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1:01 pm, Aug 29, 2007

Alameda County Environmental Health



August 27, 2007

Mr. Jerry Wickham Alameda County Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Subject: Fuel Leak Case No. RO0002585, Wente Winery

Site Located at 5565 Tesla Road, Livermore, California

Dear Mr. Wickham:

SOMA's "Third Quarter 2007 Groundwater Monitoring Report" for the subject site has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have any questions or comments.

Sincerely,

Mansour Sepehr, Ph.D., PE Principal Hydrogeologist

cc: Mr. Aris Krimetz w/report enclosure



## Third Quarter 2007 Groundwater Monitoring Report

Wente Winery 5565 Tesla Road Livermore, California

August 27, 2007

Project 2841

**Prepared for:** 

Mr. Aris Krimetz 5565 Tesla Road Livermore, California

### **CERTIFICATION**

SOMA Environmental Engineering, Inc. has prepared this report on behalf of Mr. Aris Krimetz for Wente Winery, located at 5565 Tesla Road, Livermore, California, to comply with requirements of the Alameda County Environmental Health Services and the California Regional Water Quality Control Board for the Third Quarter 2007 groundwater monitoring event.

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



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### 1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of Mr. Aris Krimetz for Wente Winery, located at 5565 Tesla Road, Livermore, California (the Site, Figure 1).

This report summarizes results of the Third Quarter 2007 groundwater monitoring event conducted at the Site on August 8, 2007, and includes laboratory analytical results of the groundwater samples.

A natural petroleum hydrocarbons found in the groundwater were biodegrading.

These activities were performed in accordance with the general guidelines of the California Regional Water Quality Control Board (CRWQCB) and the Alameda County Environmental Health Services (ACEHS). Appendix A details groundwater monitoring procedures used during this monitoring event.

### 1.1 Site Description

West of the winery buildings is an enclosed maintenance and agricultural storage area with a former underground storage tank (UST) pit that contained one gasoline and one diesel UST. The USTs were replaced with three aboveground storage tanks (ASTs), with a total capacity of 4,000 gallons. An on-site potable water supply well provides backup potable drinking water and processed water for the winery facility. This water supply well is located south of, and presumably upgradient from, the former UST area.

### 1.2 Previous Activities and Investigations

1987: Two fuel USTs were removed from the Site. There is no information regarding their condition or evidence of leakage. In 1990, the ACEHS issued a notice of violation for discharging waste sludge into an open ditch adjacent to a former steam-cleaning bay.

Clayton Environmental Consultants (Clayton) conducted a Phase I Environmental Site Assessment of the maintenance and storage areas. The Phase I study revealed the existence of the former USTs, former waste discharge area, and a number of agricultural storage areas.

<u>2003</u>: Clayton performed a subsurface investigation at the Site to implement the recommendations of the Phase I report. As shown in Figure 2, boreholes were advanced near the ASTs and near other recognized environmental concerns. The study indicated that a fuel release in the former UST area impacted the groundwater. In the former steam-cleaning bay, gasoline- and motor-oil–range petroleum hydrocarbons were detected in the groundwater. Figure 2 shows locations of the soil borings.

Wente then retained SOMA to review Clayton's report. SOMA subsequently submitted a workplan that included a vicinity well survey, a regional hydrogeologic study, and an additional site characterization. The site characterization included sampling and evaluating water quality of the on-site water supply well, installing monitoring wells, and additional lithologic characterization to better define the shallow/perched water-bearing zone.

May 2005: On May 5, 2005, SOMA oversaw drilling by Woodward Drilling (Woodward) of three monitoring wells, MW-1 through MW-3 (Figure 2). On May 20, 2005, Woodward developed the newly installed wells.

<u>June 24, 2005</u>: SOMA oversaw drilling by Woodward of two confirmatory boreholes, B-9 and B-10. The purpose of this investigation was to confirm the presence of petroleum hydrocarbons in the soil and groundwater next to the former USTs and to evaluate the current soil and groundwater conditions in close proximity to the former steam-cleaning area. Results of this investigation are presented in SOMA's report entitled "Phase I: Soil and Groundwater Investigation, Wente Winery, at 5565 Tesla Road, Livermore, California," dated July 25, 2005.

### 1.3 Regional Hydrogeologic Features

The Site is located in the Livermore Valley Groundwater Basin (LVGB). The LVGB consists of a structural trough that is an important source of irrigation water for the Livermore Valley. In the western part of the basin up to 40 feet of clay caps these water-bearing sediments. The water-bearing zone is a predominantly permeable unit consisting of sand and gravel in a clayey sand matrix. The potentiometric surface of valley-fill groundwater near the Site is at approximately 20 to 30 feet below ground surface (bgs).

The groundwater flow in the valley-fill and underlying Livermore Formations is to the northwest/north. The nearby water supply wells west of, and presumably downgradient from, the Site are potentially exposed to the on-site contaminant plume.

In addition to one on-site well, five wells are located in the properties immediately west of, and presumably downgradient from, the Site. North/northeast of, and presumably up/cross-gradient from the Site, are seven wells within 2,000 feet of the investigation area. Approximately 1,800 feet south of the Site is another water supply well. Available records indicate that six of the seven wells located north/northeast of, and within 2,000 feet of the Site may be used as drinking water wells.

### 2. RESULTS

The following sections provide results of field measurements and laboratory analyses for the August 8, 2007 groundwater monitoring event. Based on the directive of the ACEHS in a letter dated March 26, 2007, sampling has been revised to include supply wells on a quarterly basis and sampling of the existing monitoring wells has been temporarily discontinued. This report details sampling of the supply wells.

### 2.1 Field Measurements

Depths to groundwater at the supply wells were not measured due to the inaccessibility of these wells. Existing pumps and caps prevented measurement of the groundwater elevations.

The field notes in Appendix B show the detailed measurements of physical and chemical parameters of the groundwater for each well during this monitoring event. The more positive the redox potential of an electron acceptor, the more energetically favorable is the reaction utilizing that electron acceptor. The most energetically preferred electron acceptor for redox reactions is dissolved oxygen (DO). Evaluating the distribution of electron acceptors can provide evidence of where, and to what extent, hydrocarbon biodegradation is occurring.

Upon equalization of the surrounding aquifer at the well locations and termination of the purge cycle, DO concentrations at the on and off-site supply wells were 10.52 mg/L and 6.98 mg/L, respectively. Oxygen reduction potential (ORP) showed positive redox potentials in both supply wells. Positive redox potentials are more energetically favorable in utilizing electron acceptors during chemical reactions. This promotes removal of organic mass from contaminated groundwater by indigenous bacteria in the subsurface during release of the transfer of electrons.

### 2.2 Sampling of the Supply Wells

SOMA's field personnel extracted groundwater from both the on- and off-site supply wells, using the downhole pump within each well. The off-site supply well is located at 5443 Tesla Road. During purging activities, the groundwater was measured for parameters such as DO, pH, temperature, electrical conductivity (EC), and ORP using a Hanna HI-9828 multi-parameter instrument. Turbidity was measured using a Hanna HI-98703 portable turbidimeter. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer.

Approximately 70 gallons of groundwater were purged from both the off-site and on-site supply wells. After the purge cycle was terminated, a groundwater sample was collected from each well. Field measurements taken from each supply well during purging activities are shown in Appendix B.

Based on the information supplied by Wente, the total depth of the off-site supply well is 125 feet bgs. SOMA is currently obtaining information for the on-site supply well. In 1972, the pump was installed at 100 feet bgs. The water from this well is used solely for irrigation of the vineyards. The letter referencing the off-site supply well and piping diagram of the pump are included in Appendix C.

### 2.3 Laboratory Analysis

Historical groundwater analytical results are shown in Table 1 for the following: total petroleum hydrocarbons as gasoline (TPH-g), as diesel (TPH-d), and as motor oil (TPH-mo); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and methyl tertiary-butyl ether (MtBE).

During this monitoring event, all TPH-g, TPH-d, TPH-mo, BTEX, and MtBE constituents were below the laboratory-reporting limit in groundwater samples collected from supply wells.

Table 2 shows analytical results for gasoline-oxygenates and lead scavengers. During this monitoring event, all gasoline oxygenates and lead scavengers were below the laboratory-reporting limit in groundwater samples collected from supply wells.

Table 3 shows the historical concentrations of volatile organic compounds (VOCs) in the groundwater. Tetrachloroethene, 1,1,1-trichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, vinyl chloride, 1,2-dichloropropane, and 1,1-dichloroethene were all below the laboratory-reporting limit in the groundwater samples collected from the supply wells during this monitoring event. All other VOCs were also below the laboratory-reporting limit in the supply wells.

Table 4 shows historical concentrations of metals in the groundwater. The table shows the following for the supply wells:

- 1. In the on-site supply well, all cadmium, chromium, lead, and nickel analytes were below the laboratory-reporting limit, and zinc was detected at  $610~\mu g/L$ .
- 2. In the off-site supply well, all cadmium, chromium, and nickel analytes were below the laboratory-reporting limit. Lead and zinc were detected at 3  $\mu$ g/L and 570  $\mu$ g/L, respectively.

Appendix D includes the laboratory report and chain-of-custody (COC) form for this monitoring event.

### 3. CONCLUSIONS AND RECOMMENDATIONS

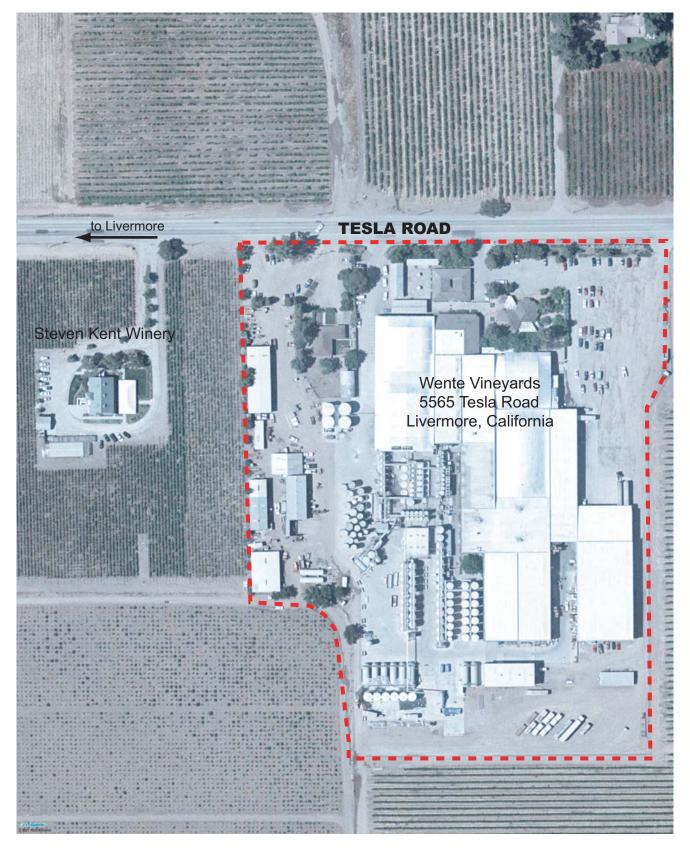
Results of the Third Quarter 2007 groundwater-monitoring event are summarized below.

- Based on results of the bioattenuation study, indigenous bacteria have effectively removed organic mass from the impacted groundwater in the subsurface. This is evidenced by the positive redox potentials observed in the water supply wells.
- All tested analytes were below the laboratory-reporting limit in the water supply wells, with the exception of zinc and lead. Zinc was detected in both the off and on-site water supply wells. Lead was only detected in the off-site water supply well.
- Based on the RWQCB's Environmental Screening Levels (ESLs), where groundwater is drinking water sources, the allowable lead and zinc concentration in groundwater 2.5 and 81ug/L, respectively. Comparison of the ESIs values of the lead and zinc with the present concentrations of lead and zinc in the off-site water supply indicates that existing concentrations of zinc and lead is higher than allowable limits. For the on-site water supply well, zinc concentration of 570 ug/L is also higher than the ESLs value of 81 ug/L. Since the detection limit of lead (3 ug./L) is already higher than its ESL value (2.5 ug/L) it is difficult to comment about lead at this time for on-site water supply well.
- In the past, chlorinated solvents including chloromethane and chloroethane were detected in the groundwater. During the last couple of monitoring events, no chlorinated solvents were detected.
- Based on the previous detection of tetrahydrofuran in the off-site supply well, on August 23, 2006 the ACEHS requested analysis of this compound to be continued. No tetrahydrofuran was detected either during this monitoring event or the several previous quarterly sampling events.

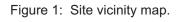
Based on the ACEHS letter dated March 26, 2007:

 SOMA plans to install groundwater monitoring wells next to the former steam-cleaning area. Once these wells have been installed, SOMA will conduct quarterly groundwater sampling of the wells.

## **FIGURES**







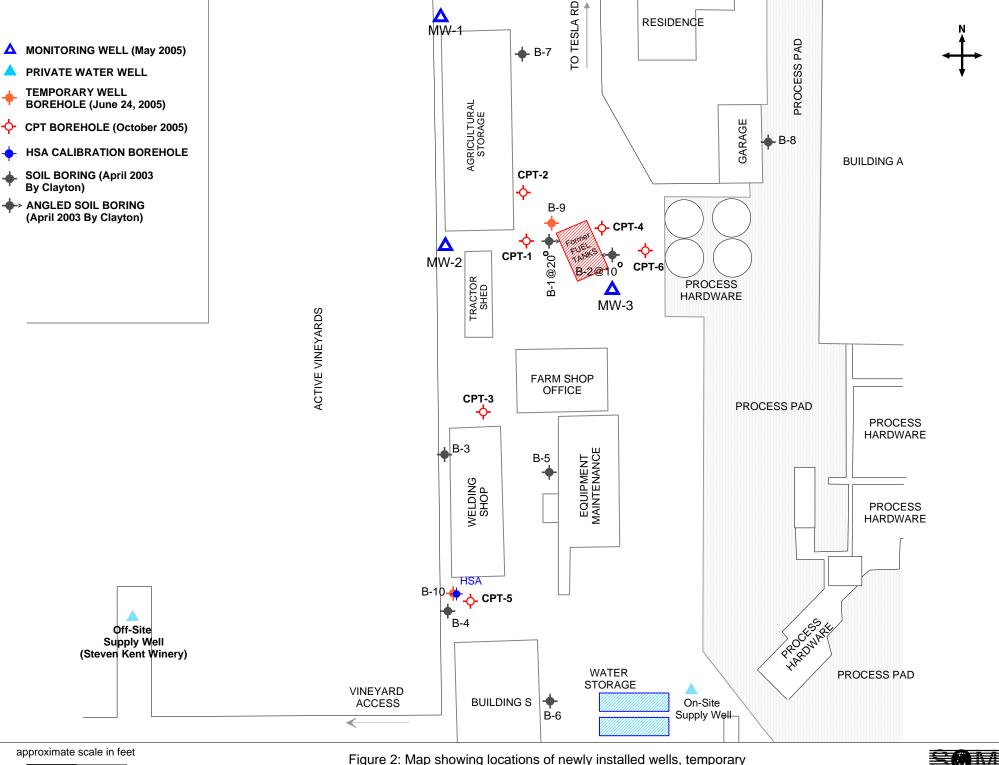


Figure 2: Map showing locations of newly installed wells, temporary well boreholes, and previous soil borings installed by Clayton group.



## **TABLES**

# Table 1 Historical Groundwater Elevation Data & Analytical Results Hydrocarbons, BTEX, & MtBE Wente Vineyards

5565 Tesla Road, Livermore, California

Monitoring Well	Date	Top of Casing (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	TPH-d (μg/L)	TPH-mo (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE (μg/L)
MW-1	5/20/2005	615.16	6.10	609.06	<200	<50	320 YZ	<0.5	<0.5	<0.5	<1.0	<0.5
	9/13/2005	615.16	9.19	605.97	<50	<50	<300	<0.5	<2.0	<0.5	<1.0	<0.5
	11/28/2005	615.16	8.90	606.26	<50	150 YZ	<300	<0.5	<2.0	<0.5	<1.0	<0.5
	2/13/2006	615.16	6.29	608.87	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	<0.5
	5/5/2006	615.16	5.23	609.93	<50	70 HY	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	615.16	7.54	607.62	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	615.16	8.97	606.19	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	615.16	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	5/20/2005	616.03	6.69	609.34	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5
	9/13/2005	616.03	9.30	606.73	<50	<50	<300	<0.5	<2.0	<0.5	<1.0	<0.5
	11/28/2005	616.03	9.20	606.83	<50	<50	<300	< 0.5	<2.0	<0.5	<1.0	<0.5
	2/13/2006	616.03	6.52	609.51	<50	76.5 D35	657 <sup>D06</sup>	<0.5	<2.0	<0.5	<1.0	<0.5
	5/5/2006	616.03	5.58	610.45	<50	50 HY	<300	< 0.5	<0.5	<0.5	< 0.5	<0.5
	8/15/2006	616.03	8.09	607.94	<50	<50	<300	<0.5	< 0.5	<0.5	<0.5	<0.5
	11/2/2006	616.03	9.00	607.03	<50	<50	<300	< 0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	616.03	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	5/20/2005	617.32	7.04	610.28	<200	680	<300	<0.5	1.58	<0.5	<1.0	<0.5
	9/13/2005	617.32	9.61	607.71	<50	300 Y	<300	<0.5	<2.0	<0.5	<1.0	<0.5
	11/28/2005	617.32	9.60	607.72	<50	150 YZ	<300	<0.5	<2.0	<0.5	<1.0	<0.5

# Table 1 Historical Groundwater Elevation Data & Analytical Results Hydrocarbons, BTEX, & MtBE Wente Vineyards

5565 Tesla Road, Livermore, California

Monitoring Well	Date	Top of Casing (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	TPH-d (μg/L)	TPH-mo (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE (μg/L)
MW-3 cont	2/13/2006	617.32	7.06	610.26	<50	<50	322 <sup>D06</sup>	<0.5	<2.0	<0.5	<1.0	<0.5
	5/5/2006	617.32	5.94	611.38	<50	61 HY	<300	<0.5	<0.5	<0.5	< 0.5	< 0.5
	8/15/2006	617.32	8.53	608.79	<50	76 HY	<300	<0.5	<0.5	<0.5	<0.5	< 0.5
	11/2/2006	617.32	9.39	607.93	<50	<50	<300	< 0.5	<0.5	<0.5	<0.5	< 0.5
	1/30/2007	617.32	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA
5.0	0/04/0007	210	214		4.050.000	T 540 000 LV	0.4.000	0.000	111.000	40.400	477.700	400
B-9	6/24/2005	NA	NA	NA	1,850,000	540,000 LY	<24,000	3,820	114,000	40,400	177,700	<462
B-10	6/24/2005	NA	NA	NA	<200	<50	<300	<0.5	4.23	1.10	4.03	<0.5
2 .0	0/24/2003	147.	14/4	14/3	<b>\200</b>	100	4000	<b>40.0</b>	4.20	1.10	4.00	70.0
Onsite Supply Well	5/20/2005	NS	NM	NC	<200	<50	<300	<0.5	0.85	<0.5	<1.0	<0.5
	11/28/2005	NS	NM	NC	<50	100 YZ	<300	<0.5	<2.0	<0.5	<1.0	<0.5
	2/13/2006	NS	NM	NC	<50	91.8	<250	<0.5	<2.0	<0.5	<1.0	<0.5
	5/5/2006	NS	NM	NC	<50	52 Y	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	NS	NM	NC	<50	95 YZ	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	4/30/2007	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2007	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
Offsite Supply Well	5/20/2005	NS	NM	NC	<200	<50	<300	0.77	1.08	<0.5	<1.0	<0.5
	11/28/2005	NS	NM	NC	<5,380	120 YZ	<300	<53.8	<215	<53.8	<108	<53.8
	1/16/2006	NS	9.65	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	2/13/2006	NS	NM	NC	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	< 0.5
	5/5/2006	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	< 0.5
	8/15/2006	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
Į	11/2/2006	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	4/30/2007	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2007	NS	NM	NC	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5

#### Table 1

### **Historical Groundwater Elevation Data & Analytical Results** Hydrocarbons, BTEX, & MtBE

### **Wente Vineyards**

5565 Tesla Road, Livermore, California

Monitoring Well	Date	Top of Casing (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	TPH-d (μg/L)	TPH-mo (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE (μg/L)	
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#### Notes:

- 1) The wells were installed on May 5, 2005 and developed by Woodward Drilling on May 20, 2005.
- 2) A grab sample was collected after the well development on May 20, 2005.
- 3) A grab sample was also collected from the water well, southeast of the water stoarge units on May 20, 2005.
- 4) The wells were surveyed by Harrington Surveys of Walnut Creek, CA on June 5, 2005.
- 5) A grab sample was collected from the borings on June 24, 2005.
- 6) The groundwater elevation for the May 2005 sampling was based on the survey data of Harrington Surveys.
- The supply wells were first added to the quarterly events in the Fourth Quarter 2005.

The off-site water supply well was re-sampled on January 16, 2006, based on the directive of Alameda County Environmental Health Dpt.

Tetrahydrofuran was detected at 19,700 ug/L and chloroethane was detected at 380 ug/L during the 4Q05 Monitoring Event.

NA: Not Applicable. B-9 and B-10 are boring locations and are not surveyed.

NC: Not calculated. NM: Not Measured

NS: Not surveyed. The onsite well is a private well.

TPH-d: Total hydrocarbons as diesel TPH-q: Total hydrocarbons as gasoline TPH-mo:Total hydrocarbons as motor oil

Heavier hydrocarbons contributed to the quanitation

L: Lighter weight hydrocarbons contributed to the quanitation

Y: Sample exhibits chromatographic pattern which does not resemble standard

Z: Sample exhibits unknown single peaks or peaks.

<: Not Detected above the laboratory reporting limit.

D35: Sample does not display fuel pattern. Sample contains several discrete peaks. (1Q06 diesel)

D06: Sample chromatographic pattern does not resemble fuel standard used for quantitation. (1Q06, motor oil)

As of the First Quarter 2007, supply wells are to be analyzed on a quarterly basis and sampling of monitoring wells is temporarily discontinued.

Table 2
Historical Groundwater Analytical Results
Gasoline Oxygenates & Lead Scavengers
Wente Vineyards

5565 Tesla Road, Livermore, California

Monitoring Well	Date	TBA (μg/L)	DIPE (μg/L)	ETBE (μg/L)	TAME (μg/L)	1,2-DCA (μg/L)	EDB (μg/L)
MW-1	9/13/2005	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	2/13/2006	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	5/5/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	NA	NA	NA	NA	NA	NA
MW-2	9/13/2005	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	2/13/2006	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	5/5/2006	<10	<0.5	< 0.5	<0.5	<0.5	<0.5
	8/15/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	NA	NA	NA	NA	NA	NA

# Table 2 Historical Groundwater Analytical Results Gasoline Oxygenates & Lead Scavengers Wente Vineyards

5565 Tesla Road, Livermore, California

Monitoring	Date	TBA	DIPE	ETBE	TAME	1,2-DCA	EDB
Well		(μ <b>g/L</b> )					
MW-3	9/13/2005	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	2/13/2006	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	5/5/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<10	<0.5	<0.5	<0.5	< 0.5	<0.5
	11/2/2006	<10	<0.5	< 0.5	<0.5	< 0.5	<0.5
	1/30/2007	NA	NA	NA	NA	NA	NA
Onsite Supply Well	11/28/2005	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	2/13/2006	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	5/5/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/30/2007	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2007	<10	<0.5	<0.5	<0.5	<0.5	<0.5
Offsite Supply Well	11/28/2005	<269	<53.8	<53.8	<215	<53.8	<215
	1/16/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	2/13/2006	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
	5/5/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/30/2007	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2007	<10	<0.5	<0.5	<0.5	<0.5	<0.5

### Table 2

## **Historical Groundwater Analytical Results Gasoline Oxygenates & Lead Scavengers**

### **Wente Vineyards**

5565 Tesla Road, Livermore, California

Monitoring	Date	TBA	DIPE	ETBE	TAME	1,2-DCA	EDB
Well		(μg/L)	(μ <b>g/L</b> )	(μ <b>g/L</b> )	(μg/L)	(μg/L)	(μ <b>g/L</b> )

#### Notes:

- 1) A grab sample was collected after well development on May 20, 2005.
- 2) The supply wells were first added to the quarterly events in the Fourth Quarter 2005. The off-site water supply well was re-sampled on January 16, 2006, based on the directive of Alameda County Environmental Health Dpt. Tetrahydrofuran was detected at 19,700 ug/L and chloroethane was detected at 380 ug/L during the 4Q05 Monitoring Event.
- <: Not Detected above the laboratory reporting limit.</p>
  As of the First Quarter 2007, supply wells are to be analyzed on a quarterly basis and sampling of monitoring wells is temporarily discontinued.

Gasoline Oxygenates:

TBA: tertiary Butyl Alcohol DIPE: Di-Isopropyl Ether ETBE: Ethyl tertiary Butyl Ether TAME: Methyl tertiary Amyl Ether Lead Scavengers:

EDB: 1,2-Dibromoethane 1,2-DCA: 1,2-Dichloroethane

# Table 3 Historical Analytical Results For Volatile Organic Compound Analyses in Groundwater Samples Wente Vineyards

5565 Tesla Road, Livermore, California

Monitoring Well	Date	PCE (μg/L)	TCE (μg/L)	cis-1,2-DCE (μg/L)	trans-1,2-DCE (μg/L)	Vinyl Chloride (μg/L)	1,2-DCP (μg/L)	1,1-DCE (μg/L)
MW-1	9/13/2005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/5/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	NA	NA	NA	NA	NA	NA	NA
MW-2	9/13/2005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/5/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	NA	NA	NA	NA	NA	NA	NA
MW-3	9/13/2005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/5/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	NA	NA	NA	NA	NA	NA	NA

# Table 3 Historical Analytical Results For Volatile Organic Compound Analyses in Groundwater Samples Wente Vineyards

5565 Tesla Road, Livermore, California

Monitoring Well	Date	PCE (μg/L)	TCE (μg/L)	cis-1,2-DCE (μg/L)	trans-1,2-DCE (μg/L)	Vinyl Chloride (μg/L)	1,2-DCP (μg/L)	1,1-DCE (μg/L)
Onsite								
Supply Well	11/28/2005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/5/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/30/2007	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2007	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Offsite								
Supply Well	11/28/2005	<53.8	<53.8	<53.8	<53.8	<53.8	<53.8	<53.8
,								
	1/16/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/5/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/15/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/30/2007	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/30/2007	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2007	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

### Table 3

## Historical Analytical Results For Volatile Organic Compound Analyses in Groundwater Samples

#### alyses in Groundwater 3 Wente Vineyards

5565 Tesla Road, Livermore, California

Monitoring	Doto	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,2-DCP	1,1-DCE
Well	Date	(μ <b>g/L</b> )	(μ <b>g/L</b> )	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)

#### Notes:

- 1) A grab sample was collected after well development on May 20, 2005. However, the first time volatile organic compounds (VOCs) were analyzed was during the Third Quarter 2005 monitoring event.
- 2) The supply wells were first added to the quarterly events in the Fourth Quarter 2005. The off-site water supply well was re-sampled on January 16, 2006, based on the directive of Alameda County Environmental Health Dpt.Tetrahydrofuran was detected at 19,700 ug/L and chloroethane was detected at 380 ug/L during the 4Q05 Monitoring Event.
- <: Not detected above the laboratory reporting limit.

As of the First Quarter 2007, supply wells are to be analyzed on a quarterly basis and monitoring wells are analyzed semi-annually.

Volatile organic compounds (VOCs)

1,1-DCE: 1,1-dichloroethene

# Table 4 Historical Groundwater Analytical Results Metals

### Wente Vineyards 5565 Tesla Road, Livermore, California

Monitoring Well	Date	Cadmium (μg/L)	Chromium (μg/L)	Lead (μg/L)	Nickel (μg/L)	Zinc (μg/L)
MW-1	9/13/2005	<5.0	<10	<3.0	<20	27
MW-2	9/13/2005	<5.0	<10	<3.0	<20	23
MW-3	9/13/2005	<5.0	<10	<3.0	<20	<20
B-10	6/24/2005	12	930	82	3,600	800
Onsite Supply Well	11/28/2005	<5.0	<10	<3.0	<20	62
	2/13/2006	<5.0	<10	<3.0	<20	<20
	5/5/2006	<5.0	<10	26	<20	<20
	8/15/2006	<5.0	<10	<3.0	34	60
	11/2/2006	<5.0	<10	<3.0	<20	<20
	1/30/2007	<1.0	2.30	<1.0	1.9	31
	4/30/2007	<5.0	<5.0	<3.0	<5.0	<20
	8/8/2007	<5.0	<5.0	<3.0	<5.0	610

# Table 4 Historical Groundwater Analytical Results Metals

### Wente Vineyards 5565 Tesla Road, Livermore, California

Monitoring Well	Date	Cadmium (μg/L)	Chromium (μg/L)	Lead (μg/L)	Nickel (μg/L)	Zinc (μg/L)
Offsite Supply Well	11/28/2005	<5.0	<10	<3.0	<20	830
	1/16/2006	<5.0	<10	8.30	<20	650
	2/13/2006	<5.0	15	<3.0	<20	1700
	5/5/2006	<5.0	<10	26	<20	750
	8/15/2006	<5.0	<10	<3.0	<20	1,200
	11/2/2006	<5.0	<10	<3.0	<20	1,300
	1/30/2007	<1.0	<1.0	<1.0	4.0	7,200
	4/30/2007	<5.0	<5.0	<3.0	<5.0	720
	8/8/2007	<5.0	<5.0	3	<5.0	570

### Notes:

- 1) Metals were tested at boring B-10 on June 24, 2005.
- 2) Due to the results from B-10, the Alameda County Environmental Health Services requested that SOMA further analyze the wells for metals in a letter dated Sept. 19, 2005. SOMA collected grab samples from the wells on September 29, 2005.
- 3) The only time metals were tested in wells MW-1 to MW-3 was in the Third Quarter 2005.
- 4) The supply wells were first added to the quarterly events in the Fourth Quarter 2005. The off-site water supply well was re-sampled on January 16, 2006, based on the directive of Alameda County Environmental Health Dpt.Tetrahydrofuran was detected at 19,700 ug/L and chloroethane was detected at 380 ug/L during the 4Q05 Monitoring Event.
- <: Not Detected above the laboratory reporting limit.

## **APPENDIX A**



### Field Activities

On August 8, 2007, SOMA's field crew conducted a groundwater-monitoring event in accordance with the procedures and guidelines of the Alameda County Environmental Health Services and the California Regional Water Quality Control Board. Figure 2 shows the locations of the wells.

#### **Water Level Measurements**

On August 8, 2007, field measurements and grab groundwater samples were collected from an on-site and an off-site supply well.

Prior to sample collection, each supply well was purged using an active downhole pump within each well. During the purging activities, the groundwater was measured for parameters such as DO, pH, temperature, EC, and the ORP using a Hanna HI-9828 multi-parameter instrument. Turbidity was measured using a Hanna HI-98703 portable turbidimeter. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer. At the supply wells, groundwater was extracted using an active pump within the well.

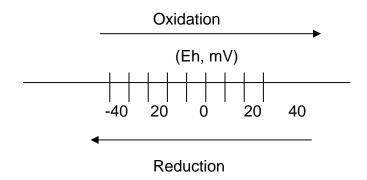
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater conductivity (EC) is directly related to the concentration of ions in solution.

There is a strong correlation between the turbidity level and the biological oxygen demand of natural water bodies. The main purpose for checking the turbidity level is to provide a general overview of the extent of the suspended solids in the groundwater.

ORP is the measure of the potential for an oxidation or reduction process to occur. In the oxidation process a molecule or ion loses one or several electrons. In the reduction process a molecule or ion gains one or several electrons. The unit of the redox potential is the volt or m-volt. The most important redox reaction in petroleum contaminated groundwater is the oxidation of petroleum hydrocarbons in the presence of bacteria and free molecular oxygen. Because the solubility of  $O_2$  in water is low (9 mg/L at 25 °C and 11 mg/L at 5 °C), and because the rate of  $O_2$  replenishment in subsurface environments is limited, DO can be entirely consumed when the oxidation of only a small amount of petroleum hydrocarbons occurs.

Oxidation of petroleum hydrocarbons can still occur when all the dissolved  $O_2$  in the groundwater is consumed; however, the oxidizing agents (i.e., the constituents that undergo reduction) now become  $NO_3$ ,  $MnO_2$ , Fe  $(OH)_3$ ,  $SO_4^{2-}$  and others (Freeze and Cherry, 1979). As these oxidizing agents are consumed, the groundwater environment becomes more and more reduced. If the process

advances far enough, the environment may become so strongly reduced that the petroleum hydrocarbons undergo anaerobic degradation, resulting in the production of methane and carbon dioxide. The concept of oxidation and reduction in terms of changes in oxidation states is illustrated below.



The purging of the wells continued until the parameters for DO, pH, temperature, EC, turbidity, and redox stabilized, or three casing volumes were purged.

### Sampling

On August 8, 2007, for sampling purposes, after purging the groundwater samples from the supply wells were collected using the active downhole pumps.

The groundwater sample was transferred to 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. The groundwater sample was also transferred into a 1-L non-preserved amber glass container. The groundwater samples from each supply well were further transferred into two 250-mL poly containers. All groundwater samples were placed in an ice chest along with a COC form. On August 8, 2007, upon completion of the monitoring event, SOMA's field crew delivered the groundwater samples to Curtis & Tompkins in Berkeley, California.

### **Laboratory Analysis**

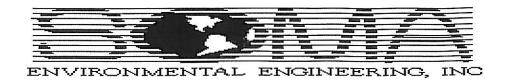
Curtis & Tompkins, a California state-certified laboratory, analyzed the groundwater samples collected from the supply wells for TPH-g, TPH-d, TPH-mo, BTEX, MtBE, gasoline oxygenates, lead scavengers, VOCs, and metals.

EPA Method 5030B was used to prepare the samples for TPH-g, BTEX, MtBE, gasoline oxygenates, lead scavengers, and VOCs, which were analyzed using EPA Method 8260B. EPA Method 3520C was used to prepare the samples for TPH-d and TPH-mo, which were analyzed using Method 8015B.

Metals, which included cadmium, chromium, lead, nickel, and zinc were prepared using EPA Method 3010A and analyzed using EPA Method 6010B.

## **APPENDIX B**

Field Measurements of Physical, Chemical, and Biodegradation Parameters of the Groundwater Samples at Time of Sampling



Well No.: On	The su	pdy n	<u>ell</u>		P	roject No.:	: 2841					
Casing Diameter:		<u></u>	_inch			Address:	Wente Vineyards					
Depth of Well:	N	M	_ft				5565 Tesla Rd, Livermore					
Top of Casing Elevation:		15	_ft			Date:	08/08/2007					
Depth to Groundwater:	N	M	_ft			Sampler:	Tony Perini					
Groundwater Elevation:		16	_ft				Lizzie Hightower					
Water Column Height:		vM	_ft									
Purged Volume:		70	gallons									
	,											
Purging Method:	Baile	r 🗆				Pump 🗹	Active pump					
Purging Method: Sampling Method:	Baile Baile					Pump 🗹	Active pump					
						Pump ロ	Active pump					
				Yes		Pump 🗹 Pump 🗹 Describe	Active pump					
Sampling Method:	Baile	r 🗆		Yes Yes	0 0		Active pump					
Sampling Method: Color:	Baile No	r □				Describe	Active pump					

### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pН	Temp °C	E.C. (μS/cm)	Turb. NTU	ORP
1135 AM	Starke		ing.	rell			
1141 Am	17	14.13	7.79	78.31	1428	54,4	+198
1149 Am	34	15.16	7.63	71.18	1483	15.0	+217
1154 Am	50	16.91	7.65	73.00	1477	15.6	+216
1204 bW	70	10.52	7.64	68.97	1504	13.7	+223
1206 pm	Sample	λ					
	1						

Notes: Ne- not caladrées NS-not surveyes um- not measures



Well No.:	Hisit	E sug	dy well		Р	roject No.:	2841
Casing Diameter:	_	_ / '	_inch			Address:	Wente Vineyards
Depth of Well:	12	5	_ft				5565 Tesla Rd, Livermore
Top of Casing Elevation:	n	18	_ft			Date:	08/08/2007
Depth to Groundwater:	N	M	_ft			Sampler:	Tony Perini
Groundwater Elevation:	1	16	_ft				Lizzie Hightower
Water Column Height:	n	m	_ft				
Purged Volume:	_7	0	_gallons				
Purging Method:	Baile	r 🗆				Pump ☑	- Atme well
Sampling Method:	Baile					Pump 🗹	Active well  Active well
						Pump 🗹	Atre well
				Yes		Pump 🗹	Actre well
Sampling Method:	Baile			Yes Yes			Actre well
Sampling Method: Color:	Baile No					Describe	Actre well

### Field Measurements:

Time	Volume	D.O.	pН	Temp °C	E.C. (μS/cm)	Turb. NTU	ORP
	(gallons)	mg/L			(долент)	NIO	
1030 AM	Stary	o pu	gyng u	211			
1040 Am	18	18.57	7.12	6649	783	209.	1949
1045 Am	34	8,24	7.42	69.58	1487	113,	+208
1050 Am	52	7.62	7.45	70.39	1497	102	459.2
1055 Am	70	6.98	7.46	71.34	1499		+278.5
1058 AM	Sump	led					
		1.5					

Notes:	NI- not calculates NM- not measures	us- not surveyes well depth bases on available dam

## **APPENDIX C**



Page | of 1

### Mansour Sepehr

From: Aris Krimetz [aris@wentevineyards.com]

Sent: Thursday, February 16, 2005 5:06 PM

To: Mansour Sepahr (E-mall)

Subject: 5449 Tesla Road

#### Mansour-

According to documents provided by the previous owner, the total depth of the well is 125', and the pump is at 100'. It was installed about 1972 by the previous owner. We only re-piped on the well discharge side and connected it to the irrigation system, removing it from the potable system when we purchased the property in 1895/96. The potable water for the property is supplied from a municipal source.

### Aris Krimetz

Director of Engineering Wente Vineyards 5565 Tesla Road Livermore, CA 84550

Office: 925 456 2313
Cell: 925 519 9010
arisk@wantevineyards.com
www.wantevineyards.com

## **APPENDIX D**

Chain of Custody Form and Laboratory Report

## **CHAIN OF CUSTODY**

Curtis & Tompkins, Ltd.

Page 1 of 1

**Analyses** 

Berkeley, CA 94710 (510)486-0900 Phone								96580 Perini/Lizzie H		towe	er							scavengers										
Project No: 2841				Sampler: Report To						Tony Perini									B list			: :						
Project Name: 5565 Tesla Rd, Livermore			Compan					SOMA Enviro	nme	enta	1					(full 8260B list)		& lead										
Turnaround Time: Standard			Teleph		ephone:		925-734-6400							(full		ates												
			Fax:					925-734-6401						l <sub>m</sub>	om-	Organics		Oxygenates										
Lab Sample ID. Sampling				Matrix					Preservative				260	直	)rgs													
			Soil	Water	Waste		# of Containers	HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE	none	TPH-q 8260B	TPH-d / TPH-mo	Volatile (	Metals	Gasoline											
-1	Off-site Supply Well				*			4-VOAs/ 1 L Amber/ 2-250 ml Poly	*		*	*	*	*	*	*	*	*										
_2	On-site Supply Well				*			4-VOAs/ 1L Ambers/ 2- 250 ml Poly	*		*	*	*	*	*	*	*	*										
Notes	EDE QUITDUT DEQUIDE	<u> </u>	_	D			_	SUED DV:		J				PI		- IVED	DV.						<u></u>					
Notes: EDF OUTPUT REQUIRED  Metals for supply wells  Metals include cadmium, chromium, leanickel, and zinc  GasOx to include ethanol  THF			DATE/TIM						Æ 1							G-9-07 3:50 DATE/TIME												
1	act On Ice.			I								DΑ	TE/TIN	/I=									DA	TE/TI	.IVI 🗀			

Coll & Intact



# Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 9471O, Phone (510) 486-0900

## Laboratory Job Number 196580

SOMA Environmental Engineering Inc. Project : 2841

6620 Owens Dr. Location: 5565 Tesla Rd, Livermore

Pleasanton, CA 94588 Level : II

Sample ID

OFF-SITE SUPPLY WELL

ON-SITE SUPPLY WELL

196580-002

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.

Signature

Project Manager

Date: <u>08/15/2007</u>

Signature:

Operations Manager

Date: <u>08/15/2007</u>

NELAP # 01107CA



#### CASE NARRATIVE

Laboratory number: 196580

Client: SOMA Environmental Engineering Inc.

Project: 2841

Location: 5565 Tesla Rd, Livermore

Request Date: 08/08/07 Samples Received: 08/08/07

This hardcopy data package contains sample and QC results for two water samples, requested for the above referenced project on 08/08/07. The samples were received cold and intact.

#### TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

#### Volatile Organics by GC/MS (EPA 8260B):

Low response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 08/13/07 08:46; this analyte met minimum response criteria, and affected data was qualified with "b". High recoveries were observed for methyl tert-amyl ether (TAME) in the BS/BSD for batch 128251; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. Low recoveries were observed for ethyl tert-butyl ether (ETBE) and tert-butyl alcohol (TBA) in the BS/BSD for batch 128301; the associated RPDs were within limits, and these low recoveries were not associated with any reported results. No other analytical problems were encountered.

### Metals (EPA 6010B):

No analytical problems were encountered.



Total Extractable Hydrocarbons Lab #: 196580 Location: 5565 Tesla Rd, Livermore Client: SOMA Environmental Engineering Inc. EPA 3520C Prep: Project#: 2841 EPA 8015B Analysis: Matrix: Water Sampled: 08/08/07 Units: ug/L Received: 08/08/07 Diln Fac: 1.000 Prepared: 08/09/07 Batch#: 128242

Field ID: OFF-SITE SUPPLY WELL Lab ID: 196580-001 Type: Analyzed: 08/13/07

Analyte	Result	RL	
Diesel C10-C24	ND	50	
Motor Oil C24-C36	ND	300	

Surrogate	%REC	Limits
Hexacosane	97	61-134

Field ID: ON-SITE SUPPLY WELL Lab ID: 196580-002 Type: SAMPLE Analyzed: 08/13/07

Analyte	Result	RL	
Diesel C10-C24	ND	50	
Motor Oil C24-C36	ND	300	

Surrogate	%REC	Limits
Hexacosane	100	61-134

Type: BLANK Analyzed: 08/12/07

Lab ID: QC400630

Analyte	Result	RL	
Diesel C10-C24	ND	50	
Motor Oil C24-C36	ND	300	

Surrogate	%REC	Limits
Hexacosane 1	L21	61-134

ND= Not Detected RL= Reporting Limit

Page 1 of 1 5.0



Total Extractable Hydrocarbons						
Lab #:	196580		Location:	5565 Tesla Rd, Livermore		
Client:	SOMA Environmental	Engineering Inc.	Prep:	EPA 3520C		
Project#:	2841		Analysis:	EPA 8015B		
Matrix:	Water		Batch#:	128242		
Units:	ug/L		Prepared:	08/09/07		
Diln Fac:	1.000		Analyzed:	08/12/07		

Type: BS Cleanup Method: EPA 3630C

Lab ID: QC400631

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,524	101	58-130

Surrogate	%REC	Limits
Hexacosane	113	61-134

Type: BSD Cleanup Method: EPA 3630C

Lab ID: QC400632

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,415	97	58-130	4	27

Surrogate	%REC	Limits
Hexacosane	108	61-134



Total Extractable Hydrocarbons						
Lab #:	196580		Location:	5565 Tesla Rd, Livermore		
Client:	SOMA Environmental	Engineering Inc.	Prep:	EPA 3520C		
Project#:	2841		Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZZ		Diln Fac:	1.000		
Type:	SDUP		Batch#:	128242		
MSS Lab II	196543-032		Sampled:	08/08/07		
Lab ID:	QC400633		Received:	08/08/07		
Matrix:	Water		Prepared:	08/09/07		
Units:	ug/L		Analyzed:	08/13/07		

Analyte	MSS Result	Result	RL	RPD	Lim
Diesel C10-C24	1,687	1,694	50.00	0	32
Motor Oil C24-C36	<300.0	ND	300.0	NC	30

Surrogate	%REC	Limits
Hexacosane	119	61-134

NC= Not Calculated

ND= Not Detected

RL= Reporting Limit

RPD= Relative Percent Difference

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	Gasoline	by GC/MS	
Lab #: Client: Project#:	196580 SOMA Environmental Engineering Inc. 2841	Location: Prep: Analysis:	5565 Tesla Rd, Livermore EPA 5030B EPA 8260B
Field ID: Lab ID: Matrix: Units:	OFF-SITE SUPPLY WELL 196580-001 Water ug/L	Diln Fac: Sampled: Received:	1.000 08/08/07 08/08/07

Analyte	Result	RL		Analyzed
Gasoline C7-C12	ND	50	128251	08/10/07
Freon 12	ND	1.0	128251	08/10/07
tert-Butyl Alcohol (TBA)	ND	10		08/10/07
Chloromethane	ND	1.0	128251	08/10/07
Isopropyl Ether (DIPE)	ND	0.5	128251	08/10/07
Vinyl Chloride	ND	0.5	128251	08/10/07
Bromomethane	ND	1.0	128251	08/10/07
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	128251	08/10/07
Chloroethane	ND	1.0	128251	08/10/07
Methyl tert-Amyl Ether (TAME)	ND	0.5		08/10/07
Trichlorofluoromethane	ND	1.0		08/10/07
Ethanol	ND	1,000		08/10/07
Acetone	ND	10		08/10/07
Freon 113	ND	0.5	128301	08/13/07
1,1-Dichloroethene	ND	0.5		08/10/07
Methylene Chloride	ND	10		08/10/07
Carbon Disulfide	ND	0.5		08/10/07
MTBE	ND	0.5	128251	08/10/07
trans-1,2-Dichloroethene	ND	0.5		08/10/07
Vinyl Acetate	ND	10		08/10/07
1,1-Dichloroethane	ND	0.5		08/10/07
2-Butanone	ND	10		08/10/07
cis-1,2-Dichloroethene	ND	0.5		08/10/07
2,2-Dichloropropane	ND	0.5		08/10/07
Chloroform	ND	0.5	128251	08/10/07
Bromochloromethane	ND	0.5	128251	08/10/07
1,1,1-Trichloroethane	ND	0.5		08/10/07
1,1-Dichloropropene	ND	0.5	128251	08/10/07
Carbon Tetrachloride	ND	0.5	128251	08/10/07
1,2-Dichloroethane	ND	0.5	128251	08/10/07
Benzene	ND	0.5		08/10/07
Trichloroethene	ND	0.5		08/13/07
1,2-Dichloropropane	ND	0.5		08/10/07
Bromodichloromethane	ND	0.5		08/10/07
Dibromomethane	ND	0.5		08/10/07
4-Methyl-2-Pentanone	ND	10	128251	08/10/07
cis-1,3-Dichloropropene	ND	0.5		08/10/07
Toluene	ND	0.5		08/10/07
trans-1,3-Dichloropropene	ND	0.5		08/10/07
1,1,2-Trichloroethane	ND	0.5		08/10/07
2-Hexanone	ND	10		08/10/07
1,3-Dichloropropane	ND	0.5		08/10/07
Tetrachloroethene	ND	0.5		08/10/07
Dibromochloromethane	ND	0.5		08/10/07
1,2-Dibromoethane	ND	0.5		08/10/07
Chlorobenzene	ND	0.5		08/10/07
1,1,1,2-Tetrachloroethane	ND	0.5		08/10/07
Ethylbenzene	ND	0.5		08/10/07
m,p-Xylenes	ND	0.5		08/10/07
o-Xylene	ND	0.5	128251	08/10/07
Styrene	ND	0.5		08/10/07
Bromoform	ND	1.0	128251	08/10/07
Isopropylbenzene	ND	0.5		08/10/07
1,1,2,2-Tetrachloroethane	ND	0.5		08/10/07
1,2,3-Trichloropropane	ND	0.5	128251	08/10/07

ND= Not Detected RL= Reporting Limit Page 1 of 2



Gasoline by GC/MS 5565 Tesla Rd, Livermore EPA 5030B Lab #: 196580 Location: Client: SOMA Environmental Engineering Inc. Prep: Project#: 2841 Field ID: Analysis: Diln Fac: EPA 8260B OFF-SITE SUPPLY WELL 196580-001 08/08/07 Lab ID: Sampled: Matrix: Water Received: 08/08/07 Units: ug/L

Analyte	Result	RL	Batch#	Analyzed
Propylbenzene	ND	0.5	128301	08/13/07
Bromobenzene	ND	0.5	128251	08/10/07
1,3,5-Trimethylbenzene	ND	0.5	128251	08/10/07
2-Chlorotoluene	ND	0.5	128251	08/10/07
4-Chlorotoluene	ND	0.5	128251	08/10/07
tert-Butylbenzene	ND	0.5	128251	08/10/07
1,2,4-Trimethylbenzene	ND	0.5	128251	08/10/07
sec-Butylbenzene	ND	0.5	128251	08/10/07
para-Isopropyl Toluene	ND	0.5	128251	08/10/07
1,3-Dichlorobenzene	ND	0.5	128251	08/10/07
1,4-Dichlorobenzene	ND	0.5	128251	08/10/07
n-Butylbenzene	ND	0.5	128251	08/10/07
1,2-Dichlorobenzene	ND	0.5	128251	08/10/07
1,2-Dibromo-3-Chloropropane	ND	2.0	128251	08/10/07
1,2,4-Trichlorobenzene	ND	0.5	128251	08/10/07
Hexachlorobutadiene	ND	0.5	128251	08/10/07
Naphthalene	ND	2.0	128251	08/10/07
1,2,3-Trichlorobenzene	ND	0.5	128251	08/10/07
Tetrahydrofuran	ND	100	128251	08/10/07

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	106	80-123	128251	08/10/07
1,2-Dichloroethane-d4	118	79-134	128251	08/10/07
Toluene-d8	101	80-120	128251	08/10/07
Bromofluorobenzene	107	80-122	128251	08/10/07

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Gasoline by GC/MS 196580 5565 Tesla Rd, Livermore EPA 5030B Lab #: Location: Client: Prep: SOMA Environmental Engineering Inc. Project#: 2841 Field ID: Analysis: Diln Fac: EPA 8260B ON-SITE SUPPLY WELL 196580-002 1.000 08/08/07 Lab ID: Sampled: 08/08/07 Matrix: Water Received: Units: ug/L

Analyte	Result	RL		Analyzed
Gasoline C7-C12	ND	50	128251	08/10/07
tert-Butyl Alcohol (TBA)	ND	10	128251	08/10/07
Freon 12	ND	1.0		08/10/07
Chloromethane	ND	1.0	128251	08/10/07
Isopropyl Ether (DIPE)	ND	0.5	128251	08/10/07
Vinyl Chloride	ND	0.5	128251	08/10/07
Bromomethane	ND	1.0	128251	08/10/07
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	128251	08/10/07
Chloroethane	ND	1.0		08/10/07
Methyl tert-Amyl Ether (TAME)	ND	0.5		08/10/07
Trichlorofluoromethane	ND	1.0		08/10/07
Ethanol	ND	1,000		08/10/07
Acetone	ND	10		08/10/07
Freon 113	ND	0.5	128301	08/13/07
1,1-Dichloroethene	ND	0.5		08/10/07
Methylene Chloride	ND	10		08/10/07
Carbon Disulfide	ND	0.5		08/10/07
MTBE	ND	0.5	128251	08/10/07
trans-1,2-Dichloroethene	ND	0.5		08/10/07
Vinyl Acetate	ND	10		08/10/07
1,1-Dichloroethane	ND	0.5		08/10/07
2-Butanone	ND	10		08/10/07
cis-1,2-Dichloroethene	ND	0.5		08/10/07
2,2-Dichloropropane	ND	0.5		08/10/07
Chloroform	ND	0.5		08/10/07
Bromochloromethane	ND	0.5	128251	08/10/07
1,1,1-Trichloroethane	ND	0.5		08/10/07
1,1-Dichloropropene	ND	0.5	128251	08/10/07
Carbon Tetrachloride	ND	0.5	128251	08/10/07
1,2-Dichloroethane	ND	0.5		08/10/07
Benzene	ND	0.5		08/10/07
Trichloroethene	ND	0.5		08/13/07
1,2-Dichloropropane	ND	0.5		08/10/07
Bromodichloromethane	ND	0.5		08/10/07
Dibromomethane	ND	0.5		08/10/07
4-Methyl-2-Pentanone	ND	10		08/10/07
cis-1,3-Dichloropropene	ND	0.5		08/10/07
Toluene	ND	0.5		08/10/07
trans-1,3-Dichloropropene	ND	0.5		08/10/07
1,1,2-Trichloroethane	ND	0.5		08/10/07
2-Hexanone	ND	10		08/10/07
1,3-Dichloropropane	ND	0.5		08/10/07
Tetrachloroethene	ND	0.5		08/10/07
Dibromochloromethane	ND	0.5	128251	08/10/07
1,2-Dibromoethane	ND	0.5	128251	08/10/07
Chlorobenzene	ND	0.5		08/10/07
1,1,1,2-Tetrachloroethane	ND	0.5		08/10/07
Ethylbenzene	ND	0.5		08/10/07
m,p-Xylenes	ND	0.5		08/10/07
o-Xylene	ND	0.5	128251	08/10/07
Styrene	ND	0.5		08/10/07
Bromoform	ND	1.0	128251	08/10/07
Isopropylbenzene	ND	0.5		08/10/07
1,1,2,2-Tetrachloroethane	ND	0.5		08/10/07
1,2,3-Trichloropropane	ND	0.5	128251	08/10/07

ND= Not Detected RL= Reporting Limit

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Gasoline by GC/MS 5565 Tesla Rd, Livermore EPA 5030B Lab #: 196580 Location: Client: SOMA Environmental Engineering Inc. Prep: Project#: 2841 Field ID: Analysis: Diln Fac: EPA 8260B ON-SITE SUPPLY WELL 196580-002 08/08/07 Lab ID: Sampled: Matrix: Water Received: 08/08/07 Units: ug/L

Analyte	Result	RL	Batch# An	alyzed
Propylbenzene	ND	0.5	128251 08	
Bromobenzene	ND	0.5	128251 08	/10/07
1,3,5-Trimethylbenzene	ND	0.5	128251 08	/10/07
2-Chlorotoluene	ND	0.5	128251 08	/10/07
4-Chlorotoluene	ND	0.5	128251 08	/10/07
tert-Butylbenzene	ND	0.5	128251 08	/10/07
1,2,4-Trimethylbenzene	ND	0.5	128251 08	/10/07
sec-Butylbenzene	ND	0.5	128251 08	/10/07
para-Isopropyl Toluene	ND	0.5	128251 08	/10/07
1,3-Dichlorobenzene	ND	0.5	128251 08	/10/07
1,4-Dichlorobenzene	ND	0.5	128251 08	/10/07
n-Butylbenzene	ND	0.5	128251 08	/10/07
1,2-Dichlorobenzene	ND	0.5	128251 08	/10/07
1,2-Dibromo-3-Chloropropane	ND	2.0	128251 08	/10/07
1,2,4-Trichlorobenzene	ND	0.5	128251 08	/10/07
Hexachlorobutadiene	ND	0.5	128251 08	/10/07
Naphthalene	ND	2.0	128251 08	/10/07
1,2,3-Trichlorobenzene	ND	0.5	128251 08	/10/07
Tetrahydrofuran	ND	100	128251 08	/10/07

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	108	80-123	128251	08/10/07
1,2-Dichloroethane-d4	117	79-134	128251	08/10/07
Toluene-d8	101	80-120	128251	08/10/07
Bromofluorobenzene	113	80-122	128251	08/10/07

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	Gasoline	by GC/MS	
Lab #: Client: Project#:	196580 SOMA Environmental Engineering Inc. 2841	Location: Prep: Analysis:	5565 Tesla Rd, Livermore EPA 5030B EPA 8260B
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	128251 08/10/07

Type: BS Lab ID: QC400659

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	152.6	122	68-132
Isopropyl Ether (DIPE)	25.00	24.73	99	65-120
Ethyl tert-Butyl Ether (ETBE)	25.00	28.87	115	75-124
Methyl tert-Amyl Ether (TAME)	25.00	33.63	135 *	77-120
1,1-Dichloroethene	25.00	28.42	114	80-132
Benzene	25.00	25.84	103	80-120
Trichloroethene	25.00	28.13	113	80-120
Toluene	25.00	26.95	108	80-120
Chlorobenzene	25.00	23.97	96	80-120

Surrogate	%REC	Limits	
Dibromofluoromethane	105	80-123	
1,2-Dichloroethane-d4	116	79-134	
Toluene-d8	103	80-120	
Bromofluorobenzene	104	80-122	

Type: BSD Lab ID: QC400660

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	150.9	121	68-132	1	20
Isopropyl Ether (DIPE)	25.00	25.32	101	65-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	28.71	115	75-124	1	20
Methyl tert-Amyl Ether (TAME)	25.00	32.51	130 *	77-120	3	20
1,1-Dichloroethene	25.00	27.54	110	80-132	3	20
Benzene	25.00	25.52	102	80-120	1	20
Trichloroethene	25.00	27.32	109	80-120	3	20
Toluene	25.00	26.47	106	80-120	2	20
Chlorobenzene	25.00	24.00	96	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-123
1,2-Dichloroethane-d4	116	79-134
Toluene-d8	105	80-120
Bromofluorobenzene	97	80-122



	Gasoline	by GC/MS	
Lab #:	196580	Location:	5565 Tesla Rd, Livermore
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2841	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	128251
Units:	ug/L	Analyzed:	08/10/07
Diln Fac:	1.000		

Type: BS Lab ID: QC400661

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	890.0	89	70-130

Surrogate	%REC	Limits
Dibromofluoromethane 1	L05	80-123
1,2-Dichloroethane-d4 1	L13	79-134
Toluene-d8 1	L00	80-120
Bromofluorobenzene 1	L02	80-122

Type: BSD Lab ID: QC400662

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	838.1	84	70-130	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-123
1,2-Dichloroethane-d4	115	79-134
Toluene-d8	102	80-120
Bromofluorobenzene	104	80-122



	Gasolin	e by GC/MS	
Lab #: Client: Project#:	196580 SOMA Environmental Engineering Inc. 2841	Location: Prep: Analysis:	5565 Tesla Rd, Livermore EPA 5030B EPA 8260B
Type: Lab ID: Matrix: Units:	BLANK QC400663 Water ug/L	Diln Fac: Batch#: Analyzed:	1.000 128251 08/10/07

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Ethanol	ND	1,000
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND ND	10
1,3-Dichloropropane	ND ND	0.5
Tetrachloroethene	ND ND	0.5
Dibromochloromethane	ND ND	0.5
1,2-Dibromoethane	ND ND	0.5
Chlorobenzene	ND ND	0.5
1,1,1,2-Tetrachloroethane	ND ND	0.5
Ethylbenzene	ND ND	0.5
_	ND ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene Styrene	ND ND	0.5
		1.0
Bromoform	ND ND	0.5
Isopropylbenzene		
1,1,2,2-Tetrachloroethane	ND	0.5

ND= Not Detected RL= Reporting Limit Page 1 of 2



		Gasoline	by GC/MS	
Lab #: Client: Project#:	196580 SOMA Environmental 2841	Engineering Inc.	Location: Prep: Analysis:	5565 Tesla Rd, Livermore EPA 5030B EPA 8260B
Type: Lab ID: Matrix: Units:	BLANK QC400663 Water ug/L		Diln Fac: Batch#: Analyzed:	1.000 128251 08/10/07

Analyte	Result	RL	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Tetrahydrofuran	ND	100	

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-123
1,2-Dichloroethane-d4	117	79-134
Toluene-d8	105	80-120
Bromofluorobenzene	114	80-122



	Gasoline	by GC/MS	
Lab #: Client: Project#:	196580 SOMA Environmental Engineering Inc. 2841	Location: Prep: Analysis:	5565 Tesla Rd, Livermore EPA 5030B EPA 8260B
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	128301 08/13/07

BS Lab ID: QC400841 Type:

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	78.02 b	62 *	68-132
Isopropyl Ether (DIPE)	25.00	22.29	89	65-120
Ethyl tert-Butyl Ether (ETBE)	25.00	16.28	65 *	75-124
Methyl tert-Amyl Ether (TAME)	25.00	20.92	84	77-120
1,1-Dichloroethene	25.00	26.24	105	80-132
Benzene	25.00	26.33	105	80-120
Trichloroethene	25.00	25.66	103	80-120
Toluene	25.00	26.30	105	80-120
Chlorobenzene	25.00	27.39	110	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-123
1,2-Dichloroethane-d4	95	79-134
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-122

BSD Lab ID: QC400842 Type:

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	82.44 b	66 *	68-132	6	20
Isopropyl Ether (DIPE)	25.00	21.74	87	65-120	3	20
Ethyl tert-Butyl Ether (ETBE)	25.00	16.08	64 *	75-124	1	20
Methyl tert-Amyl Ether (TAME)	25.00	20.45	82	77-120	2	20
1,1-Dichloroethene	25.00	24.03	96	80-132	9	20
Benzene	25.00	24.44	98	80-120	7	20
Trichloroethene	25.00	24.23	97	80-120	6	20
Toluene	25.00	25.00	100	80-120	5	20
Chlorobenzene	25.00	25.46	102	80-120	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-123
1,2-Dichloroethane-d4	93	79-134
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-122

<sup>\*=</sup> Value outside of QC limits; see narrative b= See narrative

RPD= Relative Percent Difference



	Gasoline	e by GC/MS	
Lab #: Client: Project#:	196580 SOMA Environmental Engineering Inc. 2841	Location: Prep: Analysis:	5565 Tesla Rd, Livermore EPA 5030B EPA 8260B
Type: Lab ID: Matrix: Units:	BLANK QC400843 Water ug/L	Diln Fac: Batch#: Analyzed:	1.000 128301 08/13/07

Analyte	Result	RL
Gasoline C7-C12	NA	
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Ethanol	ND	1,000
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5

NA= Not Analyzed ND= Not Detected RL= Reporting Limit Page 1 of 2



Gasoline by GC/MS						
Lab #: Client: Project#:	196580 SOMA Environmental Engineerin 2841	Location: g Inc. Prep: Analysis:	5565 Tesla Rd, Livermore EPA 5030B EPA 8260B			
Type: Lab ID: Matrix: Units:	BLANK QC400843 Water ug/L	Diln Fac: Batch#: Analyzed:	1.000 128301 08/13/07			

Analyte	Result	RL	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Tetrahydrofuran	ND	100	

Surrogate	%REC	Limits	
Dibromofluoromethane	94	80-123	
1,2-Dichloroethane-d4	98	79-134	
Toluene-d8	97	80-120	
Bromofluorobenzene	97	80-122	

NA= Not Analyzed ND= Not Detected RL= Reporting Limit Page 2 of 2



2.0

Metals Analytical Report						
Lab #:	196580			Location:	5565 Tesla Rd, Livermore	
Client:	SOMA Environmental	Engineering 3	Inc.	Prep:	EPA 3010A	
Project#:	2841			Analysis:	EPA 6010B	
Matrix:	Water			Sampled:	08/08/07	
Units:	ug/L			Received:	08/08/07	
Diln Fac:	1.000			Prepared:	08/09/07	
Batch#:	128197			Analyzed:	08/10/07	

Field ID: OFF-SITE SUPPLY WELL Lab ID: 196580-001

Type: SAMPLE

Analyte	Result	RL	
Cadmium	ND	5.0	
Chromium	ND	5.0	
Lead Nickel	3.0	3.0	
Nickel	ND	5.0	
Zinc	570	20	

Field ID: ON-SITE SUPPLY WELL Lab ID: 196580-002

Type: SAMPLE

Analyte	Result	RL	
Cadmium	ND	5.0	
Chromium	ND	5.0	
Lead Nickel	ND	3.0	
Nickel	ND	5.0	
Zinc	610	20	

Type: BLANK Lab ID: QC400468

Analyte	Result	RL	
Cadmium	ND	5.0	
Chromium	ND	5.0	
Lead	ND	3.0	
Lead Nickel	ND	5.0	
Zinc	ND	20	

ND= Not Detected

RL= Reporting Limit

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Metals Analytical Report					
Lab #:	196580	Location:	5565 Tesla Rd, Livermore		
Client:	SOMA Environmental Engineering I	nc. Prep:	EPA 3010A		
Project#:	2841	Analysis:	EPA 6010B		
Matrix:	Water	Batch#:	128197		
Units:	ug/L	Prepared:	08/09/07		
Diln Fac:	1.000	Analyzed:	08/10/07		

Type: BS Lab ID: QC400469

Analyte	Spiked	Result	%REC	Limits
Cadmium	50.00	50.30	101	80-120
Chromium	200.0	192.9	96	80-120
Lead	100.0	95.39	95	80-120
Nickel	500.0	479.8	96	80-120
Zinc	500.0	489.8	98	80-120

Type: BSD Lab ID: QC400470

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	50.00	50.47	101	80-120	0	20
Chromium	200.0	192.4	96	80-120	0	20
Lead	100.0	95.91	96	80-120	1	20
Nickel	500.0	479.9	96	80-120	0	20
Zinc	500.0	491.9	98	80-120	0	20

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Metals Analytical Report					
Lab #: 196580		Location:	5565 Tesla Rd, Livermore		
Client: SOMA E	nvironmental Engineering Inc.	Prep:	EPA 3010A		
Project#: 2841		Analysis:	EPA 6010B		
Field ID:	Field ID: OFF-SITE SUPPLY WELL Batch#: 128197				
MSS Lab ID:	196580-001	Sampled:	08/08/07		
Matrix:	Water	Received:	08/08/07		
Units:	ug/L	Prepared:	08/09/07		
Diln Fac:	1.000	Analyzed:	08/10/07		

Type: MS Lab ID: QC400471

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	<0.3555	50.00	48.65	97	80-121
Chromium	3.069	200.0	193.5	95	80-120
Lead	3.044	100.0	94.79	92	70-120
Nickel	3.737	500.0	446.8	89	78-120
Zinc	567.0	500.0	1,083	103	80-124

Type: MSD Lab ID: QC400472

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	50.00	49.74	99	80-121	2	20
Chromium	200.0	197.1	97	80-120	2	20
Lead	100.0	93.54	90	70-120	1	20
Nickel	500.0	456.4	91	78-120	2	20
Zinc	500.0	1,102	107	80-124	2	20

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