RO 2585

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

Third Quarter 2005
Groundwater Monitoring Report

WENTE WINERY
5565 Tesla Road
Livermore, California

October 14, 2005

Project 2841

Prepared for

Mr. Aris Krimetz
5565 Tesla Road
Livermore, California

Prepared by

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

CERTIFICATION

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Aris Krimetz, for Wente Winery, which is located at 5565 Tesla Road, Livermore, California to comply with the requirements of the Alameda County Environmental Health Care Services and the California Regional Water Quality Control Board for the Third Quarter 2005 groundwater monitoring event.

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

TABLE OF CONTENTS

List of Figures

List of Tables

List of Appendices

1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc., (SOMA) on behalf of Mr. Aris Krimetz, for Wente Winery, which is located at 5565 Tesla Road, Livermore, California. Figure 1 shows the location of the Site.

This report summarizes the results of the Third Quarter 2005 groundwater monitoring event conducted at the Site on September 13, 2005. Included in this report are the results of the laboratory analysis on the groundwater samples, which were analyzed for:

- Total petroleum hydrocarbons as gasoline (TPH-g),
- Total petroleum hydrocarbons as diesel (TPH-d),
- Total petroleum hydrocarbons as motor oil (TPH-mo),
- Benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX),
- Methyl tertiary Butyl Ether (MtBE),
- Gasoline oxygenates, which included tertiary Butyl Alcohol (TBA), Diisopropyl Ether (DIPE), Ethyl tertiary Butyl Ether (ETBE), and Methyl tertiary Amyl Ether (TAME),
- Lead scavengers, which included 1,2-Dichloroethane (1,2-DCA) and 1,2-Dibromoethane (EDB),
- Volatile organic compounds (VOCs), such as tetrachloroethene (PCE), trichloroethane (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), vinyl chloride, 1,2-dichloropropane and 1,1-dichloroethene, using EPA Method 8260B, and
- Metals, which included cadmium, chromium, lead, nickel, and zinc.

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 Department. Appendix A details the groundwater monitoring procedures implemented during the Third Quarter 2005 groundwater monitoring event.

1.1 Site Description

The developed portion of the Site consists of approximately thirty buildings constructed between the 1920s and 1980s, with an on-site septic system. West of the winery buildings is an enclosed maintenance and agricultural storage area with a former 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; the ASTs are reportedly located in the same area of the former USTs. Although California Water Service Company provides potable water to the Site, an on-site potable water supply well provides backup potable

drinking water and process water for the winery facility. This water supply well is located south of and presumably upgradient from the former USTs area.

1.2 Previous Activities and Investigations

In 1987, two fuel USTs were removed from the Site without agency oversight. Without available records of the tank removal, there is no information regarding the condition of the tank or evidence of leakage.

In 1990, the ACHCS issued a notice of violation (NOV) for discharging waste sludge to an open ditch adjacent to a former steam-cleaning bay, which is at the south end of the steel storage and welding shed.

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.

In 2003, 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 RECs. Soil samples were analyzed for pesticides, herbicides, petroleum hydrocarbons, volatile organic compounds (VOCs), and heavy metals. Groundwater samples collected from beneath the former USTs and former steam cleaning areas were analyzed for petroleum hydrocarbons, VOCs, pesticides and herbicides.

Clayton concluded that a fuel release in the former UST area impacted the groundwater at concentrations that significantly exceeded Risk Based Screening Levels (RBSLs). In the former steam-cleaning bay, which is located south/southwest of, and presumably upgradient from the former UST pit, no total petroleum hydrocarbon (TPH) or VOCs were detected in the soil. However, gasoline and motor oil-range petroleum hydrocarbons were detected in the groundwater at concentrations that were slightly above RBSLs. Other borehole samples contained constituents of concern below RBSLs. Figure 2 illustrates the locations of the soil borings drilled by Clayton.

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

On May 5, 2005, SOMA oversaw Woodward Drilling (Woodward) install three monitoring wells, MW-1 through MW-3, as shown in Figure 2. On May 20, 2005, Woodward developed the newly installed wells.

On June 24, 2005, SOMA oversaw Woodward drill 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. The 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 subject site is located in the Livermore Valley Groundwater Basin (LVGB). The LVGB basin consists of a structural trough that is an important source of irrigation water for the Livermore Valley. The LVGB comprises water-bearing formations derived from alluvial fans, outwash plains and lakes that belong to the valley-fill Livermore and Tassajara Formations.

In the western part of the basin up to 40 feet of clay caps these water-bearing sediments. In the vicinity of the subject site, DWR maps the valley-fill with a thickness of approximately 20 to 30 feet and describes this water-bearing zone as a permeable unit consisting of sand and gravel in a clayey sand matrix. The DWR delineated the potentiometric surface of valley-fill groundwater near the Site at approximately 20 to 30 feet below ground surface (bgs).

Based on the regional hydrogeologic study, 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.

There is one on-site well and five wells in the properties immediately west of and presumably downgradient from the Site. North/northeast of and presumably up/cross gradient from the subject site there are seven wells within 2,000 feet of the investigation area. Approximately 1,800 feet south of the Site there 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.

2.0 Results

The following sections provide the results of the field measurements and laboratory analyses for the September 13, 2005 groundwater monitoring event.

2.1 Field Measurements

Table 1 presents the depths to groundwater, as well as the corresponding groundwater elevations for the monitoring wells. As shown in Table 1, the depths to groundwater ranged from 9.19 feet in well MW-1 to 9.61 feet in well MW-3. The corresponding groundwater elevations ranged from 605.97 feet in well MW-1 to 607.71 feet in well MW-3.

The groundwater elevation contour map is displayed in Figure 3. As shown in Figure 3, groundwater flows north to northwesterly across the Site, at a gradient of approximately 0.009 feet/feet. This flow direction is consistent with the groundwater flow direction detected after the well development activities on May 20, 2005.

Naturally occurring biological processes can enhance the removal rate of contaminants in the subsurface. During the degradation processes, indigenous bacteria that exist in the subsurface utilize the energy released from the transfer of electrons to drive the redox reactions that remove organic mass from contaminated groundwater. The more positive the redox potential of an electron acceptor, the more energetically favorable is the reaction utilizing that electron acceptor. Based on thermodynamic considerations, the most energetically preferred electron acceptor for redox reactions is dissolved oxygen (DO), followed by nitrate, manganese, ferric iron, sulfate, and carbon dioxide, in descending order of preference. Evaluating the distribution of these electron acceptors can provide evidence of where and to what extent hydrocarbon biodegradation is occurring.

In general, all of the DO concentrations were below the solubility standard of O_2 in the groundwater. The groundwater temperature during this monitoring event ranged from 20.20°C in well MW-1 to 22.72°C in well MW-3. The solubility standard for DO in groundwater at 23°C, at an atmospheric pressure of 760 mm/Hg, is approximately 8.6 mg/L. DO concentrations ranged from 7.05 mg/L in well MW-3 to 7.30 mg/L in well MW-1.

ORP showed positive redox potentials in all of the wells. As previously noted, positive redox potentials are more energetically favorable in utilizing electron acceptors during chemical reactions. This promotes the removal of organic mass from the contaminated groundwater by indigenous bacteria in the subsurface during the release of the transfer of electrons.

The field measurements taken during the Third Quarter 2005 monitoring event are shown in Appendix B.

2.2 Laboratory Analysis

The historical TPH-g, TPH-d, TPH-mo, BTEX, and MtBE groundwater analytical results are shown in Table 1.

As shown in Table 1, all TPH-g, TPH-mo, BTEX, and MtBE constituents were below the laboratory reporting limit throughout the Site. TPH-d was below the laboratory reporting limit in wells MW-1 and MW-2 and detected at 300 ug/L in well MW-3. However, the TPH-d sample result did not resemble the standard diesel pattern. The laboratory designated this variation in the analytical testing by using a "Y" flag. The laboratory report is presented in Appendix C and provides further clarification.

Table 2 shows the analytical results for gasoline oxygenates and lead scavengers. As shown in Table 2, all gasoline oxygenates and lead scavengers were below the laboratory reporting limit in all of the groundwater samples.

Table 3 shows the historical concentrations of 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 all of the samples.

Table 4 shows the historical concentrations of metals in the groundwater. Cadmium, chromium, lead, and nickel were all below the laboratory reporting limit in all of the samples collected from the wells. Zinc was below the laboratory reporting limit in well MW-3. Zinc was detected in wells MW-1 and MW-2 at 27 ug/L and 23 ug/L, respectively.

Appendix C includes the laboratory report and COC form for the Third Quarter 2005 groundwater monitoring event.

3.0 Conclusions and Recommendations

The results of the Third Quarter 2005 groundwater monitoring event can be summarized as follows:

- The groundwater flow direction appears to be north to northwesterly across the Site, at a gradient of 0.009 feet/feet. The groundwater flow direction is consistent with the measurements taken after well development on May 20, 2005. However, further monitoring events will aid in determining a more detailed groundwater flow direction and gradient.

- Based on the results of the bio-attenuation study, indigenous bacteria have effectively removed organic mass from any impacted groundwater in the subsurface during the release of the transfer of electrons. This is evident by the high DO levels and positive redox potentials observed throughout the Site.

- The only compounds detected were carbon bisulfide (0.68 ug/L in well MW-1), chloroform (0.83 ug/L in well MW-2), TPH-d (300 ug/L in well

MW-3), and zinc (27 ug/L in well MW-1 and 23 ug/L in MW-2). Therefore, in general, with the exception of these mentioned compounds, non-detectable levels of all tested constituents were observed throughout the Site.

- In general, the analytical results during the Third Quarter 2005 monitoring event are similar to the low and/or non-detectable levels observed during the sampling event on May 20, 2005.

Based on the results of the Third Quarter 2005 monitoring event, SOMA recommends the following action items:

1. Continuing the quarterly monitoring events to further understand the seasonal variations in the groundwater quality conditions.

2. A CPT/MIP investigation should be conducted around the former USTs and steam clean area to evaluate the hydrogeologic conditions and vertical extent of petroleum hydrocarbons around the former USTs.

FIGURES

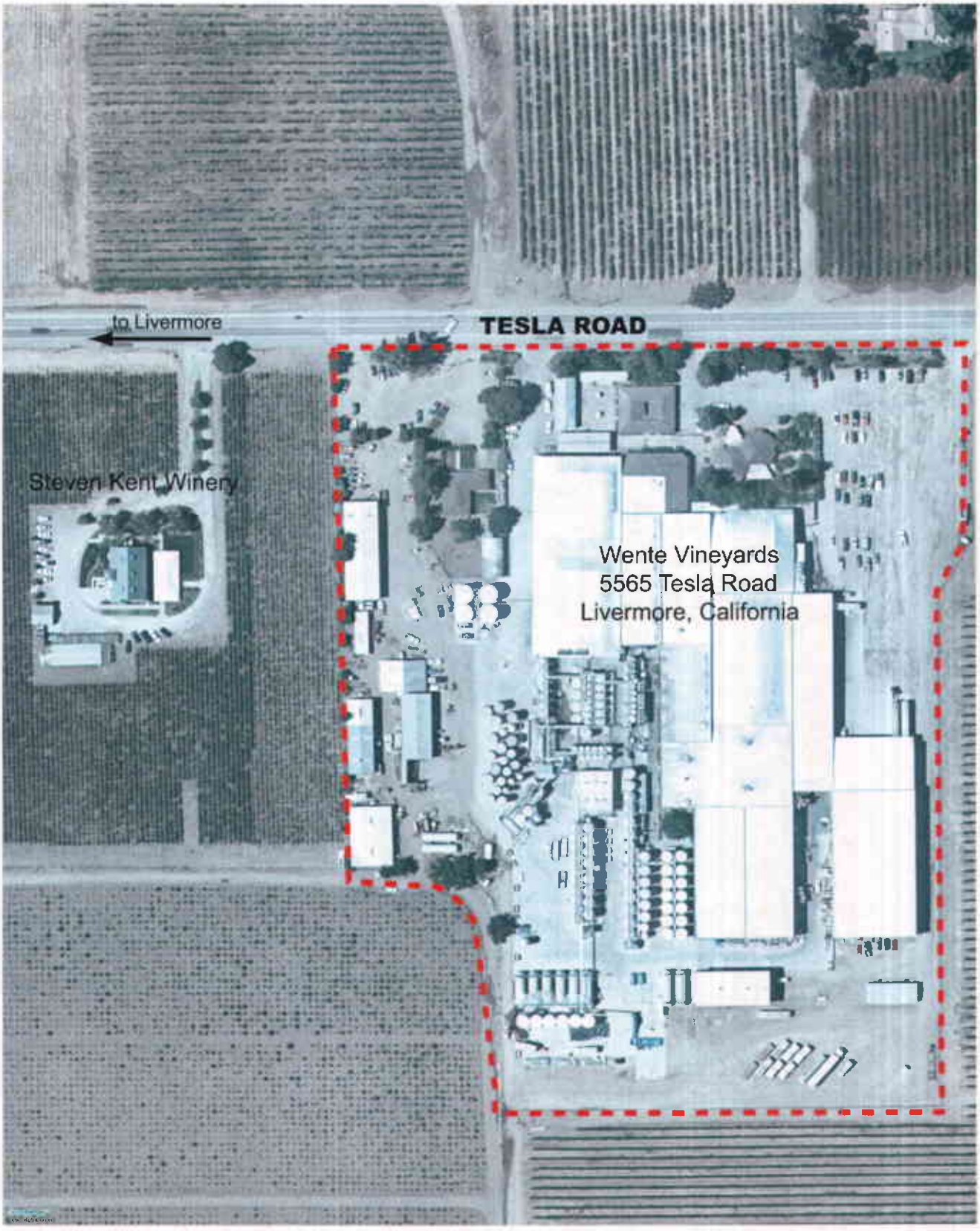


Figure 1: Site vicinity map.

SOMA
ENVIRONMENTAL ENGINEERING, INC
SAN RAMON CA (925) 244 0600

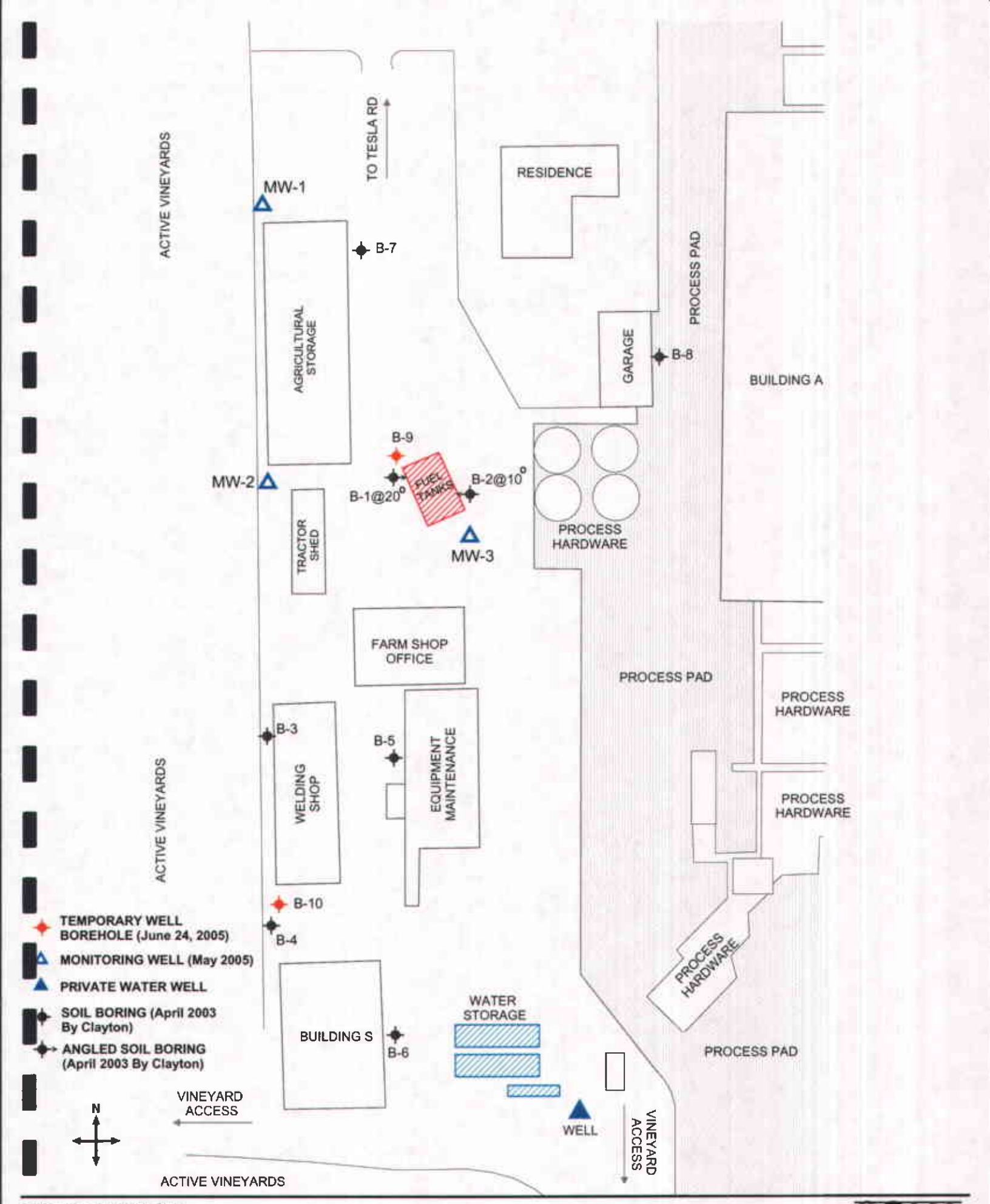


Figure 2: Map showing locations of newly installed monitoring wells, temporary well boreholes, and previous soil borings installed by Clayton Group Services.

SOMA
ENVIRONMENTAL ENGINEERING, INC.
SAN RAMON CA (925) 244 6600

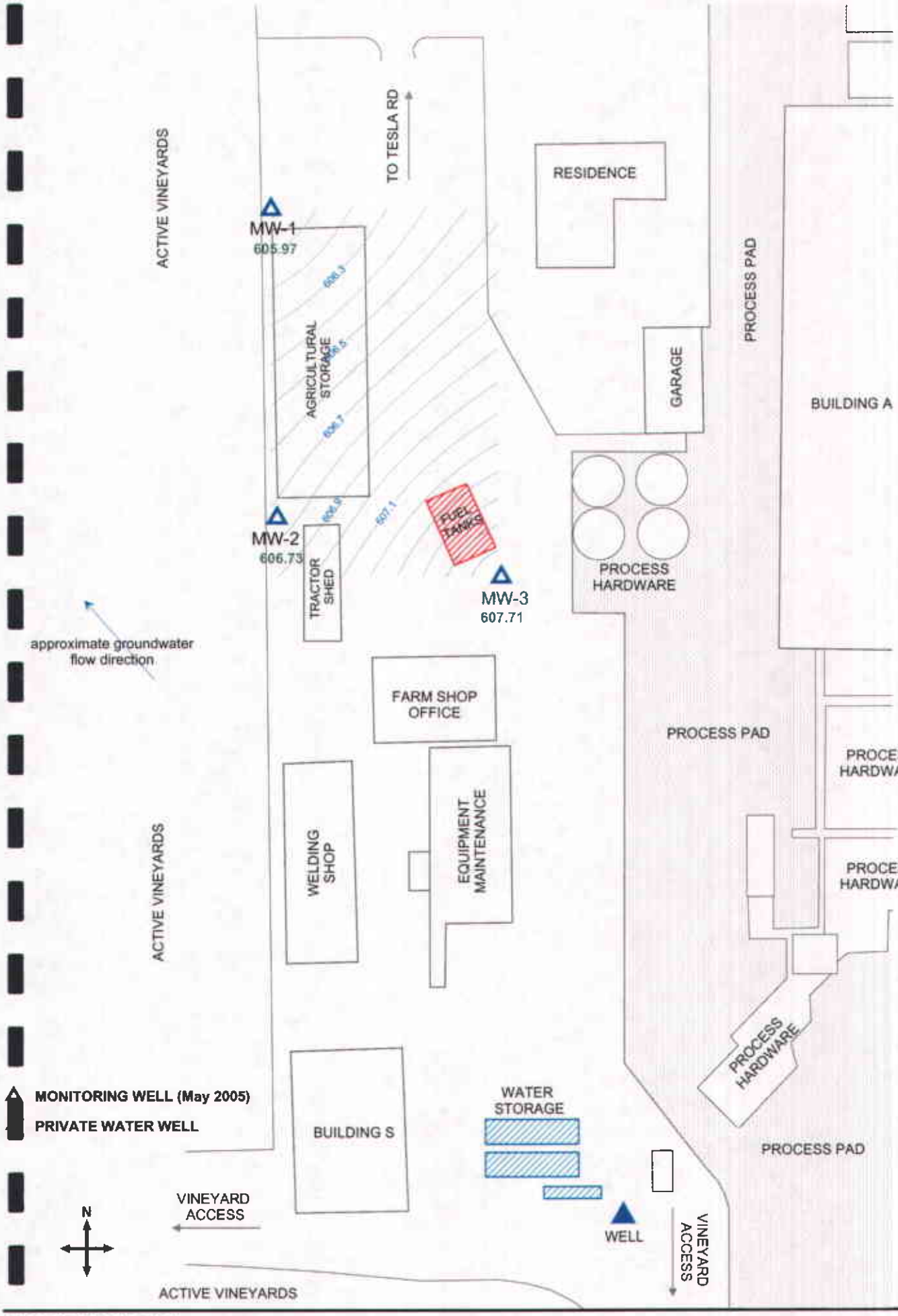


Figure 3: Groundwater elevation contour map in feet. September 2005

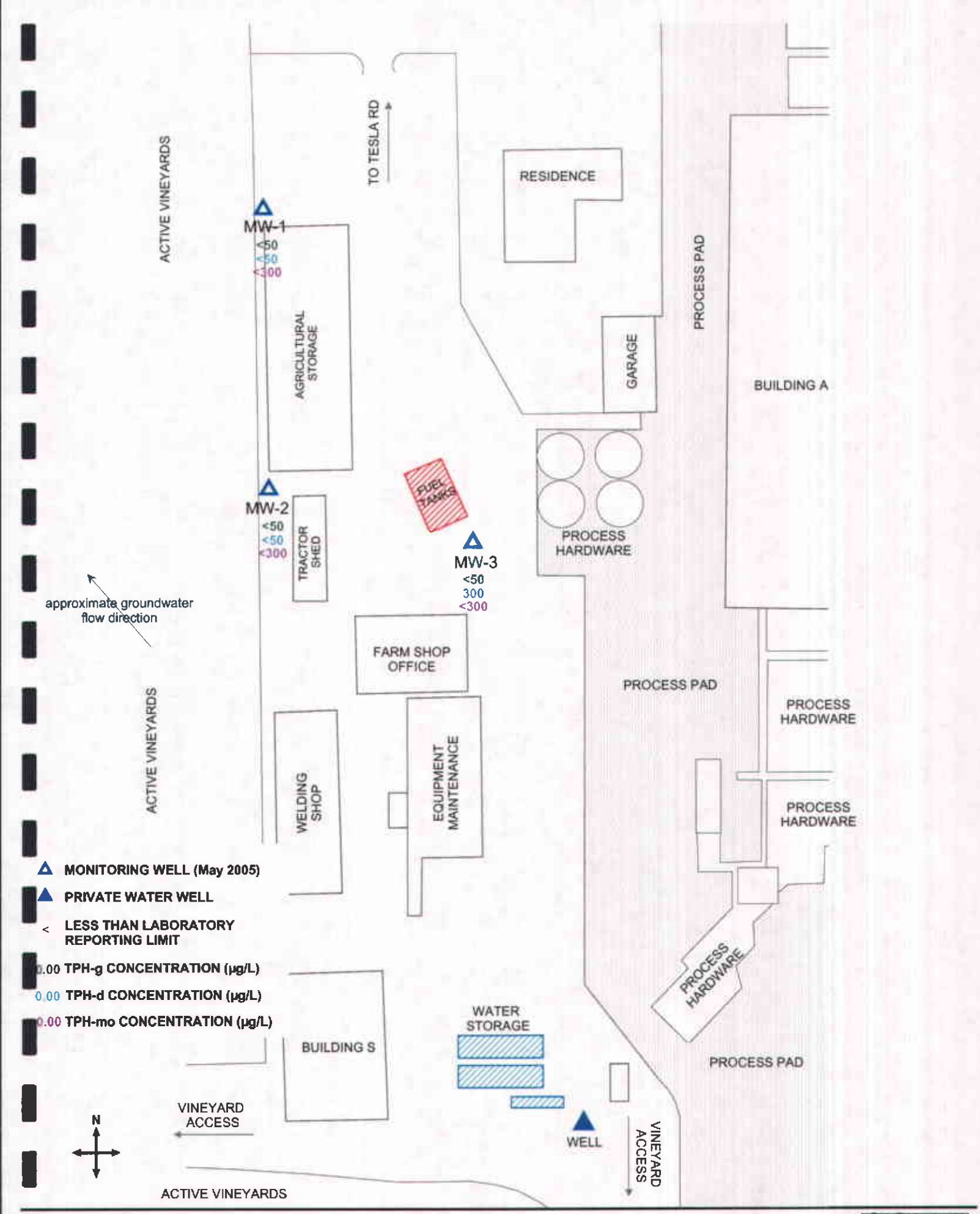


Figure 4: Map of hydrocarbon (TPH-g, TPH-d, TPH-mo) concentrations in groundwater. September 2005

SOMA
ENVIRONMENTAL ENGINEERING, INC.
SAN RAMON CA (925) 244-6600

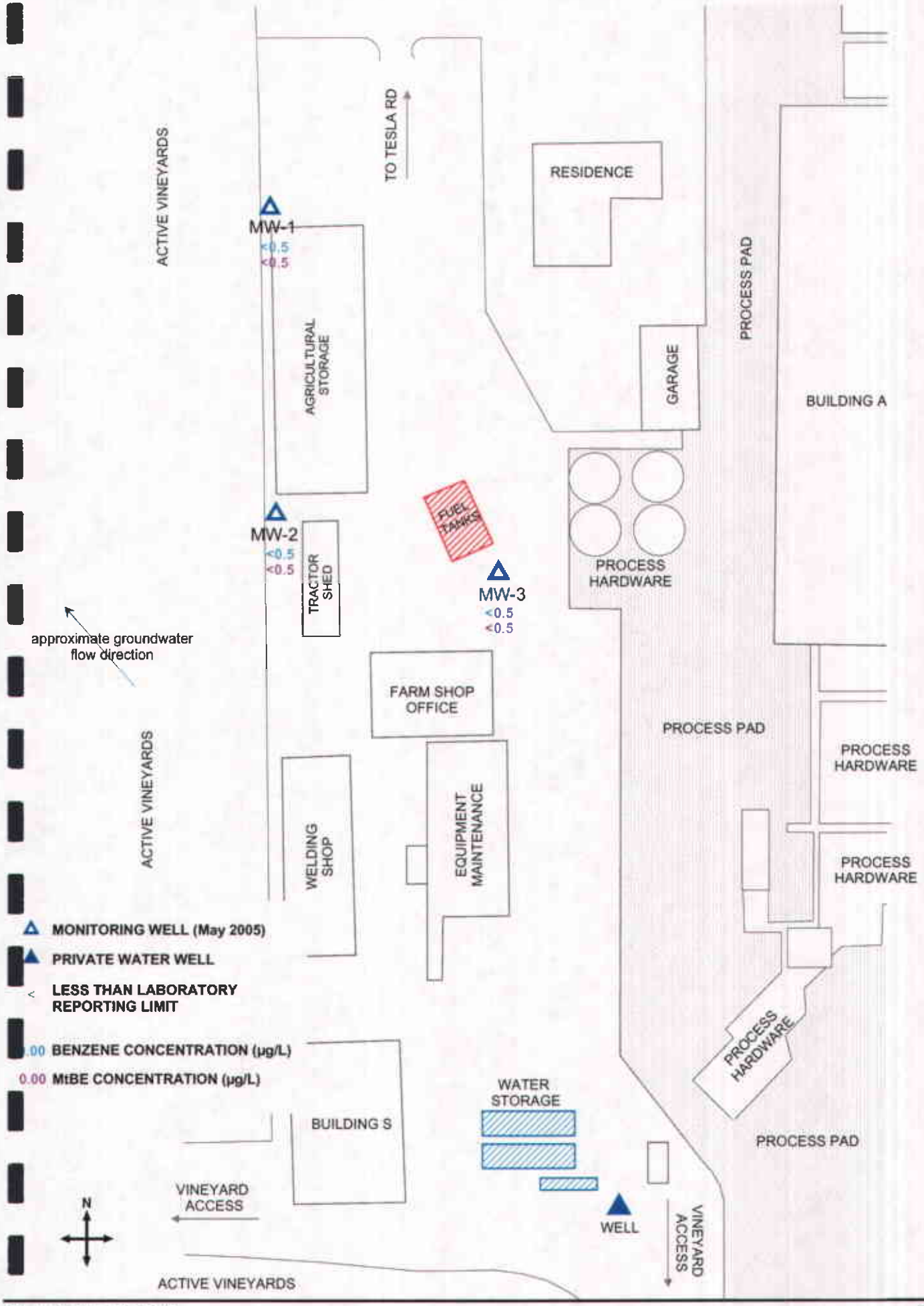


Figure 5: Map of Benzene and MtBE concentrations (EPA Method 8260B) in groundwater. September 2005

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	May-05	615.16	6.10	609.06	<200	<50	320 YZ	<0.5	<0.5	<0.5	<1.0	<0.5
	Sep-05	**615.16**	**9.19**	**605.97**	**<50**	**<50**	**<300**	**<0.5**	**<2.0**	**<0.5**	**<1.0**	**<0.5**
MW-2	May-05	616.03	6.69	609.34	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5
	Sep-05	**616.03**	**9.30**	**606.73**	**<50**	**<50**	**<300**	**<0.5**	**<2.0**	**<0.5**	**<1.0**	**<0.5**
MW-3	May-05	617.32	7.04	610.28	<200	680	<300	<0.5	1.58	<0.5	<1.0	<0.5
	Sep-05	**617.32**	**9.61**	**607.71**	**<50**	**300 Y**	**<300**	**<0.5**	**<2.0**	**<0.5**	**<1.0**	**<0.5**
B-9	Jun-05	NA	NA	NA	1,850,000	540,000 LY	<24,000	3,820	114,000	40,400	177,700	<462
B-10	Jun-05	NA	NA	NA	<200	<50	<300	<0.5	4.23	1.10	4.03	<0.5
Onsite Well	May-05	NS	NM	NC	<200	<50	<300	<0.5	0.85	<0.5	<1.0	<0.5

Notes:
The wells were installed on May 5, 2005 and developed by Woodward Drilling on May 20, 2005.
A grab sample was collected after the well development on May 20, 2005.
A grab sample was also collected from the water well, southeast of the water stoarge units on May 20, 2005.
The wells were surveyed by Harrington Surveys of Walnut Creek, CA on June 5, 2005.
A grab sample was collected from the borings on June 24, 2005.
The groundwater elevation for the May 2005 sampling was based on the survey data of Harrington Surveys.

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-g: Total hydrocarbons as gasoline
TPH-mo: Total hydrocarbons as motor oil
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.

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	Sep-05	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
MW-2	Sep-05	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0
MW-3	Sep-05	<2.5	<0.5	<0.5	<2.0	<0.5	<2.0

Notes:
A grab sample was collected after well development on May 20, 2005.
However, the first time gasoline oxygenates were analyzed was during the Third Quarter 2005 monitoring event.
<: Not Detected above the laboratory reporting limit.

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	Sep-05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-2	Sep-05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-3	Sep-05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:
A grab sample was collected after well development on May 20, 2005. However, the first time volatile organic compounds were analyzed was during the Third Quarter 2005 monitoring event.
<: Not detected above the laboratory reporting limit.

Volatile organic compounds (VOCs)

PCE: tetrachloroethene
cis-1,2-DCE: cis-1,2-dichloroethene
vinyl chloride
1,1-DCE: 1,1-dichloroethene
TCE: 1,1,1-trichloroethane
trans-1,2-DCE: trans-1,2-dichloroethene
1,2-DCP: 1,2-dichloropropane

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	Sep-05	<5.0	<10	<3.0	<20	27
MW-2	Sep-05	<5.0	<10	<3.0	<20	23
MW-3	Sep-05	<5.0	<10	<3.0	<20	<20
B-10	Jun-05	12	930	82	3,600	800

Notes:
Metals were tested at boring B-10 on June 24, 2005.
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.
<: Not Detected above the laboratory reporting limit.

Appendix A

SOMA's Groundwater Monitoring Procedures

Field Activities

On September 13, 2005, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the CRWQCB and the ACEHCS. During this groundwater monitoring event a total of three wells (MW-1 to MW-3) were monitored; see Figure 2 for 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. Harrington Surveys Inc., of Walnut Creek, surveyed the Site on June 3, 2005. The survey datum was based on an elevation of 566.57 NAVD 88. Top of casing elevation data and the depth to groundwater in each monitoring well was used to calculate the groundwater elevation.

The survey data is included in Appendix B for the monitoring wells. The survey was conducted to comply with EDF requests for electronic reporting of data to the State Water Resources Control Board (SWRCB) Database.

Prior to collecting samples, each well was purged using a battery operated 2-inch diameter pump (Model ES-60 DC). During the purging activities, in order to obtain accurate measurements of groundwater parameters and especially to avoid the intrusion of oxygen from ambient air into the groundwater samples, field measurements were conducted in-situ (i.e., down-hole inside each monitoring well). The groundwater parameters such as DO, pH, temperature, EC, turbidity, and the ORP were measured in-situ using a Horiba, Model U-22 multi-parameter instrument. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer.

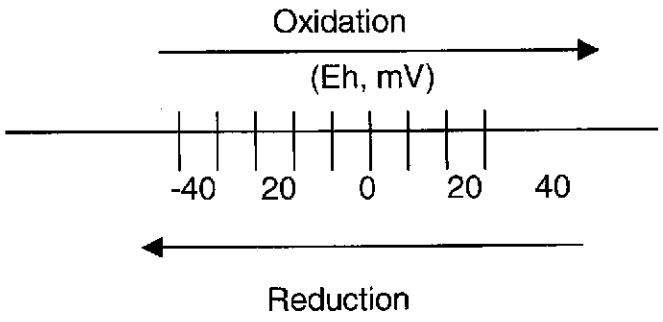
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater conductivity (EC) is directly related to the concentration of ions in solution.

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 (oxidation reduction potential) 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 ^{o}C and 11 mg/L at 5 ^{o}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 proceeds far enough, the environment may become so strongly reduced that the petroleum hydrocarbons may 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. A disposable polyethylene bailer was used to collect sufficient samples from each well for laboratory analyses.

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 one-liter non-preserved amber glass container. All groundwater samples were placed in an ice chest along with a chain of custody (COC) form. On September 13, 2005, SOMA's field crew delivered the samples to Pacific Analytical Laboratory (PAL) in Alameda, California.

Based on the directive of the Alameda County Environmental Health Care Services in letter to SOMA on September 19, 2005, metals were to be analyzed. SOMA on September 29, 2005, collected grab samples from each well and tested the sample for metals.

Laboratory Analysis

The groundwater samples were analyzed for TPH-g, TPH-d, TPH-mo, BTEX, MtBE, gasoline oxygenates, lead scavengers, volatile organic compounds, and metals. Pacific Analytical Laboratory, a state certified laboratory, analyzed the samples for TPH-g, BTEX, MtBE, gasoline oxygenates, and lead scavengers. EPA

Method 5030B was used to prepare the samples for measurements, and all constituents were analyzed using Method 8260B.

Samples for TPH-d, TPH-mo, and metals were subcontracted through Curtis and Tompkins, Ltd in Berkeley, CA. TPH-d and TPH-mo measurements were prepared using EPA Method 3520C and analyzed using EPA Method 8015B. EPA Clean-up Method 3630C was used to further determine the accuracy of the TPH-d and TPH-mo results.

Metal measurements were prepared using EPA Method 3010A and analyzed using EPA Method 6010B.

Appendix B

Table of Elevations & Coordinates on Monitoring Wells
Measured by Harrington Surveys, Inc.,
and
Field Measurements of Physical, Chemical, & Biodegradation
Parameters of the Groundwater Samples
at Time of Sampling

Harrington Surveys Inc.
Land Surveying & Mapping
2278 Larkey Lane, Walnut Creek, Ca. 94597 Phone (925)935-7228 Fax (925)935-5118
Cell (925)788-7359 E-Mail (ben5132@pacbell.net)

SOMA ENVIRONMENTAL ENGINEERING
2680 BISHOP DR. # 203
SAN RAMON, CA. 94583

JUNE 05, 2005

ATTN: ELENA

5565 TESLA ROAD,
LIVERMORE CA.

SURVEY REPORT

CONTROLING POINTS FOR SURVEY:

CALIFORNIA HPGN MONUMENT 04 FL, CALIFORNIA COORDINATE SYSTEM, ZONE 3. NAD 83. NORTH 2,085,087.52 - EAST 6,213,127.18, LAT. N37°42'56.31172" W121°42'18.00018".
ELEVATION 566.57, NAVD 88,

CALIFORNIA HPGN MONUMENT 04 FK, CALIFORNIA COORDINATE SYSTEM, ZONE 3. NORTH 2,055,842.44 - EAST 6,189,298.07, LAT N37°38'02.07933", W121°47'09.51080"
ELEVATION 637.80NAVD 88,

INSTRUMENTATION:
TRIMBLE GPS, MODEL 5800 AND LEICA TCA 1800, 1" HORZ. & VERT.
OBSERVATION: EPOCH = 180.

FIELD SURVEY: JUNE 03, 2005.

BEN HARRINGTON
PLS 5132

MONITORING WELLS
5565 TESLA RD.
LIVERMORE, CA.

HARRINGTON SURVEYS INC.
2278 LARKEY LANE, WALNUT CREEK CA.
925-935-7228

JOB#2528
6-05-05

PT. #	NORTH	EAST	ELEV.	LATITUDE	LONGITUDE	
1	2085287.52	6213127.18	566.57	37ø42'56.31176"N	121ø42'18.00017"W	FD. 04 FL HPGN
2	2085287.52	6213127.18	566.57	37ø42'56.31175"N	121ø42'18.00016"W	FD. 04 FL HPGN
10	2066759.37	6206469.09	615.16	37ø39'52.28464"N	121ø43'37.83506"W	MW-1 V N. PVC
11	2066759.71	6206469.01	615.52	37ø39'52.28825"N	121ø43'37.83609"W	MW-1 PUNCH N RIM
12	2066753.85	6206471.51	615.55	37ø39'52.23057"N	121ø43'37.80414"W	BLG COR
13	2066753.67	6206512.16	615.56	37ø39'52.23412"N	121ø43'37.29547"W	BLG COR
14	2066628.15	6206469.65	616.03	37ø39'50.98763"N	121ø43'37.80672"W	MW-2 V N. PVC
15	2066628.56	6206469.61	616.38	37ø39'50.99158"N	121ø43'37.80724"W	MW-2 PUNCH N. RIM
16	2066632.94	6206516.64	616.48	37ø39'51.04169"N	121ø43'37.22314"W	5.0 E BLG COR
17	2066600.85	6206566.19	617.32	37ø39'50.73030"N	121ø43'36.60162"W	MW-3 V N. PVC
18	2066601.16	6206566.10	617.54	37ø39'50.73332"N	121ø43'36.60286"W	MW-3 PUNCH N. RIM
19	2066610.25	6206564.10	617.64	37ø39'50.82300"N	121ø43'36.62917"W	FC COR
20	2066604.40	6206549.81	617.66	37ø39'50.76325"N	121ø43'36.80598"W	FC COR
21	2066629.00	6206539.65	617.75	37ø39'51.00516"N	121ø43'36.93629"W	FC COR
22	2066634.86	6206554.19	617.86	37ø39'51.06493"N	121ø43'36.75646"W	FC COR
3	2080138.47	6208815.78	552.46	37ø42'04.85556"N	121ø43'10.81967"W	FD. Z 927
4	2080138.48	6208815.77	552.45	37ø42'04.85556"N	121ø43'10.81976"W	FD. Z 927
5	2055842.44	6189298.07	637.79	37ø36'02.07930"N	121ø47'09.51084"W	FD. 4 FK HPGN
6	2055842.43	6189298.07	637.82	37ø36'02.07924"N	121ø47'09.51088"W	FD. 4 FK HPGN
7	2066813.56	6206542.08	615.00	37ø39'52.83104"N	121ø43'36.93627"W	SET RB\GATE
8	2066813.64	6206542.08	614.98	37ø39'52.83084"N	121ø43'36.93616"W	SET RB\GATE
9	2066806.93	6206470.38	615.04	37ø39'52.75518"N	121ø43'37.82678"W	SET 6.0 NW YARD
23	2066806.93	6206470.38	615.07	37ø39'52.75523"N	121ø43'37.82680"W	SET 6.0 NW YARD

ENVIRONMENTAL ENGINEERING, INC

Well No.: MW1
Casing Diameter: 2 inch
Depth of Well: 15.00 ft
Top of Casing Elevation: 615.16 ft
Depth to Groundwater: 9.19 ft
Groundwater Elevation: 605.97 ft
Water Column Height: 5.81 ft
Purged Volume: 9 gallons

Project No.: 2841
Address: Wente Vineyards
5565 Tesla Rd, Livermore
Date: 9/13/05
Sampler: John Lohman

Purging Method: Bailer ☐ Pump ☒

Sampling Method: Bailer ☑ Pump ☐

Color: No ☒ Yes ☐ Describe

Sheen: No ☒ Yes ☐ Describe

Odor: No ☒ Yes ☐ Describe

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
12:05 PM	START PURGE						
12:08 PM	2	8.93	8.35	20.21	1750	999	134
12:11 PM	4	8.17	7.94	20.22	1746	461	141
12:15 PM	7	7.47	7.46	20.20	1740	394	145
12:19 PM	9	7.30	7.31	20.20	1740	389	145
12:21 PM	SAMPLES						

Notes: Silty, then clear

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW2	**Project No.:**	2841
Casing Diameter:	2 inch	**Address:**	Wente Vineyards
Depth of Well:	14.90 ft		5565 Tesla Rd, Livermore
Top of Casing Elevation:	616.03 ft	**Date:**	9/13/05
Depth to Groundwater:	9.30 ft	**Sampler:**	John Lohman
Groundwater Elevation:	606.73 ft		
Water Column Height:	5.60 ft		
Purged Volume:	8 gallons		

Purging Method: Bailer ☐ Pump ☒

Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe _____

Sheen: No ☒ Yes ☐ Describe _____

Odor: No ☒ Yes ☐ Describe _____

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
12:48 PM	START PURGE						
12:51 PM	2	6.38	7.33	21.09	964	675	147
12:53 PM	4	5.67	7.13	20.97	1290	999	142
12:58 PM	6	6.94	7.06	21.07	1210	999	141
1:02 PM	8	7.19	7.03	20.93	1210	999	141
1:05 PM	SAMPLES						

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW3	**Project No.:**	2841
Casing Diameter:	2 inch	**Address:**	Wente Vineyards
Depth of Well:	13.40 ft		5565 Tesla Rd, Livermore
Top of Casing Elevation:	617.32 ft	**Date:**	9/13/05
Depth to Groundwater:	9.61 ft	**Sampler:**	John Lohman
Groundwater Elevation:	607.71 ft		
Water Column Height:	3.79 ft		
Purged Volume:	10 gallons		

Purging Method: **Bailer** ☐ **Pump** ☒

Sampling Method: **Bailer** ☒ **Pump** ☐

Color: **No** ☒ **Yes** ☐ **Describe** _____

Sheen: **No** ☒ **Yes** ☐ **Describe** _____

Odor: **No** ☒ **Yes** ☐ **Describe** _____

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
1:38 PM	START PURGE						
1:40 PM	2	9.69	7.04	22.86	1740	999	140
1:42 PM	4	8.63	6.97	22.79	1740	999	141
1:44 PM	6	7.93	6.93	22.74	1740	999	142
1:46 PM	8	7.47	6.92	22.72	1740	999	142
1:48 PM	10	7.05	6.90	22.72	1740	999	142
1:50 PM	SAMPLES						

Notes:

Appendix C

Laboratory Report and Chain of Custody Form

for the

Third Quarter 2005 Monitoring Event

PAL Pacific Analytical Laboratory
851 West Midway Ave. Suite 201
Alameda, CA 94501
Phone (510) 864-0364

27 September 2005

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

RE: 5565 Tesla Rd, Livermore

Work Order Number: 5090004

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,

Majid Akhavan
Laboratory Director

CHAIN OF CUSTODY

Pacific Analytical Laboratory
851 W Midway Ave, Suite 201B
Alameda, CA 94501

(510)864-0364 Phone
(510)864-0365 Fax

PAL LOGIN # 5010004

Sampler: John Lohman
Report To: Tony Perini
Company : SOMA Environmental
Telephone: 925-244-6600
Fax: 925-244-6601

Project No: 2841
Project Name: 5565 Tesla Road, Livermore
Turnaround Time: Standard

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	None	Analyses: TPHg, BTEX	TPH-d TPH-mo	2-Page list 8260B
	MW-1	9/13/05 12:21 PM		X		4 VOA + 1L	X			X	X	X	X	X
	MW-2	9/13/05 1:05 PM		X		4 VOA + 1L	X			X	X	X	X	X
	MW-3	9/13/05 1:50 PM		X		4 VOA + 1L	X			X	X	X	X	X

Notes:

EDF OUTPUT REQUIRED
Silica Gel Cleanup Method

RELINQUISHED BY:

3:20 PM 9/13/05 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

Jennifer Gonzalez 3:20 PM 9/13/05 DATE/TIME

DATE/TIME

DATE/TIME

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	5090004-01	Water	13-Sep-05 12:21	13-Sep-05 15:56
MW-2	5090004-02	Water	13-Sep-05 13:05	13-Sep-05 15:56
MW-3	5090004-03	Water	13-Sep-05 13:50	13-Sep-05 15:56

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (5090004-01) Water Sampled: 13-Sep-05 12:21 Received: 13-Sep-05 15:56									
1,1,1,2-Tetrachloroethane	ND	2.00	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
1,1,1-Trichloroethane	ND	0.500	"	"	"	"	"	"	
1,1,2,2-Tetrachloorethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethene	ND	0.500	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.500	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.500	"	"	"	"	"	"	
TBA	ND	2.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	2.00	"	"	"	"	"	"	
1,2-Dibromo-3-Chloropropane	ND	2.00	"	"	"	"	"	"	
1,2-Dibromoethan	ND	2.00	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	"	"	"	"	"	"	
1,3-dichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,3-dichloropropane	ND	0.500	"	"	"	"	"	"	
1,4-Dichlorbenzene	ND	0.500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	2.00	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.500	"	"	"	"	"	"	
2-nitropropane	ND	2.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.500	"	"	"	"	"	"	
4-Isopropyltoluene	ND	0.500	"	"	"	"	"	"	
ACETONE	ND	5.00	"	"	"	"	"	"	
Acetonitrile	ND	0.500	"	"	"	"	"	"	
Alylchloride	ND	2.50	"	"	"	"	"	"	
Benzene	ND	0.500	"	"	"	"	"	"	
Bromobenzene	ND	0.500	"	"	"	"	"	"	
Bromochloromethane	ND	0.500	"	"	"	"	"	"	
Bromoform	ND	5.00	"	"	"	"	"	"	
Butan-2-one(MEK)	ND	2.00	"	"	"	"	"	"	

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (5090004-01) Water Sampled: 13-Sep-05 12:21 Received: 13-Sep-05 15:56									
Carbon bisulfide	**0.680**	0.500	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
Chlorobenzene	ND	2.00	"	"	"	"	"	"	
Chloroform	ND	0.500	"	"	"	"	"	"	
Chloroprene	ND	0.500	"	"	"	"	"	"	
cis-1,2 dichloroethene	ND	0.500	"	"	"	"	"	"	
cis-1,3-Dichloro-1-Propene	ND	0.500	"	"	"	"	"	"	
CIS-1,4-Dichloro-2-butene	ND	2.50	"	"	"	"	"	"	
Dibromochloromethane	ND	2.00	"	"	"	"	"	"	
Diethylether	ND	0.500	"	"	"	"	"	"	
Ethyl methacrylate	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Freon 113	ND	0.500	"	"	"	"	"	"	
Hexachloro-1,3-Butadiene	ND	2.00	"	"	"	"	"	"	
Idomethane	ND	2.00	"	"	"	"	"	"	
Isopropylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
Methylene dichloride	ND	10.0	"	"	"	"	"	"	
Naphthene	ND	0.500	"	"	"	"	"	"	
n-Butylbenzene	ND	0.500	"	"	"	"	"	"	
n-Propylbenzene	ND	0.500	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Pentachloroethane	ND	1.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.500	"	"	"	"	"	"	
Styrene	ND	2.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.500	"	"	"	"	"	"	
Tetrachlorocarbon	ND	0.500	"	"	"	"	"	"	
Tetrachloroethene	ND	0.500	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.00	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
trans-1,4-Dichloro-2-butene	ND	2.50	"	"	"	"	"	"	
Trans-Di-1,2-Chloroethylene	ND	0.500	"	"	"	"	"	"	
Methyl isobutyl ketone	ND	0.500	"	"	"	"	"	"	
Chloromethane	ND	0.500	"	"	"	"	"	"	
Bromomethane	ND	2.00	"	"	"	"	"	"	
Nitrobenzene	ND	10.0	"	"	"	"	"	"	
Vinyl chloride	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.

PAL

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (5090004-01) Water Sampled: 13-Sep-05 12:21 Received: 13-Sep-05 15:56									
Bromodichloromethane	ND	0.500	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
Dibromomethane	ND	0.500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	2.00	"	"	"	"	"	"	
Vinyl acetate	ND	2.00	"	"	"	"	"	"	
Trichlorofluoromethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
1,1-dichloropropene	ND	0.500	"	"	"	"	"	"	
trans-1,3-Dichloro-1-Propene	ND	0.500	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	2.00	"	"	"	"	"	"	
2-Hexanone	ND	2.00	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.4 %*		*70-130*		"	"	"	
Surrogate: Dibromofluoromethane		*109 %*		*70-130*		"	"	"	
Surrogate: Perdeuterotoluene		*96.6 %*		*70-130*		"	"	"	
Gasoline (C6-C12)	ND	50.0	"	"	"	"	"	EPA 8015M	
MW-2 (5090004-02) Water Sampled: 13-Sep-05 13:05 Received: 13-Sep-05 15:56									
1,1,1,2-Tetrachloroethane	ND	2.00	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
1,1,1-Trichloroethane	ND	0.500	"	"	"	"	"	"	
1,1,2,2-Tetrachloorethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethene	ND	0.500	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.500	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.500	"	"	"	"	"	"	
TBA	ND	2.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	2.00	"	"	"	"	"	"	
1,2-Dibromo-3-Chloropropane	ND	2.00	"	"	"	"	"	"	
1,2-Dibromoethan	ND	2.00	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	"	"	"	"	"	"	
1,3-dichlorobenzene	ND	0.500	"	"	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (5090004-02) Water Sampled: 13-Sep-05 13:05 Received: 13-Sep-05 15:56									
1,3-dichloropropane	ND	0.500	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
1,4-Dichlorbenzene	ND	0.500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	2.00	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.500	"	"	"	"	"	"	
2-nitropropane	ND	2.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.500	"	"	"	"	"	"	
4-Isopropyltoluene	ND	0.500	"	"	"	"	"	"	
ACETONE	ND	5.00	"	"	"	"	"	"	
Acetonitrile	ND	0.500	"	"	"	"	"	"	
Alylchloride	ND	2.50	"	"	"	"	"	"	
Benzene	ND	0.500	"	"	"	"	"	"	
Bromobenzene	ND	0.500	"	"	"	"	"	"	
Bromochloromethane	ND	0.500	"	"	"	"	"	"	
Bromoform	ND	5.00	"	"	"	"	"	"	
Butan-2-one(MEK)	ND	2.00	"	"	"	"	"	"	
Carbon bisulfide	ND	0.500	"	"	"	"	"	"	
Chlorobenzene	ND	2.00	"	"	"	"	"	"	
Chloroform	**0.830**	0.500	"	"	"	"	"	"	
Chloroprene	ND	0.500	"	"	"	"	"	"	
cis-1,2 dichlorocthene	ND	0.500	"	"	"	"	"	"	
cis-1,3-Dichloro-1-Propene	ND	0.500	"	"	"	"	"	"	
CIS-1,4-Dichloro-2-butene	ND	2.50	"	"	"	"	"	"	
Dibromochloromethane	ND	2.00	"	"	"	"	"	"	
Diethylether	ND	0.500	"	"	"	"	"	"	
Ethyl methacrylate	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Freon 113	ND	0.500	"	"	"	"	"	"	
Hexachloro-1,3-Butadiene	ND	2.00	"	"	"	"	"	"	
Idomethane	ND	2.00	"	"	"	"	"	"	
Isopropylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
Methylene dichloride	ND	10.0	"	"	"	"	"	"	
Naphthene	ND	0.500	"	"	"	"	"	"	
n-Butylbenzene	ND	0.500	"	"	"	"	"	"	
n-Propylbenzene	ND	0.500	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Pentachloroethane	ND	1.00	"	"	"	"	"	"	

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (5090004-02) Water Sampled: 13-Sep-05 13:05 Received: 13-Sep-05 15:56									
sec-Butylbenzene	ND	0.500	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
Styrene	ND	2.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.500	"	"	"	"	"	"	
Tetrachlorocarbon	ND	0.500	"	"	"	"	"	"	
Tetrachloroethene	ND	0.500	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.00	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
trans-1,4-Dichloro-2-butene	ND	2.50	"	"	"	"	"	"	
Trans-Di-1,2-Chloroethylene	ND	0.500	"	"	"	"	"	"	
Methyl isobutyl ketone	ND	0.500	"	"	"	"	"	"	
Chloromethane	ND	0.500	"	"	"	"	"	"	
Bromomethane	ND	2.00	"	"	"	"	"	"	
Nitrobenzene	ND	10.0	"	"	"	"	"	"	
Vinyl chloride	ND	0.500	"	"	"	"	"	"	
Bromodichloromethane	ND	0.500	"	"	"	"	"	"	
Dibromomethane	ND	0.500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	2.00	"	"	"	"	"	"	
Vinyl acetate	ND	2.00	"	"	"	"	"	"	
Trichlorofluoromethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
1,1-dichloropropene	ND	0.500	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	2.00	"	"	"	"	"	"	
trans-1,3-Dichloro-1-Propene	ND	0.500	"	"	"	"	"	"	
2-Hexanone	ND	2.00	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.0 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*111 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*96.2 %*		*70-130*	"	"	"	"	
Gasoline (C6-C12)	ND	50.0	"	"	"	"	"	EPA 8015M	

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (5090004-03) Water Sampled: 13-Sep-05 13:50 Received: 13-Sep-05 15:56									
1,1,1,2-Tetrachloroethane	ND	2.00	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
1,1,1-Trichloroethane	ND	0.500	"	"	"	"	"	"	
1,1,2,2-Tetrachloorethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethene	ND	0.500	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.500	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.500	"	"	"	"	"	"	
TBA	ND	2.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	2.00	"	"	"	"	"	"	
1,2-Dibromo-3-Chloropropane	ND	2.00	"	"	"	"	"	"	
1,2-Dibromoethan	ND	2.00	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	"	"	"	"	"	"	
1,3-dichlorobenzene	ND	0.500	"	"	"	"	"	"	
1,3-dichloropropane	ND	0.500	"	"	"	"	"	"	
1,4-Dichlorbenzene	ND	0.500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	2.00	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.500	"	"	"	"	"	"	
2-nitropropane	ND	2.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.500	"	"	"	"	"	"	
4-Isopropyltoluene	ND	0.500	"	"	"	"	"	"	
ACETONE	ND	5.00	"	"	"	"	"	"	
Acetonitrile	ND	0.500	"	"	"	"	"	"	
Alylchloride	ND	2.50	"	"	"	"	"	"	
Benzene	ND	0.500	"	"	"	"	"	"	
Bromobenzene	ND	0.500	"	"	"	"	"	"	
Bromochloromethane	ND	0.500	"	"	"	"	"	"	
Bromoform	ND	5.00	"	"	"	"	"	"	
Butan-2-one(MEK)	ND	2.00	"	"	"	"	"	"	
Carbon bisulfide	ND	0.500	"	"	"	"	"	"	
Chlorobenzene	ND	2.00	"	"	"	"	"	"	
Chloroform	ND	0.500	"	"	"	"	"	"	

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (5090004-03) Water Sampled: 13-Sep-05 13:50 Received: 13-Sep-05 15:56									
Chloroprene	ND	0.500	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
cis-1,2 dichloroethene	ND	0.500	"	"	"	"	"	"	
cis-1,3-Dichloro-1-Propene	ND	0.500	"	"	"	"	"	"	
CIS-1,4-Dichloro-2-butene	ND	2.50	"	"	"	"	"	"	
Dibromochloromethane	ND	2.00	"	"	"	"	"	"	
Diethylether	ND	0.500	"	"	"	"	"	"	
Ethyl methacrylate	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Freon 113	ND	0.500	"	"	"	"	"	"	
Hexachloro-1,3-Butadiene	ND	2.00	"	"	"	"	"	"	
Idomethane	ND	2.00	"	"	"	"	"	"	
Isopropylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
Methylene dichloride	ND	10.0	"	"	"	"	"	"	
Naphthene	ND	0.500	"	"	"	"	"	"	
n-Butylbenzene	ND	0.500	"	"	"	"	"	"	
n-Propylbenzene	ND	0.500	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Pentachloroethane	ND	1.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.500	"	"	"	"	"	"	
Styrene	ND	2.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.500	"	"	"	"	"	"	
Tetrachlorocarbon	ND	0.500	"	"	"	"	"	"	
Tetrachloroethene	ND	0.500	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.00	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
trans-1,4-Dichloro-2-butene	ND	2.50	"	"	"	"	"	"	
Trans-Di-1,2-Chloroethylene	ND	0.500	"	"	"	"	"	"	
Methyl isobutyl ketone	ND	0.500	"	"	"	"	"	"	
Chloromethane	ND	0.500	"	"	"	"	"	"	
Bromomethane	ND	2.00	"	"	"	"	"	"	
Nitrobenzene	ND	10.0	"	"	"	"	"	"	
Vinyl chloride	ND	0.500	"	"	"	"	"	"	
Bromodichloromethane	ND	0.500	"	"	"	"	"	"	
Dibromomethane	ND	0.500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	2.00	"	"	"	"	"	"	

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (5090004-03) Water Sampled: 13-Sep-05 13:50 Received: 13-Sep-05 15:56									
Vinyl acetate	ND	2.00	ug/l	1	BI52701	13-Sep-05	26-Sep-05	EPA 8260B	
Trichlorofluoromethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
1,1-dichloropropene	ND	0.500	"	"	"	"	"	"	
trans-1,3-Dichloro-1-Propene	ND	0.500	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	2.00	"	"	"	"	"	"	
2-Hexanone	ND	2.00	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*81.6 %*		*70-130*		"	"	"	
Surrogate: Dibromofluoromethane		*112 %*		*70-130*		"	"	"	
Surrogate: Perdeuterotoluene		*96.2 %*		*70-130*		"	"	"	
Gasoline (C6-C12)	ND	50.0	"	"	"	"	"	EPA 8015M	

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

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 BI52701 - EPA 5030 Water MS										
Blank (BI52701-BLK1)			Prepared & Analyzed: 27-Sep-05							
Surrogate: 4-Bromofluorobenzene	*45.8*		*ug/l*	*50.0*		*91.6*	*70-130*			
Surrogate: Dibromofluoromethane	*54.0*		*"*	*50.0*		*108*	*70-130*			
Surrogate: Perdeuterotoluene	*49.8*		*"*	*50.0*		*99.6*	*70-130*			
1,1,1,2-Tetrachloroethane	ND	2.00	"							
1,1,1-Trichloroethane	ND	0.500	"							
1,1,2,2-Tetrachloroethane	ND	2.00	"							
1,1,2-Trichloroethane	ND	2.00	"							
1,1,2-Trichloroethene	ND	0.500	"							
1,1-Dichloroethane	ND	0.500	"							
1,1-Dichloroethene	ND	0.500	"							
ETBE	ND	0.500	"							
1,2,3-Trichlorobenzene	ND	0.500	"							
TBA	ND	2.50	"							
1,2,4-Trichlorobenzene	ND	0.500	"							
1,2,4-Trimethylbenzene	ND	2.00	"							
1,2-Dibromo-3-Chloropropane	ND	2.00	"							
1,2-Dibromoethan	ND	2.00	"							
1,2-Dichlorobenzene	ND	0.500	"							
1,2-dichloroethane	ND	0.500	"							
1,2-Dichloropropane	ND	0.500	"							
1,3,5-Trimethylbenzene	ND	0.500	"							
1,3-dichlorobenzene	ND	0.500	"							
1,3-dichloropropane	ND	0.500	"							
1,4-Dichlorbenzene	ND	0.500	"							
2,2-Dichloropropane	ND	2.00	"							
2-Chlorotoluene	ND	0.500	"							
2-nitropropane	ND	2.00	"							
4-Chlorotoluene	ND	0.500	"							
4-Isopropyltoluene	ND	0.500	"							
ACETONE	ND	5.00	"							
Acetonitrile	ND	0.500	"							
Alylchloride	ND	2.50	"							
Benzene	ND	0.500	"							
Bromobenzene	ND	0.500	"							
Bromochloromethane	ND	0.500	"							

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

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 BI52701 - EPA 5030 Water MS										
Blank (BI52701-BLK1)				Prepared & Analyzed: 27-Sep-05						
Bromoform	ND	5.00	ug/l							
Butan-2-one(MEK)	ND	2.00	"							
Carbon bisulfide	ND	0.500	"							
Chlorobenzene	ND	2.00	"							
Chloroform	ND	0.500	"							
Chloroprene	ND	0.500	"							
cis-1,2 dichloroethene	ND	0.500	"							
cis-1,3-Dichloro-1-Propene	ND	0.500	"							
CIS-1,4-Dichloro-2-butene	ND	2.50	"							
Dibromochloromethane	ND	2.00	"							
Diethylether	ND	0.500	"							
Ethyl methacrylate	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Freon 113	ND	0.500	"							
Hexachloro-1,3-Butadiene	ND	2.00	"							
Idomethane	ND	2.00	"							
Isopropylbenzene	ND	0.500	"							
m&p-Xylene	ND	1.00	"							
Methylene dichloride	ND	10.0	"							
Naphthene	ND	0.500	"							
n-Butylbenzene	ND	0.500	"							
n-Propylbenzene	ND	0.500	"							
o-xylene	ND	0.500	"							
Pentachloroethane	ND	1.00	"							
sec-Butylbenzene	ND	0.500	"							
Styrene	ND	2.00	"							
tert-Butylbenzene	ND	0.500	"							
Tetrachlorocarbon	ND	0.500	"							
Tetrachloroethene	ND	0.500	"							
Tetrahydrofuran	ND	5.00	"							
Toluene	ND	2.00	"							
MTBE	ND	0.500	"							
trans-1,4-Dichloro-2-butene	ND	2.50	"							
Trans-Di-1,2-Chloroethylene	ND	0.500	"							
Methyl isobutyl ketone	ND	0.500	"							
Chloromethane	ND	0.500	"							

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

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 BI52701 - EPA 5030 Water MS										
Blank (BI52701-BLK1)			Prepared & Analyzed: 27-Sep-05							
Bromomethane	ND	2.00	ug/l							
Nitrobenzene	ND	10.0	"							
Vinyl chloride	ND	0.500	"							
Bromodichloromethane	ND	0.500	"							
Dibromomethane	ND	0.500	"							
Dichlorodifluoromethane	ND	2.00	"							
Vinyl acetate	ND	2.00	"							
Trichlorofluoromethane	ND	2.00	"							
Chloroethane	ND	0.500	"							
DIPE	ND	0.500	"							
1,1-dichloropropene	ND	0.500	"							
trans-1,3-Dichloro-1-Propene	ND	0.500	"							
1,2,3-Trichloropropane	ND	2.00	"							
2-Hexanone	ND	2.00	"							
TAME	ND	2.00	"							
Gasoline (C6-C12)	ND	50.0	"							
LCS (BI52701-BS1)			Prepared & Analyzed: 27-Sep-05							
Surrogate: 4-Bromofluorobenzene	*50.6*		*ug/l*	*50.0*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*48.8*		"	*50.0*		*97.6*	*70-130*			
Surrogate: Perdeuterotoluene	*51.4*		"	*50.0*		*103*	*70-130*			
1,1,2-Trichloroethene	119	0.500	"	100		119	70-130			
1,1-Dichloroethane	98.7	0.500	"	100		98.7	70-130			
1,1-Dichloroethene	115	0.500	"	100		115	70-130			
TBA	511	2.50	"	500		102	70-130			
1,2-dichloroethane	117	0.500	"	100		117	70-130			
Benzene	111	0.500	"	100		111	70-130			
Chlorobenzene	116	2.00	"	100		116	70-130			
Chloroform	103	0.500	"	100		103	70-130			
Tetrachloroethene	87.4	0.500	"	100		87.4	70-130			
Toluene	117	2.00	"	100		117	70-130			
MTBE	116	0.500	"	100		116	70-130			
Gasoline (C6-C12)	1550	50.0	"	2000		77.5	70-130			

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Pacific Analytical Laboratory

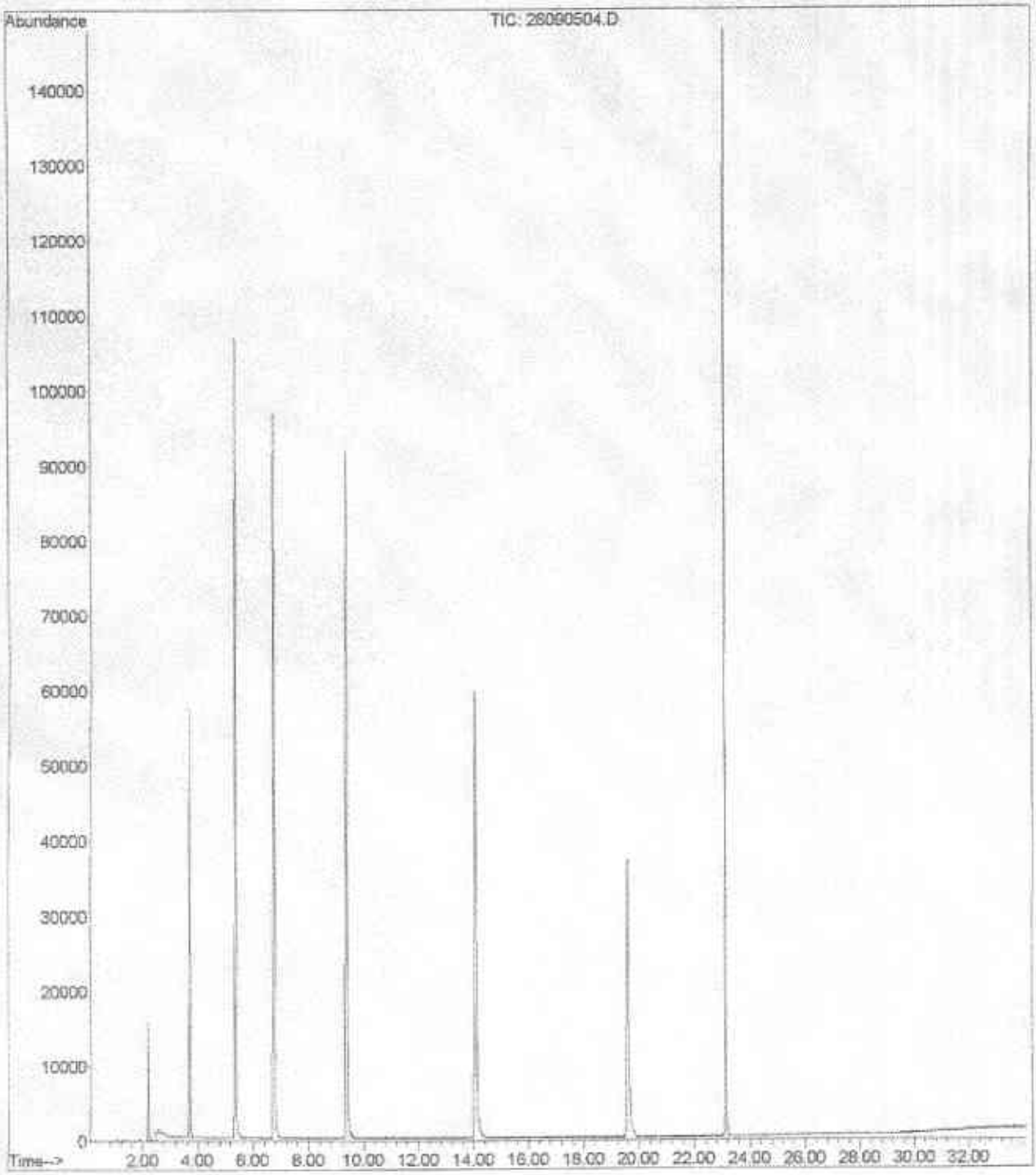
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BI52701 - EPA 5030 Water MS										
LCS Dup (BI52701-BSD1)			Prepared & Analyzed: 27-Sep-05							
Surrogate: 4-Bromofluorobenzene	*51.0*		*ug/l*	*50.0*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*47.9*		*"*	*50.0*		*95.8*	*70-130*			
Surrogate: Perdeuterotoluene	*48.4*		*"*	*50.0*		*96.8*	*70-130*			
1,1,2-Trichloroethene	117	0.500	"	100		117	70-130	1.69	20	
1,1-Dichloroethane	98.8	0.500	"	100		98.8	70-130	0.101	20	
1,1-Dichloroethene	108	0.500	"	100		108	70-130	6.28	20	
TBA	457	2.50	"	500		91.4	70-130	11.2	20	
1,2-dichloroethane	114	0.500	"	100		114	70-130	2.60	20	
Benzene	109	0.500	"	100		109	70-130	1.82	20	
Chlorobenzene	125	2.00	"	100		125	70-130	7.47	20	
Chloroform	100	0.500	"	100		100	70-130	2.96	20	
Tetrachloroethene	79.9	0.500	"	100		79.9	70-130	8.97	20	
Toluene	114	2.00	"	100		114	70-130	2.60	20	
MTBE	108	0.500	"	100		108	70-130	7.14	20	
Gasoline (C6-C12)	1530	50.0	"	2000		76.5	70-130	1.30	20	

SOMA Environmental Engineering Inc.	Project: 5565 Tesla Rd, Livermore	
6620 Owens Drive, Suite A	Project Number: 2841	**Reported:**
Pleasanton CA, 94588	Project Manager: Mansour Sepehr	27-Sep-05 11:36

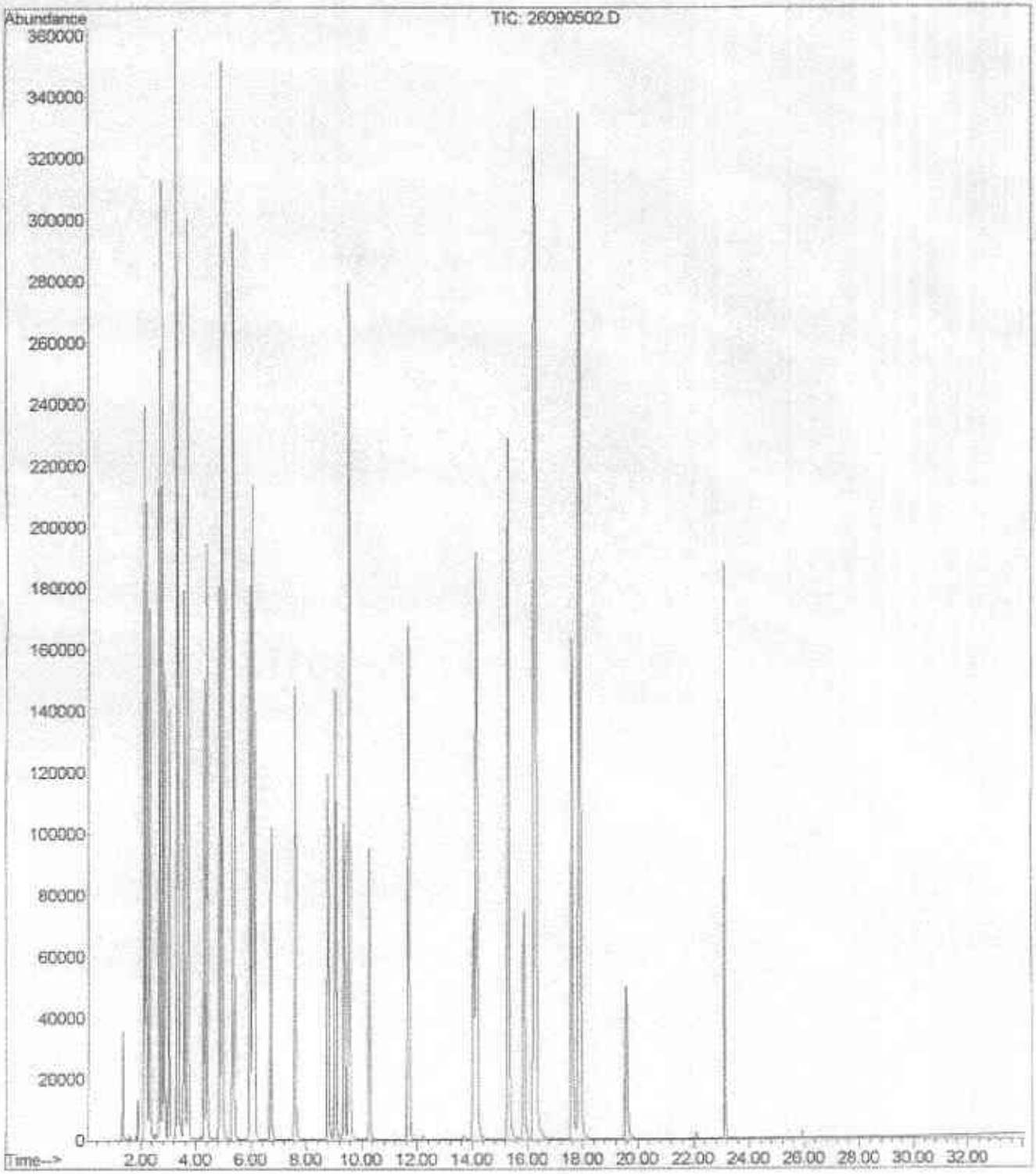
Notes and Definitions

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

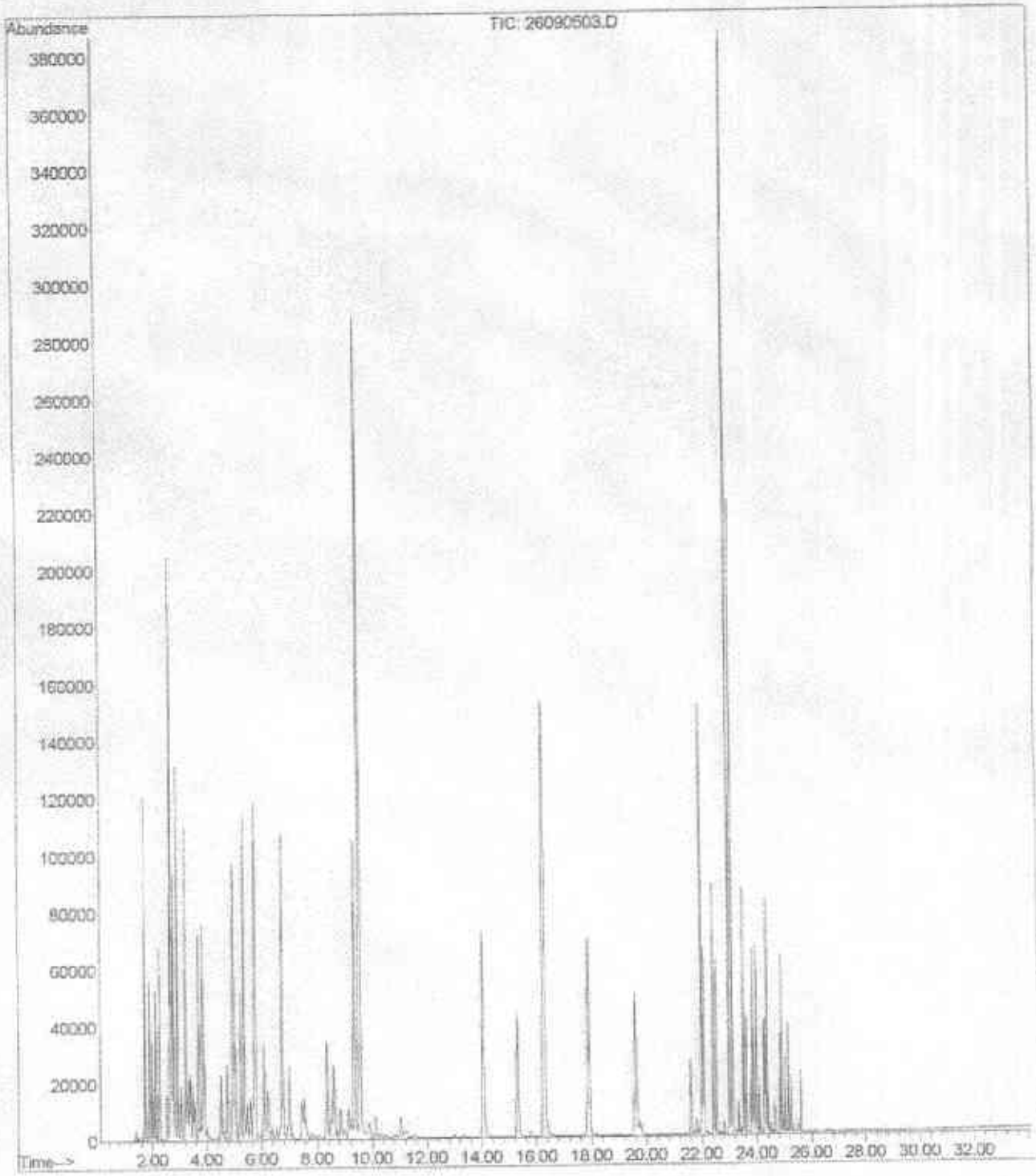
File : C:\MSDChem\1\DATA\2005-Sep-26-1016.b\26090504.D
Operator :
Acquired : 26 Sep 2005 1:42 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BI52701-BLK1
Misc Info :
Vial Number: 4



File :C:\MSDChem\1\DATA\2005-Sep-26-1016.b\26090502.D
Operator :
Acquired : 26 Sep 2005 12:09 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BI52701-BS1@voc
Misc Info :
Vial Number: 2



File :C:\MSDChem\1\DATA\2005-Sep-26-1016.b\26090503.D
Operator :
Acquired : 26 Sep 2005 12:55 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BI52701-BS1@gas
Misc Info :
Vial Number: 3



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

ANALYTICAL REPORT

Prepared for:

Pacific Analytical Laboratory
851 West Midway Ave
Suite 201B
Alameda, CA 94501

Date: 28-SEP-05
Lab Job Number: 181850
Project ID: STANDARD
Location:

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

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**181850**
Client:	**Pacific Analytical Laboratory**
Request Date:	**09/13/05**
Samples Received:	**09/13/05**

This hardcopy data package contains sample and QC results for three water samples, requested for the above referenced project on 09/13/05. The samples were received on ice and intact.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

181851

CHAIN OF CUSTODY

Pacific Analytical Laboratory
851 W Midway Ave, Suite 201B
Alameda, CA 94501

(510)864-0364 Phone
(510)864-0365 Fax

PAL LOGIN # 5090004

Project No: 2841

Project Name: 5565 Tesla Road, Livermore

Turnaround Time: Standard

Sampler: John Lohman

Report To: Tony Perini

Company : SOMA Environmental

Telephone: 925-244-6600

Fax: 925-244-6601

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Preservative: None	Analyses: ~~TPH-g/BTEX~~	Analyses: TPH-d TPH-mo
-1	MW-1	9/13/05 12:21 PM		X		4 VOA + 1L	X			X	X	X	X
-2	MW-2	9/13/05 1:05 PM		X		4 VOA + 1L	X			X	X	X	X
-3	MW-3	9/13/05 1:52 PM		X		4 VOA + 1L	X			X	X	X	X

Notes:

EDF OUTPUT REQUIRED
Silica Gel Cleanup Method

Received ☐ On Ice ☐ Cold ☐ Ambient ☑ Intact

RELINQUISHED BY:

3:20 pm 9/13/05 DATE/TIME

3:20 PM 9/13/05 DATE/TIME

DATE/TIME

RECEIVED BY:

3:20 PM 9/13/05 DATE/TIME

9/13/05 3:20 DATE/TIME

DATE/TIME

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	181850	Prep:	EPA 3520C
Client:	Pacific Analytical Laboratory	Analysis:	EPA 8015B
Project#:	STANDARD		
Matrix:	Water	Sampled:	09/13/05
Units:	ug/L	Received:	09/13/05
Diln Fac:	1.000	Prepared:	09/19/05
Batch#:	105932	Analyzed:	09/20/05

Field ID: MW-1 Lab ID: 181850-001
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	83	60-135

Field ID: MW-2 Lab ID: 181850-002
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	85	60-135

Field ID: MW-3 Lab ID: 181850-003
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	75	60-135

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC309636

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

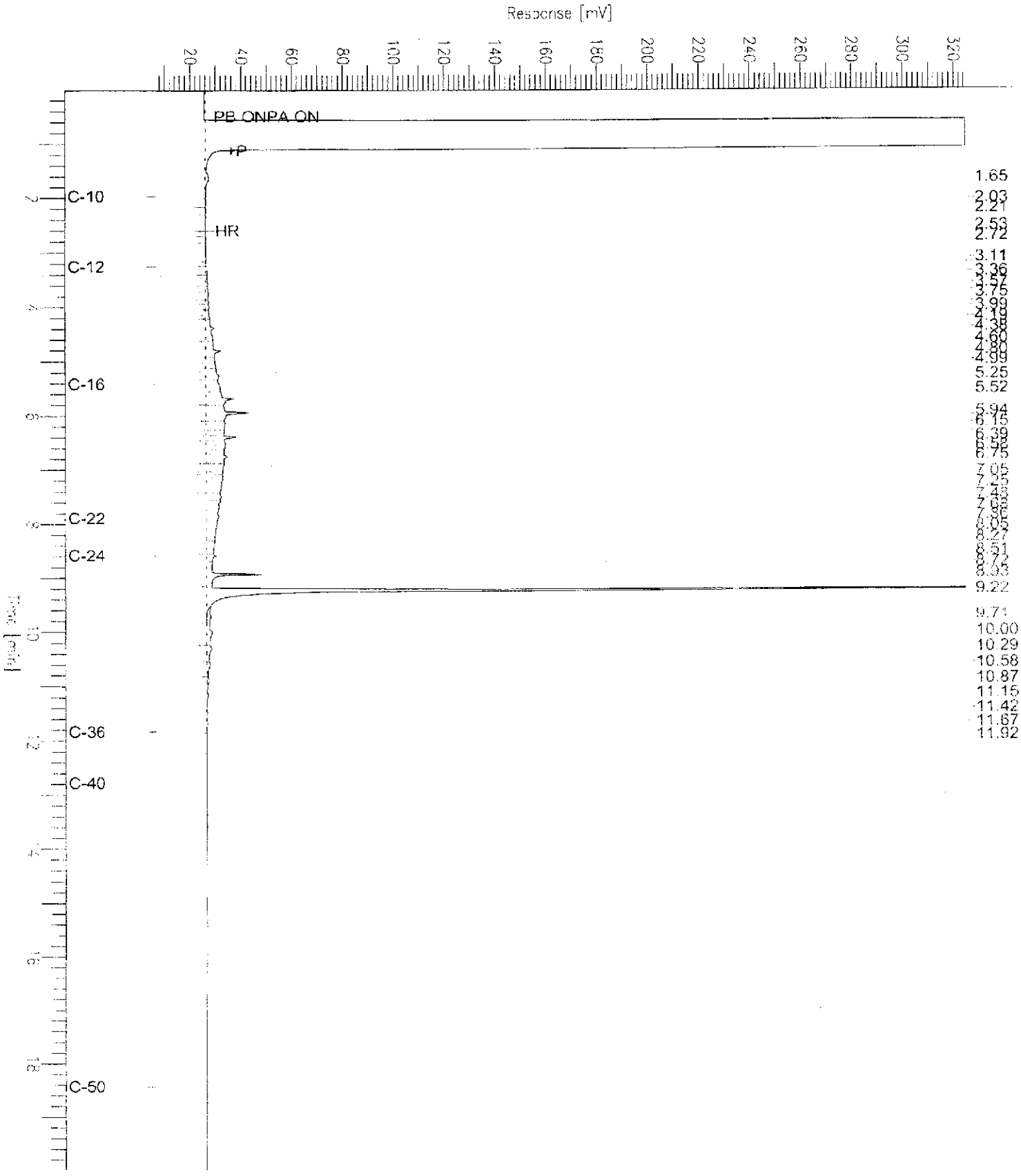
Surrogate	%REC	Limits
Hexacosane	81	60-135

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 181850-003sg,105932
FileName : G:\GC15\CHB\262B050.RAW
Method : BTEH256S.MTH
Start Time : 0.01 min End Time : 19.99 min
Scale Factor: 0.0 Plot Offset: 7 mV

Sample #: 105932
Date : 9/21/05 08:35 AM
Time of Injection: 9/20/05 09:40 PM
Low Point : 6.95 mV High Point : 324.64 mV
Plot Scale: 317.7 mV



Chromatogram

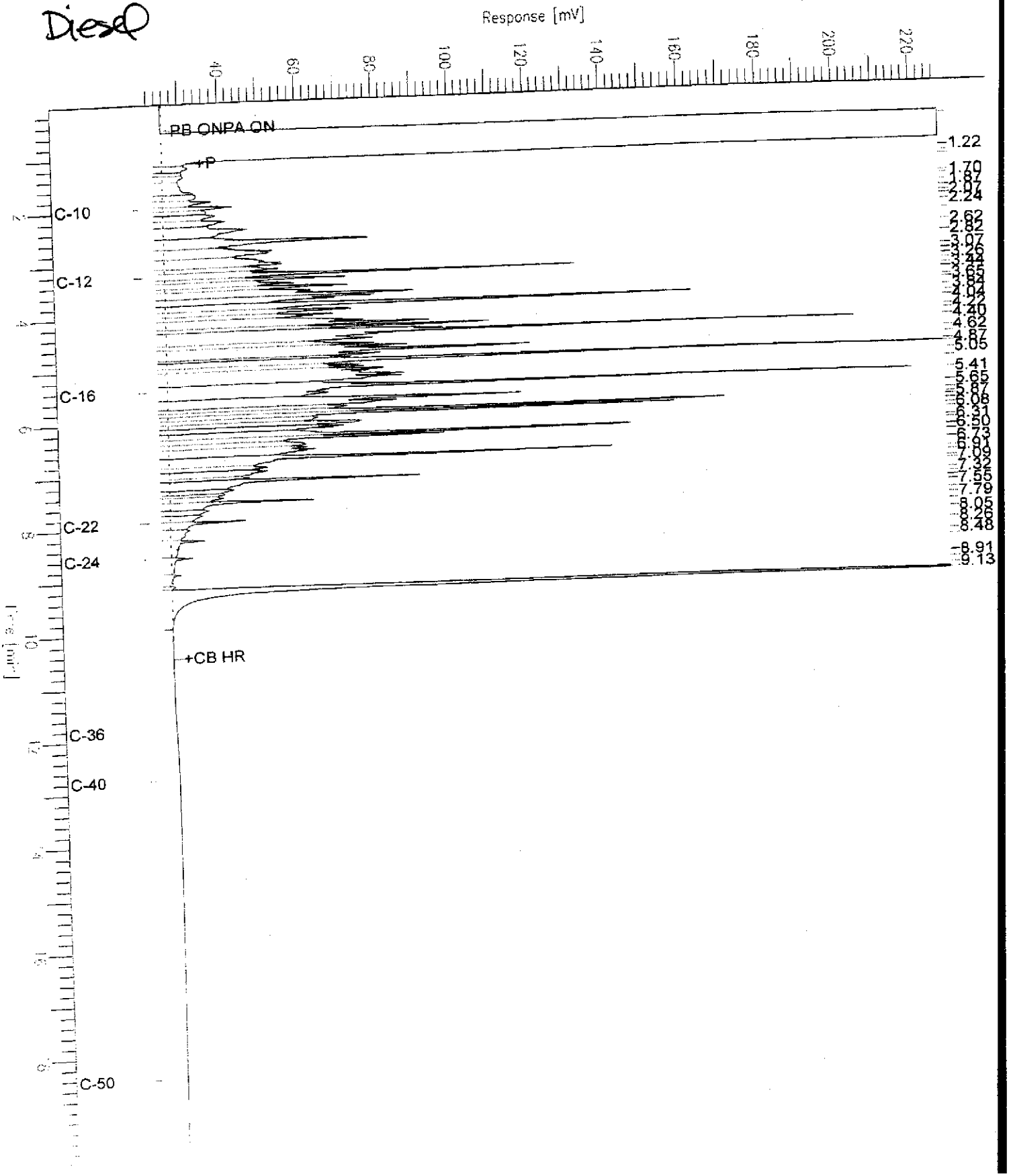
Sample Name : ccv,S1522,dsl
FileName : G:\GC15\CHB\262B003.RAW
Method : BTEH256S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.99 min
Plot Offset: 20 mV

Sample #: 500mg/L
Date : 9/19/05 12:40 PM
Time of Injection: 9/19/05 12:18 PM
Low Point : 20.49 mV
Plot Scale: 206.8 mV

High Point : 227.33 mV

Diesel



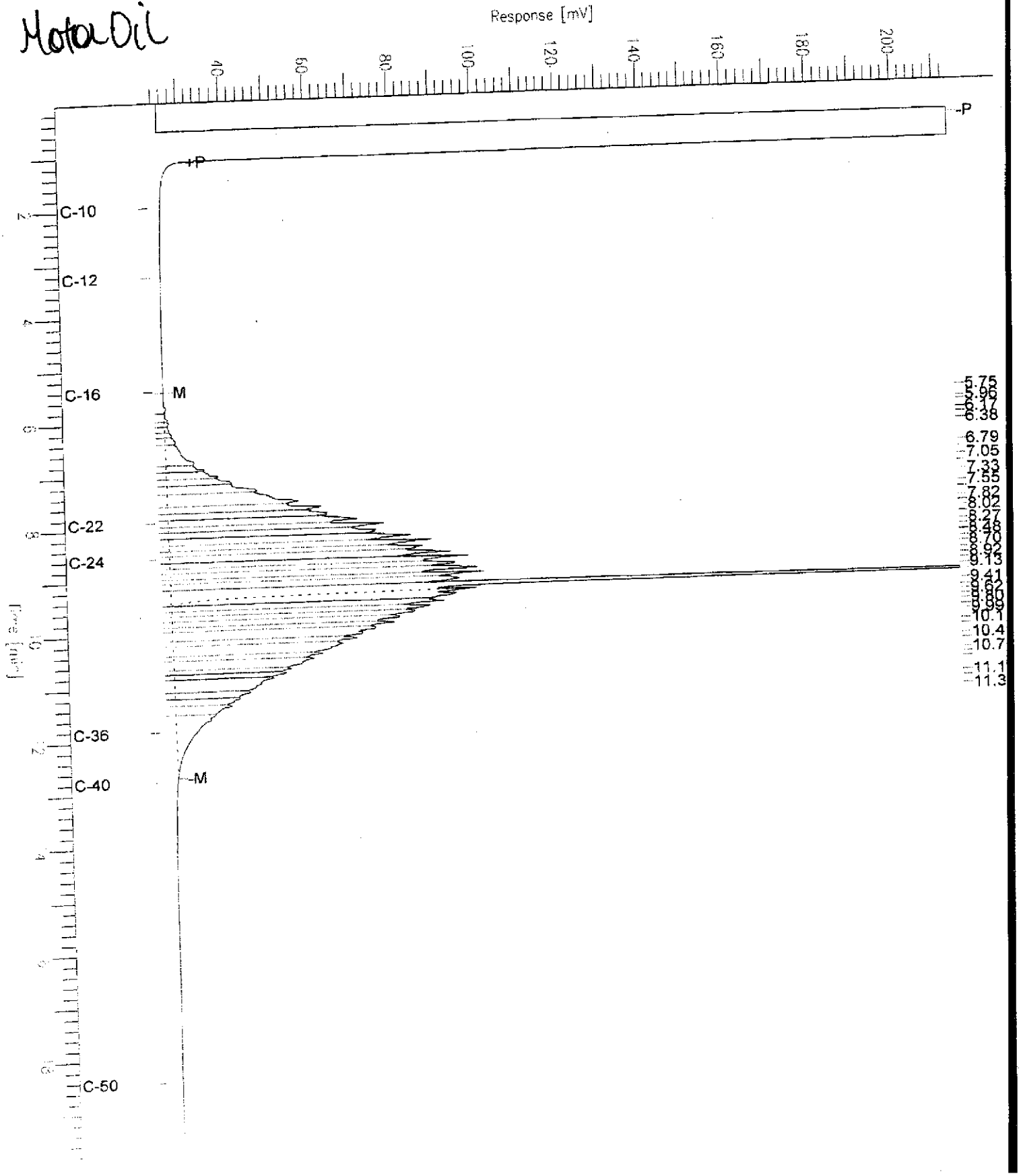
Chromatogram

Sample Name : ccv,S1508,mo
FileName : G:\GC15\CRB\262B004.RAW
Method : BTEH256S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.95 min
Plot Offset: 23 mV

Sample #: 500mg/L
Date : 9/19/05 01:13 PM
Time of Injection: 9/19/05 12:47 PM
Low Point : 23.11 mV
High Point : 213.30 mV
Plot Scale: 190.2 mV

Motor Oil



Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	181850	Prep:	EPA 3520C
Client:	Pacific Analytical Laboratory	Analysis:	EPA 8015B
Project#:	STANDARD		
Matrix:	Water	Batch#:	105932
Units:	ug/L	Prepared:	09/19/05
Diln Fac:	1.000	Analyzed:	09/20/05

Type: BS
Lab ID: QC309637
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,192	88	53-138

Surrogate	%REC	Limits
Hexacosane	79	60-135

Type: BSD
Lab ID: QC309638
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,641	106	53-138	19	36

Surrogate	%REC	Limits
Hexacosane	97	60-135

RPD= Relative Percent Difference

3.0

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

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

Prepared for:

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

Date: 14-OCT-05
Lab Job Number: 182178
Project ID: 2841
Location: 5565 Tesla Rd, Livermore

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

Reviewed by: Carol Wirthlin for CJB
Project Manager

Reviewed by:
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**182178**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2841**
Location:	**5565 Tesla Rd, Livermore**
Request Date:	**09/29/05**
Samples Received:	**09/29/05**

This hardcopy data package contains sample and QC results for three water samples, requested for the above referenced project on 09/29/05. The samples were received intact at ambient temperature.

Metals (EPA 6010B):
No analytical problems were encountered.

CHAIN OF CUSTODY

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

C&T LOGIN # 182178

Sampler: John Lohman

Project No: 2841

Report To: Tony Perini

Project Name: 5565 Tesla Rd, Livermore

Company : SOMA Environmental

Turnaround Time: Standard

Telephone: 925-244-6600

Fax: 925-244-6601

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Preservative: none	Analyses: 6010B Cadmium, Chromium, Lead, Nickel, Zn
-1	MW-1	9/29/2005 12:15		*		500 ML POLY			*	*		*
-2	MW-2	9/29/2005 12:25		*		500 ML POLY			*	*		*
-3	MW-3	9/29/2005 12:32		*		500 ML POLY			*	*		*

Notes: **EDF OUTPUT REQUIRED**

On Ice ☐ Ambient ☑ Intact

RELINQUISHED BY:

9/29/05 4:15 pm DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

9/29/05 4:15 pm DATE/TIME

DATE/TIME

DATE/TIME

Curtis & Tompkins, Ltd.

Metals Analytical Report

Lab #:	182178	Location:	5565 Tesla Rd, Livermore
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3010A
Project#:	2841	Analysis:	EPA 6010B
Units:	ug/L	Sampled:	09/29/05
Diln Fac:	1.000	Received:	09/29/05
Batch#:	106348	Prepared:	10/03/05

Field ID: MW-1 Matrix: Water
Type: SAMPLE Analyzed: 10/04/05
Lab ID: 182178-001

Analyte	Result	RL
Cadmium	ND	5.0
Chromium	ND	10
Lead	ND	3.0
Nickel	ND	20
Zinc	27	20

Field ID: MW-2 Matrix: Water
Type: SAMPLE Analyzed: 10/04/05
Lab ID: 182178-002

Analyte	Result	RL
Cadmium	ND	5.0
Chromium	ND	10
Lead	ND	3.0
Nickel	ND	20
Zinc	23	20

Field ID: MW-3 Matrix: Water
Type: SAMPLE Analyzed: 10/04/05
Lab ID: 182178-003

Analyte	Result	RL
Cadmium	ND	5.0
Chromium	ND	10
Lead	ND	3.0
Nickel	ND	20
Zinc	ND	20

Type: BLANK Matrix: Filtrate
Lab ID: QC311357 Analyzed: 10/03/05

Analyte	Result	RL
Cadmium	ND	5.0
Chromium	ND	10
Lead	ND	3.0
Nickel	ND	20
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit

2.0

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	182178	Location:	5565 Tesla Rd, Livermore
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3010A
Project#:	2841	Analysis:	EPA 6010B
Matrix:	Filtrate	Batch#:	106348
Units:	ug/L	Prepared:	10/03/05
Diln Fac:	1.000	Analyzed:	10/03/05

Type: BS Lab ID: QC311358

Analyte	Spiked	Result	%REC	Limits
Cadmium	50.00	52.54	105	80-120
Chromium	200.0	201.4	101	80-120
Lead	100.0	95.29	95	76-124
Nickel	500.0	514.2	103	80-120
Zinc	500.0	527.2	105	80-120

Type: BSD Lab ID: QC311359

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	50.00	53.17	106	80-120	1	20
Chromium	200.0	205.2	103	80-120	2	20
Lead	100.0	96.22	96	76-124	1	20
Nickel	500.0	522.1	104	80-120	2	20
Zinc	500.0	536.2	107	80-120	2	20

RPD= Relative Percent Difference

3.0

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	182178	Location:	5565 Tesla Rd, Livermore
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3010A
Project#:	2841	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	106348
MSS Lab ID:	182211-002	Sampled:	09/30/05
Matrix:	Filtrate	Received:	09/30/05
Units:	ug/L	Prepared:	10/03/05
Diln Fac:	1.000	Analyzed:	10/03/05

Type: MS Lab ID: QC311360

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	<0.5500	50.00	50.90	102	80-120
Chromium	0.9464	200.0	202.6	101	80-120
Lead	<0.5698	100.0	85.41	85	61-135
Nickel	3.697	500.0	498.3	99	77-120
Zinc	<1.533	500.0	515.6	103	75-124

Type: MSD Lab ID: QC311361

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	50.00	50.10	100	80-120	2	20
Chromium	200.0	201.2	100	80-120	1	20
Lead	100.0	82.12	82	61-135	4	23
Nickel	500.0	491.6	98	77-120	1	20
Zinc	500.0	506.6	101	75-124	2	20

RPD= Relative Percent Difference

4.0