
Dec-99	176.55	9.94	166.61	NA	NA	NA	NA	NA	NA	

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-7 cont.	Mar-00	176.55	6.72	169.83	<50	<0.50	<0.50	<0.50	<0.50	1400
	Jun-00	176.55	7.38	169.17	NA	NA	NA	NA	NA	NA
	Sep-00	176.55	9.18	167.37	190	<0.50	<0.50	<0.50	<0.50	580
	Dec-00	176.55	8.13	168.42	NA	NA	NA	NA	NA	NA
	Mar-01	176.55	8.98	167.57	1300	<0.50	<0.50	<0.50	<1.5	1460
	Jun-01	176.55	9.68	166.87	NA	NA	NA	NA	NA	NA
	Sep-01	176.55	9.80	166.75	<0.50	<0.50	<0.50	<0.50	<1.5	94.9
	Dec-01	176.55	9.26	167.29	NA	NA	NA	NA	NA	NA
	Mar-02	176.55	8.69	167.86	800	<0.50	<0.50	<0.50	<1.0	952
	Jun-02	176.55	9.06	167.49	NA	NA	NA	NA	NA	NA
	Sep-02	176.55	9.23	167.32	260	<2.0	<2.0	<2.0	<2.0	580
	Dec-02	176.55	7.77	168.78	NA	NA	NA	NA	NA	NA
	Mar-03	176.55	8.30	168.25	620	<2.5	<2.5	<2.5	<2.5	1100
	Jun-03	176.55	9.51	167.04	NA	NA	NA	NA	NA	NA
	Sep-03	176.55	9.52	167.03	<50	<0.5	<0.5	<0.5	<0.5	460
	Dec-03	176.55	8.99	167.56	<50	<0.5	<0.5	<0.5	<0.5	420
	Feb-04	176.55	6.55	170.00	<50	<0.5	<0.5	<0.5	<0.5	330
	May-04	176.55	8.90	167.65	<50	<0.5	<0.5	<0.5	<0.5	630
	Aug-04	179.11	9.58	169.53	<50	<0.5	<0.5	<0.5	<0.5	750
	Oct-04	179.11	9.20	169.91	<50	<0.5	<0.5	<0.5	<0.5	550
Jan-05	179.11	7.25	171.86	<50	<2.0	<2.0	<2.0	<2.0	250	
Apr-05	179.11	7.94	171.17	<200	<0.5	<0.5	<0.5	<1.0	285	
Jul-05	179.11	9.08	170.03	<400	<1.0	<4.0	<1.0	<2.0	452	
<b>Nov-05</b>	<b>179.11</b>	<b>9.14</b>	<b>169.97</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;1.0</b>	<b>110</b>	
MW-8	Jul-95	176.34	7.80	168.54	1,100	<2.5	<2.5	<2.5	<5.0	NA
	Nov-95	176.34	8.29	168.05	8,300	75	5.3	670	240	140
	Feb-96	176.34	4.99	171.35	2,300	33	<10	190	216	<100
	Apr-96	176.34	6.09	170.25	2,000	390	<10	150	26	<250
QC-2	Apr-93	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	Jun-93	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	Sep-93	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	Dec-93	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	Feb-94	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	Aug-94	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	Oct-94	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	Jan-95	NM	NM	NM	<50	<0.5	<0.5	<0.5	<1.0	NA
	May-95	NM	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	NA
	Jul-95	NM	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	NA
	Nov-95	NM	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	<5.0
	Feb-96	NM	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
	Apr-96	NM	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
Jul-96	NM	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10	

**Table 1**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
<b>SOMA-1</b>	Aug-04	180.95	11.53	169.42	84	<0.5	<0.5	1.5 C	2.2	2100
	Oct-04	180.95	10.41	170.54	56	<0.5	<0.5	1.3 C	1.4 C	1600
	Jan-05	180.95	9.68	171.27	58	<3.1	<3.1	<3.1	<3.1	330
	Apr-05	180.95	9.37	171.58	<2200	<5.5	<5.5	<5.5	<11	668
	Jul-05	180.95	10.21	170.74	<860	<2.15	<8.6	<2.15	<4.3	591
	<b>Nov-05</b>	<b>180.95</b>	<b>10.70</b>	<b>170.25</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>1.1</b>	<b>&lt;1.0</b>	<b>256</b>
<b>SOMA-2</b>	Aug-04	178.99	10.69	168.30	<50	<0.5	<0.5	<0.5	<0.5	0.8
	Oct-04	178.99	10.75	168.24	<50	<0.5	<0.5	<0.5	<0.5	2.4
	Jan-05	178.99	9.45	169.54	<50	<0.5	<0.5	<0.5	<0.5	1.1
	Apr-05	178.99	10.46	168.53	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	Jul-05	178.99	11.81	167.18	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	<b>Nov-05</b>	<b>178.99</b>	<b>12.02</b>	<b>166.97</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;1.0</b>	<b>1.61</b>
<b>SOMA-3</b>	Aug-04	176.81	9.97	166.84	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Oct-04	176.81	9.59	167.22	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Jan-05	176.81	8.23	168.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Apr-05	176.81	8.64	168.17	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	Jul-05	176.81	9.60	167.21	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	<b>Nov-05</b>	<b>176.81</b>	<b>10.01</b>	<b>166.80</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;1.0</b>	<b>5.1</b>
<b>SOMA-4</b>	Aug-04	176.94	9.44	167.50	140	0.98	<0.5	7.8	<0.5	11
	Oct-04	176.94	9.91	167.03	150	<0.5	<0.5	10	<0.5	8.8
	Jan-05	176.94	8.36	168.58	500	3.7	<0.5	53	<0.5	7.6
	Apr-05	176.94	7.89	169.05	<200	0.74	<0.5	3.21	<1.0	5.65
	Jul-05	176.94	11.62	165.32	<200	<0.5	<2.0	0.56	<1.0	7.09
	<b>Nov-05</b>	<b>176.94</b>	<b>9.33</b>	<b>167.61</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;1.0</b>	<b>8.6</b>

Notes:

< : Not detected above laboratory reporting limit.

1 Top of Casing Elevations were resurveyed by Kier & Wright Engineers Surveyors of Pleasanton, CA on June 21, 2004.

C: Presence confirmed, but RPD between columns exceeds 40%.

H: Heavier hydrocarbons contributed to the quantitation.

NA: Not Analyzed. Due to construction activities in the Third Quarter 2003, which consisted of the replacement of the USTs and dispensers, wells ESE-1 & ESE-2 were inaccessible.

NM: Not Measured

Z: Sample exhibits unknown single peak or peaks.

The Third Quarter 2003 was the first time that SOMA analyzed groundwater samples at the site.

The Third Quarter 2004 was the first time that SOMA analyzed groundwater samples at wells SOMA-1 to SOMA-4.

**Table 2**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>ETHANOL (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
<b>ESE-1</b>	Jun-03	<400	<10	<10	18	NA	NA	NA
	Sep-03	NA	NA	NA	NA	NA	NA	NA
	Dec-03	290	<1.0	<1.0	9.5	<2,000	<1.0	<1.0
	Feb-04	410	<0.5	<0.5	9.7	<1000	<0.5	<0.5
	May-04	190	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	Aug-04	180	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	Oct-04	270	<0.7	<0.7	4.4	<1400	9.9	<0.7
	Jan-05	280	<1.3	<1.3	<1.3	<2,500	<1.3	<1.3
	Apr-05	144	<2.15	<2.15	<8.6	<4300	<2.15	<2.15
	Jul-05	119	<2.15	<2.15	<8.6	<4300	<2.15	<2.15
	<b>Nov-05</b>	<b>107</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>ESE-2</b>	Jun-03	<4000	<100	<100	<100	NA	NA	NA
	Sep-03	NA	NA	NA	NA	NA	NA	NA
	Dec-03	500	<13	<13	77	<25,000	<13	<13
	Feb-04	1200	<0.5	<0.5	92	<1000	<0.5	<0.5
	May-04	2400	<10	<10	25	<20,000	<10	<10
	Aug-04	2300	<2.5	<2.5	12	<5000	<2.5	<2.5
	Oct-04	1800	<3.6	<3.6	8.6	<7100	<3.6	<3.6
	Jan-05	470	<8.3	<8.3	28	<17,000	<8.3	<8.3
	Apr-05	<10.8	<2.15	<2.15	17.9	<4300	<2.15	<2.15
	Jul-05	109	<2.15	<2.15	9.7	<4300	<2.15	<2.15
	<b>Nov-05</b>	<b>64.7</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>3.43</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>ESE-3</b>	Jun-03	<200	<5.0	<5.0	<5.0	NA	NA	NA

**Table 2**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	ETHANOL (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	
<b>ESE-5</b>	Sep-03	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5	
	Dec-03	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
	Feb-04	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
	May-04	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
	Aug-04	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
	Oct-04	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5	
	Jan-05	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5	
	Apr-05	17	<0.5	<0.5	<2.0	<1000	<0.5	<0.5	
	Jul-05	<10	<0.5	<0.5	<2.0	<1000	<0.5	<0.5	
	<b>Nov-05</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
	<b>MW-6</b>	Sep-03	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
Dec-03		<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
Feb-04		<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
May-04		<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
Aug-04		<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
Oct-04		<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5	
Jan-05		<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5	
Apr-05		<2.5	<0.5	<0.5	<2.0	<1000	<0.5	<0.5	
Jul-05		<10	<0.5	<0.5	<2.0	<1000	<0.5	<0.5	
<b>Nov-05</b>		<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	

**Table 2**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	ETHANOL (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
<b>MW-7</b>	Sep-03	<10	<0.5	<0.5	9.8	<1000	<0.5	<0.5
	Dec-03	<25	<1.3	<1.3	8.1	<2500	<1.3	<1.3
	Feb-04	<10	<0.5	<0.5	9.9	<1000	<0.5	<0.5
	May-04	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	Aug-04	<25	<1.3	<1.3	19	<2500	<1.3	<1.3
	Oct-04	<100	<5.0	<5.0	11	<10,000	<5.0	<5.0
	Jan-05	<40	<2.0	<2.0	5.1	<4,000	<2.0	<2.0
	Apr-05	2.62	<0.5	<0.5	4.57	<1000	<0.5	<0.5
	Jul-05	55.6	<1.0	<1.0	10.2	<2000	<1.0	<1.0
<b>Nov-05</b>	<b>10.6</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>2.07</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	
<b>SOMA-1</b>	Aug-04	2300	<6.3	<6.3	53	<13000	<6.3	<6.3
	Oct-04	2400	<13	<13	36	<25,000	<13	<13
	Jan-05	530	<3.1	<3.1	7.1	<6,300	<3.1	<3.1
	Apr-05	<27.5	<5.5	<5.5	<22	<11000	<5.5	<5.5
	Jul-05	2180	<2.15	<2.15	12.9	<4300	<2.15	<2.15
	<b>Nov-05</b>	<b>792</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>5.01</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>SOMA-2</b>	Aug-04	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	Oct-04	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	Jan-05	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	Apr-05	<2.5	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	Jul-05	<10	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	<b>Nov-05</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>SOMA-3</b>	Aug-04	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	Oct-04	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	Jan-05	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	Apr-05	<2.5	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	Jul-05	<10	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	<b>Nov-05</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>SOMA-4</b>	Aug-04	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	Oct-04	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	Jan-05	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	Apr-05	<2.5	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	Jul-05	<10	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	<b>Nov-05</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;1000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>



**Table 2**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	ETHANOL (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
-----------------	------	---------------	----------------	----------------	----------------	-------------------	-------------------	---------------

Notes:

< : Not detected above laboratory reporting limit.

NA: Not Analyzed. Due to construction activities in the Third Quarter 2003, which consisted of the replacement of the USTs and dispensers, wells ESE-1 & ESE-2 were inaccessible.

The Third Quarter 2003 was the first time that SOMA analyzed groundwater samples at the Site.

The Third Quarter 2004 was the first time that SOMA analyzed groundwater samples at wells SOMA-1 to SOMA-4.

Gasoline Oxygenates:

TBA: tertiary butyl alcohol

DIPE: isopropyl ether

ETBE: ethyl tertiary butyl ether

TAME: methyl tertiary amyl ether

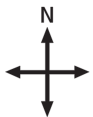
Ethanol

Lead Scavengers:

1,2-DCA: 1,2-Dichloroethane

EDB: 1,2-Dibromoethane

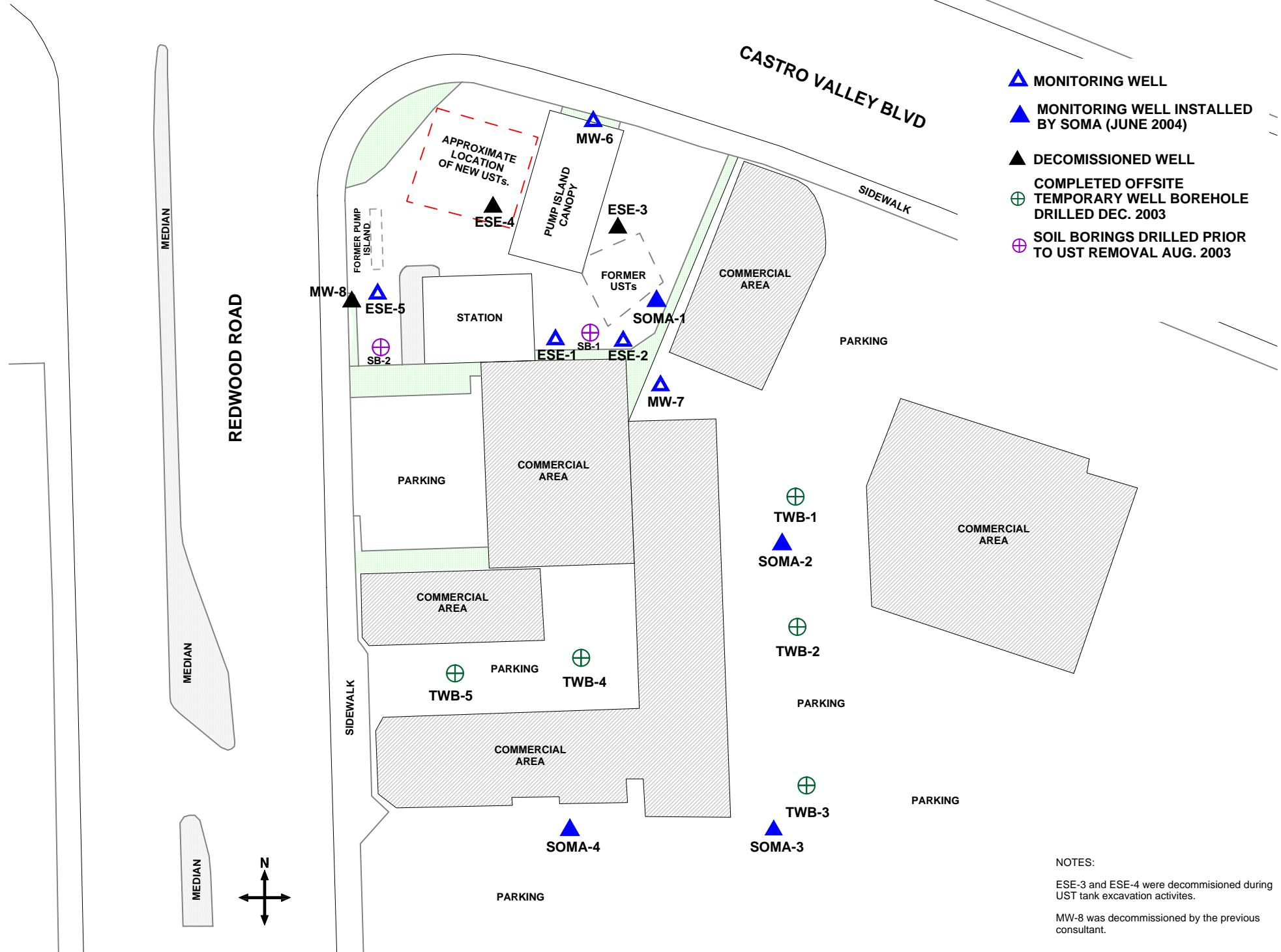
# Figures



approximate scale in feet



Figure 1: Site vicinity map.



NOTES:  
 ESE-3 and ESE-4 were decommissioned during UST tank excavation activities.  
 MW-8 was decommissioned by the previous consultant.

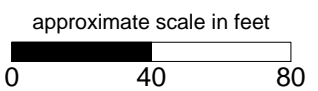


Figure 2: Site map showing locations of existing monitoring wells, decommissioned wells, offsite temporary well boreholes, and monitoring wells installed by SOMA.



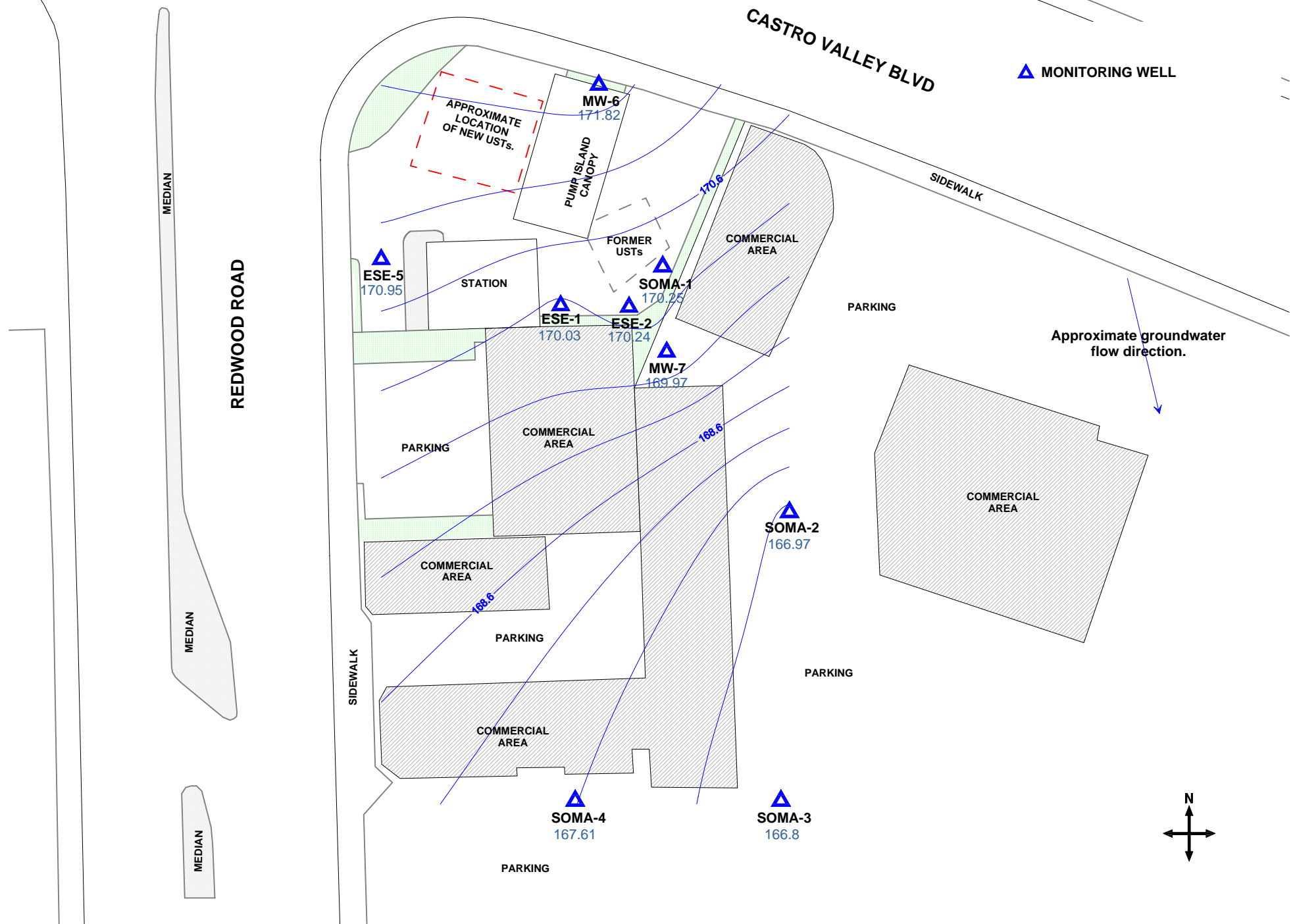
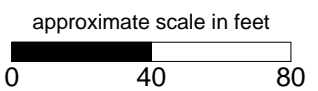
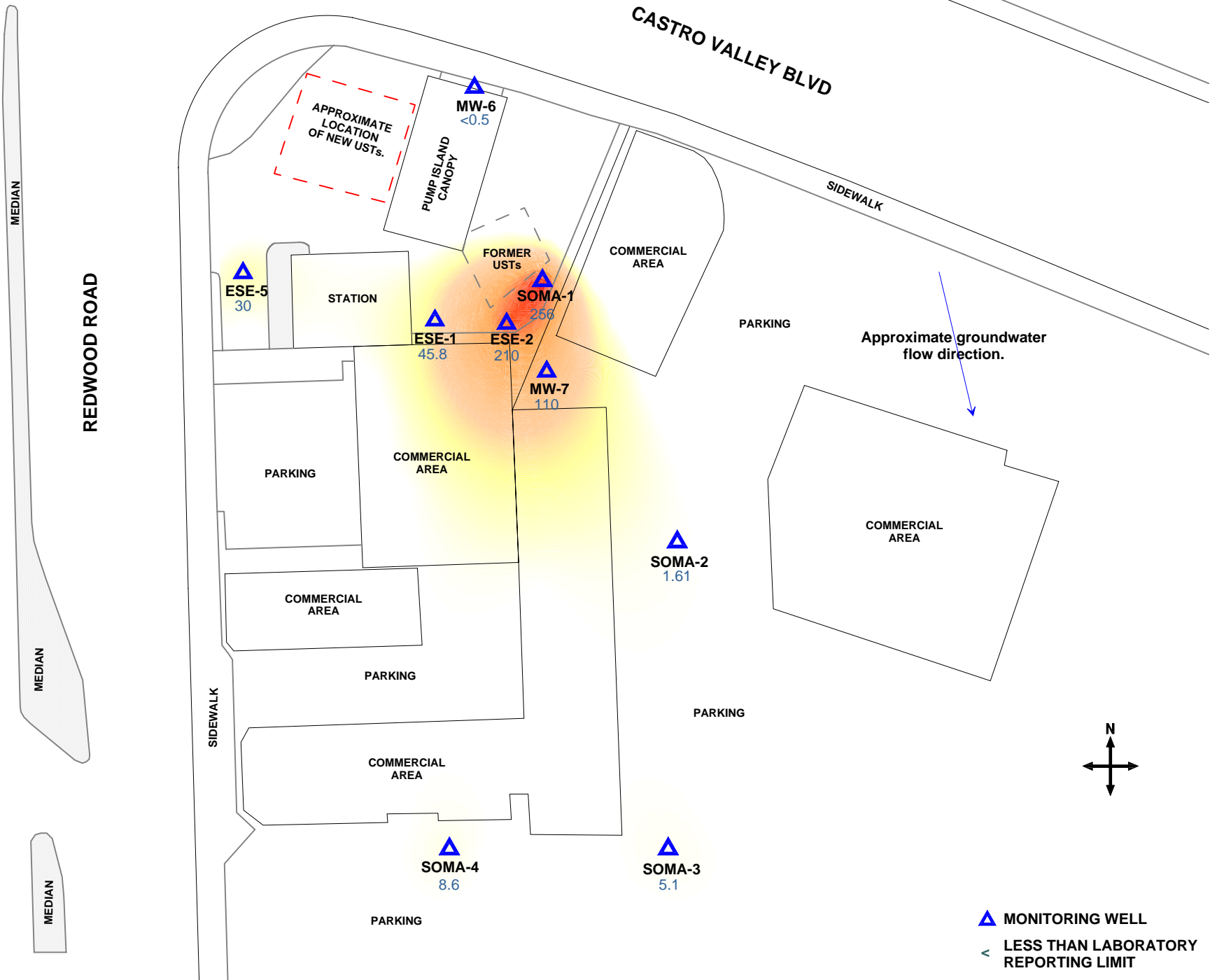
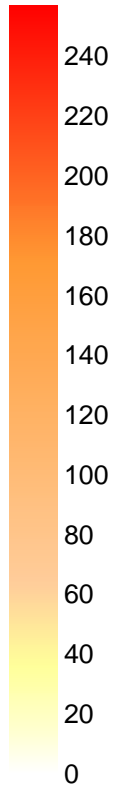


Figure 3: Groundwater elevation contour map in feet. November 2005.



MtBE  
µg/L



approximate scale in feet

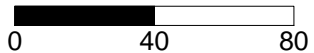


Figure 4: Contour map of MtBE concentrations in groundwater (EPA Method 8260B).  
November 2005.

▲ MONITORING WELL  
< LESS THAN LABORATORY REPORTING LIMIT

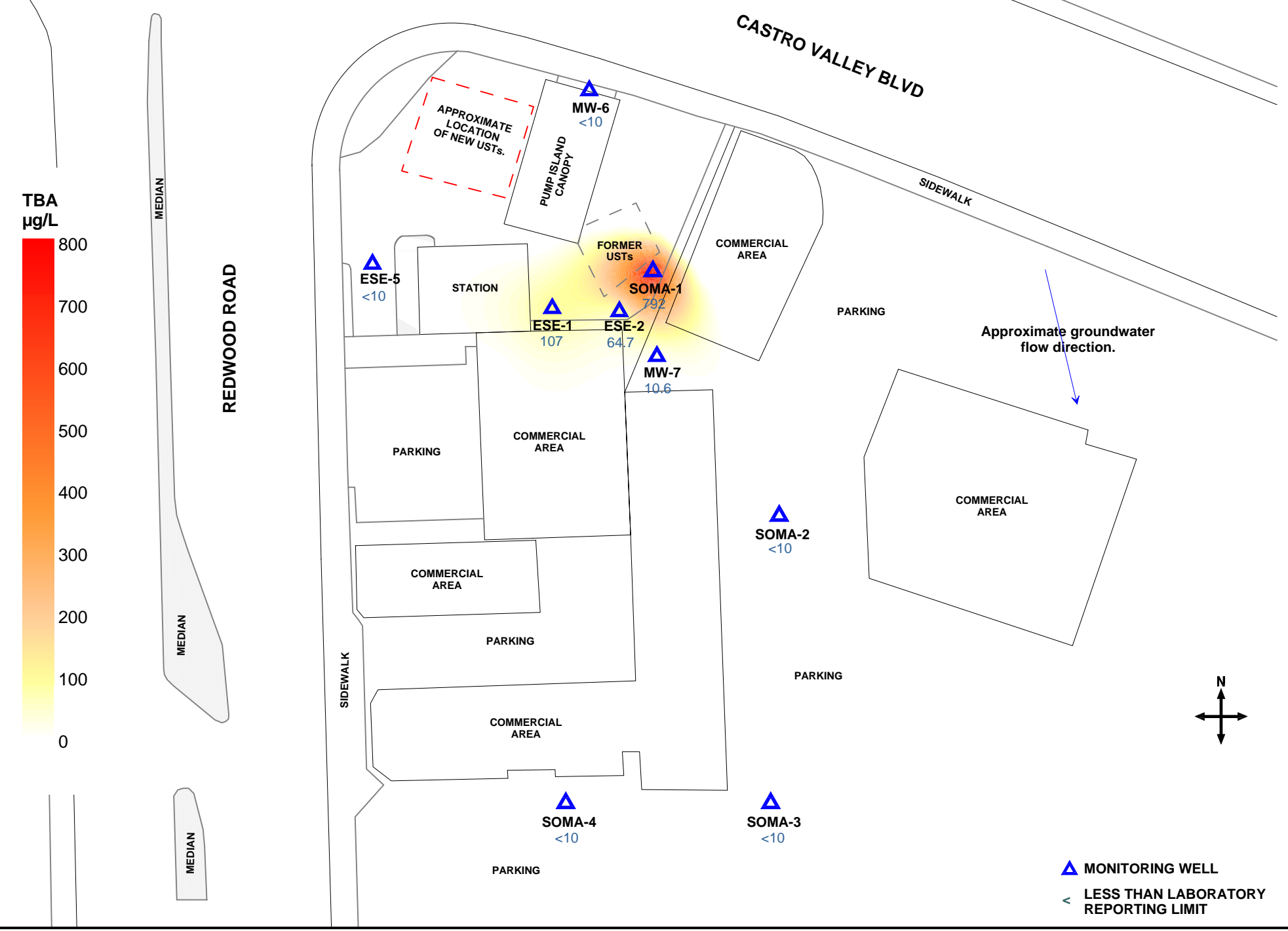


Figure 5: Contour map of TBA concentrations in groundwater. November 2005.



# **APPENDIX A**

## **SOMA's Groundwater Monitoring Procedures**



## **Field Activities**

On November 15, 2005, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the ACHCS. During this groundwater monitoring event, five on-site monitoring wells (ESE-1, ESE-2, ESE-5, MW-6, and SOMA-1) and four off-site monitoring wells (MW-7, SOMA-2 to SOMA-4) were monitored. Figure 2 illustrates the locations of the wells.

The depth to groundwater in each monitoring well was measured from the top of the casing to the nearest 0.01 foot using an electric sounder. The top of the casing elevation data and the depth to groundwater in each monitoring well were used to calculate the groundwater elevation.

Appendix B details the survey datum.

Prior to the collection of 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 EC. The field parameters were measured 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 of the wells continued until the parameters for pH, temperature and EC stabilized or three casing volumes were purged. Once the purging at each location was complete, a groundwater sample was collected. The groundwater samples were transferred into four 40-mL VOA vials and preserved with hydrochloric acid. The vials were then sealed to prevent the development of air bubbles within the headspace. After the groundwater samples were collected, they were placed into an ice-filled cooler. A chain of custody (COC) form was written for all of the samples and was submitted to the laboratory along with the groundwater samples. On November 15, 2005, SOMA's field crew delivered the groundwater samples to Pacific Analytical Laboratory in Alameda, California.

## **Laboratory Analysis**

Pacific Analytical Laboratory, a state certified laboratory, analyzed the groundwater samples for TPH-g, BTEX, MtBE, gasoline oxygenates, and lead scavengers. Samples for TPH-g, BTEX, MtBE, gasoline oxygenates, and lead scavengers measurements were prepared using EPA Method 5030B and analyzed using Method EPA 8260B.

# **Appendix B**

Table of Elevations & Coordinates on Monitoring Wells  
Measured by Kier Wright Civil Engineers Surveyors, Inc.

&

Field Measurements of Physical and Chemical  
Properties of the Groundwater Samples Collected  
During the Fourth Quarter 2005

**TABLE OF ELEVATIONS & COORDINATES  
ON MONITORING WELLS**  
SOMA ENVIRONMENTAL  
3519 CASTRO VALLEY BLVD., CASTRO VALLEY

WELL ID #	NORTHING (FT.) / LATITUDE (D.M.S.)	EASTING (FT.) / LONGITUDE (D.M.S.)	ELEVATION (FT.)	DESCRIPTION
ESE-1	2079361.15	6106465.13	180.24	2" PVC, NOTVH N. SIDE
	N 37° 41' 42.07112"	W 122° 04' 24.07899"	180.71	SET PUNCH NORTH SIDE RIM
			180.69	PAVEMENT NORTH SIDE
ESE-2	2079361.30	6106501.97	180.79	2" PVC, NOTVH N. SIDE
	N 37° 41' 42.07873"	W 122° 04' 23.62071"	181.16	SET PUNCH NORTH SIDE RIM
			181.14	CONC. NORTH SIDE
ESE-5	2079381.46	6106387.63	178.80	2" PVC, NOTVH N. SIDE
	N 37° 41' 42.25902"	W 122° 04' 25.04739"	179.07	FELT X ON NORTH SIDE RIM
			179.10	CONC. NORTH SIDE
MW-6	2079451.94	6106492.77	181.80	2" PVC, NOTVH N. SIDE
	N 37° 41' 42.97323"	W 122° 04' 23.75412"	181.97	SET PUNCH NORTH SIDE RIM
			181.88	GROUND NORTH SIDE
MW-7	2079337.18	6106516.12	179.11	2" PVC, NOTVH N. SIDE
	N 37° 41' 41.84264"	W 122° 04' 23.43963"	179.55	SET PUNCH NORTH SIDE RIM
			179.49	CONC. NORTH SIDE
SOMA-1	2079370.39	6106506.79	180.95	2" PVC, NOTVH N. SIDE
	N 37° 41' 42.16939"	W 122° 04' 23.56265"	181.25	SET PUNCH NORTH SIDE RIM
			181.22	CONC. NORTH SIDE
SOMA-2	2079297.44	6106567.02	178.99	2" PVC, NOTVH N. SIDE
	N 37° 41' 41.45825"	W 122° 04' 22.79809"	179.29	SET PUNCH NORTH SIDE RIM
			179.28	CONC. NORTH SIDE
SOMA-3	2079130.83	6106567.48	176.81	2" PVC, NOTVH N. SIDE
	N 37° 41' 39.81129"	W 122° 04' 22.75752"	177.18	SET PUNCH NORTH SIDE RIM
			177.12	PAVEMENT NORTH SIDE
SOMA-4	2079141.57	6106464.22	176.94	2" PVC, NOTVH N. SIDE
	N 37° 41' 39.9003"	W 122° 04' 24.04438"	177.43	SET PUNCH NORTH SIDE RIM
			177.44	PAVEMENT NORTH SIDE

**TABLE OF ELEVATIONS & COORDINATES  
ON MONITORING WELLS**

SOMA ENVIRONMENTAL  
3519 CASTRO VALLEY BLVD., CASTRO VALLEY

**ADDITIONAL POINTS**

PT#	NORTHING (FT.)	EASTING (FT.)	ELEVATION (FT.)	DESCRIPTION
320	2079386.87	6106408.85	N/A	BL. INTX
321	2079387.18	6106455.22	N/A	BL. INTX
331	2079351.06	6106409.27	N/A	BL<
318	2079384.55	6106369.10	N/A	DWY
329	2079106.74	6106368.58	N/A	DWY
330	2079148.74	6106368.66	N/A	DWY
317	2079424.72	6106369.39	N/A	DWY E-C
315	2079481.34	6106432.38	N/A	DWY PCC
310	2079415.57	6106624.48	N/A	DWY POC
311	2079423.23	6106606.56	N/A	DWY POC
312	2079447.91	6106542.76	N/A	DWY POC
313	2079461.36	6106504.01	N/A	DWY POC
314	2079472.67	6106468.07	N/A	DWY POC
316	2079466.76	6106389.18	N/A	HCRMP POC
319	2079237.38	6106368.78	N/A	TC

**BENCH MARK:** NGS Bench mark No.PID# HT0223

THE STATION IS LOCATED IN THE CITY OF HAYWARD AT THE RAILROAD CROSSING OF THE SOUTHERN PACIFIC RAIL-ROAD AND BLOSSOM WAY, IN THE TOP OF THE NORTHWEST CURB OF BLOSSOM WAY.

TO REACH THE STATION FROM THE JUNCTION OF U S HIGHWAY 880 ON WEST A STREET, GO SOUTHEAST ON WEST A STREET FOR 0.2 MILES TO A CROSSROAD, HATHAWAY AVE ON THE LEFT, SANTA CLARA STREET ON THE RIGHT. TURN LEFT, NORTH, ON HATHAWAY AVENUE AND CONTINUE FOR 0.7 MILES TO WEST BLOSSOM WAY. TURN RIGHT, NORTH, ON WEST BLOSSOM WAY AND CONTINUE FOR 0.25 MILES TO THE STATION ON THE LEFT, JUST PAST THE RAIL-ROAD TRACKS.

THE STATION IS 48.95 M (160.6 FT) NORTHEAST OF THE NORTHEAST RAIL, 7.01 M NORTHWEST OF THE CENTER OF BLOSSOM WAY, 0.24 M (0.8 FT) NORTH OF THE NORTH CORNER OF A STEEL GRATE IN THE STREET, 5.6 M (18.5 FT) SOUTHWEST OF A POWER POLE AND 0.12 M (0.4 FT) HIGHER THAN THE STREET.

Elevation =56.33 FEET NAVD88 Datum  
ADJUSTED

**HORIZONTAL CONTROL:**

**PID - HT0223**

NORTHING =2,072,670.26 , EASTING = 6,095,650.79 FEET; EPOCH DATE = 1998.50

**PID - HT 2583**

**Kier & Wright Engineers Surveyors, Inc.**

6/21/2005  
10:19 AM  
3519 Castro Valley

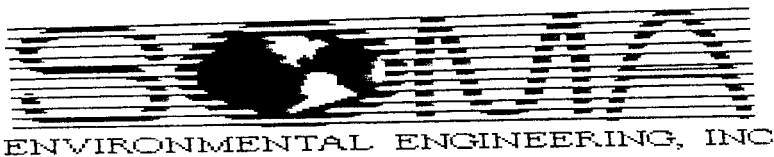
1233 Quarry Lane, Suite 145, Pleasanton, CA 94566  
Phone (925) 249-6555,  
Fax (925) 249-6563

**TABLE OF ELEVATIONS & COORDINATES  
ON MONITORING WELLS**

SOMA ENVIRONMENTAL  
3519 CASTRO VALLEY BLVD., CASTRO VALLEY

NORTHING =2,082,510.30 , EASTING = 6,116,892.13 FEET; EPOCH DATE = 1991.35

Coordinate values are based on the California Coordinate System, Zone III NAD 83 Datum.



Well No.: ESE-1  
 Casing Diameter: 2 inches  
 Depth of Well: 27.95 feet  
 Top of Casing Elevation: 180.24 feet  
 Depth to Groundwater: 10.21 feet  
 Groundwater Elevation: 170.03 feet  
 Water Column Height: 17.74 feet  
 Purged Volume: 10 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
1:31 PM	started purging well			
1:35 PM	3.0	7.03	20.80	1220
1:38 PM	7.0	6.86	19.80	1220
1:41 PM	10	6.89	19.20	1240
Sampled 1:45 PM				



ENVIRONMENTAL ENGINEERING, INC

Well No.: ESE-2  
 Casing Diameter: 2 inches  
 Depth of Well: 26.50 feet  
 Top of Casing Elevation: 180.79 feet  
 Depth to Groundwater: 10.55 feet  
 Groundwater Elevation: 170.24 feet  
 Water Column Height: 15.95 feet  
 Purged Volume: 10 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
12:43 PM	started purging well			
12:46 PM	3.0	7.25	20.20	1080
12:48 PM	6.0	7.24	19.90	1070
12:51 PM	10	7.25	19.50	1030
12:55 SAMPLED				



ENVIRONMENTAL ENGINEERING, INC

Well No.: BSE-5  
 Casing Diameter: 2 inches  
 Depth of Well: 23.80 feet  
 Top of Casing Elevation: 178.86 feet  
 Depth to Groundwater: 7.85 feet  
 Groundwater Elevation: 170.95 feet  
 Water Column Height: 15.95 feet  
 Purged Volume: 13 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_

Sheen: No  Yes  Describe: \_\_\_\_\_

Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10:43 AM	started purging well			
10:45 AM	2.0	6.82	23.10	1350
10:47 AM	5.0	6.91	21.70	1440
10:51 AM	10	7.24	21.40	1410
10:53 AM	13	7.25	21.10	1380
10:55 AM	sampled			





ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-6  
 Casing Diameter: 2 inches  
 Depth of Well: 30 feet  
 Top of Casing Elevation: 181.80 feet  
 Depth to Groundwater: 9.98 feet  
 Groundwater Elevation: 171.82 feet  
 Water Column Height: 20.02 feet  
 Purged Volume: 18 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe: cloudy

Sheen: No  Yes  Describe: \_\_\_\_\_

Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (us/cm)
12:14 PM	started purging well			
12:18 PM	4.0	7.25	20.80	870
12:20 PM	8.0	7.45	20.0	850
12:23 PM	13.0	7.20	19.9	1010
12:26 PM	18	7.18	19.8	1000
12:30 PM	sampled			



ENVIRONMENTAL ENGINEERING, INC

Well No.: ME-7  
 Casing Diameter: 2 inches  
 Depth of Well: 29.40 feet  
 Top of Casing Elevation: 179.11 feet  
 Depth to Groundwater: 9.14 feet  
 Groundwater Elevation: 169.97 feet  
 Water Column Height: 20.26 feet  
 Purged Volume: 14 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_

Sheen: No  Yes  Describe: \_\_\_\_\_

Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10:11 AM	started purging well			
10:14 AM	3.0	7.25	19.40	920
10:16 AM	5.0	7.32	19.20	980
10:21 AM	10	7.25	18.70	1040
10:27 AM	14	7.25	18.00	1040
10:30 AM	sampled			



ENVIRONMENTAL ENGINEERING, INC

Well No.: SOMM-1  
 Casing Diameter: 2 inches  
 Depth of Well: 29.40 feet  
 Top of Casing Elevation: 180.95 feet  
 Depth to Groundwater: 10.70 feet  
 Groundwater Elevation: 170.25 feet  
 Water Column Height: 18.70 feet  
 Purged Volume: 19 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_

Sheen: No  Yes  Describe: \_\_\_\_\_

Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
1 PM	started purging well			
1:03 PM	4.0	7.03	20.40	1180
1:07 PM	7.0	6.93	20.00	1190
1:11 PM	12	7.01	19.50	1200
1:18 PM	19	6.89	19.50	1190
1:20 PM	Sampled			



ENVIRONMENTAL ENGINEERING, INC

Well No.: SOMA-2  
 Casing Diameter: 2 inches  
 Depth of Well: 14.68 feet  
 Top of Casing Elevation: 178.99 feet  
 Depth to Groundwater: 12.02 feet  
 Groundwater Elevation: 166.97 feet  
 Water Column Height: 2.66 feet  
 Purged Volume: 2 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
4:56 AM	5-far lbs			
9:57 AM	1.0	7.4R	21.50	1000
9:58 AM	2.0	DRIED		
10 AM	samples			



ENVIRONMENTAL ENGINEERING, INC

Well No.: SOMA-3  
 Casing Diameter: 2 inches  
 Depth of Well: 14.70 feet  
 Top of Casing Elevation: 176.81 feet  
 Depth to Groundwater: 10.01 feet  
 Groundwater Elevation: 166.80 feet  
 Water Column Height: 4.69 feet  
 Purged Volume: 8 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
9:39 AM	Started purging well			
9:41 AM	2.0	7.06	20.10	1340
9:44 AM	4.0	6.96	21.90	1280
9:47 AM	8.0	6.91	22.00	1290
9:50 AM	Samples			



ENVIRONMENTAL ENGINEERING, INC

Well No.: SOMA-4  
 Casing Diameter: 2 inches  
 Depth of Well: 22.65 feet  
 Top of Casing Elevation: 176.94 feet  
 Depth to Groundwater: 9.33 feet  
 Groundwater Elevation: 167.61 feet  
 Water Column Height: 13.32 feet  
 Purged Volume: 8 gallons

Project No.: 2761  
 Address: 3519 Castro Valley Blvd  
 Castro Valley, CA  
 Date: November 15, 2005  
 Sampler: Tony Perini  
 Mehran Nowrozi

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe: \_\_\_\_\_

Sheen: No  Yes  Describe: \_\_\_\_\_

Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
9:13 AM	started purging well			
9:15 AM	2.0	6.76	21.2	1100
9:18 AM	4.0	6.72	20.9	1180
9:22 AM	8.0	6.70	21.4	1140
9:25 AM	sampled			

# Appendix C

Chain of Custody Form and Laboratory Report  
for the  
Fourth Quarter 2005 monitoring event

16 November 2005

Joyce Bobek  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3519 Castro Valley Blvd

Work Order Number: 5110007

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,



---

Maiid Akhavan  
Laboratory Director





SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
Project Number: 2761  
Project Manager: Joyce Bobek

**Reported:**  
16-Nov-05 13:02

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ESE-1	5110007-01	Water	15-Nov-05 13:45	15-Nov-05 15:42
ESE-2	5110007-02	Water	15-Nov-05 12:55	15-Nov-05 15:42
ESE-5	5110007-03	Water	15-Nov-05 10:55	15-Nov-05 15:42
MW-6	5110007-04	Water	15-Nov-05 12:30	15-Nov-05 15:42
MW-7	5110007-05	Water	15-Nov-05 10:30	15-Nov-05 15:42
SOMA-1	5110007-06	Water	15-Nov-05 13:20	15-Nov-05 15:42
SOMA-2	5110007-07	Water	15-Nov-05 10:00	15-Nov-05 15:42
SOMA-3	5110007-08	Water	15-Nov-05 09:50	15-Nov-05 15:42
SOMA-4	5110007-09	Water	15-Nov-05 09:25	15-Nov-05 15:42



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
Project Number: 2761  
Project Manager: Joyce Bobek

**Reported:**  
16-Nov-05 13:02

**Volatile Organic Compounds by EPA Method 8260B**  
**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>ESE-1 (511007-01) Water</b> <b>Sampled: 15-Nov-05 13:45</b> <b>Received: 15-Nov-05 15:42</b>									
<b>Gasoline (C6-C12)</b>	<b>1260</b>	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
<b>Benzene</b>	<b>259</b>	0.500	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>8.20</b>	0.500	"	"	"	"	"	"	
<b>m&amp;p-Xylene</b>	<b>7.27</b>	1.00	"	"	"	"	"	"	
<b>o-xylene</b>	<b>3.54</b>	0.500	"	"	"	"	"	"	
<b>Toluene</b>	<b>6.20</b>	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>45.8</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
<b>TBA</b>	<b>107</b>	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		92.2 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		100 %		70-130	"	"	"	"	
<b>ESE-2 (511007-02) Water</b> <b>Sampled: 15-Nov-05 12:55</b> <b>Received: 15-Nov-05 15:42</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>210</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
<b>TAME</b>	<b>3.43</b>	2.00	"	"	"	"	"	"	
<b>TBA</b>	<b>64.7</b>	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.4 %		70-130	"	"	"	"	

Pacific Analytical Laboratory

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
Project Number: 2761  
Project Manager: Joyce Bobek

**Reported:**  
16-Nov-05 13:02

**Volatile Organic Compounds by EPA Method 8260B**

**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>ESE-2 (5110007-02) Water</b> Sampled: 15-Nov-05 12:55 Received: 15-Nov-05 15:42									
Surrogate: Dibromofluoromethane		97.8 %	70-130		BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Surrogate: Perdeuterotoluene		98.2 %	70-130		"	"	"	"	
<b>ESE-5 (5110007-03) Water</b> Sampled: 15-Nov-05 10:55 Received: 15-Nov-05 15:42									
<b>Gasoline (C6-C12)</b>	<b>1190</b>	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
<b>Benzene</b>	<b>0.510</b>	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>30.0</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %	70-130		"	"	"	"	
Surrogate: Dibromofluoromethane		94.0 %	70-130		"	"	"	"	
Surrogate: Perdeuterotoluene		101 %	70-130		"	"	"	"	
<b>MW-6 (5110007-04) Water</b> Sampled: 15-Nov-05 12:30 Received: 15-Nov-05 15:42									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	

Pacific Analytical Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
Project Number: 2761  
Project Manager: Joyce Bobek

Reported:  
16-Nov-05 13:02

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-6 (5110007-04) Water</b> Sampled: 15-Nov-05 12:30 Received: 15-Nov-05 15:42									
<i>Surrogate: 4-Bromofluorobenzene</i>		90.2 %	70-130		BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		99.4 %	70-130		"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		98.0 %	70-130		"	"	"	"	
<b>MW-7 (5110007-05) Water</b> Sampled: 15-Nov-05 10:30 Received: 15-Nov-05 15:42									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>110</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
<b>TAME</b>	<b>2.07</b>	2.00	"	"	"	"	"	"	
<b>TBA</b>	<b>10.6</b>	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.2 %	70-130		"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		99.4 %	70-130		"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		97.8 %	70-130		"	"	"	"	
<b>SOMA-1 (5110007-06) Water</b> Sampled: 15-Nov-05 13:20 Received: 15-Nov-05 15:42									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1.10</b>	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>256</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
<b>TAME</b>	<b>5.01</b>	2.00	"	"	"	"	"	"	
<b>TBA</b>	<b>792</b>	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	

Pacific Analytical Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
Project Number: 2761  
Project Manager: Joyce Bobek

**Reported:**  
16-Nov-05 13:02

**Volatile Organic Compounds by EPA Method 8260B**

**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SOMA-1 (5110007-06) Water</b> Sampled: 15-Nov-05 13:20 Received: 15-Nov-05 15:42									
Ethanol	ND	1000	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.8 %	70-130		"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		97.2 %	70-130		"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		97.8 %	70-130		"	"	"	"	
<b>SOMA-2 (5110007-07) Water</b> Sampled: 15-Nov-05 10:00 Received: 15-Nov-05 15:42									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>1.61</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.0 %	70-130		"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		101 %	70-130		"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		98.4 %	70-130		"	"	"	"	
<b>SOMA-3 (5110007-08) Water</b> Sampled: 15-Nov-05 09:50 Received: 15-Nov-05 15:42									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>5.10</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	

Pacific Analytical Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



SOMA Environmental Engineering Inc.  
 6620 Owens Drive, Suite A  
 Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
 Project Number: 2761  
 Project Manager: Joyce Bobek

**Reported:**  
 16-Nov-05 13:02

**Volatile Organic Compounds by EPA Method 8260B**

**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SOMA-3 (5110007-08) Water</b> Sampled: 15-Nov-05 09:50 Received: 15-Nov-05 15:42									
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	BK51401	15-Nov-05	15-Nov-05	EPA 8260B	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.6 %	70-130	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		102 %	70-130	"	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		98.0 %	70-130	"	"	"	"	"	
<b>SOMA-4 (5110007-09) Water</b> Sampled: 15-Nov-05 09:25 Received: 15-Nov-05 15:42									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BK51401	15-Nov-05	16-Nov-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
<b>MTBE</b>	<b>8.60</b>	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.8 %	70-130	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		103 %	70-130	"	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		99.4 %	70-130	"	"	"	"	"	



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
Project Number: 2761  
Project Manager: Joyce Bobek

Reported:  
16-Nov-05 13:02

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch BK51401 - EPA 5030 Water MS**

**Blank (BK51401-BLK1)**

Prepared & Analyzed: 14-Nov-05

Surrogate: 4-Bromofluorobenzene	45.4		ug/l	50.0		90.8	70-130			
Surrogate: Dibromofluoromethane	49.5		"	50.0		99.0	70-130			
Surrogate: Perdeuterotoluene	48.2		"	50.0		96.4	70-130			
MTBE	ND	0.500	"							
DIPE	ND	0.500	"							
ETBE	ND	0.500	"							
TAME	ND	2.00	"							
Gasoline (C6-C12)	ND	50.0	"							
TBA	ND	10.0	"							
1,2-dichloroethane	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
Ethanol	ND	1000	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
m&p-Xylene	ND	1.00	"							
o-xylene	ND	0.500	"							
Toluene	ND	2.00	"							

**LCS (BK51401-BS1)**

Prepared & Analyzed: 14-Nov-05

Surrogate: 4-Bromofluorobenzene	48.4		ug/l	50.0		96.8	70-130			
Surrogate: Dibromofluoromethane	48.2		"	50.0		96.4	70-130			
Surrogate: Perdeuterotoluene	49.4		"	50.0		98.8	70-130			
MTBE	96.2	0.500	"	100		96.2	70-130			
ETBE	84.8	0.500	"	100		84.8	70-130			
TAME	74.1	2.00	"	100		74.1	70-130			
Gasoline (C6-C12)	1650	50.0	"	2000		82.5	70-130			
TBA	502	10.0	"	500		100	70-130			
Benzene	101	0.500	"	100		101	70-130			
Toluene	100	2.00	"	100		100	70-130			



SOMA Environmental Engineering Inc.  
 6620 Owens Drive, Suite A  
 Pleasanton CA, 94588

Project: 3519 Castro Valley Blvd  
 Project Number: 2761  
 Project Manager: Joyce Bobek

**Reported:**  
 16-Nov-05 13:02

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch BK51401 - EPA 5030 Water MS**

**LCS Dup (BK51401-BSD1)**

Prepared & Analyzed: 14-Nov-05

Surrogate: 4-Bromofluorobenzene	47.6		ug/l	50.0		95.2	70-130			
Surrogate: Dibromofluoromethane	48.0		"	50.0		96.0	70-130			
Surrogate: Perdeuterotoluene	49.8		"	50.0		99.6	70-130			
MTBE	97.3	0.500	"	100		97.3	70-130	1.14	20	
ETBE	85.6	0.500	"	100		85.6	70-130	0.939	20	
TAME	76.1	2.00	"	100		76.1	70-130	2.66	20	
TBA	430	10.0	"	500		86.0	70-130	15.5	20	
Gasoline (C6-C12)	1550	50.0	"	2000		77.5	70-130	6.25	20	
Benzene	106	0.500	"	100		106	70-130	4.83	20	
Toluene	106	2.00	"	100		106	70-130	5.83	20	





SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

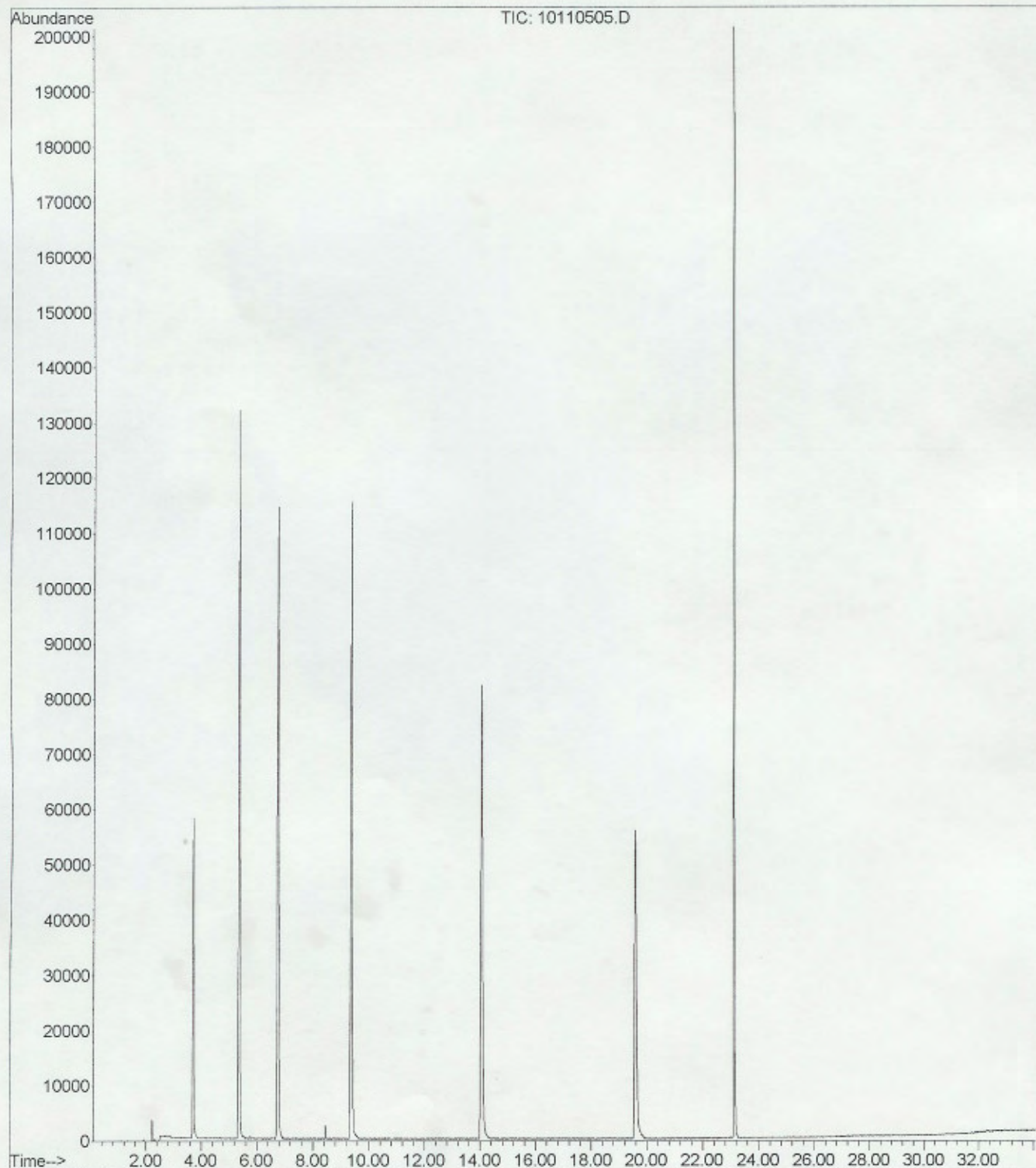
Project: 3519 Castro Valley Blvd  
Project Number: 2761  
Project Manager: Joyce Bobek

**Reported:**  
16-Nov-05 13:02

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

File :C:\MSDChem\1\DATA\2005-Nov-10-1400.b\10110505.D  
Operator :  
Acquired : 11 Nov 2005 1:57 pm using AcqMethod VOCOXY.M  
Instrument : PAL GCMS  
Sample Name: BK51401-BLK1  
Misc Info :  
Vial Number: 5

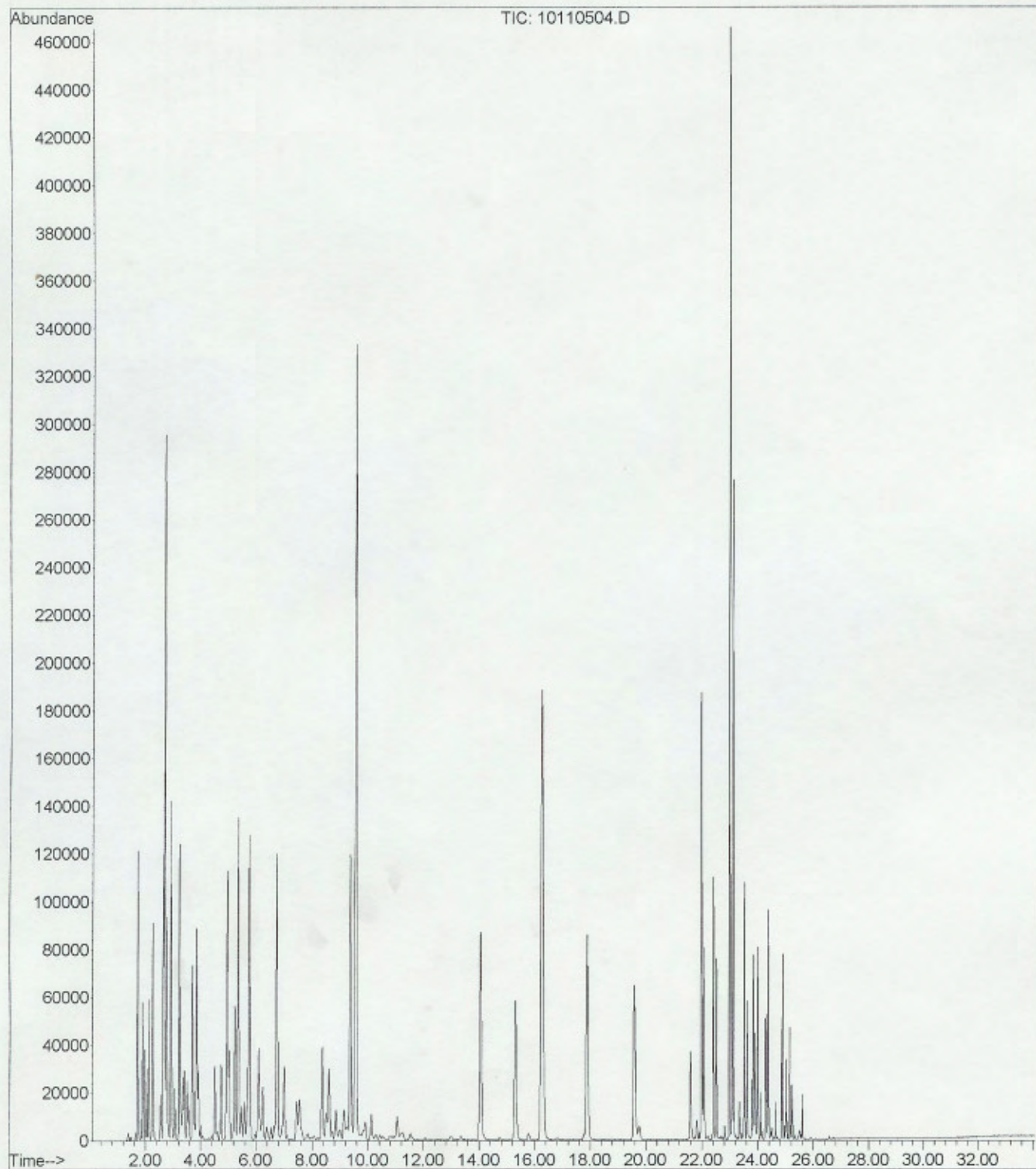


File :C:\MSDCHEM\1\DATA\2005-Nov-10-1400.b\10110503.D  
Operator :  
Acquired : 11 Nov 2005 12:13 pm using AcqMethod VOCOXY.M  
Instrument : PAL GCMS  
Sample Name: BK51401-BS1@voc  
Misc Info :  
Vial Number: 3





File :C:\MSDCHEM\1\DATA\2005-Nov-10-1400.b\10110504.D  
Operator :  
Acquired : 11 Nov 2005 1:04 pm using AcqMethod VOXY.M  
Instrument : PAL GCMS  
Sample Name: BK51401-BS1@gas  
Misc Info :  
Vial Number: 4



# CHAIN OF CUSTODY

## Pacific Analytical Laboratory

851 West Midway Ave., Suite 201B  
Alameda, CA 94501  
510-864-0364 phone  
510-864-0365 fax

*PAL*  
~~QAT~~ LOGIN # 5110007

## Analyses

Sampler: *Tony Perini / Now 10024* *Mehran*

Project No: 2761

Report To: Tony Perini

Project Name: 3519 Castro Valley Blvd, Castro Valley Company: SOMA Environmental

Turnaround Time: Standard

Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				TPHg, BTEX, MIBE 8260B	GASoline Oxygenates, Lead Scavengers 8260B	Ethanol
			Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE			
	ESE-1	<i>11/15/05 145 PM</i>	X			4 VOAS	X			X	X	X	
	ESE-2	<i>1255 PM</i>	X			4 VOAS	X			X	X	X	
	ESE-5	<i>1055 AM</i>	X			4 VOAS	X			X	X	X	
	MW-6	<i>1230 PM</i>	X			4 VOAS	X			X	X	X	
	MW-7	<i>1030 AM</i>	X			4 VOAS	X			X	X	X	
	SOMA-1	<i>120 PM</i>	X			4 VOAS	X			X	X	X	
	SOMA-2	<i>10 AM</i>	X			4 VOAS	X			X	X	X	
	SOMA-3	<i>950 AM</i>	X			4 VOAS	X			X	X	X	
	SOMA-4	<i>925 AM</i>	X			4 VOAS	X			X	X	X	

Notes: **EDF OUTPUT REQUIRED**  
Gasoline Oxygenates: DIPE, ETBE, TAME, TBA  
Lead Savengers: EDB, 1,2-DCA

RELINQUISHED BY:	RECEIVED BY:
<i>Tony Perini</i> <i>11/15/05</i>	<i>James Z...</i> <i>11/15/05</i>
<i>Tony Perini</i> 2:30 PM DATE/TIME	2:30 PM DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME