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ENVIRONMENTAL ENGINEERING, INC

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TEL (925) 734-6400 • FAX (925) 734-6401

November 16, 2005

Mr. Don Hwang
Alameda County
Department of Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Fuel Leak Case No. RO0000317-5725 Thornhill Drive, Oakland, CA

Dear Don:

SOMA's "Fourth Quarter 2005 Groundwater Monitoring Report" for the subject property has been uploaded to the State's GeoTracker database for your review.

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

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist



cc: Mr. Mo Mashhoon w/report enclosure

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**Fourth Quarter 2005
Groundwater Monitoring Report**

Mash Petroleum Inc.

**5725 Thornhill Drive
Oakland, California**

November 16, 2005

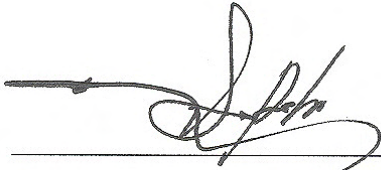
Project 2831

Prepared for
Mr. Mo Mashhoon
1721 Jefferson Street
Oakland, California 94612

Prepared by
SOMA Environmental Engineering, Inc.
6620 Owens Drive, Suite A
Pleasanton, California 94588

Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Mo Mashhoon, the property owner of 5725 Thornhill Drive, Oakland, California, to comply with the Alameda County Health Care Services Agency's and California Regional Water Quality Control Board's requirements for the Fourth Quarter 2005 groundwater monitoring event.



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



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1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of Mr. Mo Mashhoon, the property owner of 5725 Thornhill Drive, Oakland, California ("the Site") as shown in Figure 1. The Site is currently an active ARCO station that is located in an area consisting primarily of commercial and residential land uses.

This report summarizes the results of the Fourth Quarter 2005 groundwater monitoring event conducted at the Site on October 18, 2005. This report includes the field measurement results of the physical and chemical properties of the groundwater at the time of sampling. This report also includes laboratory analyses results on the groundwater samples.

The groundwater monitoring activities for this quarter were performed in accordance with the general guidelines of the California Regional Water Quality Control Board (CRWQCB) and the Alameda County Health Care Services Agency (ACHCSA). Appendix A details the groundwater monitoring procedures used during the Fourth Quarter 2005 monitoring event.

1.1 Previous Activities

In November 1998, Penn Environmental (Penn) removed a 550-gallon steel underground waste oil tank (WOT) from the Site. Soil samples collected from the WOT excavation contained up to 1,100,000 $\mu\text{g}/\text{Kg}$ of TPH-g, 2,700,000 $\mu\text{g}/\text{Kg}$ of TPH-d, and 4,200,000 $\mu\text{g}/\text{Kg}$ of TPH-Mo. On February 4, 1999, Penn Environmental over-excavated the contaminated soil surrounding the former WOT. Aqua Science Engineers, Inc., (ASE) collected confirmation soil samples from two sidewalls of the excavation. The only compound detected in one of these two soil samples was MtBE at 40 $\mu\text{g}/\text{Kg}$.

In July 1999, ASE drilled borehole BH-A in the vicinity of the former WOT. On September 6, 2000, ASE drilled soil boreholes BH-B and BH-C. On October 23, 2000, ASE drilled soil boreholes BH-D and BH-E. ASE also collected water samples from Temescal Creek. No hydrocarbons were detected in the water sample collected from Temescal Creek. Figure 2 shows the locations of the borings.

On March 1 and 2, 2004, SOMA oversaw the advancement of nine temporary well boreholes, HP-1 through HP-7, HP-9 and HP-10 by Gregg Drilling & Testing (Gregg). Proposed hydropunch HP-8, located in street, was not drilled due traffic hazards. Three onsite wells were decommissioned in March 2004, and three wells (SOMA-1 to SOMA-3) were installed. The locations of the boreholes and wells are shown in Figure 2.

The results of the March 2004 investigation and details of the well installations

are presented in SOMA's report "Soil and Groundwater Investigation and Monitoring Well Installation Report at 5725 Thornhill Drive, Oakland, California", dated April 16, 2004.

On April 25, 2005, SOMA conducted a sensitive receptor survey to identify any water bodies or domestic, irrigation or water supply wells within a quarter mile radius of the Site. Based on the State Department of Water Resources and Alameda County Public Works Agency records, no drinking water, domestic or irrigation wells were within a quarter mile radius of the Site.

In May 2005, CPT/MIP boreholes (CPT-1 through CPT-5 and CPT-7 through CPT-11) were advanced, under the supervision of SOMA. CPT-6 could not be drilled due to the physical constraints and obstruction of local traffic. Ten boreholes, designated GS-1 through GS-5 and GS-7 through GS-11, were advanced at the corresponding CPT borehole locations. Monitoring well, SOMA-4 was installed. Figure 2 shows the location of this well and CPT borehole locations.

The results of the May 2005 site investigation and well installation are presented in SOMA's report entitled "Additional Soil and Groundwater Investigation and Monitoring Well Installation Report at 5725 Thornhill Drive, Oakland, California," dated June 13, 2005.

2.0 RESULTS

The following sections provide the results of the field measurements and laboratory analyses for the October 18, 2005 groundwater monitoring event.

2.1 Field Measurements

As shown in Table 1, the depth to groundwater ranged from 6.12 feet in SOMA-1 to 8.15 feet in SOMA-4. The corresponding groundwater elevations ranged from 564.50 feet in SOMA-4 to 570.35 feet in SOMA-1.

A contour map of the groundwater elevations for the Fourth Quarter 2005 monitoring event is presented in Figure 3. As Figure 3 illustrates, groundwater flows southwesterly across the Site, with an average gradient of 0.029 feet/foot.

The field notes in Appendix B show the detailed measurements of the physical and chemical parameters of the groundwater for each well during the Fourth Quarter 2005 monitoring event.

2.2 Laboratory Analyses

Table 1 presents the results of the laboratory analyses for total petroleum hydrocarbons as gasoline (TPH-g), total petroleum hydrocarbons as diesel (TPH-d), total petroleum hydrocarbons as motor oil, benzene, toluene, ethylbenzene, total xylenes (BTEX), and Methyl tertiary Butyl Ether (MtBE) analytes. Table 2 presents the results of the gasoline oxygenates and lead scavengers.

TPH-g was below the laboratory reporting limit in well SOMA-1. TPH-g was detected at 50.1 ug/L in well SOMA-3 and at 2,710 ug/L in SOMA-2. Figure 4 displays the contour map of TPH-g concentrations in the groundwater. As illustrated in Figure 4, due to the southwesterly groundwater flow direction from the UST cavity and pump islands, TPH-g has migrated off-site. The most impacted TPH-g region appears to be in the region of the pump islands, around well SOMA-2.

TPH-d was below the laboratory reporting limit in well SOMA-1. Detectable TPH-d concentrations ranged from 120 ug/L in well SOMA-3 to 1,200 ug/L in well SOMA-4. The TPH-d result in wells SOMA-3 and SOMA-4 did not resemble that of a standard diesel pattern. The laboratory designated this variation in the diesel pattern by using a "Y" flag. The TPH-d result in well SOMA-4 may have also been affected by the presence of lighter hydrocarbons that were present during analytical testing. The laboratory designated this variation in lighter hydrocarbons by using an "L" flag.

Figure 5 displays the contour map of TPH-d concentrations in the groundwater. As illustrated in Figure 5, due to the overall influence of the southwesterly groundwater flow direction from the UST cavity and pump islands, TPH-d has impacted off-site well SOMA-4. TPH-d was also detected at a high concentration in well SOMA-2.

TPH-mo was below the laboratory reporting limit throughout the Site. Therefore, no iso-concentration figure was drawn for TPH-mo.

All BTEX analytes were below the laboratory reporting limit in wells SOMA-1, SOMA-3, and SOMA-4. In well SOMA-2, only low BTEX analytes were detected, and toluene was below the laboratory reporting limit. No iso-concentration figure was drawn for benzene due to the site wide non-detectable levels, with the exception of the sample collected from well SOMA-2, which had a trace benzene concentration of 1.41 ug/L.

MtBE was detected in all of the groundwater samples collected during the Fourth Quarter 2005 monitoring event. Detectable MtBE concentrations ranged from 5.33 ug/L in well SOMA-1 to 425 ug/L in well SOMA-4.

Figure 6 displays the contour map of MtBE concentrations in the groundwater using EPA Method 8260B. Figure 6 illustrates the overall influence of the

southwesterly groundwater flow direction from the UST cavity and pump islands to the off-site regions. The most impacted MtBE region appears to be in the vicinity of well SOMA-4.

As shown in Table 2, all Isopropyl Ether (DIPE), Ethyl tertiary Butyl Ether (EtBE), 1,2-Dichloroethane (1,2-DCA), 1,2-Dibromoethane (EDB), and ethanol constituents were below the laboratory reporting limit in the groundwater samples collected during the Fourth Quarter 2005 monitoring event. TAME was below the laboratory reporting limit in all of the groundwater samples, with the exception of a trace concentration of 2.61 ug/L detected in well SOMA-2.

TBA was below the laboratory reporting limit in the groundwater samples collected from wells SOMA-1 and SOMA-3. Figure 7 displays the contour map of TBA concentrations in the groundwater. As shown in Figure 7, the most impacted TBA region appears to be in the vicinity of well SOMA-4.

Appendix C contains the laboratory report and COC form from the Fourth Quarter 2005 monitoring event.

3.0 CONCLUSIONS & RECOMMENDATIONS

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

- The groundwater flow direction is southwesterly across the Site, at a gradient of approximately 0.029 feet/feet. The groundwater flow direction and gradient have remained consistent with the previous quarter.
- Based on previous site investigations, and the results of the quarterly monitoring events, both the hydrocarbon and MtBE plumes have migrated southwesterly off-site with the flow of groundwater.

Based on the results from this monitoring event, SOMA recommends a no further action (NFA) status be adopted by the ACHSA, as well as:

- Installing additional off-site wells to determine the horizontal extent of the off-site migration. Figure 2 shows the proposed well locations.
- Continual monitoring of the groundwater elevations to evaluate the hydraulic communication between Temescal Creek and the upper water-bearing zone.

4.0 REPORT LIMITATIONS

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

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

Tables

Table 1
SOMA Historical Groundwater Elevation Data
& Analytical Results (Hydrocarbons, BTEX, & MtBE)
5725 Thornhill Drive, Oakland California

Monitoring Well	Date	Top of Casing Elevation (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* 8260B (µg/L)
SOMA-1	Apr-04	576.47	5.75	570.72	63	<50	<300	<0.5	<0.5	<0.5	<0.5	7.7
	Jul-04	576.47	6.21	570.26	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	9.1
	Oct-04	576.47	5.76	570.71	<50	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	6.4
	Jan-05	576.47	3.73	572.74	<50	200 HY	900	<0.5	<0.5	<0.5	<0.5	4.7
	Apr-05	576.47	4.72	571.75	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	7.49
	Jul-05	576.47	5.87	570.60	<200	<50	<300	<0.5	<2.0	<0.5	<1.0	4.94
	Oct-05	576.47	6.12	570.35	<50	<50	<300	<0.5	<2.0	<0.5	<1.0	5.33
SOMA-2	Apr-04	575.50	7.40	568.10	1,900	690 LY	<300	<0.5	<0.5	5.2	9.9	1,900
	Jul-04	575.50	7.92	567.58	1,500	710 LY	<300	8.9 C	<0.5	1.5 C	2.9 C	740
	Oct-04	575.50	7.62	567.88	955	790 LY	<1.0	<2.5	<2.5	<2.5	< 5	785
	Jan-05	575.50	5.70	569.80	3,700	2100 LY	380	3.7	<2.0	3.5	102	310
	Apr-05	575.50	6.28	569.22	5,960	1200 LY	<300	1.19	<0.5	20.6	25	241
	Jul-05	575.50	7.42	568.08	2,480	800 LY	<300	1.09	<2.0	2.65	0.73	162
	Oct-05	575.50	7.70	567.80	2,710	1,100 LY	<300	1.41	<2.0	2.24	0.64	130
SOMA-3	Apr-04	575.92	7.14	568.78	190	120 Y	<300	<0.5	<0.5	<0.5	<0.5	5.1
	Jul-04	575.92	7.95	567.97	130	120 LY	<300	<0.5	<0.5	<0.5	<0.5	9.1
	Oct-04	575.92	7.60	568.32	57	280 LY	<1.0	<0.5	<0.5	<0.5	<2	11.3
	Jan-05	572.92	5.45	567.47	140	210 Y	<300	<0.5	<0.5	<0.5	<0.5	5.8
	Apr-05	572.92	6.02	566.90	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	4.53
	Jul-05	572.92	7.49	565.43	<200	120 Y	<300	<0.5	<2.0	<0.5	<1.0	4.69
	Oct-05	572.92	7.63	565.29	50.1	120 Y	<300	<0.5	<2.0	<0.5	<1.0	8.63
SOMA-4	Jul-05	572.65	8.10	564.55	3,350	1,200 LY	<300	<1.0	<4.0	<1.0	<2.0	455
	Oct-05	572.65	8.15	564.50	1,580	1,200 LY	<300	<2.15	<8.6	<2.15	<4.3	425

Table 1
SOMA Historical Groundwater Elevation Data
& Analytical Results (Hydrocarbons, BTEX, & MtBE)
 5725 Thornhill Drive, Oakland California

Monitoring Well	Date	Top of Casing Elevation (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* 8260B (µg/L)
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Notes:

- <: not detected at or above laboratory reporting limits.
- C: Presence confirmed, but RPD between columns exceeds 40%.
- H: Heavier hydrocarbons contributed to the quantitation.
- L: Lighter hydrocarbons contributed to the quantitation.
- Y: Sample exhibits chromatographic pattern which did not resemble standard.

The Second Quarter 2004 was the first time SOMA monitored the site. Wells SOMA-1 to SOMA-3 were monitored at that time. Well SOMA-4 was installed on May 27, 2005. The Third Quarter 2005 was the first time SOMA monitored this well.

Table 2
Groundwater Analytical Results
Gasoline Oxygenates & Lead Scavengers
5725 Thornhill Drive, Oakland California

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)
SOMA-1	Apr-04	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	Jul-04	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	Oct-04	<2.5	<0.5	<0.5	<2	<0.5	<0.5	<1.0
	Jan-05	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1,000
	Apr-05	<2.5	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	Jul-05	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	Oct-05	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
SOMA-2	Apr-04	<100	<5.0	<5.0	19.0	<5.0	<5.0	<10000
	Jul-04	<33	<1.7	<1.7	9.8	<1.7	<1.7	<3300
	Oct-04	36.3	<2.5	<2.5	12.85	<0.5	<0.5	<1.0
	Jan-05	67	<2.0	<2.0	6.7	<2.0	<2.0	<4,000
	Apr-05	71	<0.5	<0.5	3.29	<0.5	<0.5	<1000
	Jul-05	74.2	<0.5	<0.5	2.82	<0.5	<0.5	<1000
	Oct-05	81.7	<0.5	<0.5	2.61	<0.5	<0.5	<1000
SOMA-3	Apr-04	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	Jul-04	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	Oct-04	<2.5	<0.5	<0.5	<2	<0.5	<0.5	<1.0
	Jan-05	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1,000
	Apr-05	<2.5	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	Jul-05	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	Oct-05	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
SOMA-4	Jul-05	84.1	<1.0	<1.0	4.4	<1.0	<1.0	<1000
	Oct-05	314	<2.15	<2.15	<8.6	<2.15	<2.15	<4300

Table 2
Groundwater Analytical Results
Gasoline Oxygenates & Lead Scavengers
5725 Thornhill Drive, Oakland California

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

<: Not detected above the laboratory reporting limit.

The Second Quarter 2004 was the first time SOMA monitored the site.

Wells SOMA-1 to SOMA-3 were monitored at that time.

Well SOMA-4 was installed on May 27, 2005. The Third Quarter 2005 was the first time SOMA monitored this well.

Gasoline Oxygenates:

TBA: tertiary butyl alcohol

DIPE: Di-Isopropyl ether

ETBE: Ethyl tertiary butyl ether

TAME: Methyl tertiary amyl ether

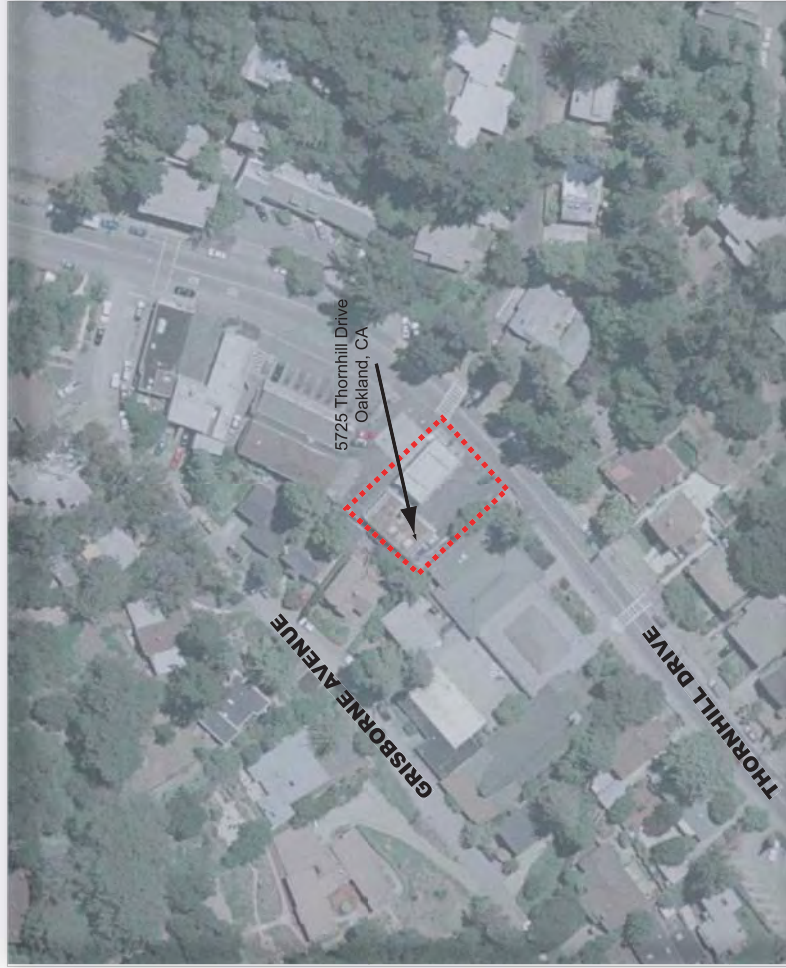
Ethanol

Lead Scavengers:

1,2-Dichloroethane

EDB: 1,2-Dibromoethane

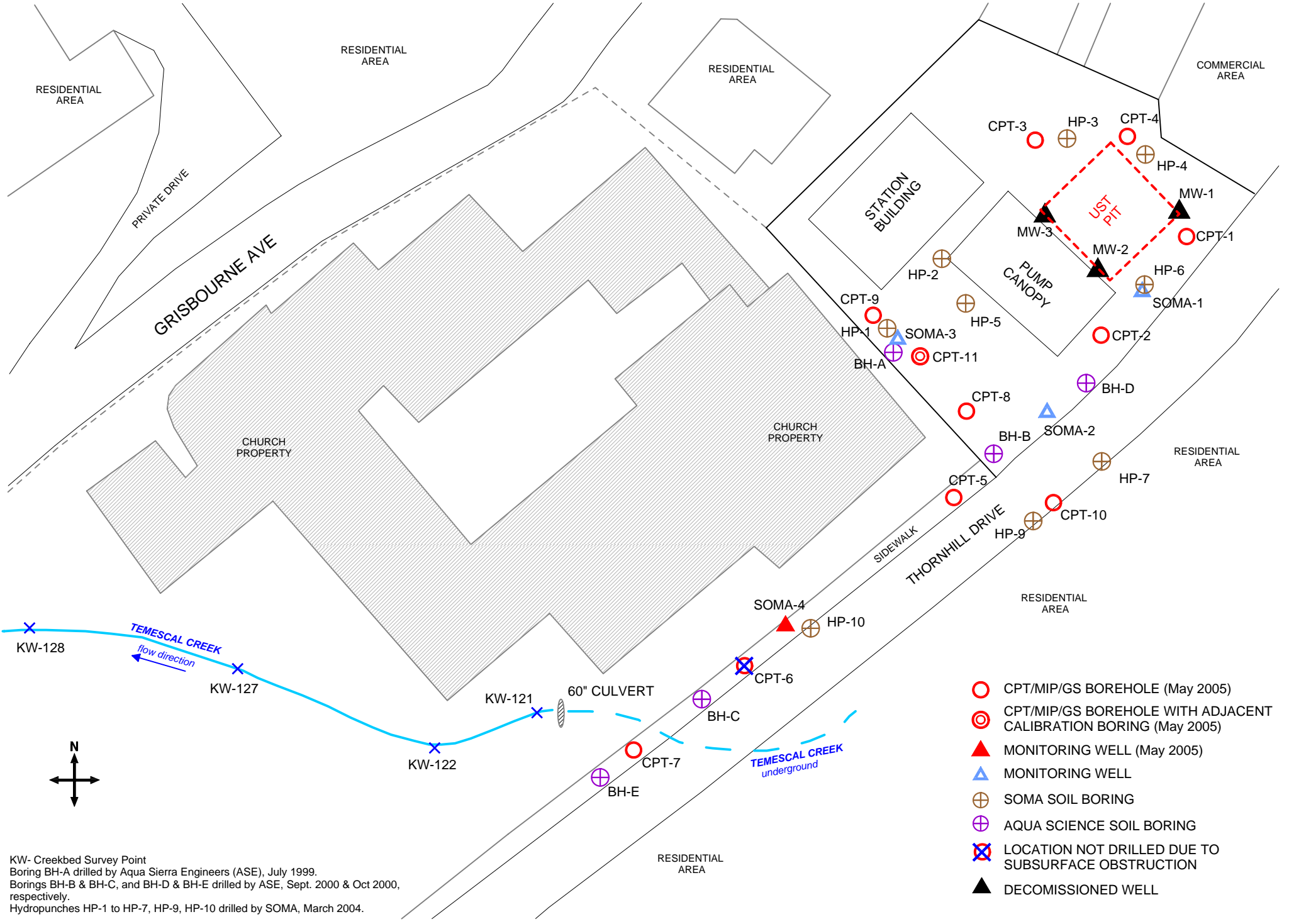
Figures



approximate scale in feet
0 100 200

Figure 1: Site vicinity map.





- CPT/MIP/GS BOREHOLE (May 2005)
- ⊗ CPT/MIP/GS BOREHOLE WITH ADJACENT CALIBRATION BORING (May 2005)
- ▲ MONITORING WELL (May 2005)
- ▲ MONITORING WELL
- ⊕ SOMA SOIL BORING
- ⊕ AQUA SCIENCE SOIL BORING
- ⊗ LOCATION NOT DRILLED DUE TO SUBSURFACE OBSTRUCTION
- ▲ DECOMMISSIONED WELL

KW- Creekbed Survey Point
 Boring BH-A drilled by Aqua Sierra Engineers (ASE), July 1999.
 Borings BH-B & BH-C, and BH-D & BH-E drilled by ASE, Sept. 2000 & Oct 2000, respectively.
 Hydropunches HP-1 to HP-7, HP-9, HP-10 drilled by SOMA, March 2004.

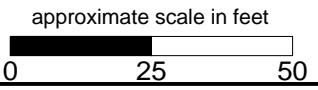
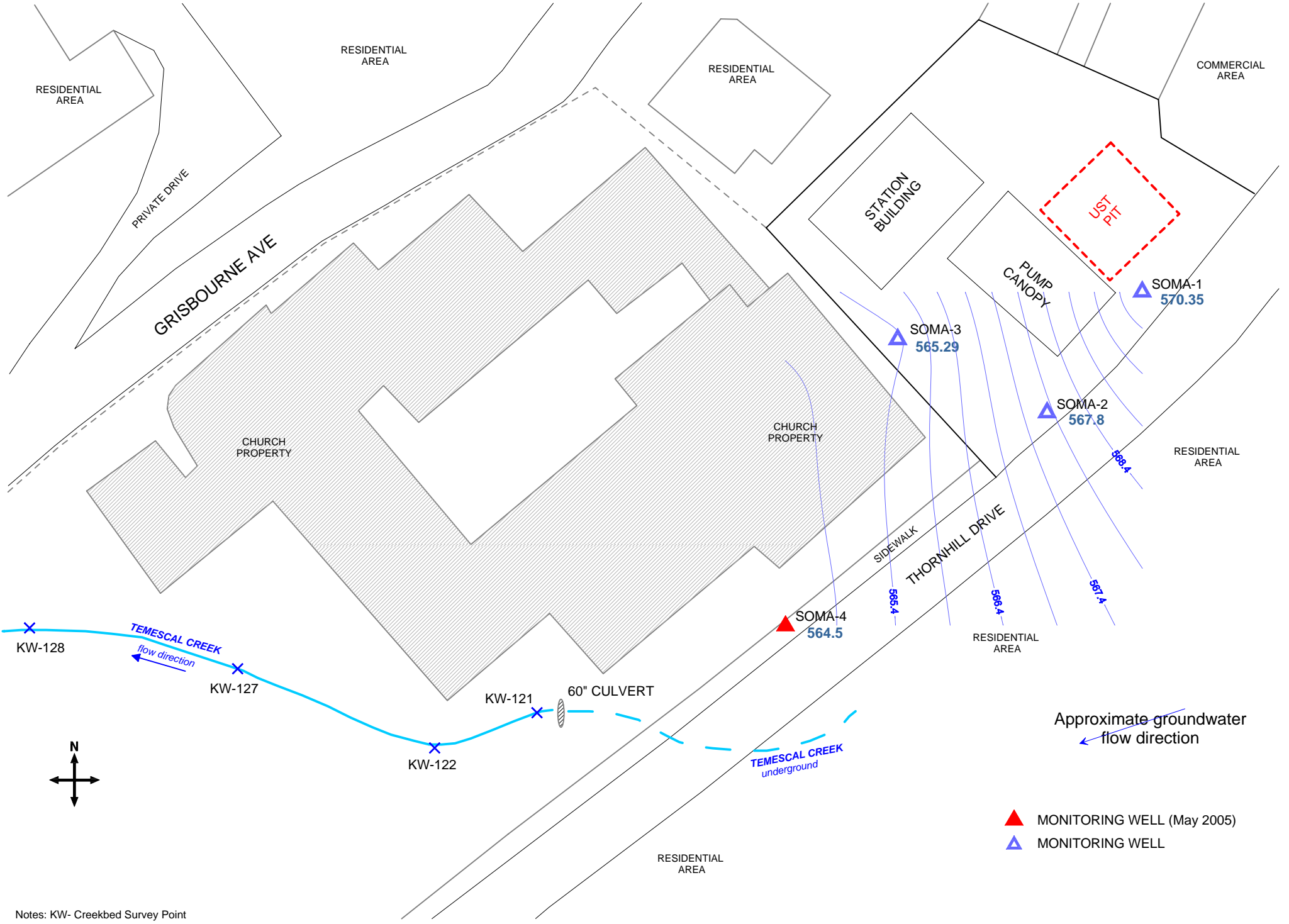


Figure 2: Site map showing locations of monitoring wells, soil borings, decommissioned wells, and CPT/MIP/GS boreholes.



Notes: KW- Creekbed Survey Point

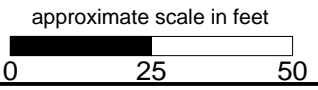


Figure 3: Groundwater elevation contour map in feet. October 2005.

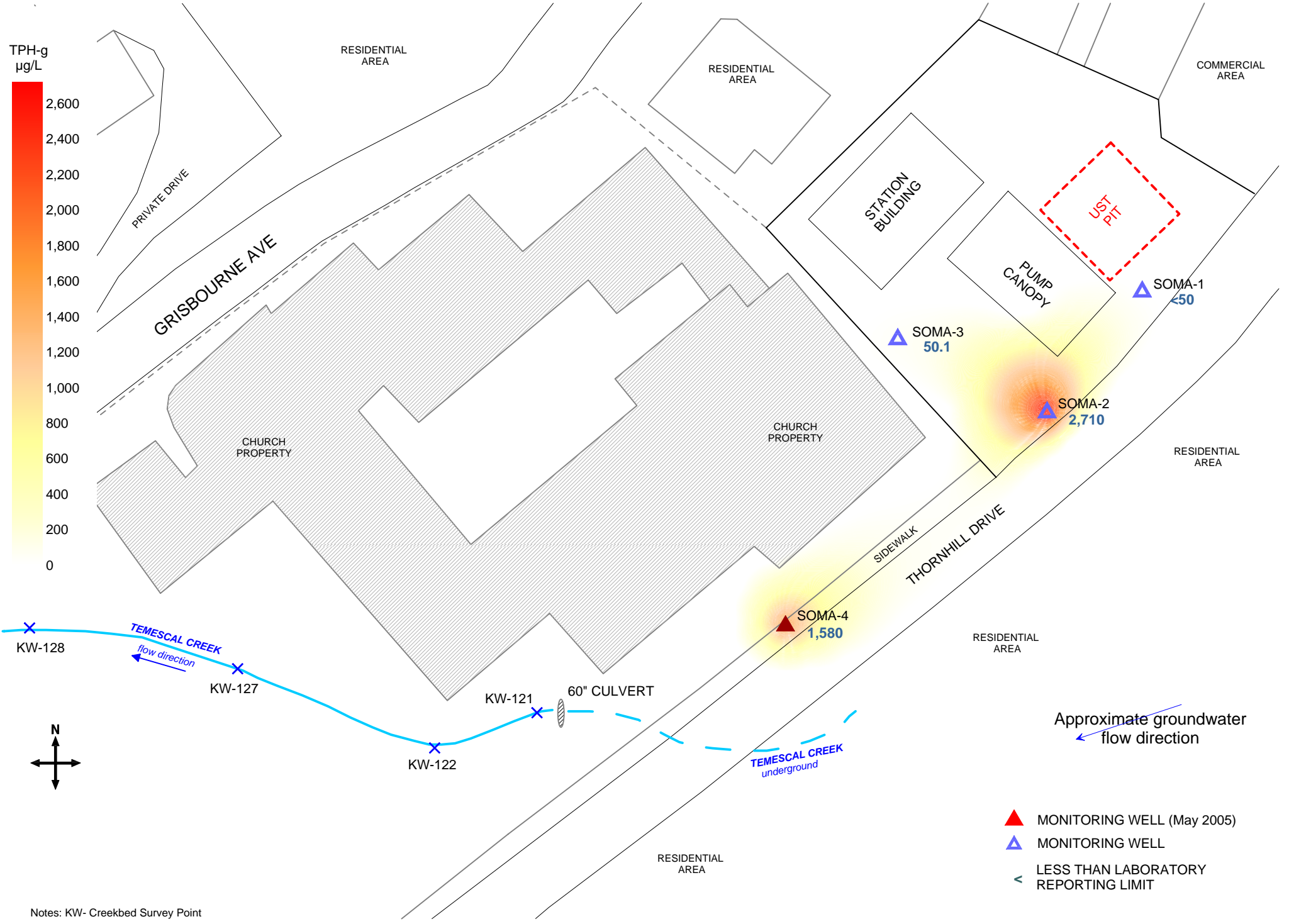


Figure 4: Contour map of TPH-g concentrations in groundwater. October 2005.



Figure 5: Contour map of TPH-d concentrations in groundwater. October 2005.

Notes: KW- Creekbed Survey Point
 approximate scale in feet
 0 25 50



Figure 6: Contour map of MtBE concentrations in groundwater. (EPA Method 8260B). October 2005.



Figure 7: Contour map of TBA concentrations in groundwater. October 2005.

APPENDIX A

SOMA's Groundwater Monitoring Procedures

Field Activities

On October 18, 2005, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the California Regional Water Quality Control Board and the Alameda County Health Care Services. During this groundwater monitoring event three on-site wells (SOMA-1 to SOMA-3) and one off-site well SOMA-4 were monitored.

The depth to groundwater in each monitoring well was measured from the top of the casing to the nearest 0.01 foot using an electric sounder. The top of the casing elevation data and the depth to groundwater in each monitoring well were used to calculate the groundwater elevation. The top of casing elevation was based on an elevation datum of 37 feet NAVD88. Appendix B shows the survey datum.

Prior to the collection of samples, each well was purged using a battery operated 2-inch diameter pump (Model ES-60 DC). In order to ensure that the final samples were in equilibrium with (and representative of) the surrounding groundwater, during purging, several samples were taken for field measurements of pH, temperature and EC. The field parameters were measured using a Hanna pH, conductivity, and temperature meter. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer.

Appendix B details the field measurements taken during the monitoring event.

The purging of the wells continued until the parameters for pH, temperature and EC stabilized or three casing volumes were purged. A disposable polyethylene bailer was used to collect sufficient samples from each well for laboratory analyses. The groundwater sample was transferred to five 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 collected from each well was also transferred into two 1-liter amber non-preserved glass containers.

After the groundwater samples were collected they were placed on ice in an ice chest and maintained at 4⁰C. A chain of custody (COC) form was written for all the samples. After the sampling was complete, on October 18, 2005, SOMA's field crew delivered the groundwater samples along with the COC form to Pacific Analytical Laboratory in Alameda, California.

Laboratory Analysis

Pacific Analytical Laboratory, a state certified laboratory, analyzed the groundwater samples for TPH-g, BTEX, MtBE, gasoline oxygenates, and lead scavengers. Samples for TPH-d and TPH-mo measurements were subcontracted through Curtis and Tompkins, Ltd in Berkeley, California.

TPH-g, BTEX, MtBE, gasoline oxygenates, and lead scavengers measurements were prepared using EPA Method 5030B and analyzed using EPA Method 8260B. TPH-d and TPH-mo measurements were prepared using EPA Method 3520C and analyzed using Method 8015B.

Appendix B

Table of Elevations & Coordinates on Monitoring Wells

&

Field Measurements of the Physical and Chemical

Properties of the Groundwater Samples

Collected During the Fourth Quarter 2005

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

SOMA ENVIRONMENTAL, PROJECT # 2830
5725 THORNHILL DRIVE, OAKLAND

WELL ID #	NORTHING (FT.) / LATITUDE (D.M.S.)	EASTING (FT.) / LONGITUDE (D.M.S.)	ELEVATION (FT.)	DESCRIPTION
SOMA-1	2130799.64	6067141.82	576.47	TOP PIPE , BLACK MARK N. SIDE (FELT TIP) (LOCKED AND TIGHT)
	N 37°50'03.73174"	W 122°12'44.98565"	576.72	RIM
			576.70	CONC.
SOMA-2	2130764.55	6067114.08	575.50	TOP PIPE , BLACK MARK N. SIDE (FELT TIP) (LOCKED AND TIGHT)
	N 37°50'03.37985"	W 122°12'45.32339"	575.74	RIM
			575.75	CONC.
SOMA-3	2130785.85	6067071.01	575.92	TOP PIPE , BLACK MARK N. SIDE (FELT TIP) (LOCKED AND TIGHT)
	N 37°50'03.58261"	W 122°12'45.86506"	576.31	RIM
			576.30	CONC.

ADDITIONAL POINTS

PT#	NORTHING (FT.)	EASTING (FT.)	ELEVATION (FT.)	DESCRIPTION
108	2130820.55	6067045.27	N/A	BL<
109	2130800.14	6067066.40	N/A	BL<
110	2130830.97	6067096.14	N/A	BL<
104	2130818.02	6067033.92	N/A	BLOCK WALL 8" <PT
105	2130808.04	6067041.66	N/A	BLOCK WALL 8" END
106	2130821.74	6067037.78	N/A	BLOCK WALL 8" END
107	2130821.83	6067037.75	N/A	FNC-WD B-C CL
111	2130872.58	6067087.64	N/A	FNC-WD END CL
112	2130837.52	6067194.12	N/A	FOGL
113	2130793.20	6067156.45	N/A	FOGL
114	2130759.63	6067123.75	N/A	FOGL
115	2130740.79	6067101.26	N/A	FOGL END
117	2130628.30	6066947.69	N/A	TC
116	2130738.69	6067095.34	N/A	TC END
128	2130693.29	6066817.93	558.29	C/L CREEK +0.4' TO TOP OF WATER
127	2130685.30	6066880.75	559.78	C/L CREEK +0.4' TO TOP OF WATER
122	2130664.83	6066937.67	562.81	C/L CREEK +0.4' TO TOP OF WATER
121	2130676.03	6066966.79	563.15	C/L 60" CULVERT +0.5' TO TOP OF WATER

Kier & Wright Engineers Surveyors, Inc.

1233 Quarry Lane, Suite 145, Pleasanton, CA 94566

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

SOMA ENVIRONMENTAL, PROJECT # 2830
5725 THORNHILL DRIVE, OAKLAND

BENCH MARK: NGS Bench mark No.PID# HT2487

DESCRIPTION FROM NGS DATA SHEET:

DESCRIBED BY EAST BAY MUNICIPAL UTILITIES DISTRICT 1947 (SPH) THE AZIMUTH MARK IS AN EBMUD TRIANGULATION STATION DISC SET 1 FOOT BELOW THE SURFACE AND COVERED BY AN 8 INCH IRON CASTING WITH A REMOVABLE LID MARKED CITY MONUMENT. IT IS IN THE SIDEWALK IN FRONT OF A SAFEWAY STORE AT THE INTERSECTION OF GRAND AND WILDWOOD AVENUES. IT IS 1.5 FEET SOUTHEAST OF THE SOUTHEAST CURB OF WILDWOOD AVE., 6.2 FEET OF EAST CURB OF GRAND AVE. AND 10.4 FEET NORTHEAST OF POWERPOLE. THE MARK IS STAMPED LINDA AZIMUTH MARK 1947.

Elevation =37. FEET NAVD88 Datum
BY VERTCON

HORIZONTAL CONTROL:

PID - AA5496

NORTHING =1,988,577.07 , EASTING = 6,077,862.13 FEET; EPOCH DATE = 1991.35

PID - HT2541

NORTHING = 2,130,331.28 , EASTING = 6,062,624.49 FEET; EPOCH DATE = 1991.35

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

Kier & Wright Engineers Surveyors, Inc.

1233 Quarry Lane, Suite 145, Pleasanton, CA 94566

Phone (925) 249-6555,

Fax (925) 249-6563

DATE: 8/17/05

Job No. 205048

DATE OF SURVEY 8/12/05

INSTRUMENT LEICA TCA 1100L

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

SOMA ENVIRONMENTAL, PROJECT # 2830
5725 THORNHILL DRIVE, OAKLAND

WELL ID #	NORTHING (FT.) / LATITUDE (D.M.S.)	EASTING (FT.) / LONGITUDE (D.M.S.)	ELEVATION (FT.)	DESCRIPTION
SOMA-4	2130703.437	6067044.632	572.65	TOP PIPE , BLACK MARK N. SIDE (FELT TIP)
	N 37°50'02.76318"	W 122°12'46.17502"	573.03	RIM
			573.03	CONC.
DECIMAL DEGREES	N 37°.83410088	W 121°.21282639'		
LOCAL CONTROL				
SOMA-2	2130764.55	6067114.08	575.50	TOP PIPE
	N 37°50'03.37985"	W 122°12'45.32339"		
SOMA-3	2130785.85	6067071.01	575.92	TOP PIPE
	N 37°50'03.58261"	W 122°12'45.86506"		

BENCH MARK: NGS Bench mark No.PID# HT2487

DESCRIPTION FROM NGS DATA SHEET:

DESCRIBED BY EAST BAY MUNICIPAL UTILITIES DISTRICT 1947 (SPH) THE AZIMUTH MARK IS AN EBMUD TRIANGULATION STATION DISC SET 1 FOOT BELOW THE SURFACE AND COVERED BY AN 8 INCH IRON CASTING WITH A REMOVABLE LID MARKED CITY MONUMENT. IT IS IN THE SIDEWALK IN FRONT OF A SAFEWAY STORE AT THE INTERSECTION OF GRAND AND WILDWOOD AVENUES. IT IS 1.5 FEET SOUTHEAST OF THE SOUTHEAST CURB OF WILDWOOD AVE., 6.2 FEET OF EAST CURB OF GRAND AVE. AND 10.4 FEET NORTHEAST OF POWERPOLE. THE MARK IS STAMPED LINDA AZIMUTH MARK 1947.

Elevation =37. FEET NAVD88 Datum
BY VERTCON

DATE: 8/17/05

Job No. 205048

DATE OF SURVEY 8/12/05

INSTRUMENT LEICA TCA 1100L

**TABLE OF ELEVATIONS & COORDINATES
ON MONITORING WELLS**
SOMA ENVIRONMENTAL, PROJECT # 2830
5725 THORNHILL DRIVE, OAKLAND

HORIZONTAL CONTROL:

PID - AA5496

NORTHING = 1,988,577.07 , EASTING = 6,077,862.13 FEET; EPOCH DATE = 1991.35

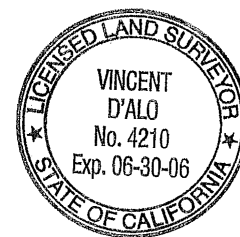
PID - HT2541

NORTHING = 2,130,331.28 , EASTING = 6,062,624.49 FEET; EPOCH DATE = 1991.35

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

NOTE

THE VALUES FOR SOMA-4 ARE DERIVED FROM LOCAL CONTROL BASED UPON CONTROL VALUE USED FROM THE PREVIOUS SITE SURVEY AS PROVIDED BY KIER AND WRIGHT





ENVIRONMENTAL ENGINEERING, INC.

Well No.: SOMA 1
 Casing Diameter: 2 inches
 Depth of Well: 27.85 feet
 Top of Casing Elevation: 576.47 feet
 Depth to Groundwater: 6.12 feet
 Groundwater Elevation: 570.35 feet
 Water Column Height: 21.73 feet
 Purged Volume: 16 gallons

Project No.: 2831
 Address: 5725 Thornhill Drive
 Oakland, CA
 Date: October 18, 2005
 Sampler: Mehran Nowroozi

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: _____

Sheen: No Yes Describe: _____

Odor: No Yes Describe: _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
9:58	START Purging			
10:02	4	6.52	19.9	877
10:06	8	6.52	19.6	626
10:11	12	6.51	19.4	605
10:15	16	6.49	19.3	604
Sampled 10:20 AM				



ENVIRONMENTAL ENGINEERING, INC

Well No.: ScmA 2
 Casing Diameter: 2 inches
 Depth of Well: 28.0 feet
 Top of Casing Elevation: 575.50 feet
 Depth to Groundwater: 7.70 feet
 Groundwater Elevation: 567.80 feet
 Water Column Height: 20-30 feet
 Purged Volume: 16 gallons

Project No.: 2831
 Address: 5725 Thornhill Drive
 Oakland, CA
 Date: October 18, 2005
 Sampler: Mehran Nowroozi

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: _____

Sheen: No Yes Describe: _____

Odor: No Yes Describe: _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10:00 AM	START	Purging		
11:05	4	6.86	19.9	710
11:09	8	6.83	19.9	887
11:14	12	6.84	20.0	697
11:19	16	6.85	20.0	695
Sampler 11:25 AM				



ENVIRONMENTAL ENGINEERING, INC

Well No.: SOMA 3
 Casing Diameter: 2 inches
 Depth of Well: 27.8 feet
 Top of Casing Elevation: 572.92 feet
 Depth to Groundwater: 7.63 feet
 Groundwater Elevation: 565.29 feet
 Water Column Height: 20.17 feet
 Purged Volume: 16 gallons

Project No.: 2831
 Address: 5725 Thornhill Drive
 Oakland, CA
 Date: October 18, 2005
 Sampler: Mehran Nowroozi

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: _____

Sheen: No Yes Describe: _____

Odor: No Yes Describe: _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
12:00 PM	START Purging			
12:05	4	7.22	18.8	830
12:10	8	7.10	18.5	772
12:15	12	7.09	18.4	732
12:20	16	7.05	18.4	722
Sampled 12:25 PM				



ENVIRONMENTAL ENGINEERING, INC

Well No.: Scm 4
 Casing Diameter: 2 inches
 Depth of Well: 19.70 feet
 Top of Casing Elevation: 572.65 feet
 Depth to Groundwater: 8.15 feet
 Groundwater Elevation: 564.50 feet
 Water Column Height: 11.55 feet
 Purged Volume: 14 gallons

Project No.: 2831
 Address: 5725 Thornhill Drive
 Oakland, CA
 Date: October 18, 2005
 Sampler: Mehran Nowroozi

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: _____

Sheen: No Yes Describe: _____

Odor: No Yes Describe: _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
1:05 pm	START Purging			
1:08	3	6.76	19.1	730
1:12	7	6.74	19.0	684
1:15	10	6.74	19.0	683
1:20	14	6.71	18.9	681
Sample 1	1:25 pm			

Appendix C

Chain of Custody Form and Laboratory Report
for the
Fourth Quarter 2005 Monitoring Event

26 October 2005

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

RE: Thornhill Dr., Oakland

Work Order Number: 5100014

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

Sincerely,



Maiid Akhavan
Laboratory Director



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

Project: Thornhill Dr., Oakland
Project Number: 2831
Project Manager: Joyce Bobek

Reported:
26-Oct-05 14:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SOMA-1	5100014-01	Water	18-Oct-05 10:20	18-Oct-05 16:41
SOMA-2	5100014-02	Water	18-Oct-05 11:25	18-Oct-05 16:41
SOMA-3	5100014-03	Water	18-Oct-05 12:25	18-Oct-05 16:41
SOMA-4	5100014-04	Water	18-Oct-05 13:25	18-Oct-05 16:41



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

Project: Thornhill Dr., Oakland
 Project Number: 2831
 Project Manager: Joyce Bobek

Reported:
 26-Oct-05 14:17

Volatile Organic Compounds by EPA Method 8260B
Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SOMA-1 (5100014-01RE1) Water Sampled: 18-Oct-05 10:20 Received: 18-Oct-05 16:41									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BJ52601	18-Oct-05	21-Oct-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	5.33	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.8 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		103 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		98.8 %		70-130	"	"	"	"	
SOMA-2 (5100014-02RE1) Water Sampled: 18-Oct-05 11:25 Received: 18-Oct-05 16:41									
Gasoline (C6-C12)	2710	50.0	ug/l	1	BJ52601	18-Oct-05	22-Oct-05	EPA 8260B	
Benzene	1.41	0.500	"	"	"	"	"	"	
Ethylbenzene	2.24	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	0.640	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	130	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	2.61	2.00	"	"	"	"	"	"	
TBA	81.7	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		70-130	"	"	"	"	

Pacific Analytical Laboratory

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



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

Project: Thornhill Dr., Oakland
Project Number: 2831
Project Manager: Joyce Bobek

Reported:
26-Oct-05 14:17

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SOMA-2 (5100014-02RE1) Water Sampled: 18-Oct-05 11:25 Received: 18-Oct-05 16:41									
<i>Surrogate: Dibromofluoromethane</i>		101 %	70-130		BJ52601	18-Oct-05	22-Oct-05	EPA 8260B	
<i>Surrogate: Perdeuterotoluene</i>		99.8 %	70-130		"	"	"	"	
SOMA-3 (5100014-03RE1) Water Sampled: 18-Oct-05 12:25 Received: 18-Oct-05 16:41									
Gasoline (C6-C12)	50.1	50.0	ug/l	1	BJ52601	18-Oct-05	22-Oct-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	8.63	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.8 %	70-130		"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		103 %	70-130		"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		98.4 %	70-130		"	"	"	"	
SOMA-4 (5100014-04RE1) Water Sampled: 18-Oct-05 13:25 Received: 18-Oct-05 16:41									
Gasoline (C6-C12)	1580	215	ug/l	4.3	BJ52601	18-Oct-05	22-Oct-05	EPA 8260B	
Benzene	ND	2.15	"	"	"	"	"	"	
Ethylbenzene	ND	2.15	"	"	"	"	"	"	
m&p-Xylene	ND	4.30	"	"	"	"	"	"	
o-xylene	ND	2.15	"	"	"	"	"	"	
Toluene	ND	8.60	"	"	"	"	"	"	
MTBE	425	2.15	"	"	"	"	"	"	
DIPE	ND	2.15	"	"	"	"	"	"	
ETBE	ND	2.15	"	"	"	"	"	"	
TAME	ND	8.60	"	"	"	"	"	"	
TBA	314	43.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	2.15	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	2.15	"	"	"	"	"	"	
Ethanol	ND	4300	"	"	"	"	"	"	

Pacific Analytical Laboratory

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

Project: Thornhill Dr., Oakland
Project Number: 2831
Project Manager: Joyce Bobek

Reported:
26-Oct-05 14:17

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SOMA-4 (5100014-04RE1) Water Sampled: 18-Oct-05 13:25 Received: 18-Oct-05 16:41									
<i>Surrogate: 4-Bromofluorobenzene</i>		96.8 %	70-130		BJ52601	18-Oct-05	22-Oct-05	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		102 %	70-130		"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		99.0 %	70-130		"	"	"	"	



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

Project: Thornhill Dr., Oakland
Project Number: 2831
Project Manager: Joyce Bobek

Reported:
26-Oct-05 14:17

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 BJ52601 - EPA 5030 Water MS

Blank (BJ52601-BLK1)

Prepared & Analyzed: 26-Oct-05

Surrogate: 4-Bromofluorobenzene	44.3		ug/l	50.0		88.6	70-130			
Surrogate: Dibromofluoromethane	54.6		"	50.0		109	70-130			
Surrogate: Perdeuterotoluene	49.8		"	50.0		99.6	70-130			
MTBE	ND	0.500	"							
DIPE	ND	0.500	"							
ETBE	ND	0.500	"							
TAME	ND	2.00	"							
TBA	ND	10.0	"							
Gasoline (C6-C12)	ND	50.0	"							
1,2-dichloroethane	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
Ethanol	ND	1000	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
m&p-Xylene	ND	1.00	"							
o-xylene	ND	0.500	"							
Toluene	ND	2.00	"							

LCS (BJ52601-BS1)

Prepared & Analyzed: 26-Oct-05

Surrogate: 4-Bromofluorobenzene	49.9		ug/l	50.0		99.8	70-130			
Surrogate: Dibromofluoromethane	48.7		"	50.0		97.4	70-130			
Surrogate: Perdeuterotoluene	50.5		"	50.0		101	70-130			
MTBE	106	0.500	"	100		106	70-130			
ETBE	100	0.500	"	100		100	70-130			
TAME	93.5	2.00	"	100		93.5	70-130			
Gasoline (C6-C12)	1480	50.0	"	2000		74.0	70-130			
TBA	454	10.0	"	500		90.8	70-130			
Benzene	107	0.500	"	100		107	70-130			
Toluene	106	2.00	"	100		106	70-130			



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

Project: Thornhill Dr., Oakland
 Project Number: 2831
 Project Manager: Joyce Bobek

Reported:
 26-Oct-05 14:17

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 BJ52601 - EPA 5030 Water MS

LCS Dup (BJ52601-BSD1)

Prepared & Analyzed: 26-Oct-05

Surrogate: 4-Bromofluorobenzene	49.9		ug/l	50.0		99.8	70-130			
Surrogate: Dibromofluoromethane	50.3		"	50.0		101	70-130			
Surrogate: Perdeuterotoluene	50.5		"	50.0		101	70-130			
MTBE	92.4	0.500	"	100		92.4	70-130	13.7	20	
ETBE	97.3	0.500	"	100		97.3	70-130	2.74	20	
TAME	89.3	2.00	"	100		89.3	70-130	4.60	20	
TBA	512	10.0	"	500		102	70-130	12.0	20	
Gasoline (C6-C12)	1430	50.0	"	2000		71.5	70-130	3.44	20	
Benzene	109	0.500	"	100		109	70-130	1.85	20	
Toluene	109	2.00	"	100		109	70-130	2.79	20	



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

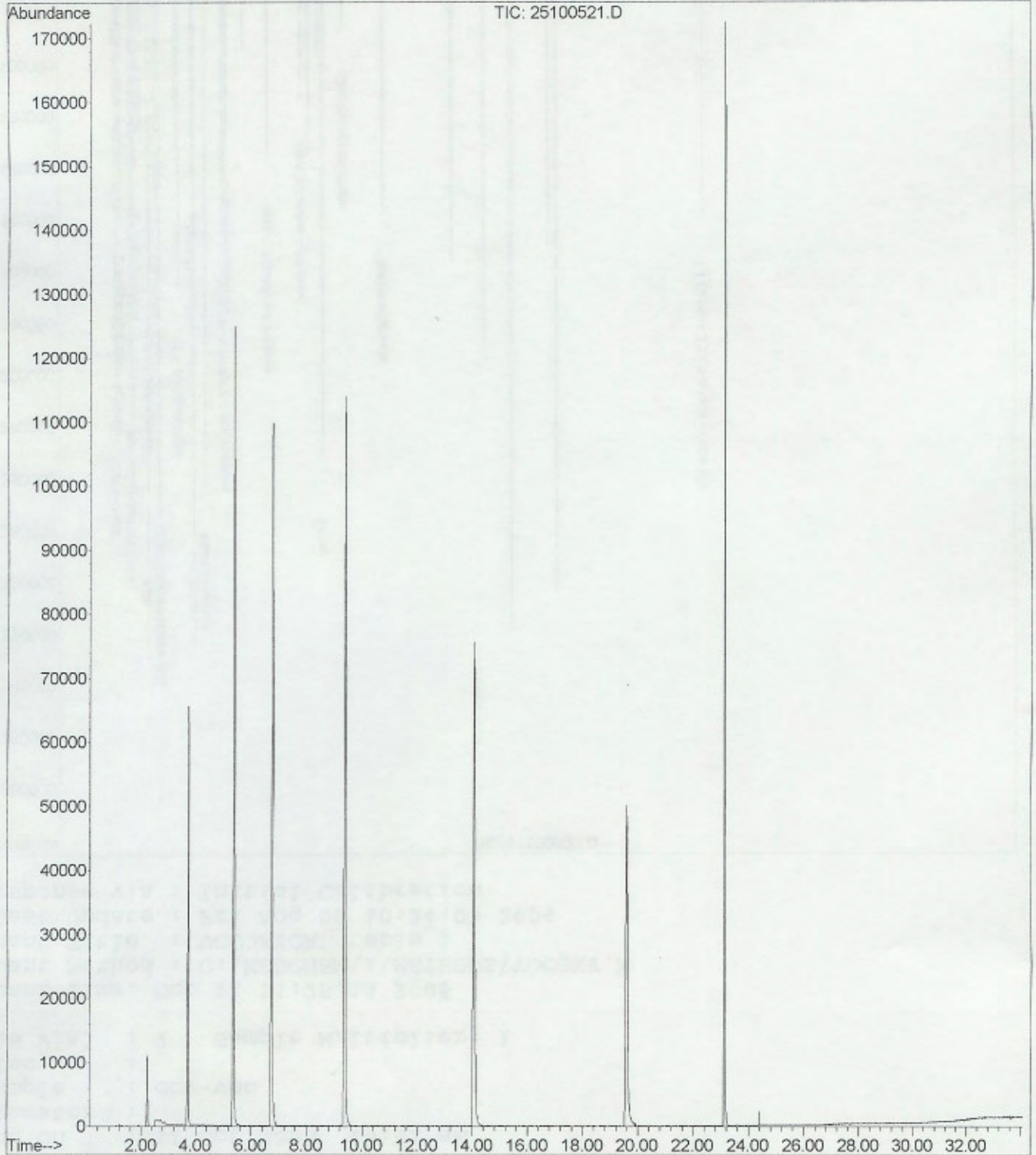
Project: Thornhill Dr., Oakland
Project Number: 2831
Project Manager: Joyce Bobek

Reported:
26-Oct-05 14:17

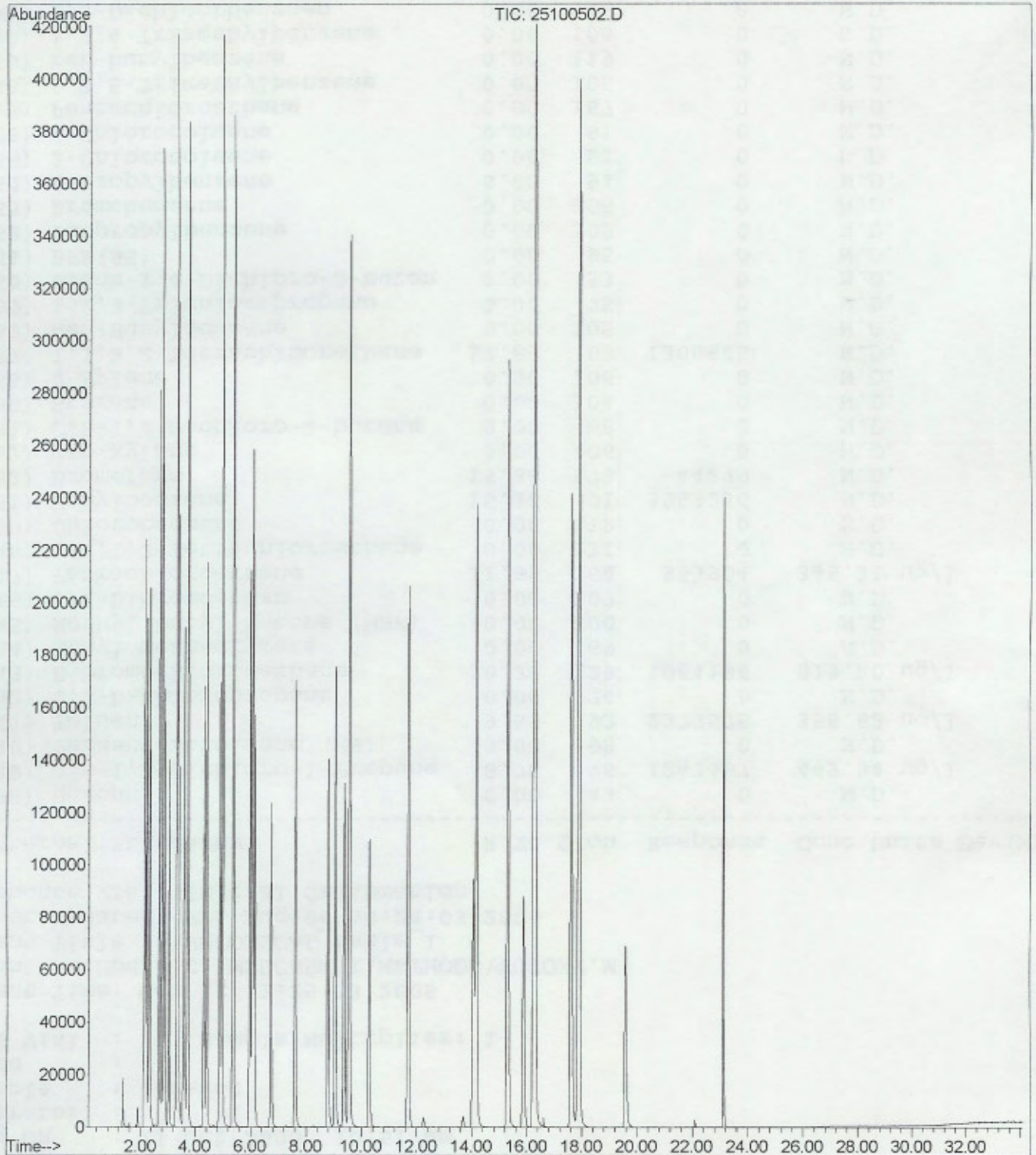
Notes and Definitions

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

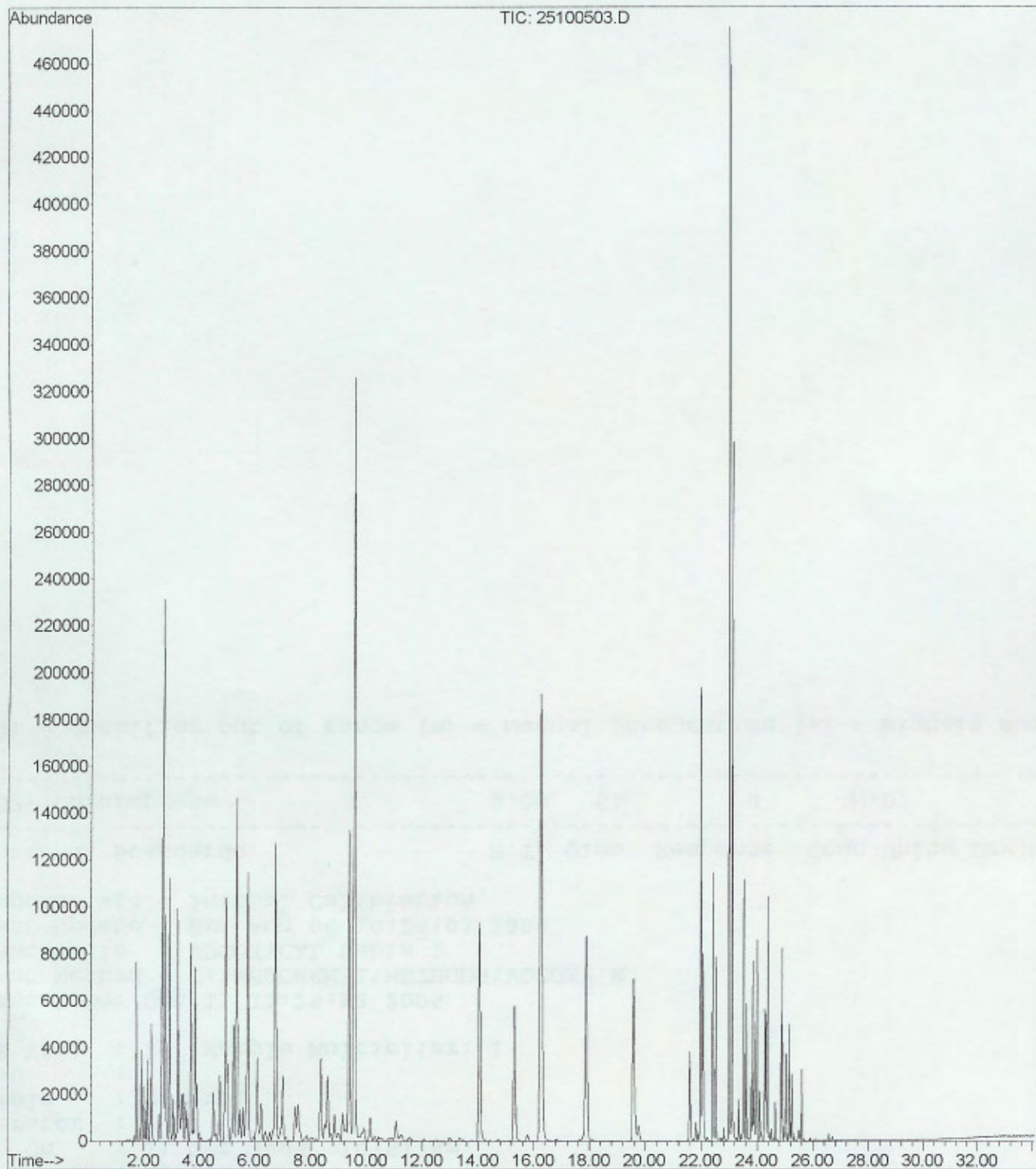
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Operator :
Acquired : 26 Oct 2005 7:43 am using AcqMethod VOXY.M
Instrument : PAL GCMS
Sample Name: BJ52601-BLK1
Misc Info :
Vial Number: 21



File :C:\MSDChem\1\DATA\2005-Oct-25-1520.b\25100502.D
Operator :
Acquired : 25 Oct 2005 4:24 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BJ52601-BS1@voc
Misc Info :
Vial Number: 2



File : C:\MSDCHEM\1\DATA\2005-Oct-25-1520.b\25100503.D
Operator :
Acquired : 25 Oct 2005 5:11 pm using AcqMethod VOXY.M
Instrument : PAL GCMS
Sample Name: BJ52601-BS1@gas
Misc Info :
Vial Number: 3



CHAIN OF CUSTODY FORM

PAL Pacific Analytical Laboratory
 851 West Midway Ave., Suite 201B
 Alameda, CA 94501
 510-864-0364 Telephone
 510-864-0365 Fax

PAL
 Login# *5100014*

Project No: 2831				Sampler: <i>Mehran Nowrozi</i>				Analyses/Method											
Project Name: 5725 Thornhill Drive Oakland, CA				Report To: Tony Perini				TPHg, BTEX, MtBE 8260B	Gas Ox - Lead Scavenge	Ethanol	TPH-d, TPH-mo								
Turnaround Time: Standard				Company: SOMA Environmental Engineering, Inc.															
				Tel: 925-734-6400 Fax: 925-734-6401															
		Sampling Date/Time		Matrix			# of Containers	Preservatives											
Lab No.	Sample ID	Date	Time	Soil	Water	Waste		HCL	H ₂ SO ₄	NONE	ICE	Field Notes							
	SOMA-1	<i>10/18/05</i>	<i>10:20 AM</i>		X		2 L Amber 5 VOAs	X		X	X	Grab Sample							
	SOMA-2	<i>10/18/05</i>	<i>11:25 AM</i>		X		2 L Amber 5 VOAs	X		X	X	Grab Sample							
	SOMA-3	<i>10/18/05</i>	<i>12:25 PM</i>		X		2 L Amber 5 VOAs	X		X	X	Grab Sample							
	SOMA-4	<i>10/18/05</i>	<i>1:25 PM</i>		X		2L Amber 5 VOAs	X		X	X	Grab Sample							
Sampler Remarks:				Relinquished by:				Date/Time:				Received by:				Date/Time:			
<i>EdP out put required</i>				<i>M. Nowrozi</i>				<i>3:05 PM 10/18/05</i>				<i>James Zamir</i>				<i>3:05 PM 10/18/05</i>			



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:

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

Date: 08-NOV-05

Lab Job Number: 182548

Project ID: STANDARD

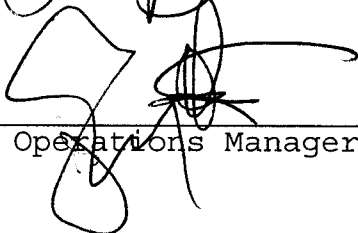
Location: 2831, Thornhill Drive Oak

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

This package may be reproduced only in its entirety.

CASE NARRATIVE

Laboratory number: 182548
Client: Pacific Analytical Laboratory
Location: 2831, Thornhill Drive Oak
Request Date: 10/18/05
Samples Received: 10/18/05

This hardcopy data package contains sample and QC results for four water samples, requested for the above referenced project on 10/18/05. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

High surrogate recovery was observed for hexacosane in the method blank for batch 107022; no target analytes were detected in the sample. No other analytical problems were encountered.

182548

CHAIN OF CUSTODY FORM

PAL Pacific Analytical Laboratory
 851 West Midway Ave., Suite 201B
 Alameda, CA 94501
 510-864-0364 Telephone
 510-864-0365 Fax

PAL
 Login#

Project No: 2831				Sampler: Mehran Nowroozi								Analyses/Method				
Project Name: 5725 Thornhill Drive Oakland, CA				Report To: Tony Perini								TPH-g, BTEX, MIBE 8260B Gas-Ox - Lead - Seawater Ethanol TPH-d, TPH-mo				
				Company: SOMA Environmental Engineering, Inc.												
Turnaround Time: Standard				Tel: 925-734-6400 Fax: 925-734-6401												
Lab No.	Sample ID	Date	Time	Soil	Water	Waste	# of Containers	Preservatives				Field Notes				
								HCL	H ₂ SO ₄	NONE	ICE					
1	SOMA-1	10/18/05	10:20 AM		X		2 L Amber 5 VOAs	X		X	X	Grab Sample	X	X	X	X
2	SOMA-2	10/18/05	11:25 AM		X		2 L Amber 5 VOAs	X		X	X	Grab Sample	X	X	X	X
3	SOMA-3	10/18/05	12:25 PM		X		2 L Amber 5 VOAs	X		X	X	Grab Sample	X	X	X	X
4	SOMA-4	10/18/05	1:25 PM		X		2L Amber 5 VOAs	X		X	X	Grab Sample	X	X	X	X
Sampler Remarks:							Relinquished by:			Date/Time:		Received by:		Date/Time:		
EDF out put required							M. Nowroozi			10/18/05 3:05 PM		James Zamirji		10/18/05 3:05 PM		
PTC-D intact, on ice							James Zamirji			10/18/05 3:35 PM		Laranne [Signature]		10/18/05 3:40 PM		

Total Extractable Hydrocarbons

Lab #:	182548	Location:	2831, Thornhill Drive Oak
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/18/05
Units:	ug/L	Received:	10/18/05
Diln Fac:	1.000	Prepared:	10/23/05
Batch#:	107022		

Field ID:	SOMA-1	Lab ID:	182548-001
Type:	SAMPLE	Analyzed:	10/25/05

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

Surrogate	%REC	Limits
Hexacosane	119	60-135

Field ID:	SOMA-2	Lab ID:	182548-002
Type:	SAMPLE	Analyzed:	10/25/05

Analyte	Result	RL
Diesel C10-C24	1,100 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	108	60-135

Field ID:	SOMA-3	Lab ID:	182548-003
Type:	SAMPLE	Analyzed:	10/25/05

Analyte	Result	RL
Diesel C10-C24	120 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	105	60-135

*= Value outside of QC limits; see narrative

L= Lighter hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit

Total Extractable Hydrocarbons

Lab #: 182548	Location: 2831, Thornhill Drive Oak
Client: Pacific Analytical Laboratory	Prep: EPA 3520C
Project#: STANDARD	Analysis: EPA 8015B
Matrix: Water	Sampled: 10/18/05
Units: ug/L	Received: 10/18/05
Diln Fac: 1.000	Prepared: 10/23/05
Batch#: 107022	

Field ID: SOMA-4	Lab ID: 182548-004
Type: SAMPLE	Analyzed: 10/25/05

Analyte	Result	RL
Diesel C10-C24	1,200 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	104	60-135

Type: BLANK	Analyzed: 10/24/05
Lab ID: QC314122	Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	137 *	60-135

*= Value outside of QC limits; see narrative
 L= Lighter hydrocarbons contributed to the quantitation
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Chromatogram

Sample Name : 182548-002,107022

FileName : G:\GC17\CHA\297A026.RAW

Method : ATEH294.MTH

Start Time : 0.01 min

Scale Factor: 0.0

End Time : 19.99 min

Plot Offset: 11 mV

Sample #: 107022

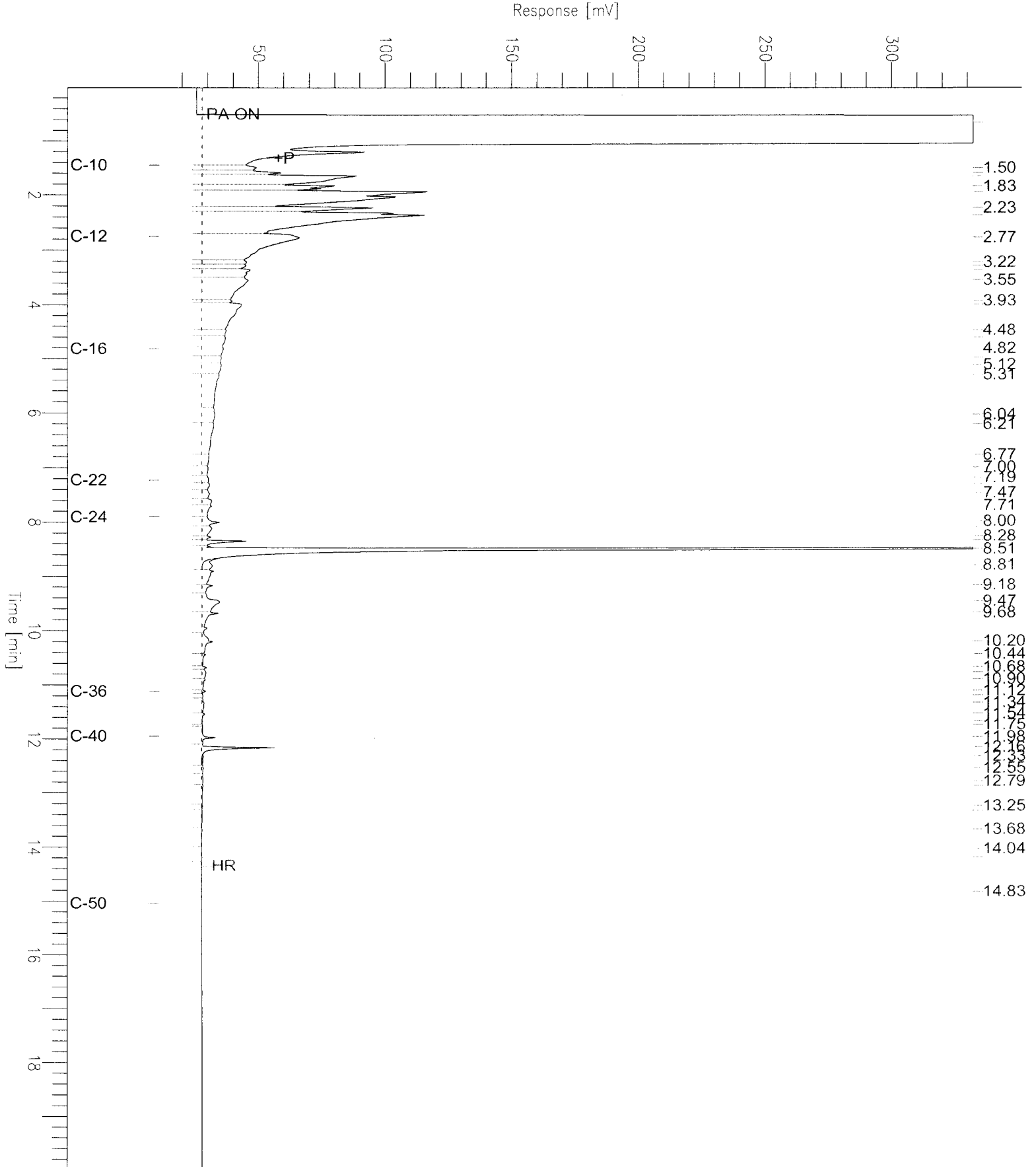
Date : 10/25/05 09:17 AM

Time of Injection: 10/25/05 04:24 AM

Low Point : 10.93 mV

Plot Scale: 321.3 mV

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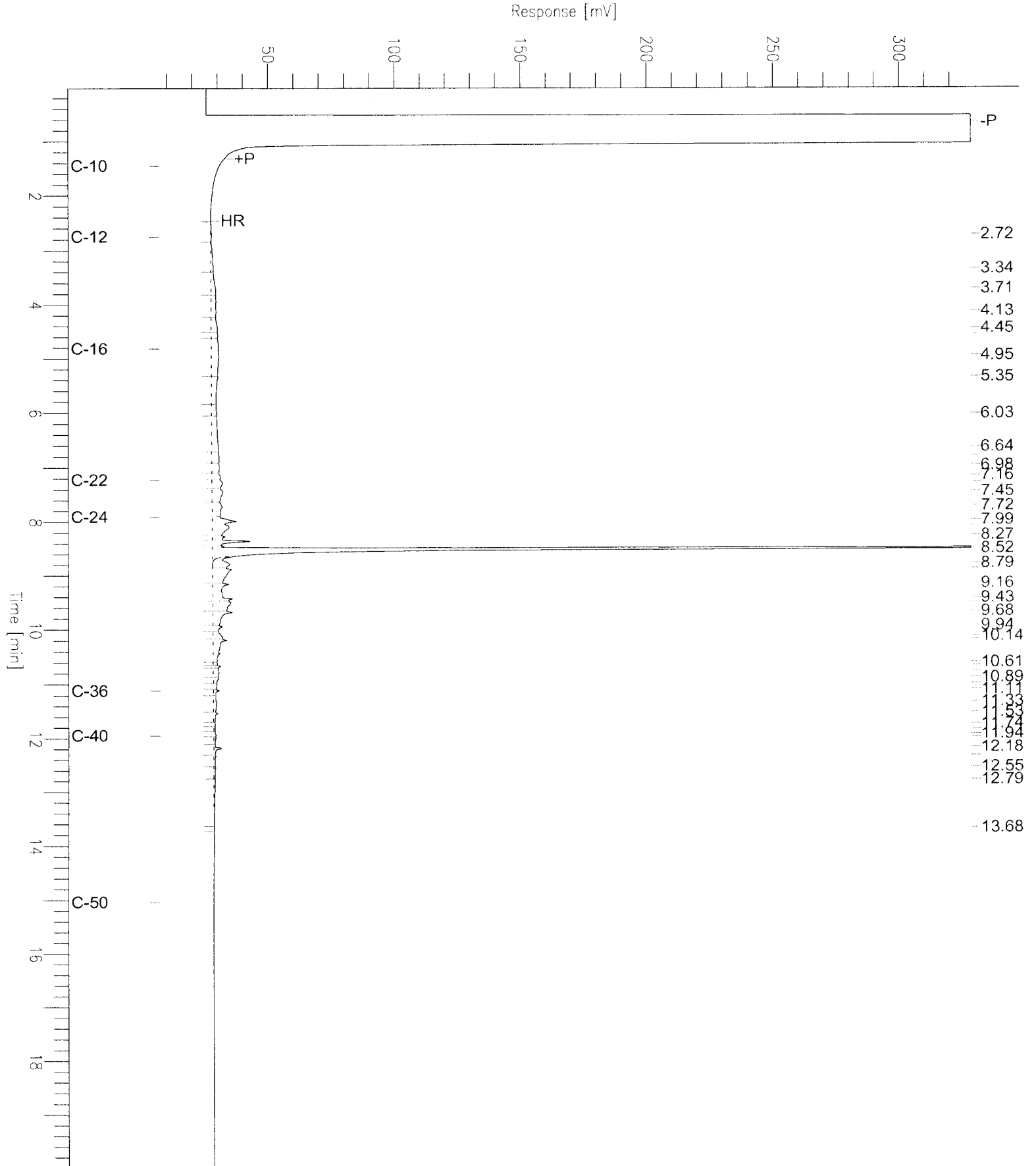


Chromatogram

Sample Name : 182548-003,107022
FileName : G:\GC17\CHA\297A024.RAW
Method : ATEH294.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.99 min
Plot Offset: 7 mV

Sample #: 107022
Date : 10/25/05 09:12 AM
Time of Injection: 10/25/05 03:27 AM
Low Point : 7.02 mV
Plot Scale: 321.5 mV
High Point : 328.49 mV

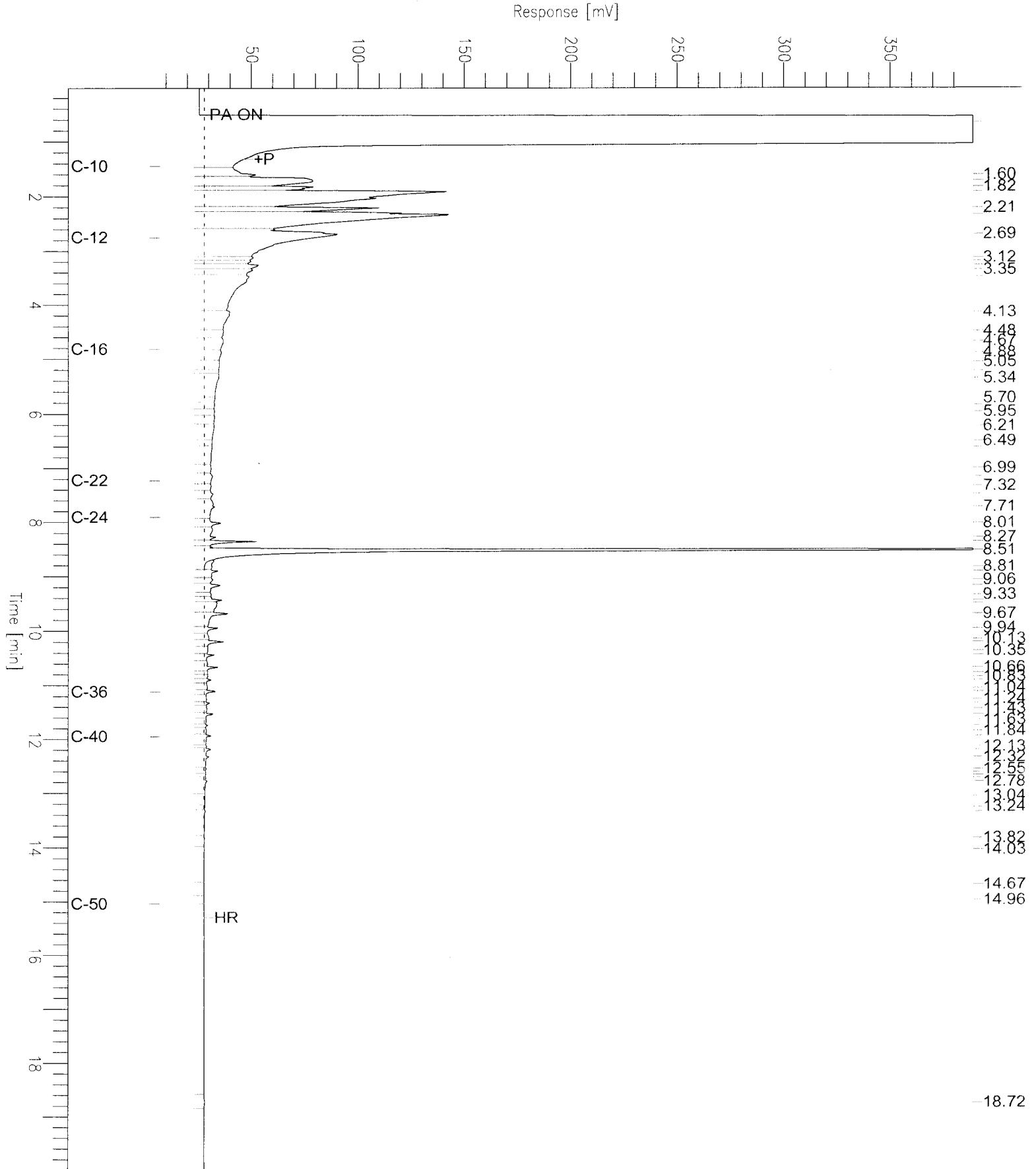


Chromatogram

Sample Name : 182548-004,107022
FileName : G:\GC17\CHA\297A027.RAW
Method : ATEH294.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.99 min
Plot Offset: 7 mV

Sample #: 107022
Date : 10/25/05 09:18 AM
Time of Injection: 10/25/05 04:53 AM
Low Point : 7.03 mV
Plot Scale: 381.9 mV
Page 1 of 1
High Point : 388.90 mV



Chromatogram

Sample Name : ccv,S1522,dsl
FileName : G:\GC17\CHA\297A003.RAW
Method : ATEH294.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.99 min
Plot Offset: 20 mV

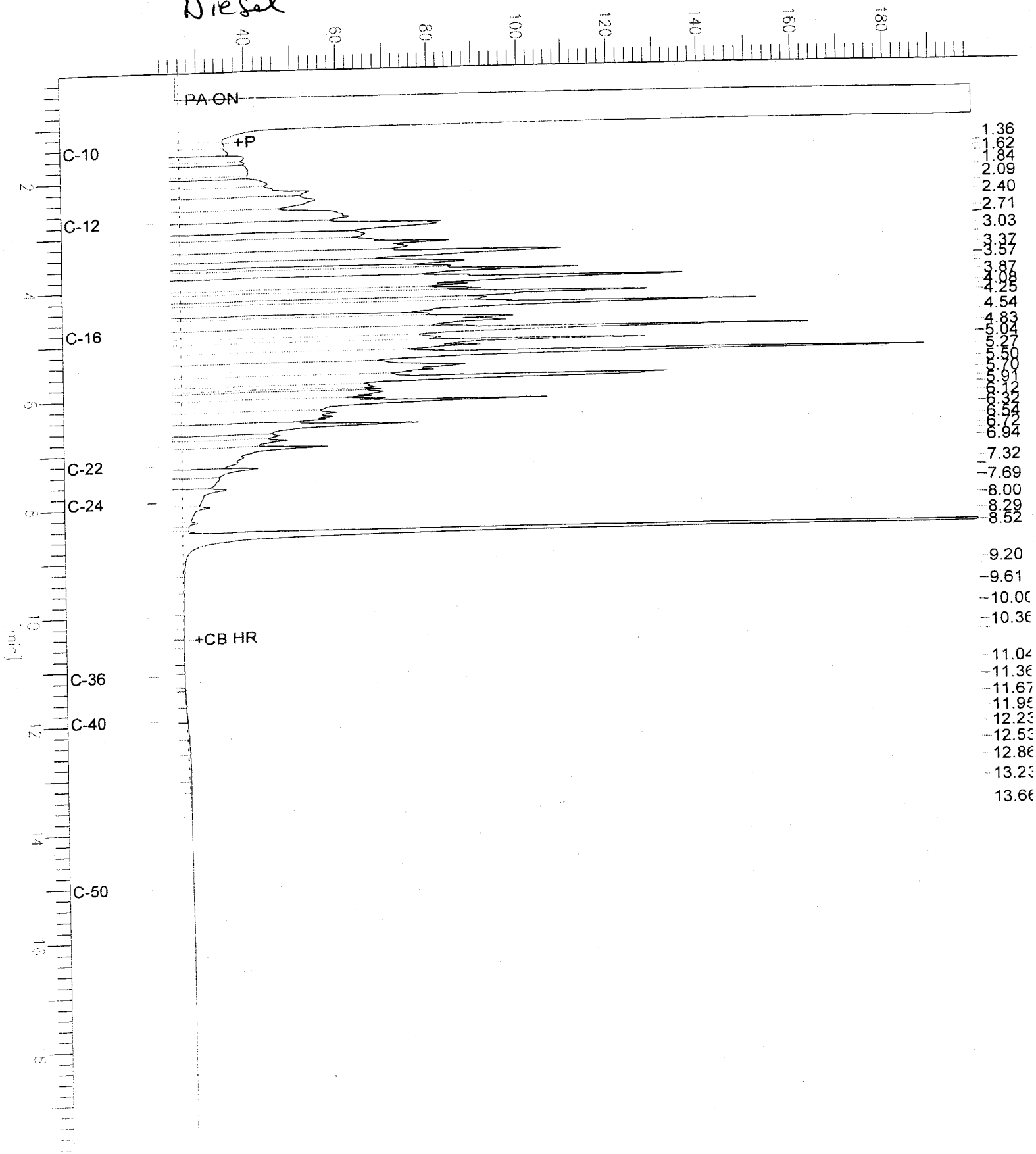
Sample #: 500mg/L
Date : 10/24/05 10:51 AM
Time of Injection: 10/24/05 10:17 AM
Low Point : 20.34 mV
Plot Scale: 178.9 mV

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High Point : 199.26 mV

Diesel

Response [mV]



Chromatogram

Sample Name : ccv,S1710,m0
FileName : G:\GC17\CHA\297A004.RAW
Method : ATEH294.MTH
Start Time : 0.01 min
Scale Factor: 0.0

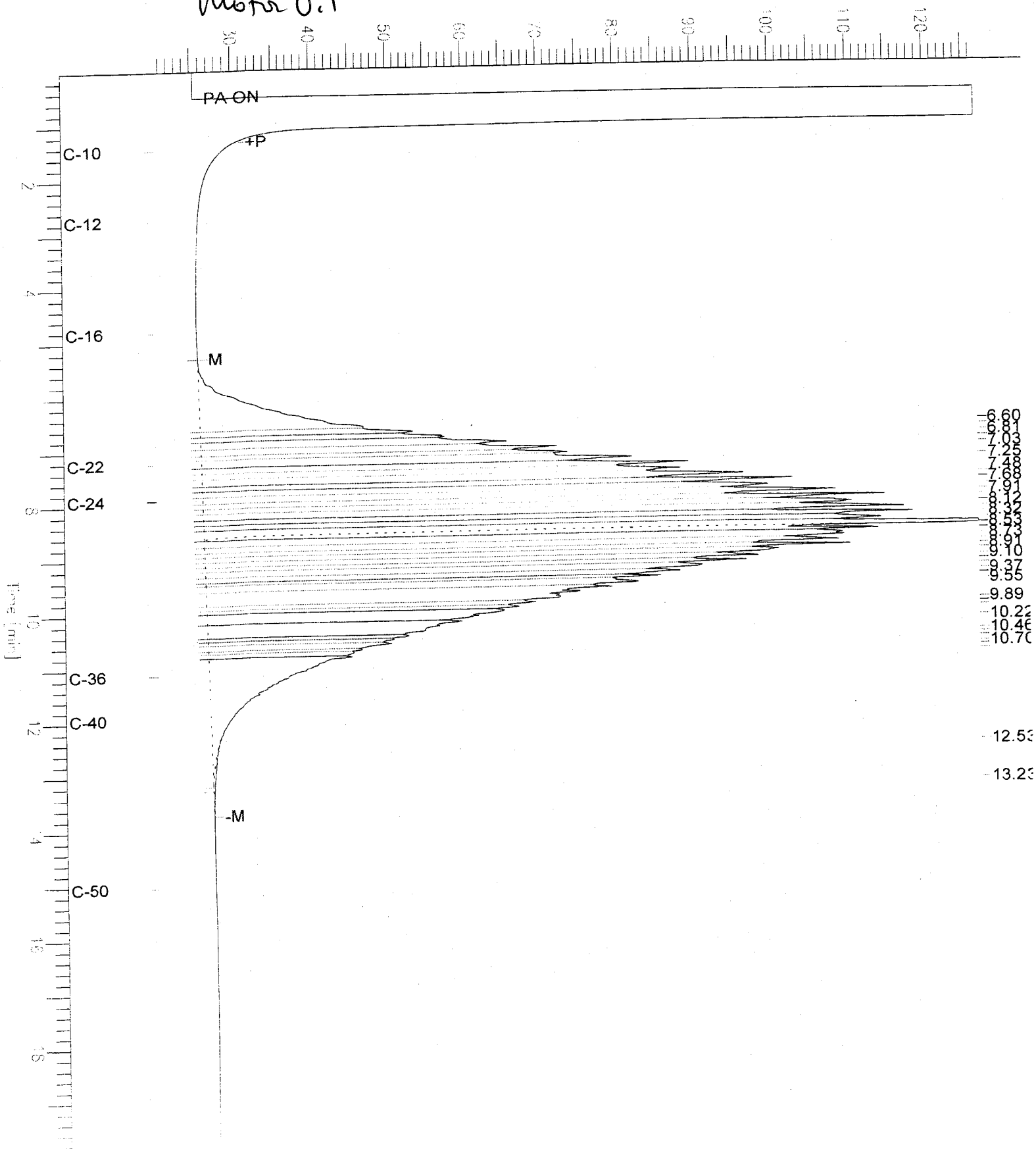
End Time : 19.99 min
Plot Offset: 20 mV

Sample #: 500mg/L
Date : 10/24/05 11:20 AM
Time of Injection: 10/24/05 10:46 AM
Low Point : 20.33 mV
Plot Scale: 106.3 mV

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Motor Oil

Response [mV]



Batch QC Report

Total Extractable Hydrocarbons

Lab #:	182548	Location:	2831, Thornhill Drive Oak
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	107022
Units:	ug/L	Prepared:	10/23/05
Diln Fac:	1.000		

Type: BS Analyzed: 10/24/05
 Lab ID: QC314123 Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,932	117	53-138

Surrogate	%REC	Limits
Hexacosane	125	60-135

Type: BSD Analyzed: 10/25/05
 Lab ID: QC314124 Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,554	102	53-138	14	36

Surrogate	%REC	Limits
Hexacosane	121	60-135