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June 13, 2005

Mr. Don Hwang
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: 5725 Thornhill Drive, Oakland, California

Dear Don:

Enclosed for your review is SOMA's report entitled "Additional Soil and Groundwater Investigation and Monitoring Well Installation Report" for the subject site.

If you have any questions or comments, please call me at (925) 244-6600. Your time is greatly appreciated in reviewing this report.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

Enclosure

cc: Mr. Mo Mashhoon

RO 317

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ADDITIONAL SOIL AND GROUNDWATER INVESTIGATION AND MONITORING WELL INSTALLATION

5725 Thornhill Drive
Oakland, California

June 13, 2005

Project 2832

Prepared for

Mr. Mo Mashhoon
Mash Petroleum, Inc.
1721 Jefferson Street
Oakland, California

Prepared by

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

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. This investigation complies with the workplan approved by Alameda County Health Care Services in a letter dated April 7, 2005.

Mansour Sepehr, Ph.D., PE
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 former property owner of 5725 Thornhill Drive, Oakland, California (the "Site"). As shown in Figure 1, the Site is bordered on the northwest by residential property, on the northeast by commercial property, on the southwest by private property, and on the southeast by Thornhill Drive.

Based on SOMA's workplan dated November 29, 2004 and Alameda County Health Care Services (ACHCS) approval letter dated April 7, 2005, SOMA performed a soil and groundwater investigation and monitoring well installation at the subject property. The purpose of the investigation was to provide a more thorough understanding of the subsurface stratigraphy; nature and extent of the soil and groundwater contamination; and hydraulic communication between the underlying water-bearing zones and Temescal Creek.

1.1 Previous Activities

In November 1998, Penn Environmental 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 µg/Kg of total petroleum hydrocarbons as gasoline (TPH-g), 2,700,000 µg/Kg of total petroleum hydrocarbons as diesel (TPH-d), and 4,200,000 µg/Kg of total petroleum hydrocarbons as motor oil (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 methyl tertiary butyl ether (MtBE) at 40 µg/Kg.

In July 1999, ASE drilled borehole BH-A in the vicinity of the former WOT. The only compounds that were detected at concentrations above the California Department of Health Services' (DHS') maximum contaminant levels (MCLs) for drinking water were MtBE and cadmium. On September 6, 2000, ASE drilled two more soil borings, 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. The results of the laboratory analysis on the groundwater samples collected from BH-B, BH-C and BH-D showed elevated levels of TPH-g, TPH-d, TPH-mo and MtBE. For instance, a groundwater sample collected from BH-D contained 16,000 µg/L of MtBE. The groundwater sample collected from boring BH-C, which is in close proximity of Temescal Creek, contained 5,300 µg/L of MtBE.

On March 1 and 2, 2004, SOMA oversaw the drilling of nine temporary well boreholes, HP-1 through HP-7, HP-9, and HP-10. Due to the excessive traffic hazards and the disruption of local traffic flow posed by advancing HP-8 in the middle of the street, this borehole was not drilled. Groundwater samples were collected after drilling of each temporary well borehole. The locations of the "HP" and the previously drilled "BH" boreholes are shown in Figure 2.

Contrary to ASE's investigation results, the results of SOMA's recent investigation did not show elevated levels of MtBE in the groundwater samples collected from the "HP" sampling locations. For instance, the maximum concentration of MtBE was detected at 1,100 µg/L in HP-10, which is located midway between BH-B and BH-C, where ASE reported higher concentrations of

MtBE. The groundwater samples collected from HP-7 and HP-9, which is in close proximity of BH-B and BH-D, showed insignificant levels of MtBE.

The results of SOMA's investigation showed elevated levels of TPH-g, TPH-d and TPH-mo in the soil and groundwater in the vicinity of the former underground storage tanks (USTs). This finding is consistent with ASE's investigation conducted in 1999 and 2000.

During the site investigation activities, SOMA oversaw the decommissioning of the three existing tank pit wells: MW-1, MW-2, and MW-3. These wells were installed within the tank pit cavity and were in direct communication with the underlying water water-bearing zone. On March 12, 2004, SOMA oversaw the installation of three new monitoring wells: SOMA-1, SOMA-2, and SOMA-3.

2.0 SCOPE OF WORK

Based on ACHCS–approval of SOMA's workplan, the scope of work involved conducting a CPT/MIP borehole study to provide a more thorough understanding of the Site's hydrogeologic stratigraphy and installing an off-site groundwater monitoring well to determine the hydraulic communication between the underlying water-bearing zones and Temescal Creek. To implement the approved workplan and comply with ACHCS directive, SOMA performed the following tasks:

Task 1: **Permit Acquisition, Health and Safety Plan Preparation, and Subsurface Utility Clearance**

Task 2: **Preferential Flow Pathway and Sensitive Receptor Survey**

Task 3: **CPT/MIP Borehole Study**

Task 4: **Groundwater Sample Collection**

Task 5: **Laboratory Analysis**

Task 6: Groundwater Monitoring Well Installation

The following is a description of the above-mentioned tasks.

2.1 Permit Acquisition, Health and Safety Plan Preparation, and Subsurface Utility Clearance

Prior to initiating field activities, SOMA obtained the necessary drilling permits from Alameda County Public Works Agency and an excavation permit from the City of Oakland. The permits are attached as Appendix A.

A site-specific health and safety plan (HASP) was prepared by SOMA. The HASP was designed to address safety provisions during field activities and protect the field crew from physical and chemical hazards resulting from drilling and sampling. The HASP established personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards, decontamination procedures, and emergency action plans.

SOMA contacted Underground Service Alert (USA) to clear the drilling areas of underground utilities. Following USA clearance, SOMA retained a private utility locator to survey the proposed drilling areas and locate any additional subsurface conduits.

2.2 Preferential Flow Pathway and Sensitive Receptor Survey

SOMA completed preferential flow path and sensitive receptor study within a quarter-mile radius of the Site. To evaluate the presence of potential preferential flow pathways beneath the Site, records pertaining the locations of sewer, storm drain conduits were obtained from the City of Oakland Public Works Department. The results of our study indicated the presence of several utility lines beneath Thornhill Drive, next to the Site. According to the existing records the depth of

utility lines next to the Site ranges between 6 and 8 feet. Based on the fact that the approximate first encountered depth of groundwater at the Site ranges between 12 and 16 feet below ground surface, the existing utility lines at the Site cannot act as the preferential flow pathways.

To evaluate the locations of any water bodies or domestic, irrigation and water supply wells within a quarter mile radius of the Site, the State Department of Water Resources and Alameda County Public Works Agency records were searched. The results of our records search did not show the presence of any drinking water, domestic or irrigation wells with a quarter mile radius of Site.

3.0 CPT/MIP BOREHOLE STUDY

To characterize the Site's hydrogeology and stratigraphy and to address the vertical and horizontal extent of contaminants, a cone penetrometer test (CPT) coupled with a membrane interface probe (MIP) study was conducted. The MIP device continuously logged relative levels of petroleum hydrocarbon contamination present at different depth intervals and the CPT probe continuously logged the soil and sediments at different drilling locations. By using the MIP and CPT together, the presence of different water-bearing zones as well as the relative degree of hydrocarbon contaminations at different depths were efficiently identified and targeted for actual soil and groundwater sampling and laboratory analyses. Fisch Environmental (FE), the designated drilling subcontractor, combined the CPT and MIP probes into one single probe in order to minimize drilling time and provided a more efficient field operation. The operating principle of the MIP and CPT devices is explained as follows.

MIP Borehole Study Data

The MIP collects vapors from contaminated zones with a permeable membrane that is housed within a heating block. As the MIP continuously penetrates the

subsurface, the MIP heating block heats the in-situ soil and groundwater, releasing the soil and water contaminants into a vapor phase. Vaporized contaminants then pass through the permeable membrane, into three narrow gauge tubes. The three tubes conduct the contaminant vapors up from the subsurface into three separate detectors mounted on a mobile gas chromatograph housed within the trailer containing the MIP devise. The three separate devices are:

- A photo-ionization detector (PID) for ring structure hydrocarbons,
- A flame-ionization detector (FID) for straight-chain hydrocarbons, and
- An electron capture device (ECD) for chlorinated compounds.

Also housed within the MIP device is an electrical conductivity dipole that continuously logs the conductivity of the sedimentary column. This data, along with the PID, FID, and ECD measurements, are displayed on a Geoprobe FC4000 Field Instrument.

CPT Borehole Study Data

To provide sufficient data to characterize the hydrogeology of the Site and to detect and evaluate the actual thickness of the water-bearing zones, cone penetrometer test (CPT) boreholes were advanced. The CPT collected hydrogeologic data by hydraulically pushing a cone loaded with electronic sensing devices into the subsurface at a constant rate. The cone is electronically connected to a data acquisition system. By using direct push technology, the CPT provided a continuous, rapid, reliable and economical means of characterizing the Site hydrogeology.

The CPT cone was pushed into the subsurface at a constant rate while continuous measurements were fed into a data acquisition system recording tip resistance, sleeve friction, pore pressure, and friction ratio. Tip resistance is the

total force acting on the end or cone of the probe divided by the projected area of the cone. Sleeve friction is the total frictional force acting on the side, or friction sleeve, of the probe, divided by the area of the sleeve. Pore pressure was measured just behind the tip of the probe and these measurements qualitatively evaluate the hydraulic conductivity and water-bearing potential of the sedimentary interval. Friction ratio is the ratio of the sleeve friction to the tip resistance that is expressed as a percentage. The CPT software also uses this parameter for soil classification.

By qualitatively integrating these soil-behavior parameters, CPT provided a rapid, reliable and economical means of determining stratigraphy, relative density, and hydrogeologic information. This data was used to identify different water-bearing zones and confining layers beneath the Site.

To accurately interpret the CPT readings, a calibration borehole was drilled adjacent to one of the CPT boreholes using hollow-stem auger (HSA) drilling technology. This borehole was continuously sampled and logged throughout and compared closely with the CPT readings to calibrate CPT data.

CPT Borehole Designation

Ten CPT/MIP boreholes (CPT-1 through CPT-5 and CPT-7 through CPT-11) were advanced to characterize the hydrogeologic stratigraphy and to evaluate the extent of groundwater contamination. Previously planned CPT-6 could not be drilled due to the physical constraints and obstruction of local traffic. On May 9 and 10, 2005, under SOMA's oversight, FE conducted the CPT drilling. Using a Geoprobe 6600 drill rig, FE advanced the ten CPT boreholes to approximately 30 to 40 feet bgs. Figure 2 shows the CPT borehole locations and Appendix B presents the CPT borehole logs and MIP study data.

3.1 Calibration of CPT Lithology

To accurately interpret the CPT lithologic data, a calibration borehole was drilled adjacent to CPT-11 using HSA drilling technology on May 27, 2005, by Gregg Drilling & Testing (Gregg). Hollow-stem auger borehole calibration of the CPT logs indicated that the CPT approximately detected vertical intervals of potential water-bearing zones and the upper and lower boundaries of the intervening confining zones. SOMA's field geologist noted the CPT logs appears to interpret the lithologic sedimentary classification as grouped clayey silt to silty clay without any textural evidence of sand or gravel and that there are some minor differences in lithologic depth intervals. However, there are inherent limitations to soil-behavior based lithologic characterization and channelization can account for differences in depth intervals. Based on the above, the observed minor lithologic and depth-interval discrepancies are inconsequential. Appendix C presents the borehole log of the calibration borehole.

3.2 Groundwater Sample Collection

Groundwater samples were collected adjacent to the locations of the CPT boreholes upon review of the CPT and MIP data. To collect the groundwater samples at the identified depth intervals, temporary boreholes were advanced with a Geoprobe Dual Tube groundwater profiler (DT-21) mounted on a Geoprobe 6600 drill rig. Geoprobe designed the cased-rod system for discrete groundwater sampling without cross-contaminating water-bearing zones at different depth intervals. The dual-walled direct push technology (DPT) sampler involved hydraulically driving or hammering a cased set of rods into the ground with the lead rod section consisting of a hollow acetate-lined sampler. After pushing the cased rods to the desired depth, the 1-inch diameter drilling rods were withdrawn from within the 2.125-inch diameter outer casing to insert the screened sampler.

After collecting the first encountered groundwater in the upper water-bearing zone, the drilling crew advanced the cased DPT sampler to collect discrete groundwater samples from lower water-bearing zone, based on the CPT data. The field crew used a Watera™ sampler fitted into plastic tubing to collect the discrete groundwater samples. Discrete groundwater samples from each water-bearing zone were transferred into amber liter bottles and into 40-mL VOA vials, pre-preserved with hydrochloric acid, and were stored in a cooler, with ice. After the sampling was complete, all temporary well boreholes were sealed with neat cement grout. SOMA implemented this procedure to evaluate the vertical extent of the groundwater contamination in the investigation area.

3.3 Groundwater Sampling Borehole Designation

After advancing the MIP and CPT boreholes, SOMA's field geologist reviewed the MIP and CPT borehole logs to determine the interval depth of the most contaminated potential water-bearing zone. With the CPT-based stratigraphy and MIP-based contamination log, SOMA's field geologist selected depth intervals for collecting discrete groundwater samples. Ten boreholes, designated GS-1 through GS-5 and GS-7 through GS-11, were advanced at the corresponding CPT borehole locations shown in Figure 3. Based on the MIP data, it was determined that it would not be necessary to collect soil samples from any of the GS boreholes at the time of CPT drilling, as warranted by ACHCS directive. Table 1 presents the field observations Of the GS boreholes.

3.4 Monitoring Well Installation and Well Development

On May 27, 2004, SOMA oversaw the installation of monitoring well, SOMA-4, as shown in Figure 2. HSA drilling technology was implemented by Gregg to drill the well borehole to a designated depth of 20 feet bgs. Under the direction of SOMA's field geologist, the monitoring well was screened to span only the

saturated zone observed in the soil cores to minimize screen lengths. Using factory-slotted schedule 40 PVC screen with 0.01" slots, the drilling crew screened SOMA-4 from 12 to 20 feet bgs. The monitoring well borehole was cased with threaded, blank and slotted schedule 40 PVC pipe. The drilling crew fitted PVC capping to the bottom of the casing without adhesives or tape, and the top of the casing was fitted with a locking well plug.

After the casing was set into the borehole, the monitoring well filter pack was emplaced outside the casing by slowly pouring 2/12 kiln-dried sand material into the annular space from the bottom of the borehole to approximately 2 feet above the screened interval. To prevent grout from infiltrating down into the filter material, a two-foot thick bentonite plug was placed above this filter material. Approximately one to two gallons of distilled water was then added to hydrate the bentonite pellets. After thoroughly hydrating the bentonite seal, the well was sealed from the top of the bentonite layer to about one-foot bgs with neat cement containing approximately 5% bentonite. The well was completed by installing a well vault into the sidewalk area on Thornhill Drive. Monitoring well construction details are attached as Appendix D.

On June 1, 2005, Woodward Drilling Co. developed SOMA-4. The field crew used a steel bailer to remove sediment-laden water from the wells until the sediment load had substantially decreased. The wells were then purged until the groundwater clarity was clear and groundwater quality parameters stabilized. Approximately 14 casing volumes were removed from the well. Appendix E presents the well development data.

SOMA field personnel will sample the newly installed offsite and three onsite monitoring wells in the 3rd quarter of 2005. The results of the groundwater sampling event will be presented in SOMA's 3rd Quarter 2005 Groundwater Monitoring Report. The newly installed well (SOMA-4) will be surveyed before

the groundwater monitoring event. The groundwater elevation inside SOMA-4 will be measured and compared with the water surface elevation of Temescal Creek (at certain locations Temescal Creek has been surveyed by a licensed surveyor). This information over different monitoring events will reveal whether of not the Temescal Creek is a gaining stream. Given the fact that al the close proximity of the Temescal Creek the UWBZ is very thin or may not be present (see Cross-section A-A', Figure 4), the Temescal Creek and UWBZ may not be in direct hydraulic communication.

3.5 Laboratory Analysis

Groundwater samples were submitted on May 11, 2005, to Pacific Analytical Laboratory (PAL), a California state-certified analytical laboratory. The samples were analyzed for the following constituents using the listed methods:

- Total petroleum hydrocarbons as gasoline (TPH-g), TPH-d and TPH-Mo using EPA Method 8015B
- BTEX, MtBE, TBA, DIPE, ETBE, TAME, 1,2- Dichloroethane, 1,2-Dibromethane (collectively known as the "gas oxygenates") and Ethanol using EPA Method 8260B

PAL subcontracted Curtis & Tompkins, Ltd., Analytical Laboratories (C&T) to administer the TPH-d and TPH-Mo analysis. Table 2 presents the groundwater analytical results. Appendix F includes the laboratory report and the COC form.

4.0 RESULTS

The results of this and prior investigative data were used to evaluate the hydrogeology of the Site and characterize the nature and distribution of chemical contamination in the soil and groundwater. The following describes the results of the current field investigation activities.

4.1 Site Hydrogeology

SOMA incorporated the results of the recent CPT borehole study and lithologic log of the newly constructed groundwater monitoring well to construct three geologic cross-section diagrams. Figures 4, 5, and 6 show the geologic cross-section diagrams of A–A', B–B', and C–C', respectively. As shown in the cross-section diagrams, an unconsolidated sequence of permeable and relatively impermeable sediments underlies the Site investigation area as described below.

4.1.1 Water-Bearing and Confining Zones

At least one main water-bearing zone and one discontinuous water-bearing zone were encountered within the depths explored at the subject property. SOMA designated the main water-bearing zone as the Upper water-bearing zone (UWBZ) and discontinuous water-bearing zone as the Lower water-bearing zone (LWBZ). From approximately 18 to 28 feet bgs, the UWBZ occurs as an approximately one- to four-foot thick interbedded sequence of CPT-interpreted sandy silt to clayey silt, silty sand to sandy silt, clay, and sand that appears to gradually attenuate toward the southwestern portions of the Site.

The confining zone below the UWBZ is approximately six- to 10-feet thick and appears to thicken at the southwestern portion of the Site, as indicated by CPT-7, where no significant groundwater-yielding UWBZ was encountered.

Beneath this confining zone is the more discontinuous LWBZ consisting of CPT-interpreted silty sand to sandy silt, clay, and very stiff fine-grained matrix. This low permeable water-bearing zone is approximately 2– to 4 feet thick that extends from approximately 34 to 40 feet bgs, where drilling resistance was encountered.

4.2 Nature and Extent of Groundwater Contamination

This section describes the nature and extent of the groundwater contamination based on the present investigation and previous site investigation conducted in March 2004 followed by groundwater monitoring events. Because monitoring wells SOMA-1, SOMA-2, and SOMA-3 are screened exclusively within the UWBZ, the most recent groundwater monitoring results from these wells were also used to define the extent of the groundwater contamination in the UWBZ. Since the maximum depth of the previous soil borings did not exceed beyond the UWBZ, no groundwater data were previously available on the LWBZ. Therefore, the results of the current groundwater sampling study were used to evaluate the presence of petroleum hydrocarbons in the LWBZ.

4.2.1 Upper Water-Bearing Zone

The results from the groundwater sampling (GS) boreholes and previously available data on UWBZ were used to better characterize the extent of the chemical plumes in the UWBZ in the on- and off-site areas. The following describes the current extent of groundwater contamination with respect to TPH-g, TPH-d, TPH-Mo, BTEX and MtBE in the Upper WBZ.

TPH-g in the UWBZ

During the current groundwater study TPH-g was detected at maximum concentration of 11,400 µg/L at sample location GS-2, located at southeast of the pump island canopy. Other than GS-2, TPH-g was not detected in any of the other sampling locations. During the March 2004 groundwater investigation, TPH-g concentration in the UWBZ ranged between 360 and 9,700 µg/L. As the data indicates, TPH-g was mainly detected around the pump canopy area and at the HP-10 sampling location adjacent to SOMA-4. During the 2nd quarter 2005 groundwater monitoring event, TPH-g was detected at 5,960 µg/L from the sample collected from SOMA-2. SOMA-2 is located immediately downgradient

from the pump island canopy. Table 2 presents the reported TPH-g concentration during the current and previous groundwater studies; Figures 7 shows TPH-g concentration contours using the historical data.

TPH-d in the UWBZ

TPH-d was detected more frequently in groundwater during the current and previous groundwater studies at the Site. During the current groundwater investigation, TPH-d concentration in groundwater ranged between 60 and 8,900 µg/L. The maximum concentration of TPH-d was detected at sample location GS-2. During the March 2004 groundwater study TPH-d concentration ranged between 160 and 21,000 µg/L. During 2nd quarter 2005, TPH-d was detected in SOMA-2 at 1,200 µg/L. The maximum concentration of TPH-d was detected at HP-10 adjacent to SOMA-4. The results of groundwater monitoring event in 3rd quarter 2005 will confirm the presence of high levels of TPH-d at HP-10 sampling location. Table 2 presents the current and previous reported TPH-d concentrations in groundwater studies; Figures 8 shows TPH-d concentration contour map using the historical data.

TPH-Mo in the UWBZ

TPH-Mo was detected only in sample location GS-2 at 300 µg/L. However, during the March 2004 groundwater investigation period, TPH-Mo was detected more frequently. TPH-Mo was detected at a maximum concentration of 58,000 µg/L at sample location HP-2, located at the eastern corner of the pump and canopy island. Table 2 presents the current and previous reported TPH-d concentrations in groundwater studies; Figures 9 shows TPH-Mo concentration contour map using the historical data.

BTEX in the UWBZ

During the current groundwater investigation benzene, toluene, ethylbenzene and total xylenes were detected only at sample location GS-2 at minor concentrations of 1.11, 2.29, 1.68, and 3.98 µg/L, respectively. During the March 2004 groundwater investigation, no benzene or ethylbenzene were detected in groundwater. However, toluene and total xylenes were detected at 1.5 and 2.5 µg/L, respectively, in groundwater samples collected from the UWBZ. Table-2 presents the current and previous reported BTEX constituent concentrations in groundwater studies.

MtBE in the UWBZ

During the current groundwater investigation, MtBE was only detected at sample location GS-2 at 36.1 µg/L. During the previous groundwater investigation, the detected MtBE concentrations ranged between 8.1 and 1,100 µg/L. Contrary to the higher MtBE concentrations reported by ASE in 2000, the reported concentrations of MtBE during the current and March 2004 investigations are significantly lower. For instance, the maximum concentration of MtBE reported by ASE in 2000 was from sample location BH-D at 16,000 µg/L. However, the result of laboratory analysis on groundwater samples collected during quarterly groundwater monitoring events from SOMA-2 indicate the presence of minor concentrations of MtBE, up to 241 µg/L. The groundwater samples collected from the surrounding hydropunches and GS boreholes did not indicate the presence of elevated levels of MtBE in groundwater as reported by ASE. As mentioned, the maximum concentration of MtBE was detected at HP-10 at 1,100 µg/L. The results of the 3rd quarter 2005 groundwater monitoring event, during which SOMA-4 will be sampled, will reveal whether or not MtBE concentration at this location is significant.

Fuel Oxygenates in the UWBZ

During the current and the previous investigation by SOMA no fuel oxygenates were detected were detected in groundwater. Therefore, for cost saving purposes analyses of groundwater samples for fuel oxygenates were excluded during groundwater monitoring events.

4.2.2 Lower Water-Bearing Zone

Since the maximum depth of previous hydropunches did exceed beyond the UWBZ depths, no previous water quality data is available from March 2004 groundwater investigation. Therefore, the results of current groundwater investigation data were used to evaluate the extent of petroleum hydrocarbons in the LWBZ.

Based on the results of the current groundwater study, no TPH-g or TPH-Mo contaminations were detected in the LWBZ. However, the concentration of TPH-d ranged between 51 and 220 µg/L. The maximum concentration of TPH-d was reported at GS-8, downgradient from the pump island canopy.

The results of the current investigation did not show the presence of BTEX in the LWBZ. However, MtBE at maximum concentration of 164 ug/L was detected in GS-7, located further downgradient of the Site – next to Temescal Creek. MtBE was also detected at sample location GS-4 at 5.59 µg/L, which is next to the USTs.

No fuel oxygenates were detected in groundwater samples collected form the LWBZ. Figures 11 and 12 show the iso-concentration maps of the projected TPH-d and MtBE plumes, respectively in the LWBZ.

5.0 CONCLUSIONS & RECOMMENDATIONS

In light of the current and previous investigation results, the following are our conclusions:

1. Based on the results of this investigation, at least two water-bearing zones and intervening confining zones underlie the Site. The water-bearing zones are referred to as the Upper and Lower WBZs;

2. Groundwater flow direction in the UWBZ appears to be in the southwest direction toward Temescal Creek;

3. The results of the current and previous groundwater investigations, along with the results of the current groundwater monitoring events, were used to evaluate the extent of the chemicals in the UWBZ and LWBZ. Based on the geologic cross-section diagrams and the available analytical results, the horizontal and vertical extent of chemicals beneath the on- and off-site areas have been defined;

4. The vertical extent of TPH-g and TPH-Mo and BTEX is limited to the UWBZ. However, TPH-d and MtBE has already impacted the LWBZ;

5. The results of current investigation did not indicate the presence of gas oxygenates in the UWBZ or LWBZ;

6. The extent of MtBE contamination in the UWBZ unlike the previous consultant report is limited and does not seems the higher concentrations reported by the ASE is still valid;

7. Given the fact that al the close proximity of the Temescal Creek the UWBZ is very thin or may not be present (see Cross-section A-A', Figure 4), the Temescal Creek and UWBZ may not be in direct hydraulic communication;

8. Starting from the third quarter groundwater monitoring event, SOMA will sample SOMA-4 and monitor the groundwater elevations in order to evaluate the hydraulic communications between the Temescal Creek and the UWBZ.

6.0 REFERENCES

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Tables

TABLE 1

Field Observations
5725 Thornhill Drive
Oakland, California

CPT Borehole Identification	Groundwater Sampling Borehole Identification	Borehole Depth (feet bgs)	Depth to Groundwater Sampling Interval[1]	Remarks[2]
CPT-1	GS-1(16-18)	34	16-18	Moderate K WBZ
CPT-1	**GS-1(30-34)**	**34**	**30-34**	**Moderate K WBZ**
CPT-2	GS-2(19-21)	31	19-21	Moderate K WBZ[4]
CPT-3	**GS-3(22-26)**	**40**	**22-26**	**Moderate K WBZ**
CPT-3	GS-3(36-40)	40	36-40	Moderate K WBZ
CPT-4	**GS-4(24-28)**	**39**	**24-28**	**Moderate K WBZ**
CPT-4	GS-4(35-39)	39	35-39	Moderate K WBZ
CPT-5	**GS-5(24-28)**	**36**	**24-28**	**Low K WBZ**
CPT-7	GS-7(29-33)	33	29-33	Low K WBZ
CPT-8	**GS-8(20-24)**	**39**	**20-24**	**Low K WBZ[3]**
CPT-8	GS-8(35-39)	39	35-39	Low K WBZ[3]
CPT-9	**GS-9(24-28)**	**38**	**24-28**	**Low K WBZ**
CPT-9	GS-9(36-38)	38	36-38	Low K WBZ
CPT-10	**GS-10(22-26)**	**30**	**22-26**	**Moderate K WBZ**
CPT-11	GS-11(23-27)	39	23-27	Low K WBZ
CPT-11	**GS-11(35-39)**	**39**	**35-39**	**Low K WBZ**

NOTES

[1] GS Boreholes: Sampling intervals (feet bgs) based on groundwater entering CPT-detected WBZ in sufficient quantity to sample

[2] WBZ Conductivity based on groundwater yield during sampling
Low K WBZ: Water-bearing zone with a lower yielding hydraulic head
Moderate K WBZ: Water-bearing zone with a higher yielding hydraulic head

[3] Moderate petroleum hydrocarbon odor noted

[4] Strong petroleum hydrocarbon odor noted

TABLE 2

Groundwater Analytical Results

5725 Thornhill Drive

Oakland, California

Groundwater Sampling Borehole (Sample Interval)	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)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)
Upper Water-Bearing Zone (May 2005 Investigation)													
GS-1(16-18)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
GS-2(19-21)	**11,400**	**8,900^{LY}**	**300^{LY}**	**1.11**	**2.29**	**1.88**	**3.98**	**36.1**	**<0.5**	**<0.5**	**<2.0**	**<10.0**	**<1000**
GS-3(22-26)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
GS-4(24-26)	**<200**	**<50**	**<300**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<10.0**	**<1000**
GS-5(24-28)	<200	180^{LY}	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
GS-8(20-24)	**<200**	**2,800^{LY}**	**<300**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<10.0**	**<1000**
GS-9(24-28)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
GS-10(22-26)	**<200**	**<50**	**<300**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<10.0**	**<1000**
GS-11(23-27)	<200	60^{Y}	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
Lower Water-Bearing Zone (May 2005 Investigation)													
GS-1(30-34)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
GS-3(36-40)	**<200**	**<50**	**<300**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<10.0**	**<1000**
GS-4(35-39)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	5.59	<0.5	<0.5	<2.0	<10.0	<1000
GS-7(29-33)	**<200**	**198^{Y}**	**<300**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**164**	**<0.5**	**<0.5**	**<2.0**	**<10.0**	**<1000**
GS-8(35-39)	<200	220^{LY}	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
GS-9(36-38)	**<200**	**53^{Y}**	**<300**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<10.0**	**<1000**
GS-11(35-39)	<200	51^{Y}	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<2.0	<10.0	<1000
Upper Water-Bearing Zone (March 2004 Investigation)													
HP-1	4,200^{Y}	5,900^{HLY}	11,000	<0.5	<0.5	<0.5	<0.5	11	NA	NA	<2.0	<10.0	<1000
HP-2	**360^{Y}**	**10,000^{HY}**	**58,000**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**20**	**NA**	**<0.5**	**<2.0**	**<10.0**	**<1000**
HP-3	<50	3,500^{HY}	5,700	<0.5	<0.5	<0.5	<0.5	<5	NA	<0.5	<2.0	<10.0	<1000
HP-4	**<50**	**740^{HY}**	**6,300^{H}**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**NA**	**<0.5**	**<2.0**	**<10.0**	**<1000**
HP-5	6,700^{Y}	3,600^{HLY}	650	<0.5	<0.5	<0.5	0.7	33	NA	<0.5	<2.0	<10.0	<1000
HP-6	**260^{HY}**	**370^{HY}**	**730**	**<0.5**	**1.5**	**<0.5**	**2.5**	**8.1**	**NA**	**<0.5**	**<2.0**	**<10.0**	**<1000**
HP-7	<50	1,600^{HY}	1,400	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<2.0	<10.0	<1000
HP-9	**<50**	**180^{HY}**	**1,700**	**<1.3**	**<1.3**	**<1.3**	**<0.5**	**440**	**NA**	**<0.5**	**<2.0**	**<10.0**	**<1000**
HP-10	9,700^{Y}	21,000^{HLY}	5,700	<3.6	<3.6	<3.6	<0.5	1,100	NA	<0.5	<2.0	<10.0	<1000
Groundwater Monitoring Data Second Quarter 2005													
SOMA-1	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	8	NS	NS	NS	NS	NS
SOMA-2	**5960**	**1200**	**<300**	**1.19**	**<0.5**	**20.8**	**25**	**241**	**NS**	**NS**	**NS**	**NS**	**NS**
SOMA-3	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	5	NS	NS	NS	NS	NS

NOTES

[1] Total petroleum hydrocarbons as gasoline (TPH-g), TPH-d, and TPH-Mo using EPA Method 8015B (May 2005 Investigation)

[2] BTEX, MtBE, DIPE, ETBE, TAME, TBA, and Ethanol using EPA Method 8260B (May 2005 Investigation)

[L] Lighter hydrocarbons contributed to the quantitation

[H] Heavier hydrocarbons contributed to the quantitation

[Y] Sample exhibits chromatographic pattern that does not resemble standard

NS -- Not Sampled

Figures

approximate scale in feet

0 100 200

Figure 1: Site vicinity map.

SOMA ENVIRONMENTAL ENGINEERING, INC.

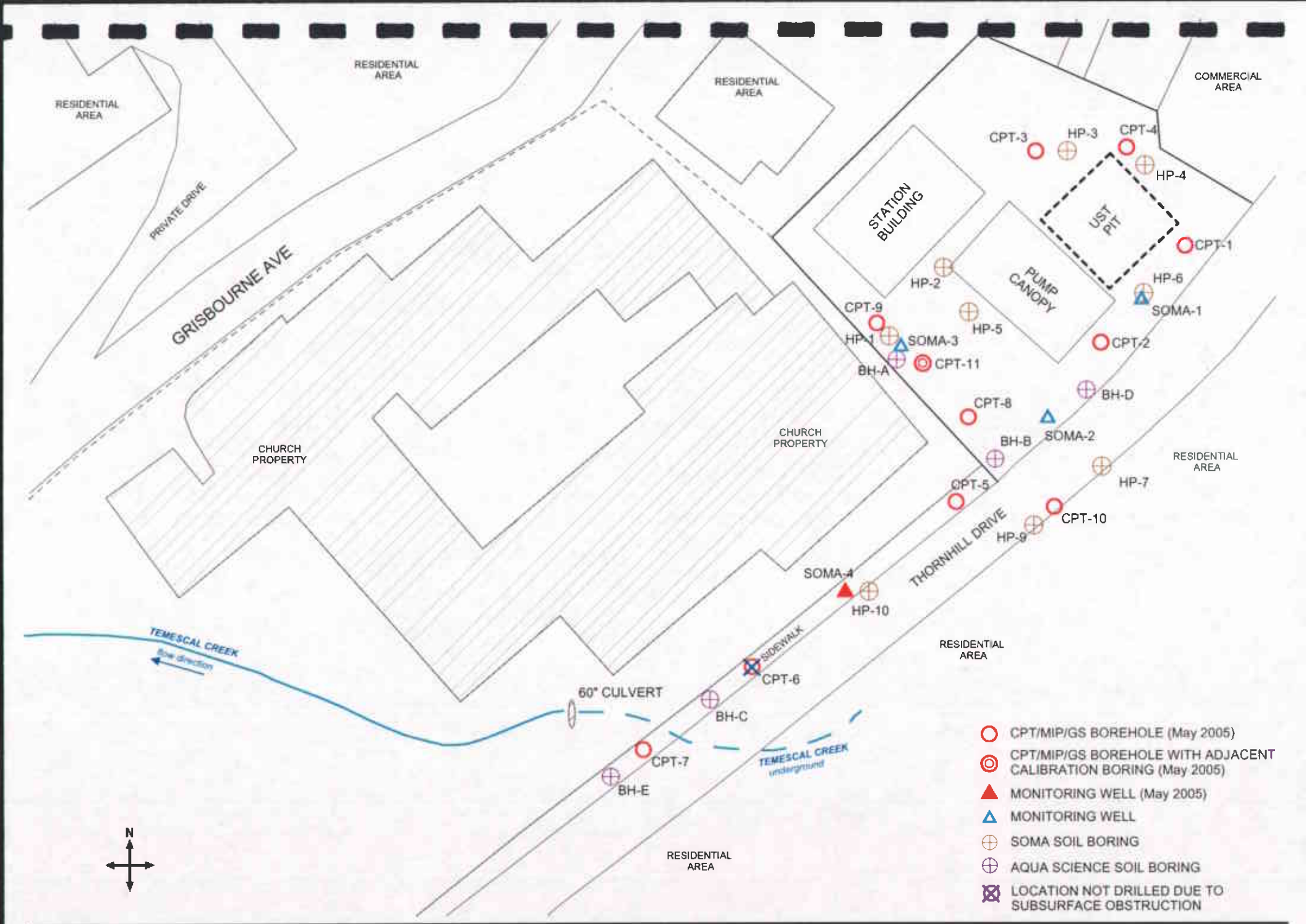


Figure 2: Locations of CPT/MIP/GS Boreholes and Monitoring Wells.

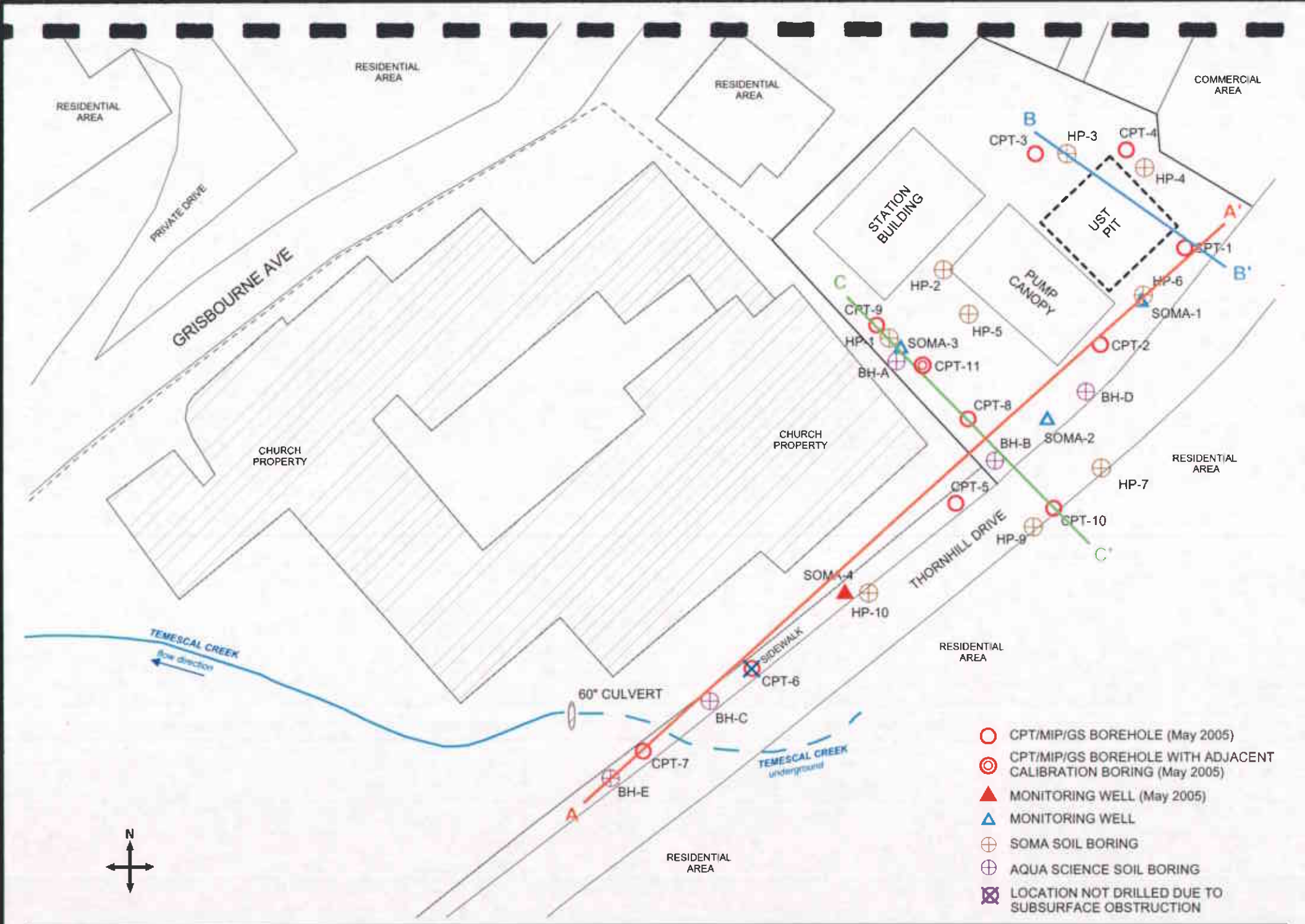


Figure 3: Locations of Geologic Cross-Sections A-A', B-B', and C-C'.

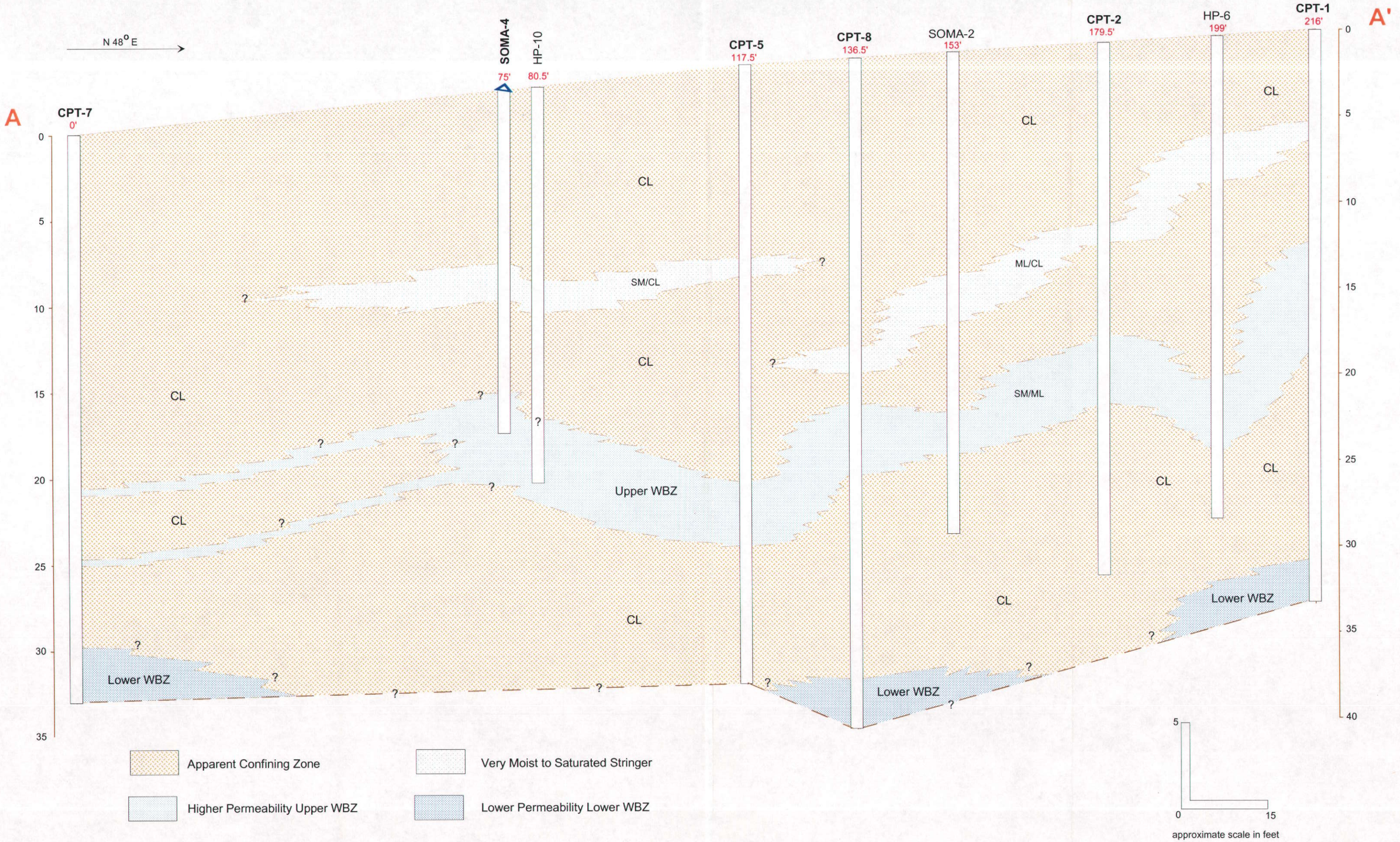


Figure 4: Geologic Cross Section A-A'.

SOMA ENVIRONMENTAL ENGINEERING, INC.

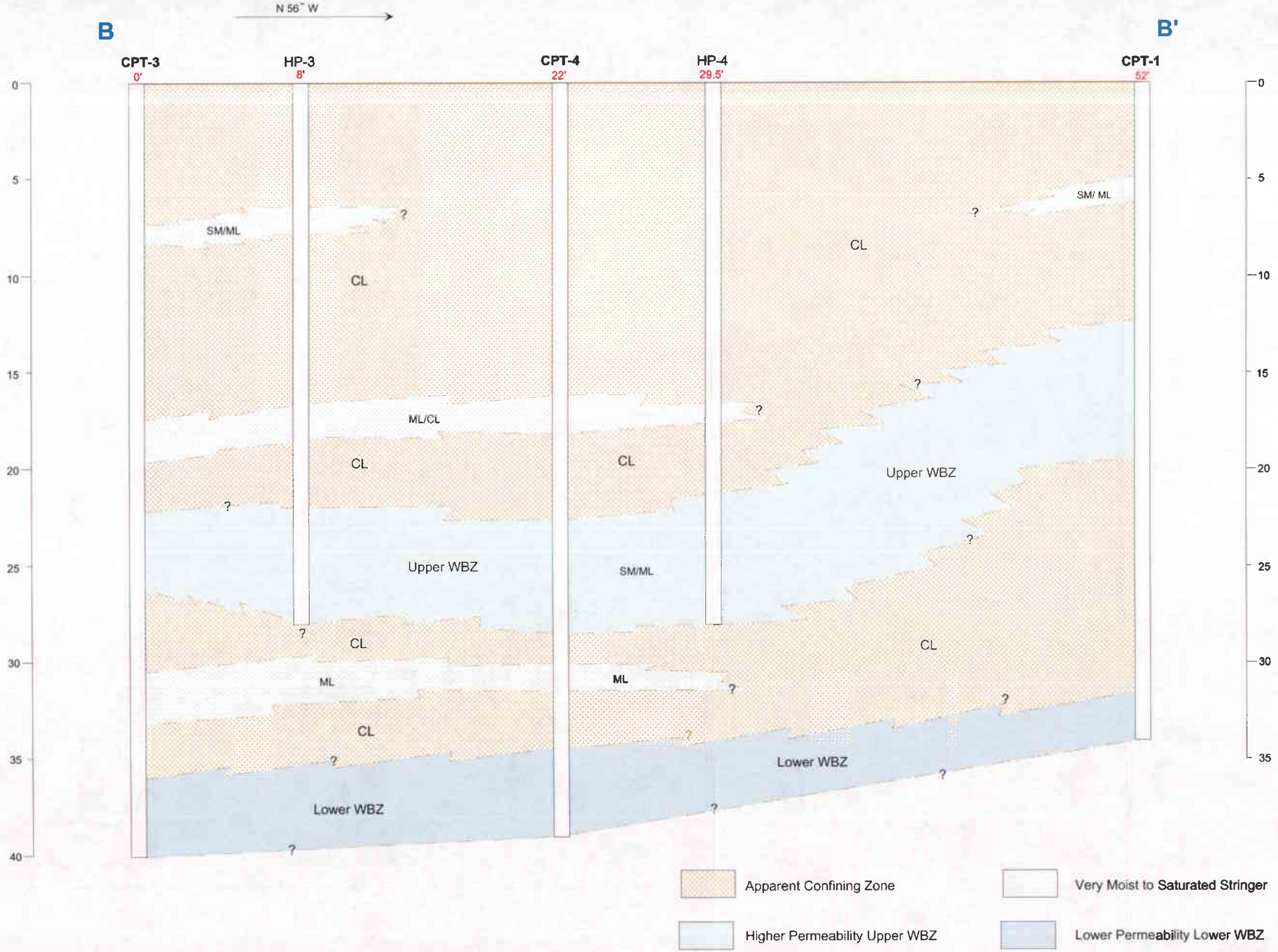


Figure 5: Geologic Cross Section B-B'.

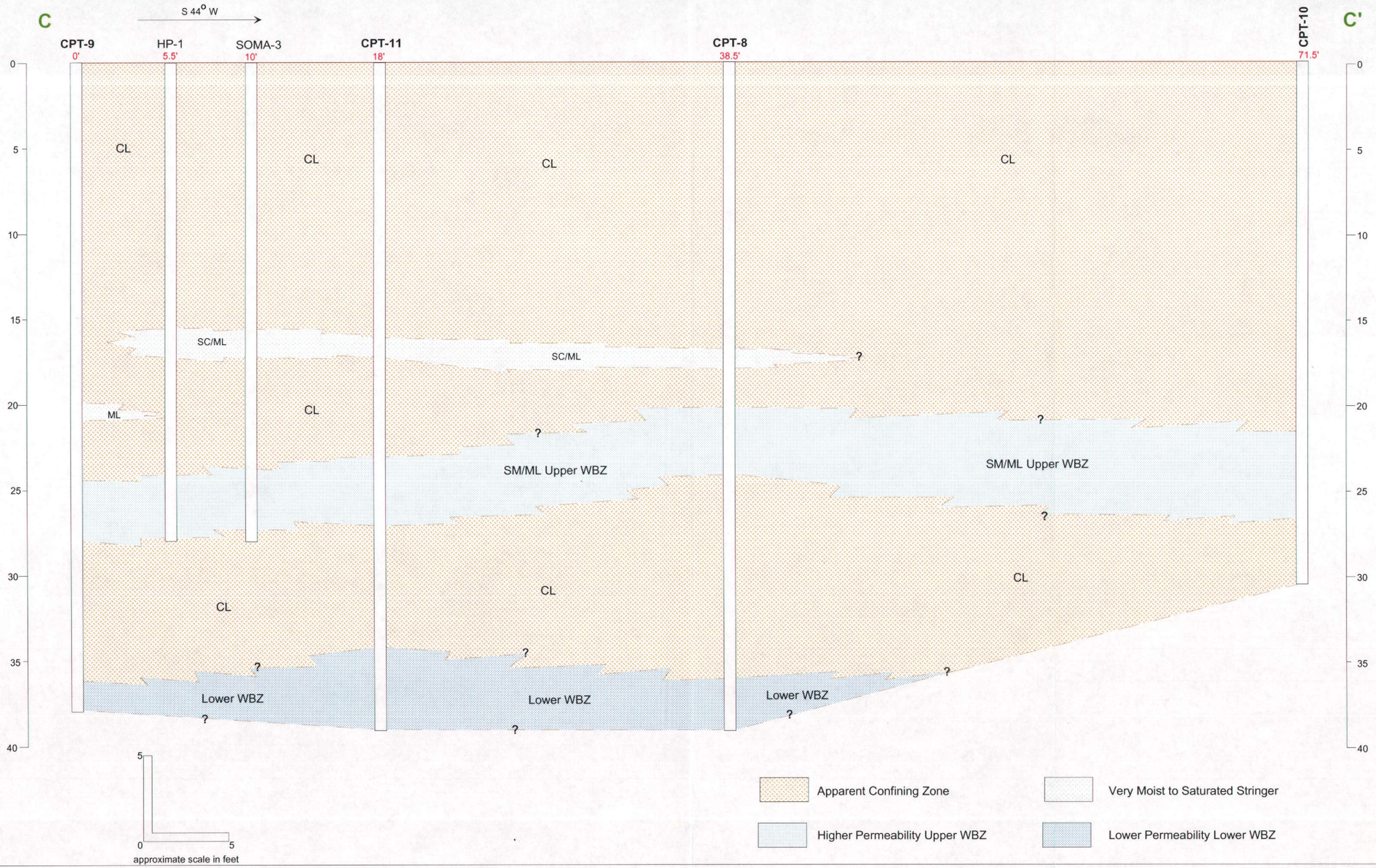


Figure 6: Geologic Cross Section C-C'.

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

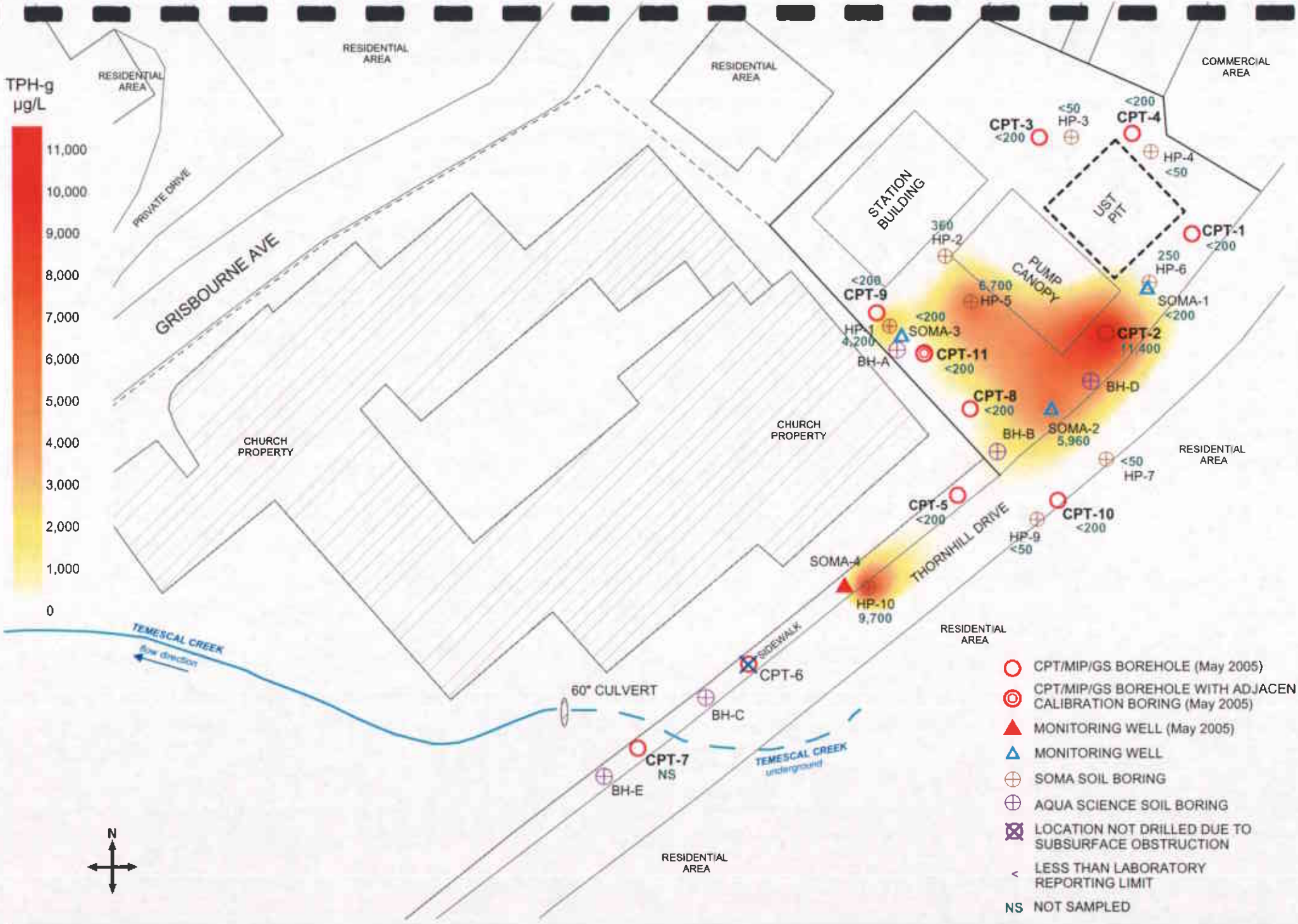


Figure 7: Isoconcentration Map of TPH-g in Upper WBZ.

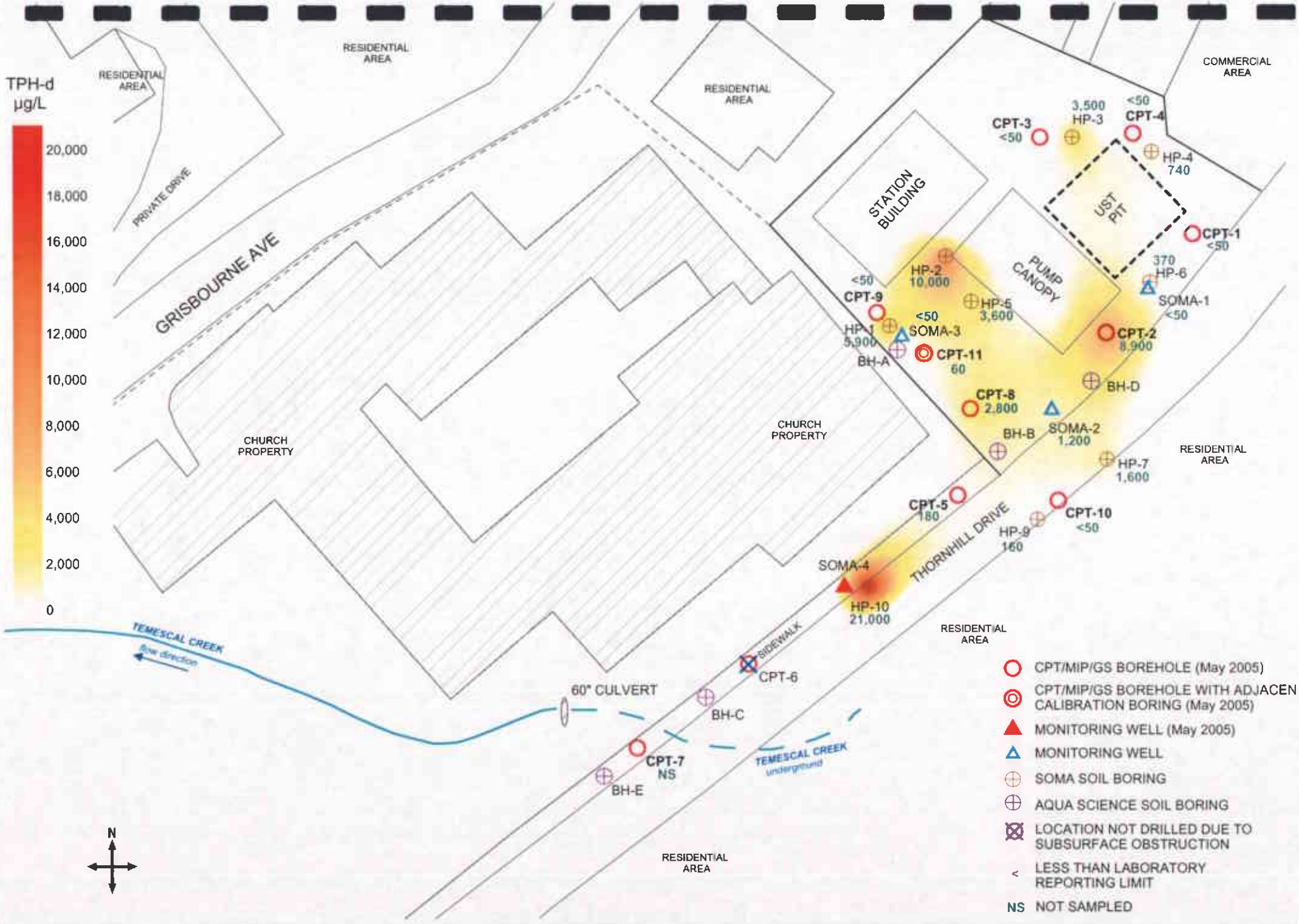


Figure 8: Isoconcentration Map of TPH-d in Upper WBZ.

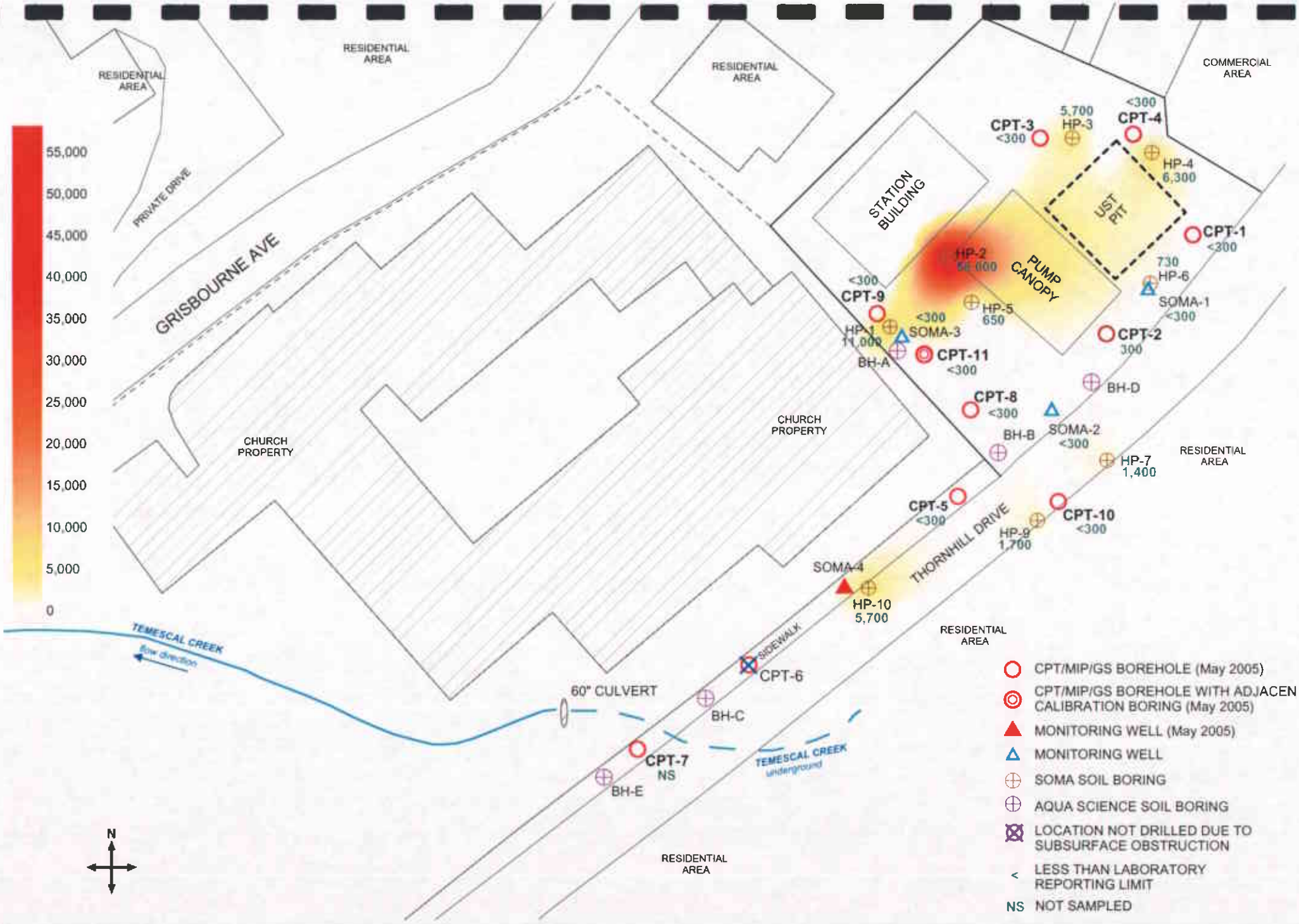


Figure 9: Isoconcentration Map of TPH-Mo in Upper WBZ.

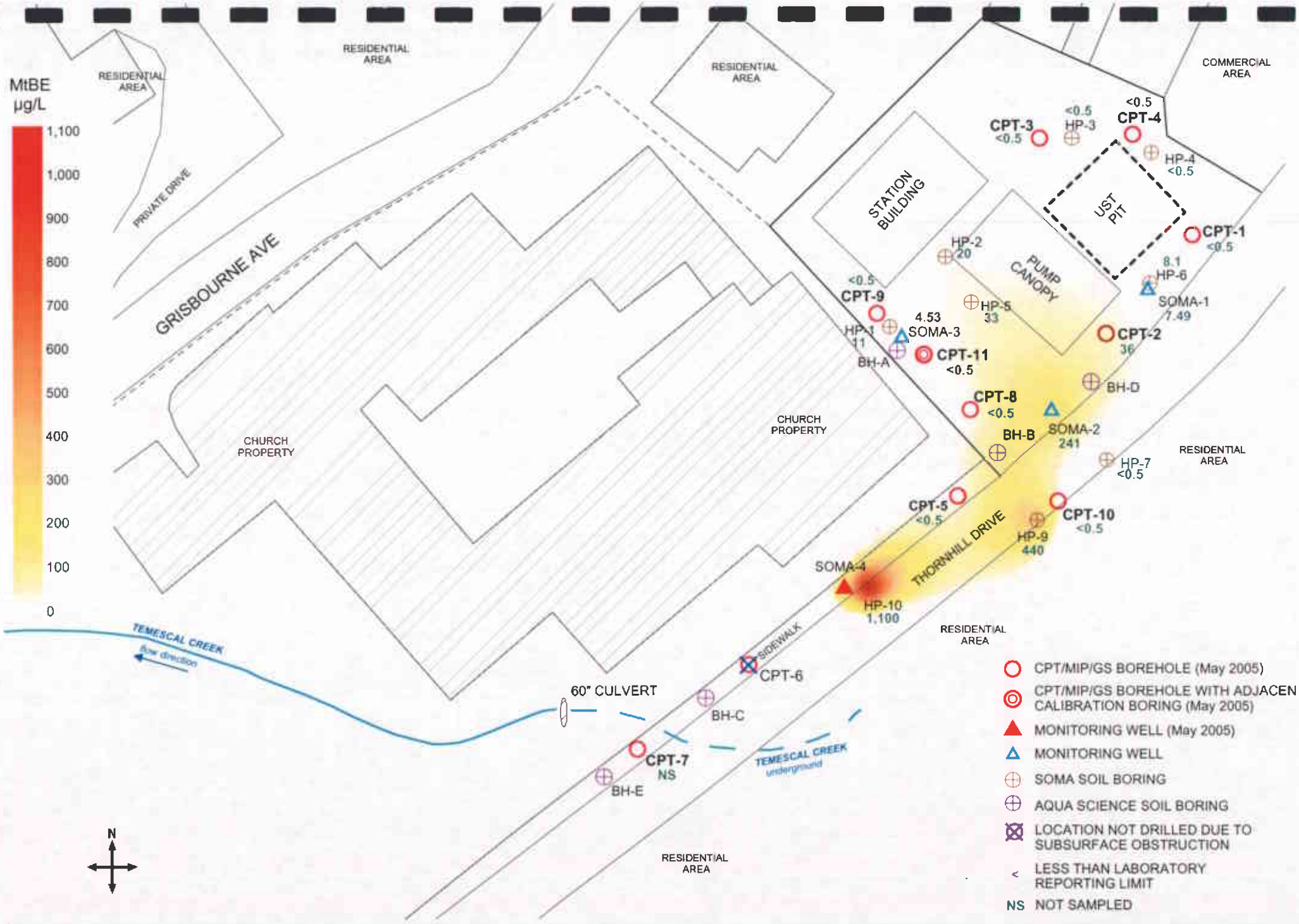


Figure 10: Isoconcentration Map of MtBE in Upper WBZ.

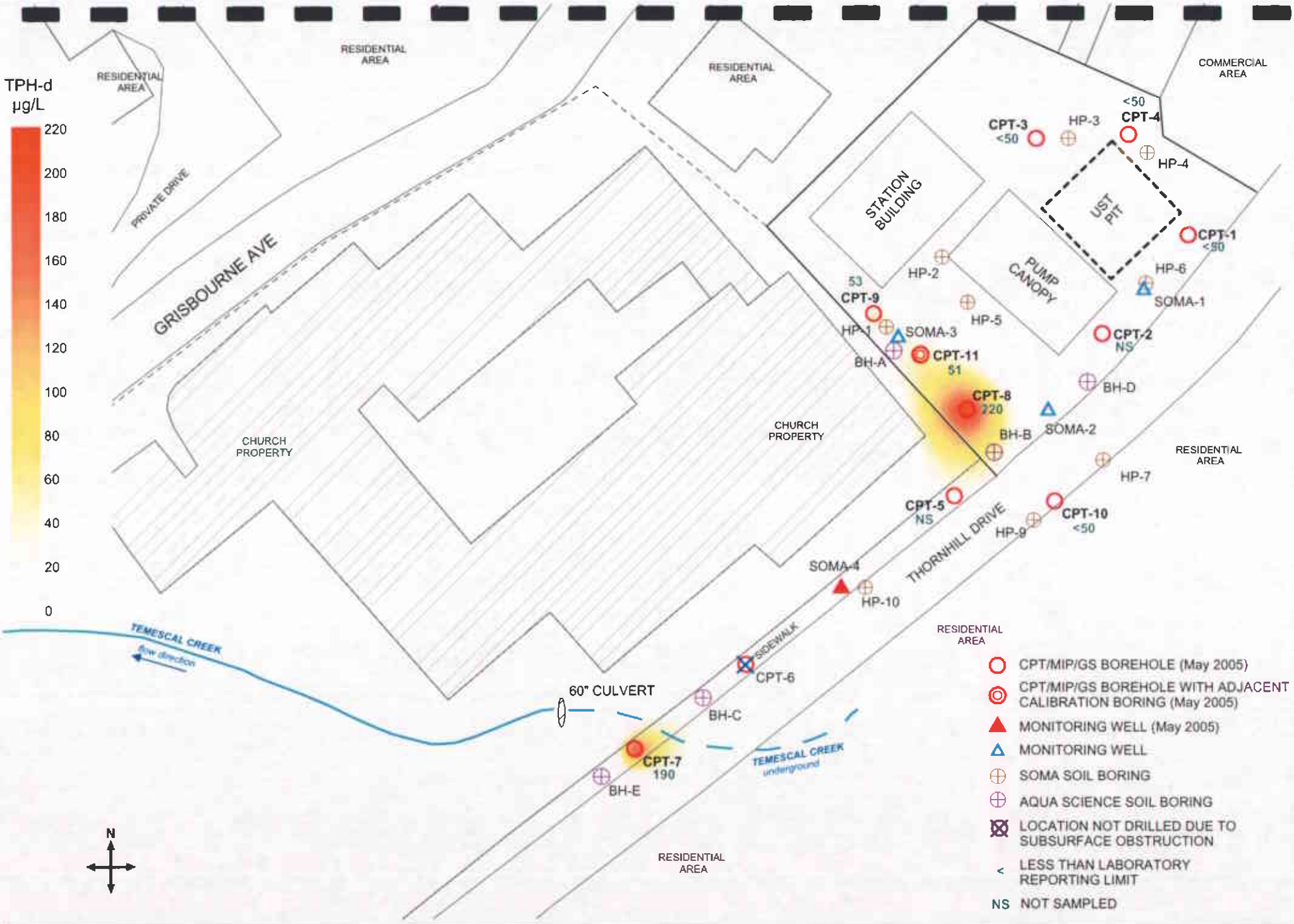


Figure 11: Isoconcentration Map of TPH-d in Lower WBZ.

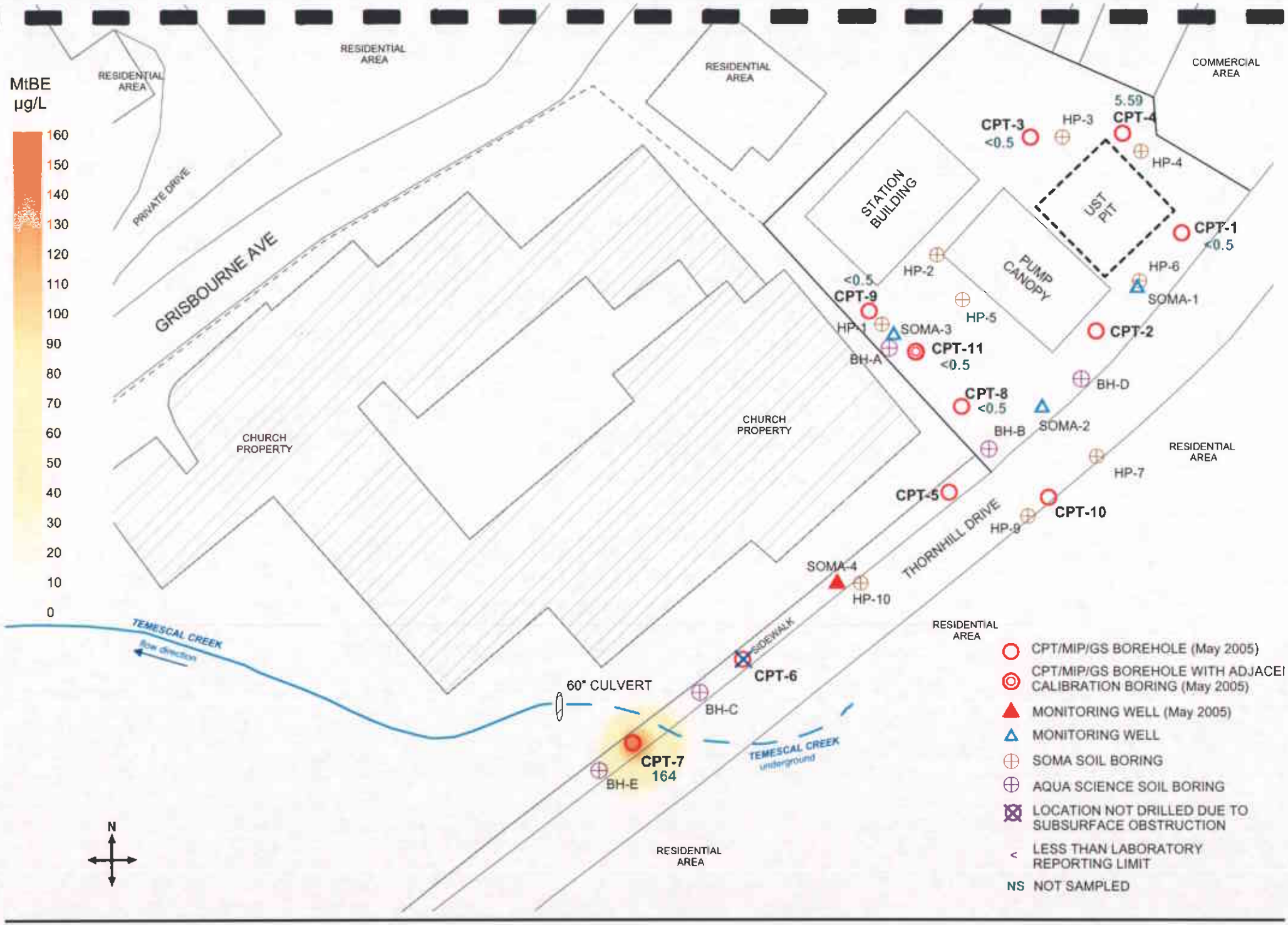


Figure 12: Isoconcentration Map of MtBE in Lower WBZ.

Appendix A

Drilling Permits

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 5725 THORNHILL DR. OAKLAND CA

CLIENT
Name MO MASHMOON
Address 1721 JEFFERSON ST Phone 510-891-9988
City OAKLAND Zip 94612

APPLICANT
Name SENEA ENVIRONMENTAL ENGINEERING
Fax 925-244-6601
Address 2680 BISHOP DR. SUITE 207 Phone 925-244-6600
City SAN RAMON Zip

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☑
Water Supply	☐	Contamination	☐
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☑		

DRILLER'S NAME FISCH ENVIRONMENTAL EXPLORATION

DRILLER'S LICENSE NO. 683865

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth ____ ft.
Surface Seal Depth ____ ft. Owner's Well Number ____

GEOTECHNICAL PROJECTS
Number of Borings 11 Maximum
Hole Diameter 2 in. Depth 50 ft.

STARTING DATE MAY 9, 2005

COMPLETION DATE MAY 13, 2005

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 4/18/05

PLEASE PRINT NAME ERIC JENNINGS

Rev.9-18-02

FOR OFFICE USE
PERMIT NUMBER W05-0460
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS -B#1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

CK# 6665

APPROVED [signature] DATE 4-19-05

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544-1395
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

PERMIT NO. W05-0460

WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
B#1-GENERAL CONDITIONS: GEOTECHNICAL & CONTAMINATION BOREHOLES

1. Prior to any drilling activities, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that Federal, State, County or to the City and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.

2. Boreholes shall not be left open for a period of more than **24 hours**. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

4. Permit is valid only for the purpose specified herein **May 9 to May 13, 2005**. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

5. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

6. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

7. **Applicant shall contact George Bolton for a inspection time at 510-670-5594 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.**

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 5725 THORNHILL DR. OAKLAND CA

CLIENT
Name MO MASHHOON
Address 1721 JEFFERSON ST Phone 510-891-9185
City OAKLAND Zip 94612

APPLICANT
Name SOMA ENVIRONMENTAL ENGINEERING
Fax 925-244-6601
Address 2680 BISHOP DR, SUITE 203 Phone 925-244-6600
City SAN RAMON Zip

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☑	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☑
Cable	☐	Other	☐		

DRILLER'S NAME GREGG DRILLING & TESTING

DRILLER'S LICENSE NO. C57: 485165

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 20 ft.
Surface Seal Depth GRADE ft. Owner's Well Number SOMA-4

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum
Hole Diameter _____ in. Depth _____ ft.

STARTING DATE MAY 27 2005

COMPLETION DATE MAY 27 2005

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 4/15/05

PLEASE PRINT NAME ERIC JENNINGS

Rev.9-18-02

FOR OFFICE USE

PERMIT NUMBER W05-0461
WELL NUMBER _____
APN _____

PERMIT CONDITIONS
Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

(G.) SPECIAL CONDITIONS — MW#1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

CE# 6666

APPROVED [signature] DATE 4-15-05

ALAMEDA COUNTY PUBLIC WORKS AGENCY
WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544-1395
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

PERMIT NO. W05-0461

WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
MW#1-GENERAL CONDITIONS: MONITIORING WELL/PIEZOMETERS

1. Prior to installation of any monitoring wells into any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

2. The minimum surface seal thickness two inches of cement grout placed by tremie.

3. All monitoring wells shall have a minimum surface cement seal depth of five (5) feet or the maximum depth practicable or twenty (20) feet.

4. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

5. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. **Permit is valid from May 27 to May 27, 2005.** Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

8. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). **Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including: permit number and site map.**

9. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

10. **Applicant shall contact George Bolton for a inspection time at 510-670-5594 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.**

11. **Applicant shall submit a copy of the encroachment permit to this office within 10 working days.**

CITY OF OAKLAND • Community and Economic Development Agency
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 5725 THORNHILL DR Parcel# 048G-7420-007-00 Appl# OB050339

soil boring Permit Issued 05/06/05
block traffic per approved Traffic Control Plan
Dates are NOT consecutive: May 12/13; May 27

5725 THORNHILL DR

Nbr of days: 3 Linear feet: 200
Effective: 05/12/05 Expiration: 05/27/05

SHORT TERM ENCROACHMENT

Applicant Phone# Lic# --License Classes--

Owner MASH PETROLEUM INC
Contractor FISCH ENVIRONMENTAL CONSTRUCTION INC (209) [illegible] A C57
Arch/Engr
Agent ERIC JENNINGS
Applic Addr 399 SHERIS [illegible], [illegible] SPRINGS, CA, [illegible]252

$419.99	TOTAL FEES PAID AT ISSUANCE		
$54.00	Applic	$312.00	Permit
$.00	Process	$34.77	Rec Mgmt
$.00	Gen Plan	$.00	Invstg
$.00	Other	$19.22	Tech Enh

ADDRESS: ______

CITY OF OAKLAND

JOB SITE

DIST: ______

Applicant: Eric Jennings (Sana Env Svcs) 5/6/2005

Issued by: ______ ______

CITY OF OAKLAND • Community and Economic Development Agency
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 5725 THORNHILL DR   Parcel# 048G-7420-007-00   Appl# X0500519

Descr soil boring   Permit Issued 05/06/05

Work Type EXCAVATION-PRIVATE P

USA #   Util. Co. Job #   Acctg#:
Util. Fund #

Applcnt   Phone#   Lic# --License Classes--

Owner MASH PETROLEUM INC
Contractor FISCH ENVIRONMENTAL CONSTRUCTION INC   (209) 772-8570 683189 A C57
Arch/Engr
Agent ERIC JENNINGS
Applic Addr 399 SHERIS SIDE, VALLEY SPRINGS, CA, 95252

$332.49 TOTAL FEES PAID AT ISSUANCE

$54.00	Applic	$235.75	Permit
$.00	Process	$27.53	Rec Mgmt
$.00	Gen Plan	$.00	Invstg
$.00	Other	$15.21	Tech Enh

JOB SITE

ADDRESS:

DIST:

CITY OF OAKLAND

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

CIVIL ENGINEERING

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

– X0400673 –

Permit valid for 90 days from date of issuance.

PERMIT NUMBER **X 0 5 0 0 5 1 9**	SITE ADDRESS/LOCATION 5725 THORNHILL DRIVE
APPROX. START DATE MAY 9, 2005 / APPROX. END DATE MAY 13, 2005	24-HOUR EMERGENCY PHONE NUMBER 925-244-6600 (Permit not valid without 24-Hour number)
CONTRACTOR'S LICENSE # AND CLASS 683865	CITY BUSINESS TAX # 3148602

ATTENTION:

1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # ______

2- **48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.**

3- **48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).**

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. ______, B&PC for this reason ______.

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # ______ Company Name ______

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

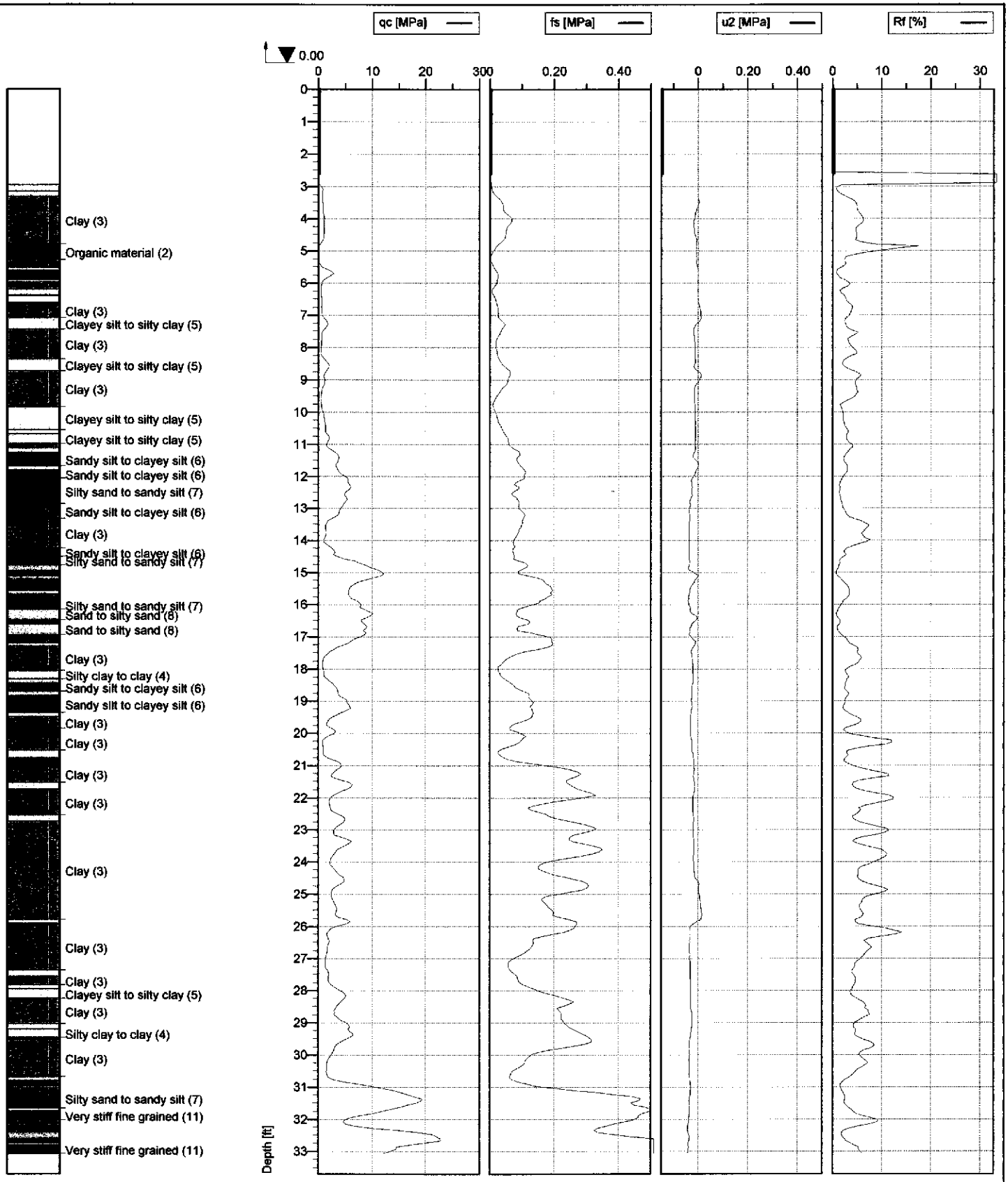
[signature] (SOMA ENG) — Date: APRIL 25, 2005

Signature of Permittee ☑ Agent for ☐ Contractor ☐ Owner

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☑ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☑ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☑ NO
ISSUED BY [signature]		DATE ISSUED 5-6-5	

Appendix B

Logs of the CPT Boreholes and MIP Study Data



U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-1	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/1	Fig:
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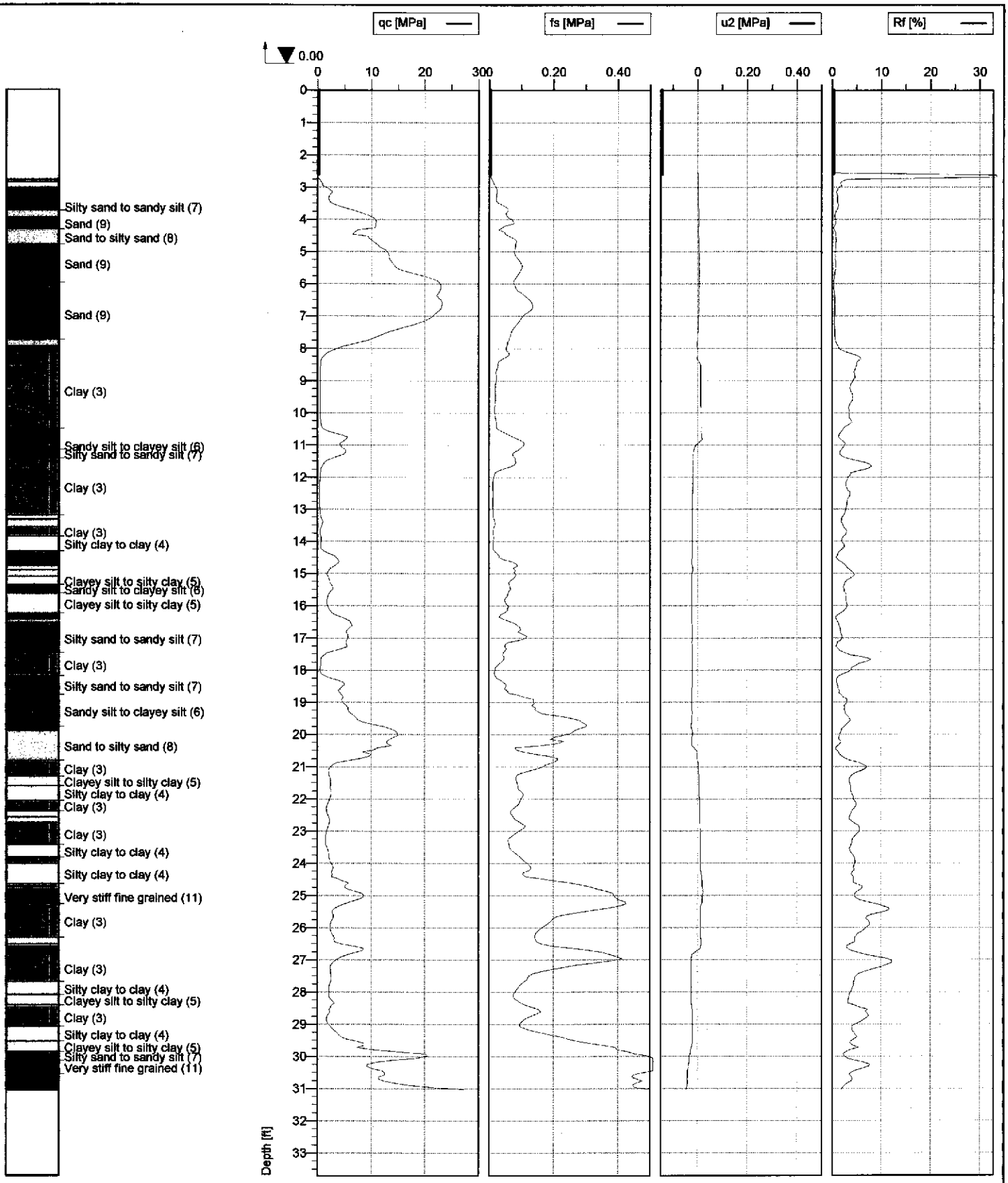

U2

Cone No: 0
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-2	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
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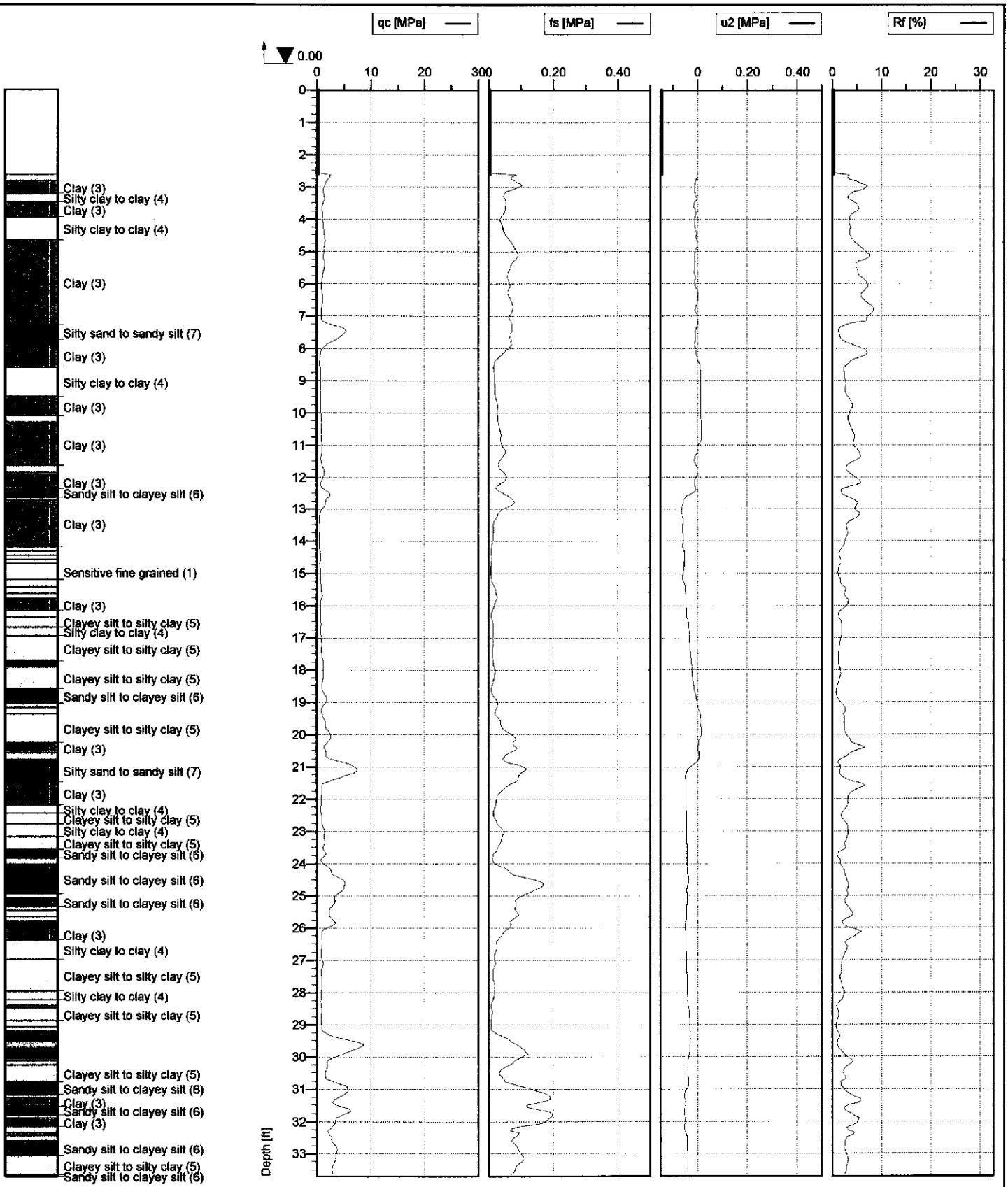
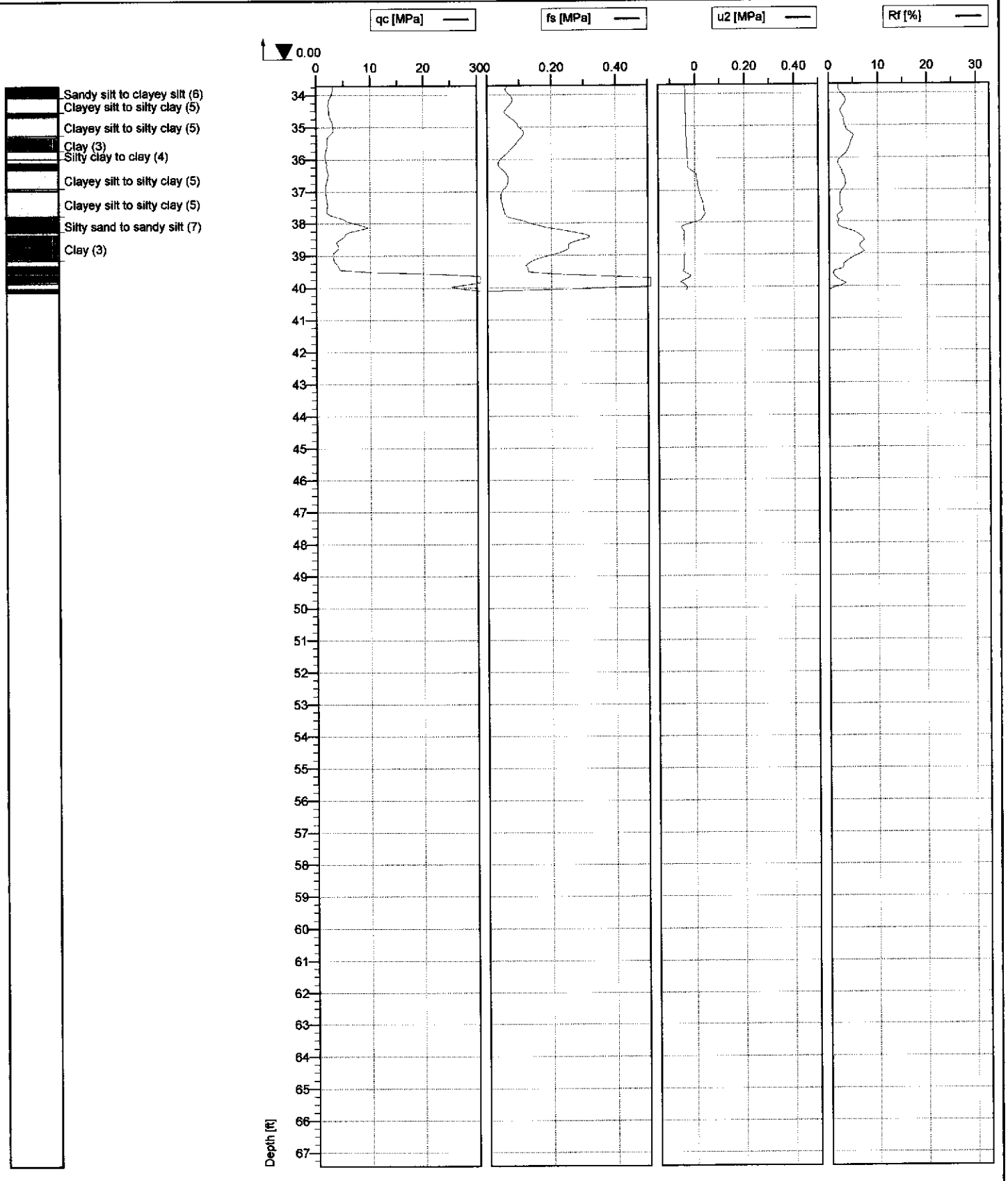


Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-3	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00
Client: SOMA		Date: 5/9/2005 / Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/2 / Fig:
Stopped Refusal		File: G3080-3.001



u2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

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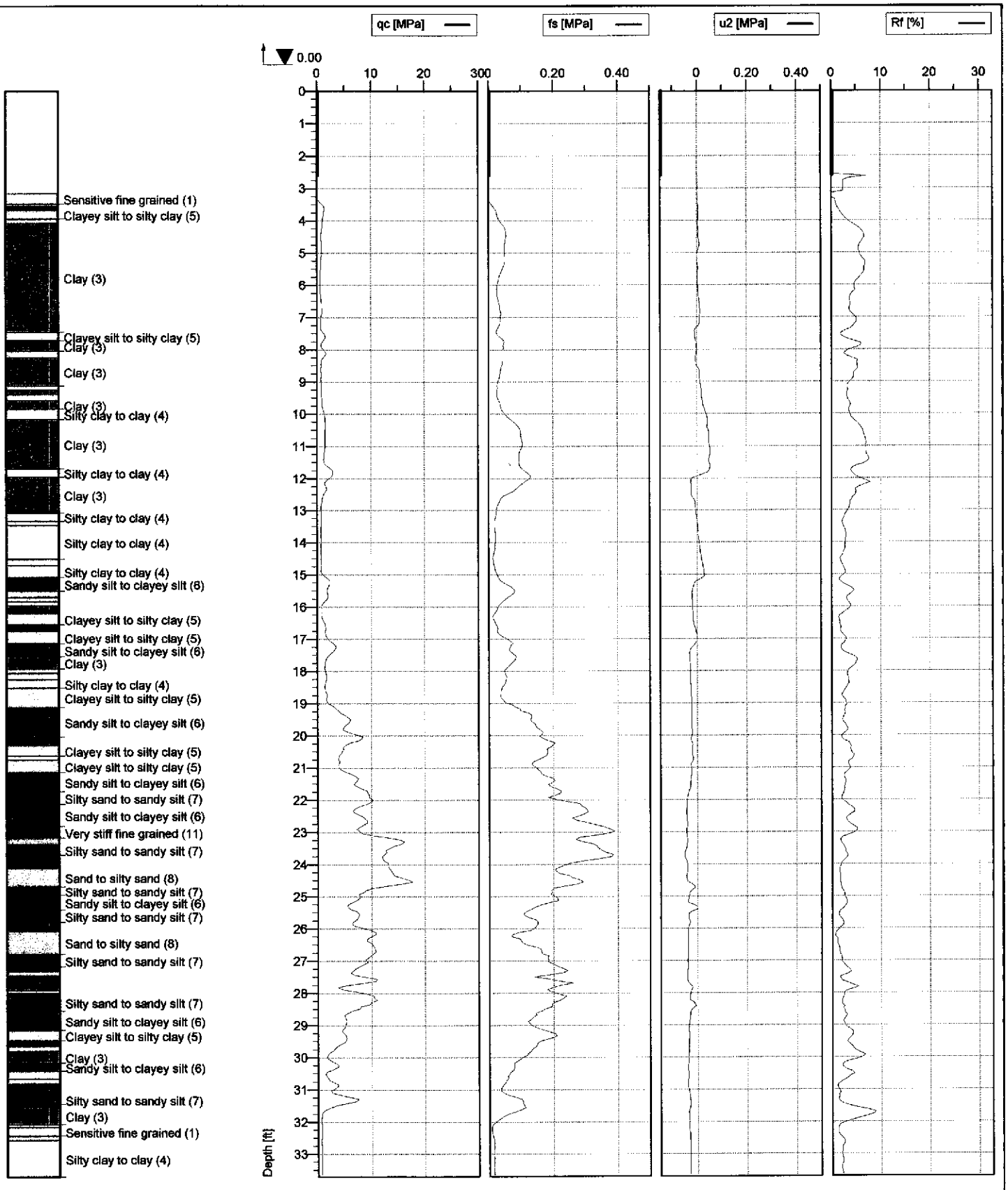
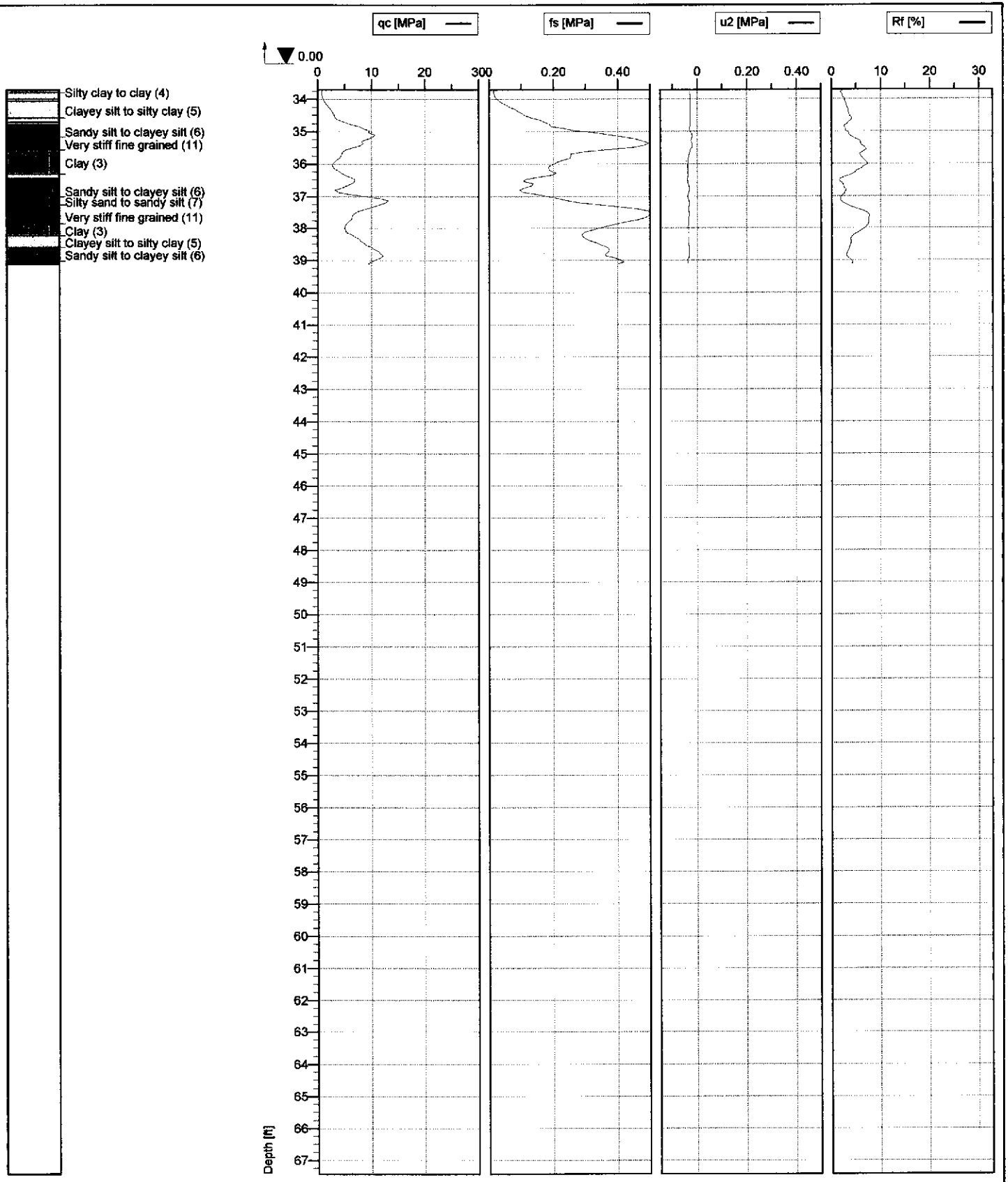
Client: SOMA		Date: 5/9/2005 / Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 2/2 / Fig:
Stopped Refusal		File: G3080-3.001



U2

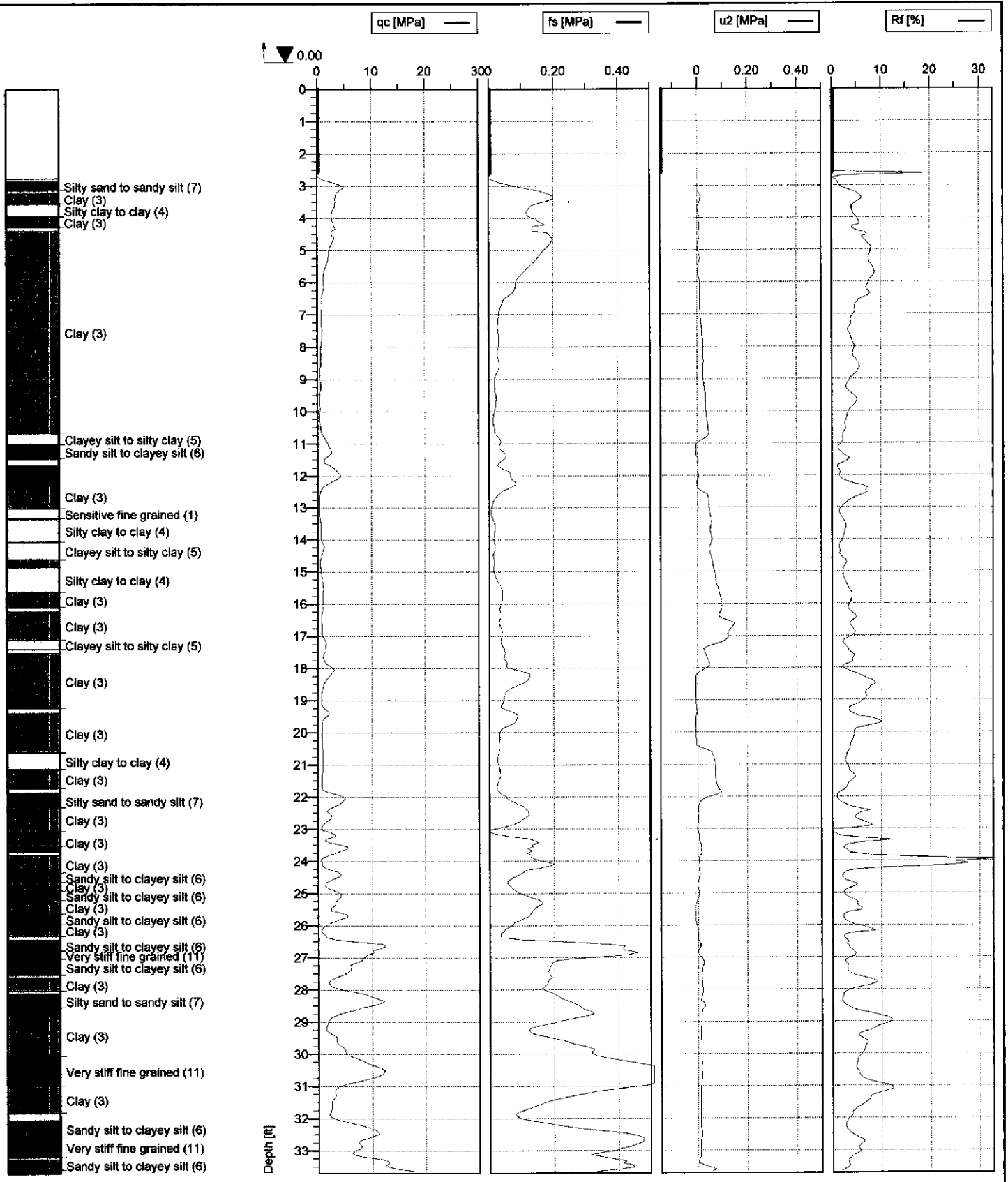
Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-4	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/2	Fig:
		File: G3080-4.001	



Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-4	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 2/2	Fig:
		File: G3080-4.001	



U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-5	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00
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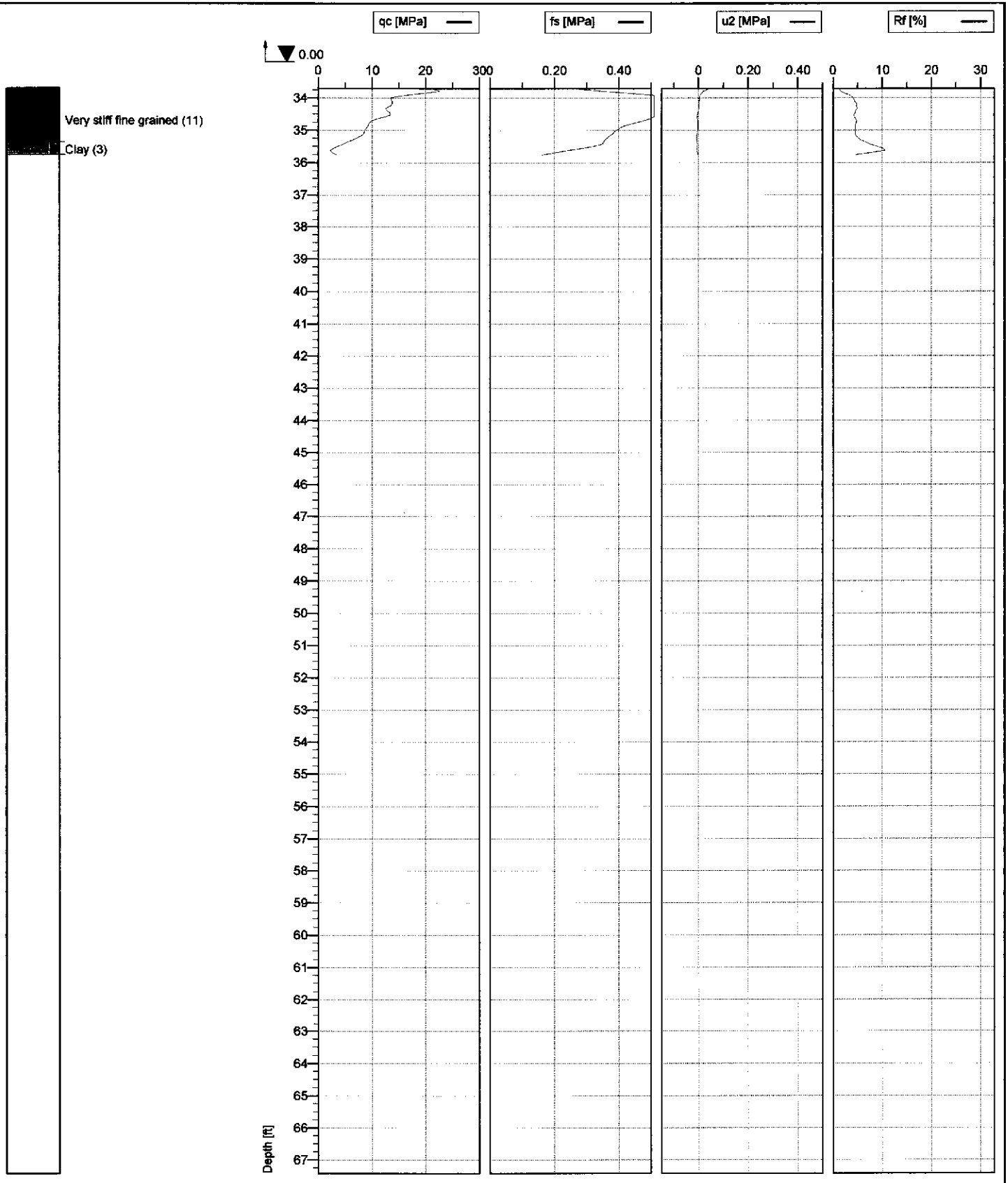
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/2 / Fig:
		File: G3080-5.001



Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

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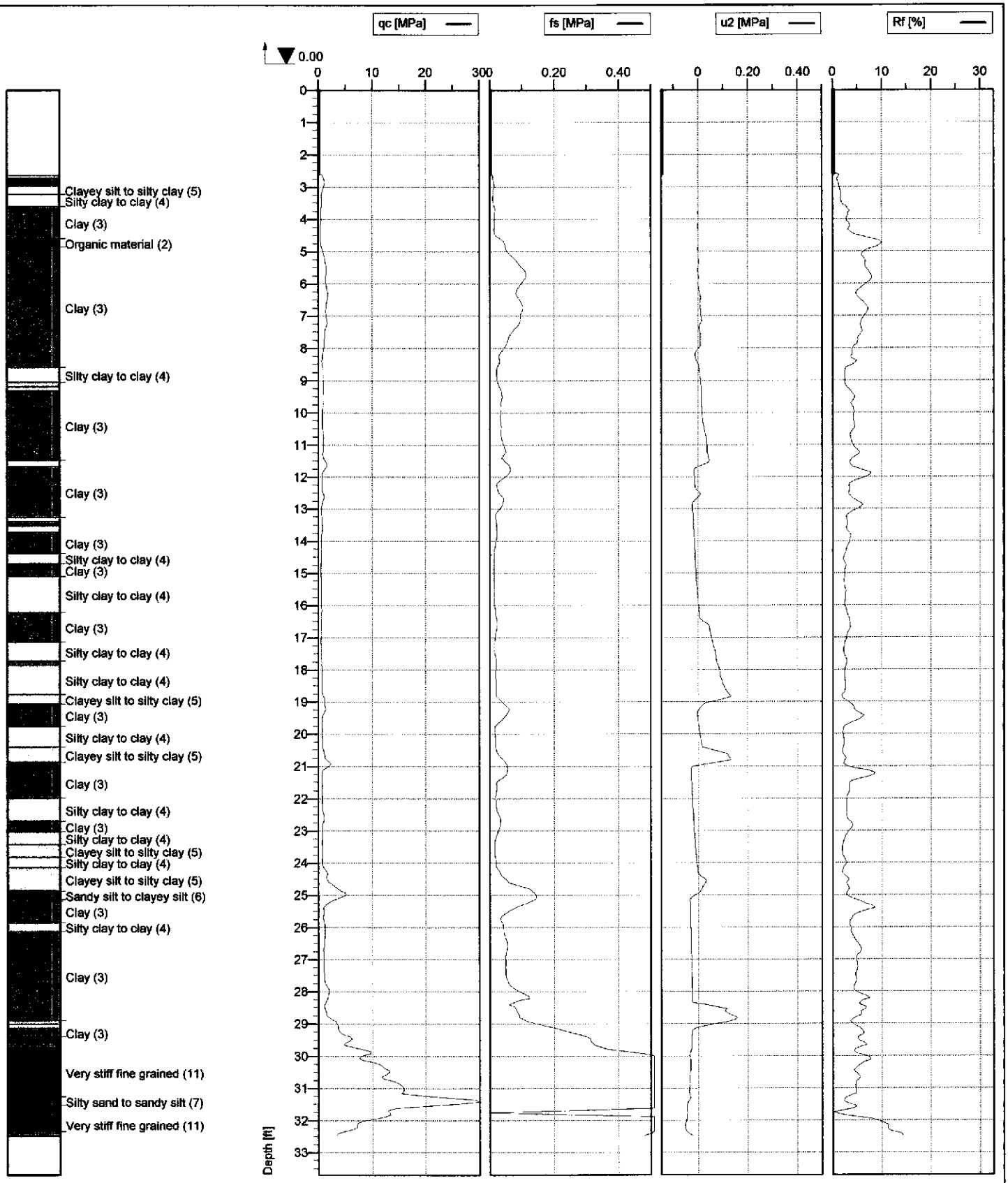

U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-7	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
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Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/1	Fig:
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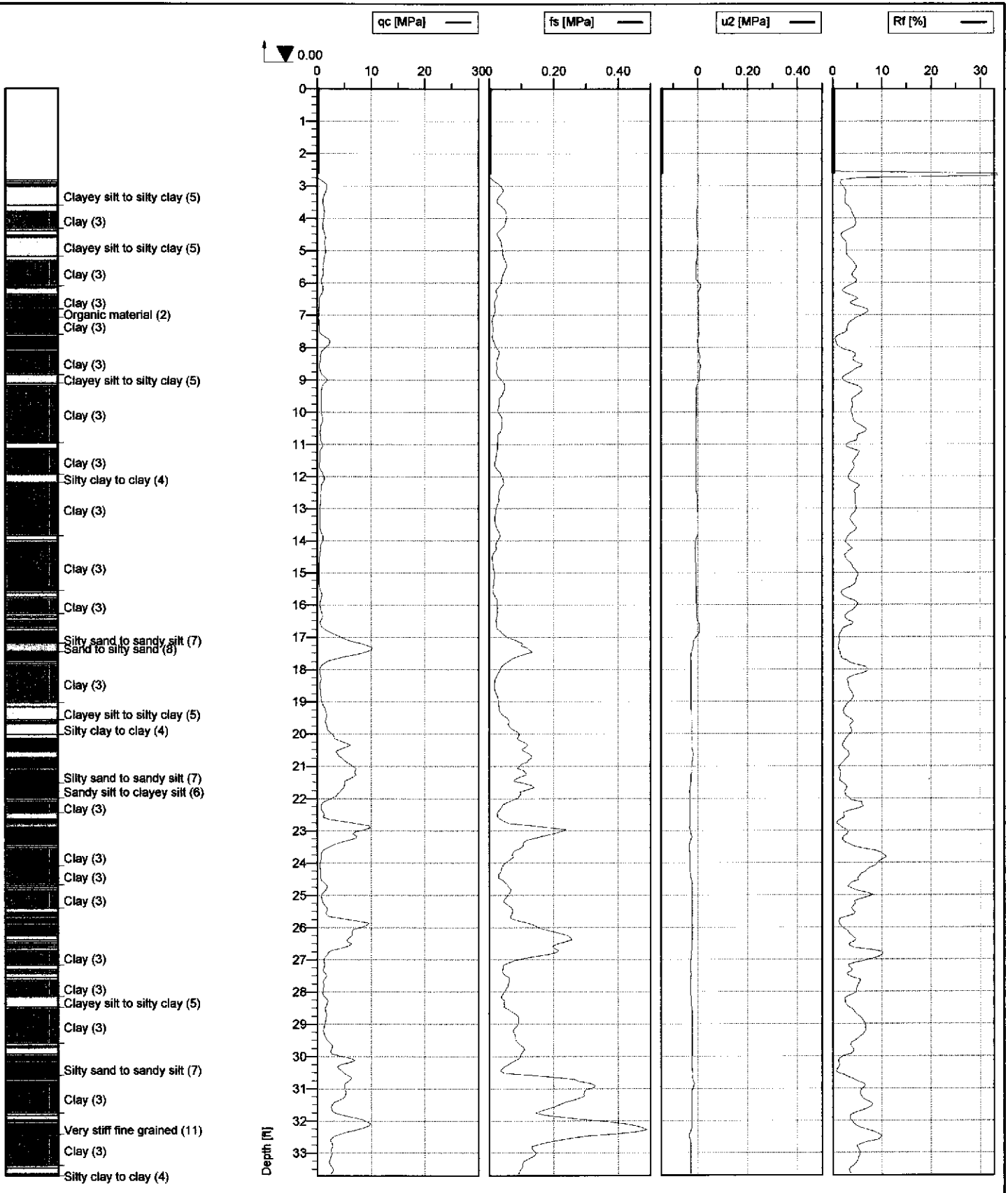

U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-8	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, Ca.		Page: 1/2	Fig:
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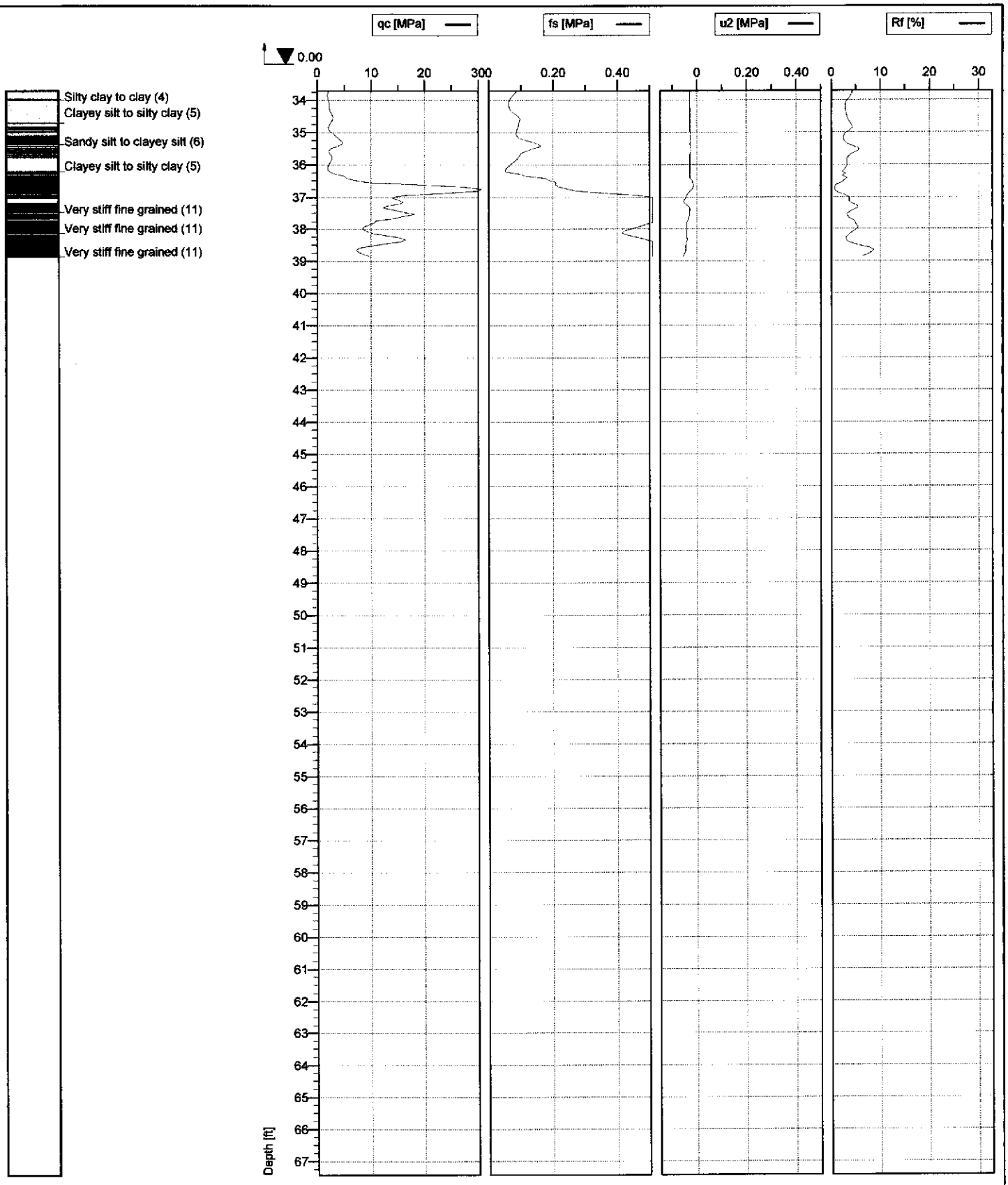
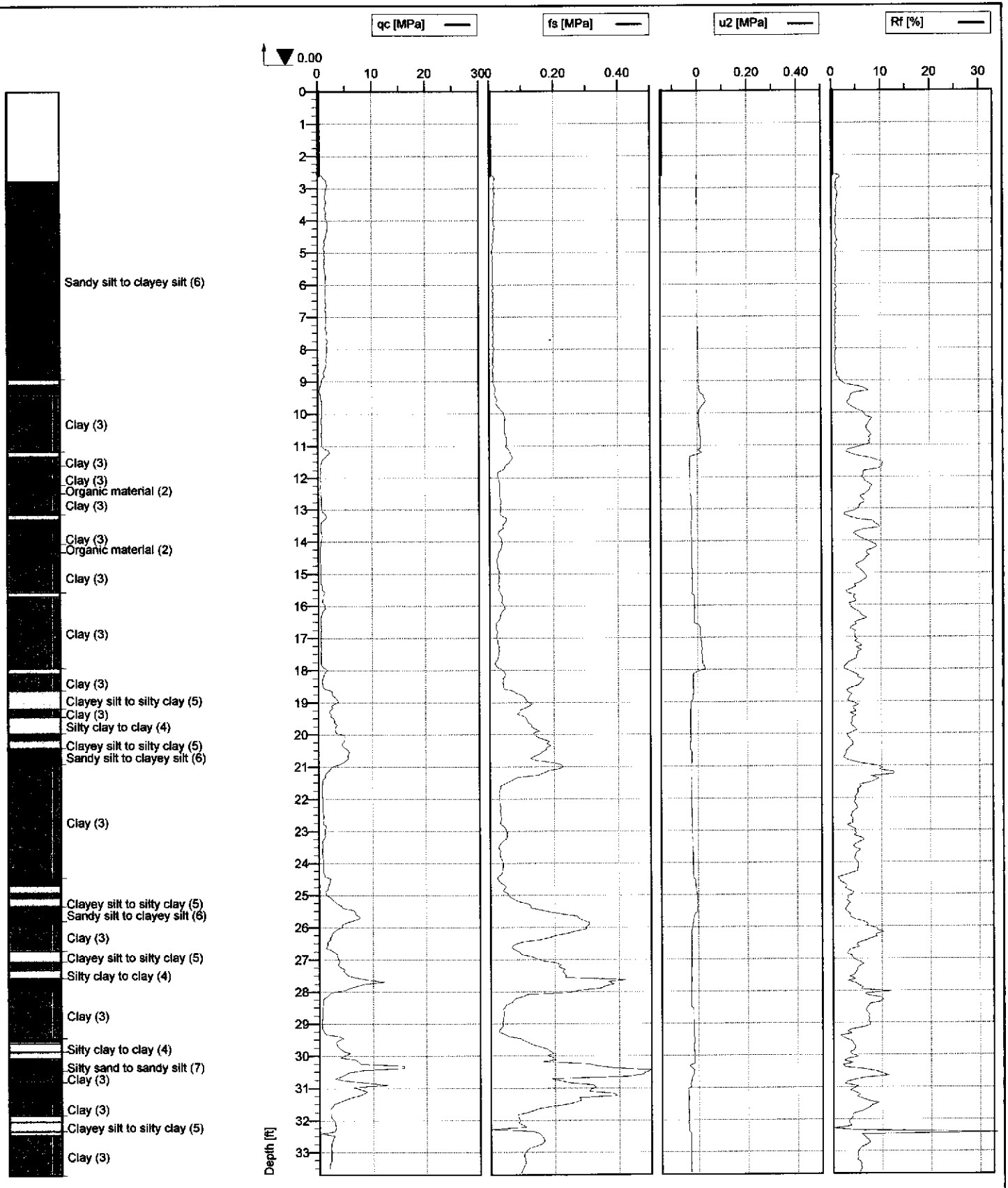


U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-8	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, Ca.		Page: 2/2	Fig:
Stopped Refusal		File: G3080-8.001	



U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-9	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00
Client: SOMA		Date: 5/9/2005 / Scale: 1 : 50
Project: 5725 Thornhill Dr, Oakland, CA		Page: 1/2 / Fig:
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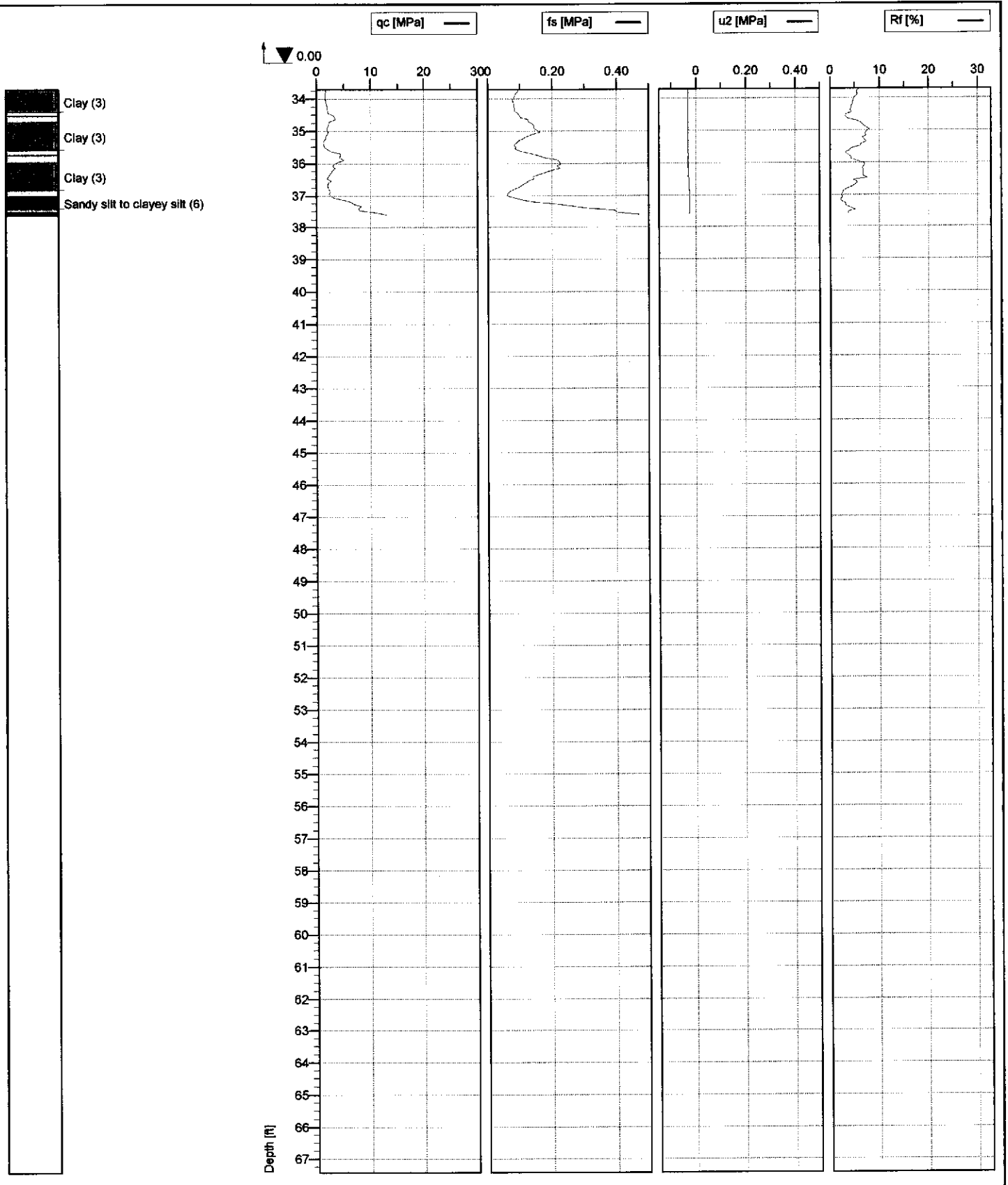
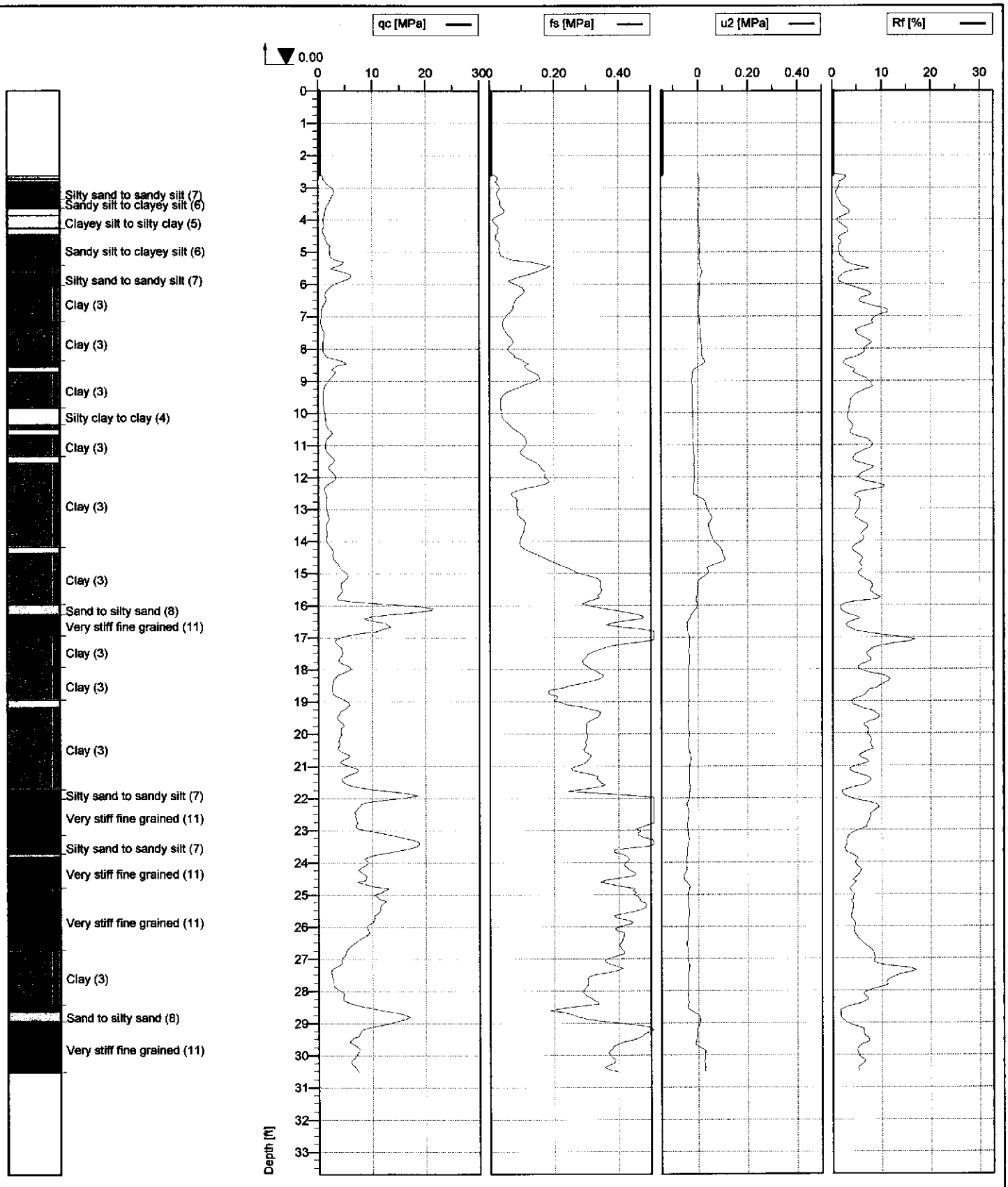


U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

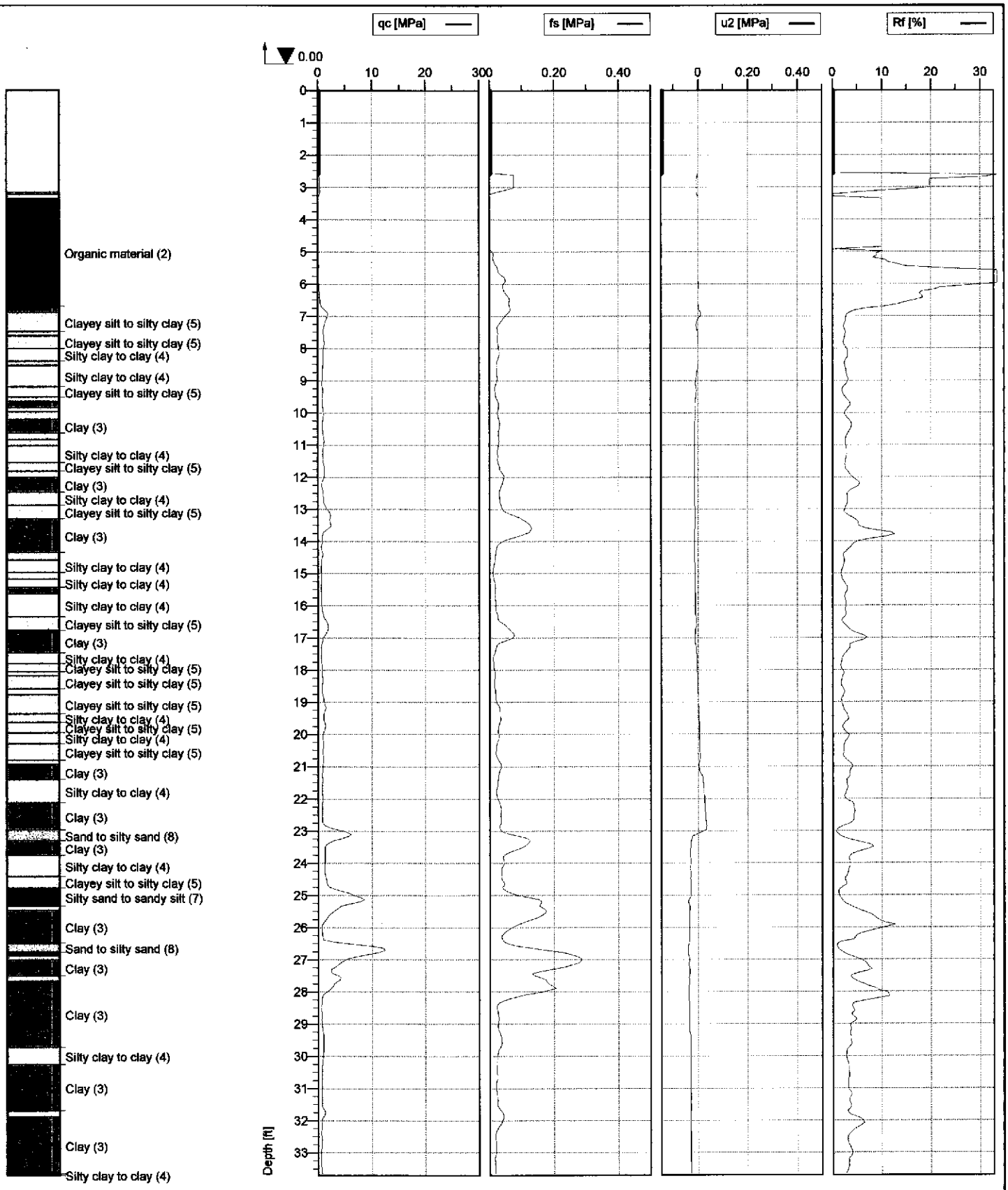
Test no: G3080-9	Position: X: 0.00 m, Y: 0.00 m		Ground level: 0.00
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr, Oakland, CA		Page: 2/2	Fig:
Stopped Refusal		File: G3080-9.CPT	



U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-10	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/10/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/1	Fig:
Stoped Refusal		File: G3080-10.001	



U2

Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-11	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
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Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/2	Fig:
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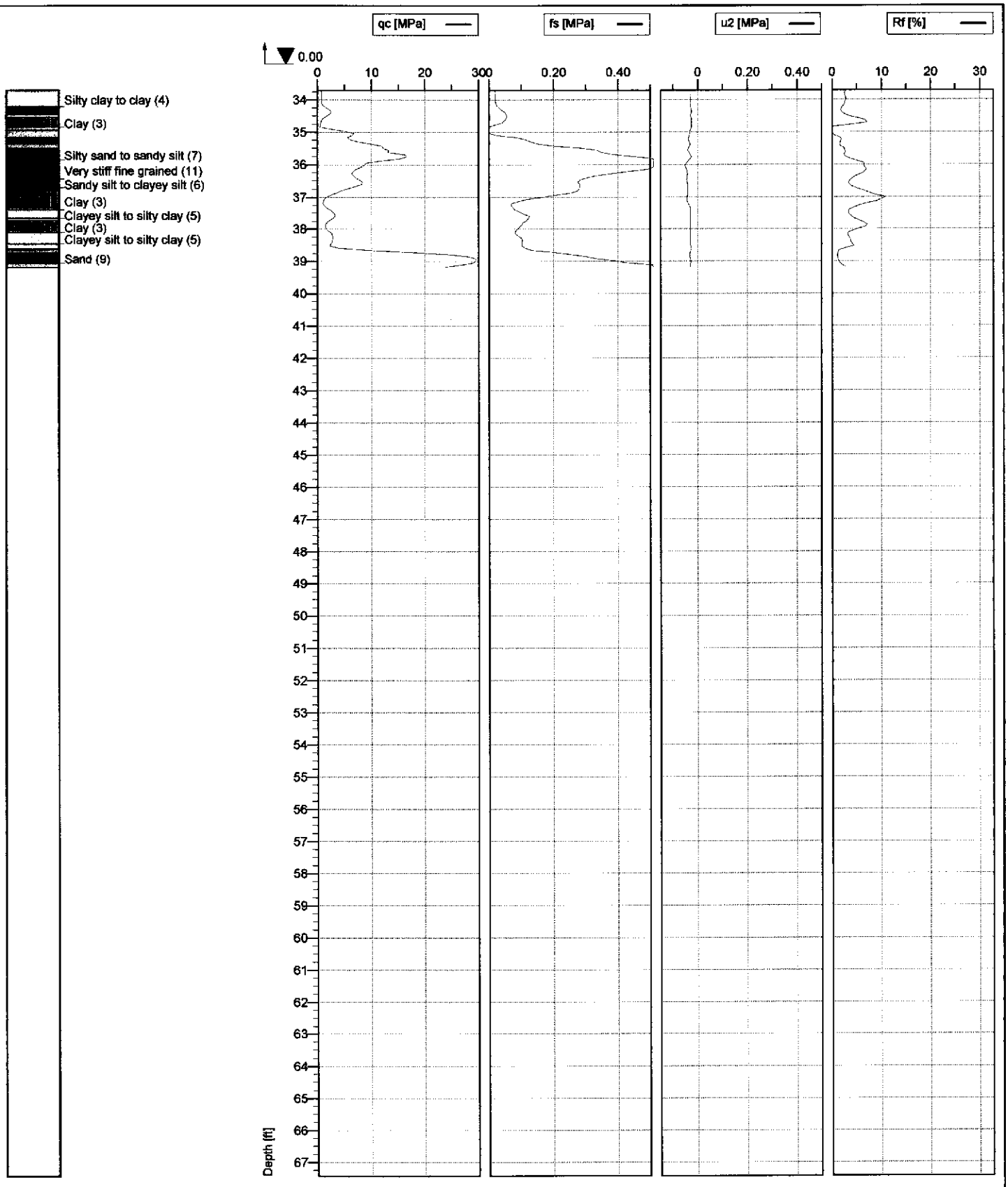

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Cone No: 3335
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Test no: G3080-11	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00
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Project: 5725 Thornhill Dr. Oakland, CA		Page: 2/2 / Fig:
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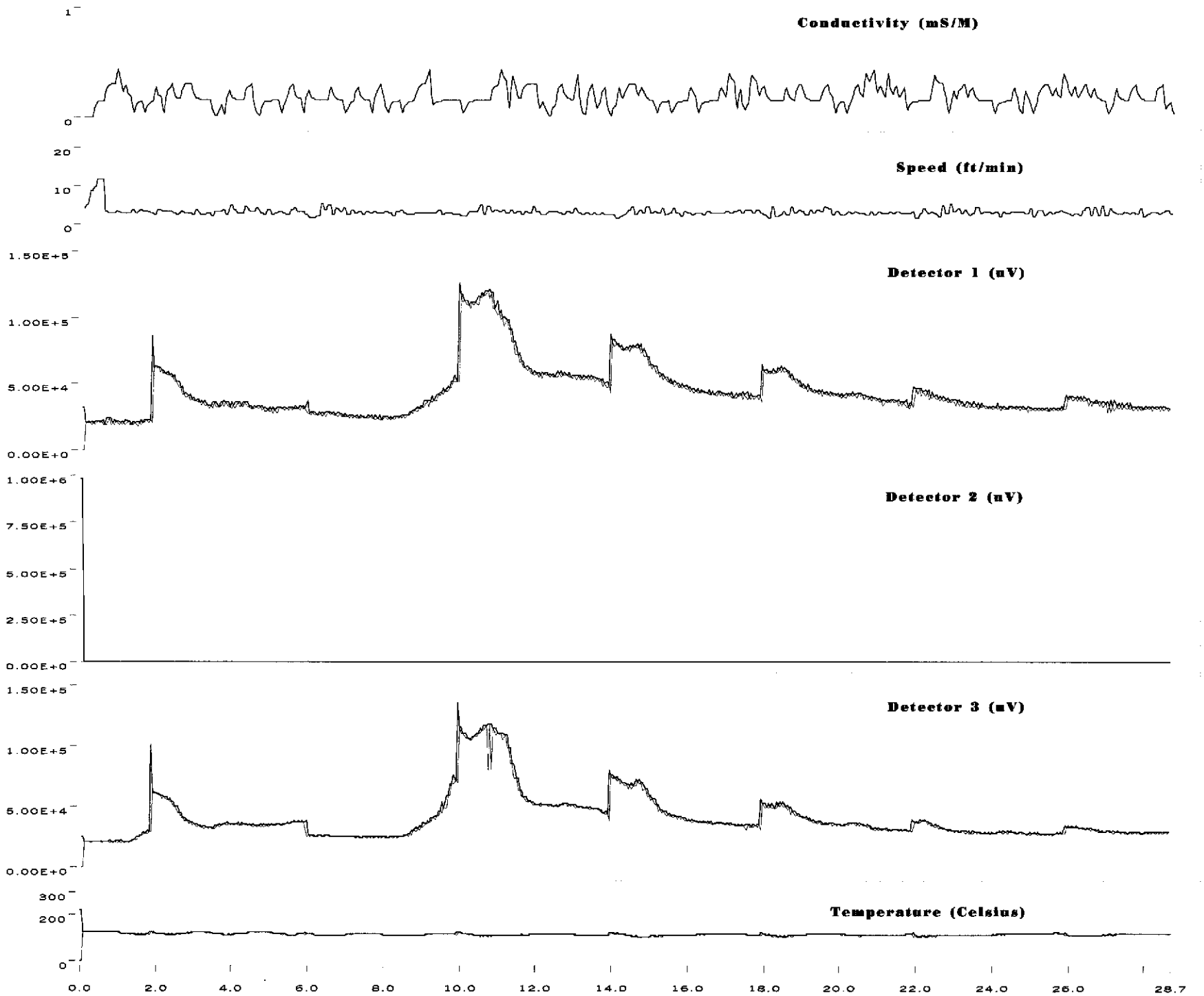

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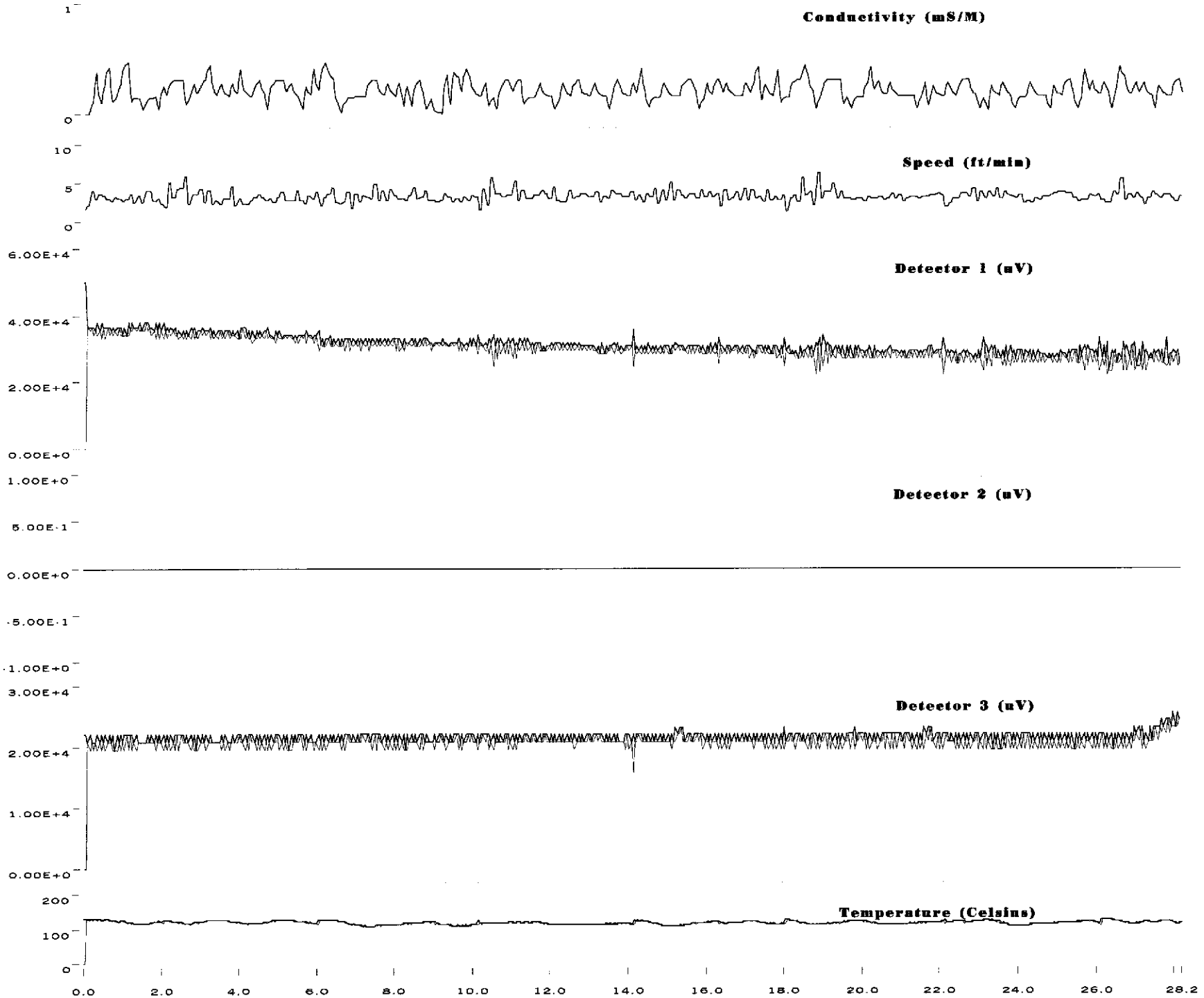

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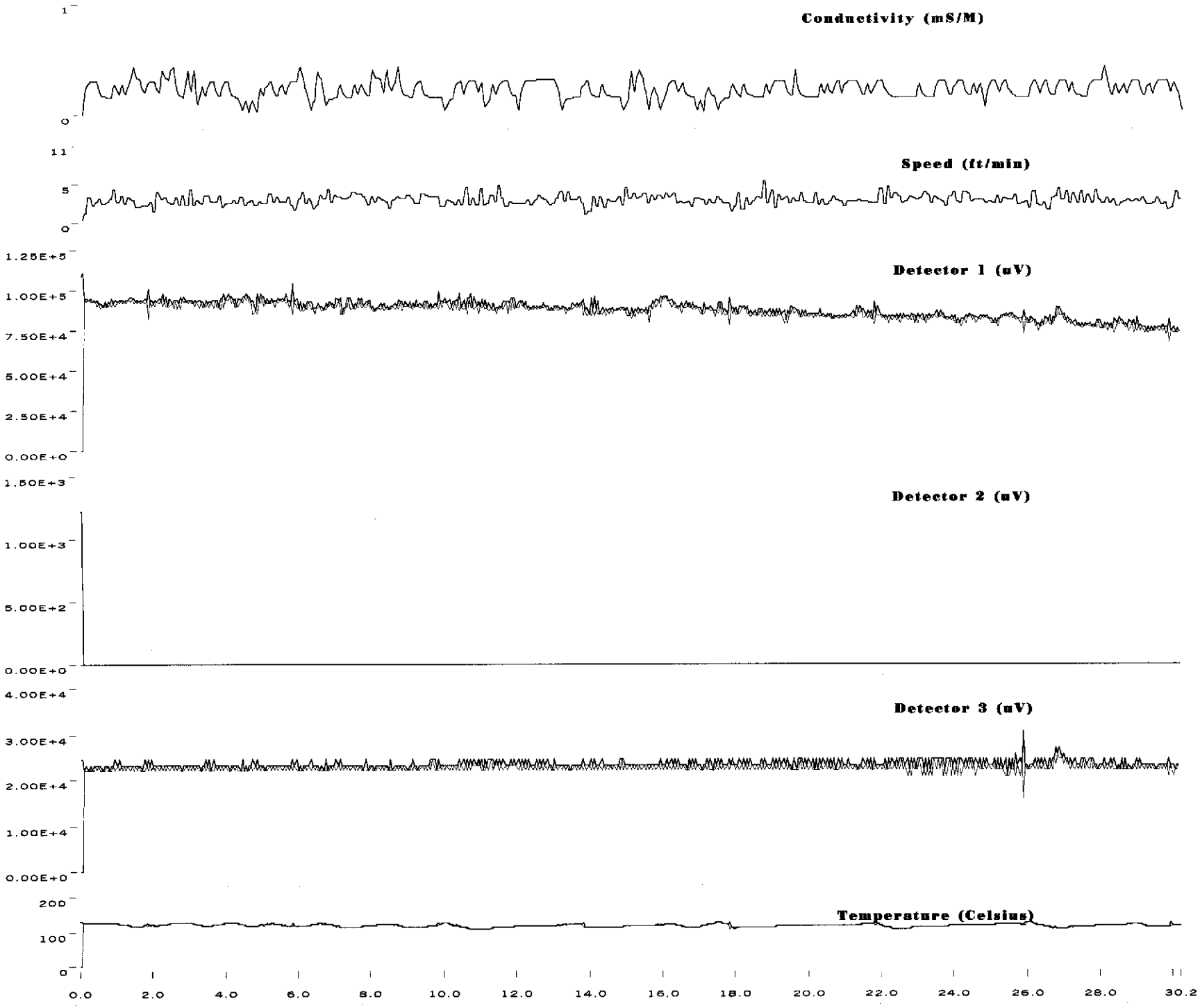

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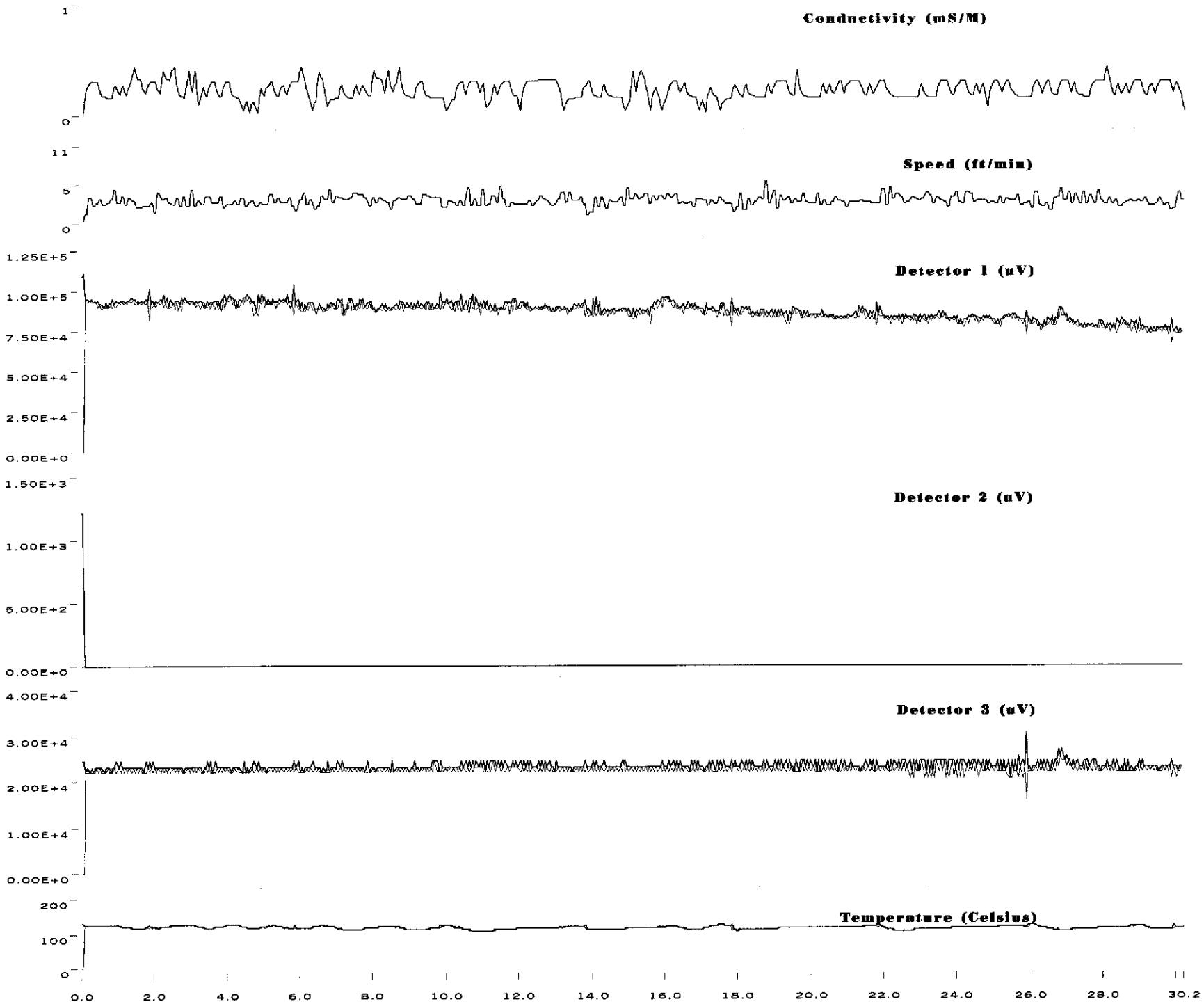

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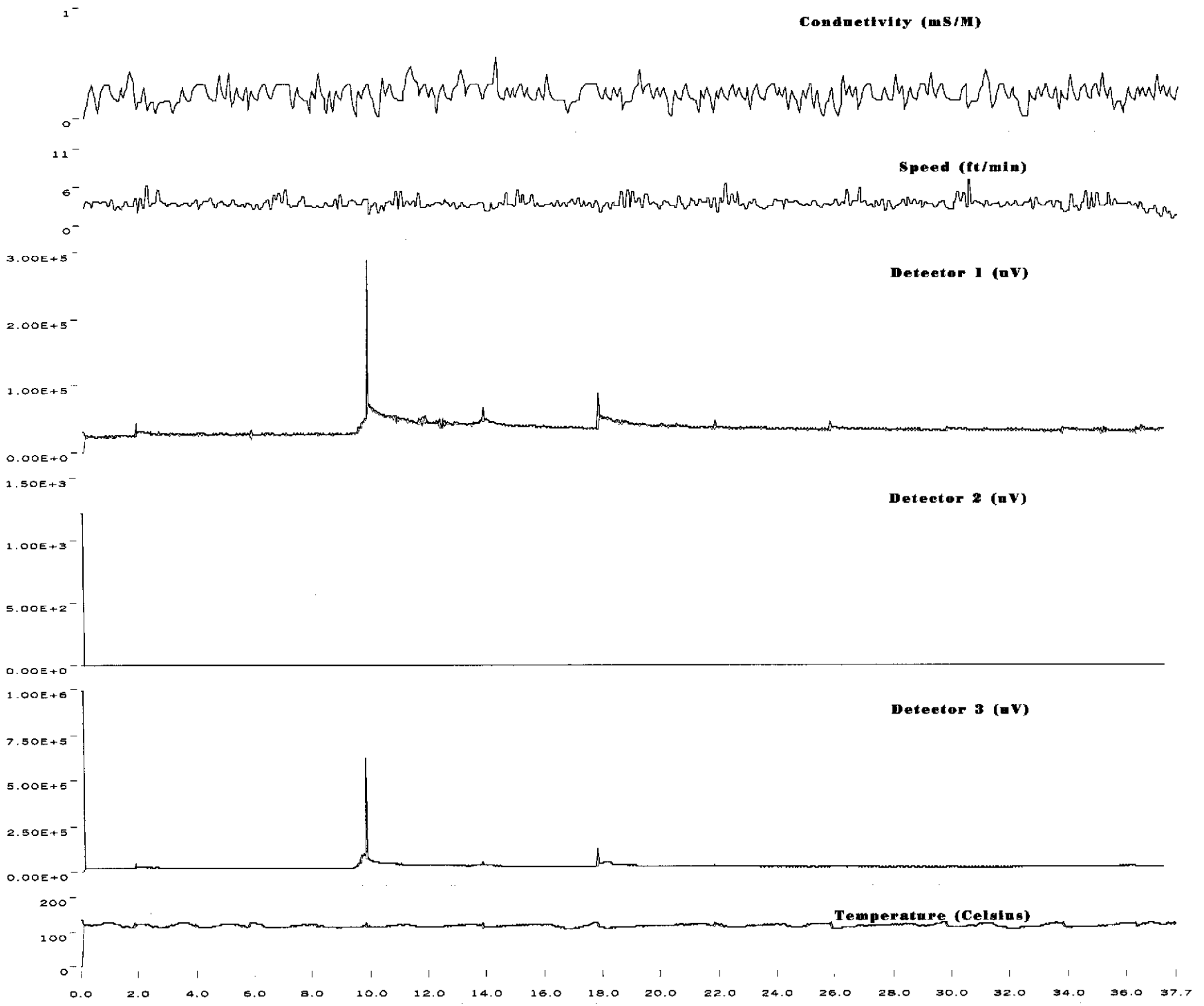

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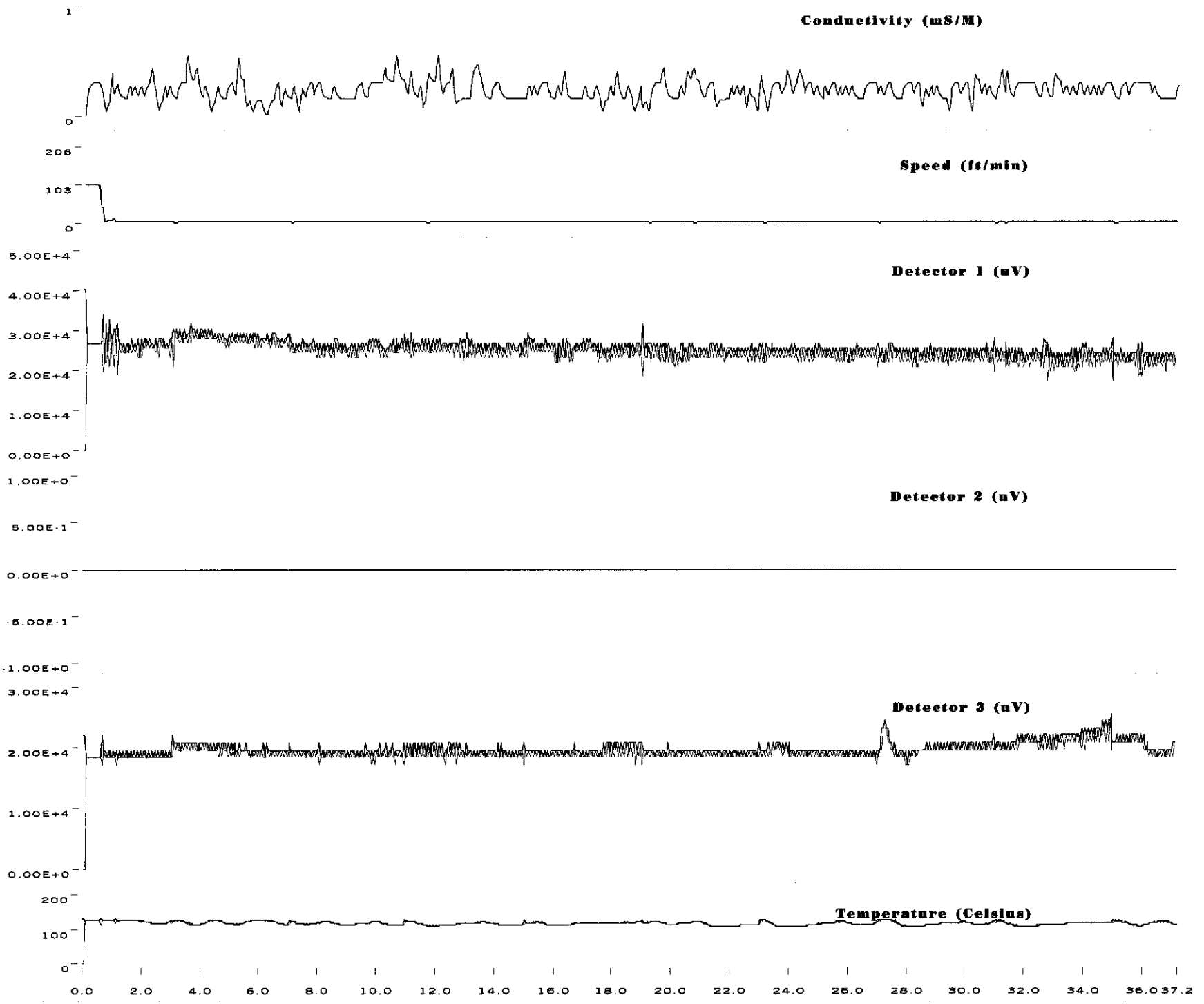

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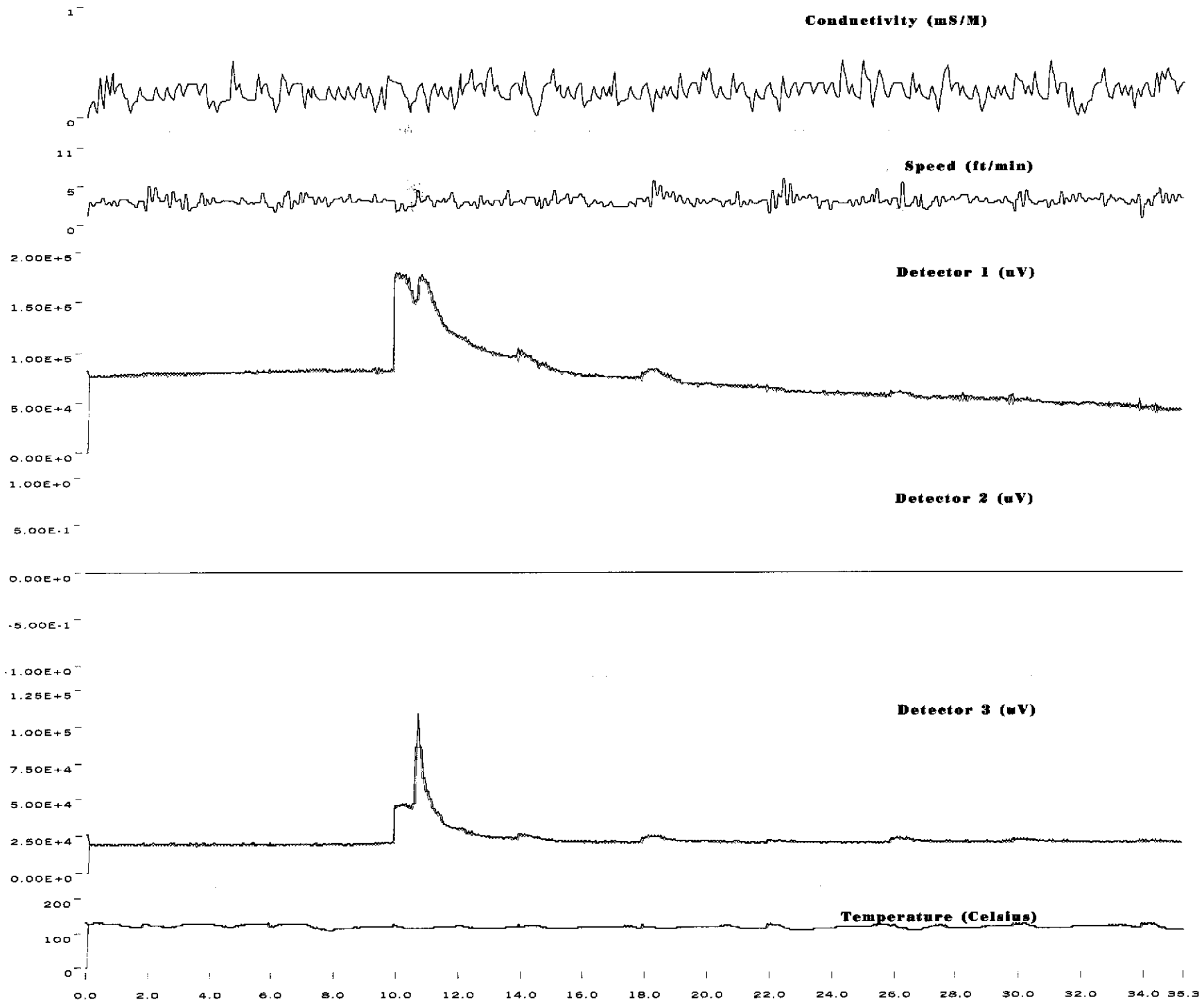

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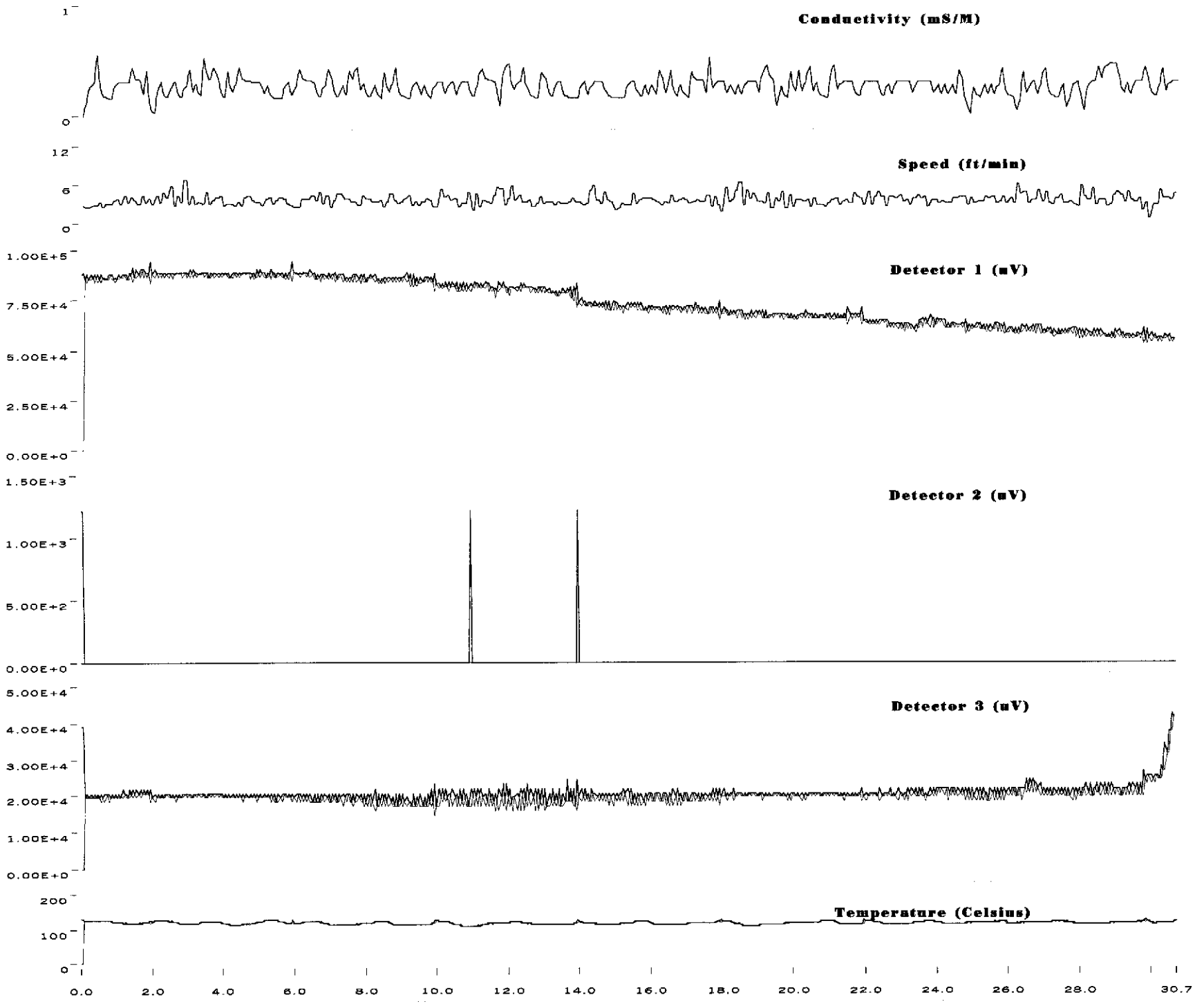

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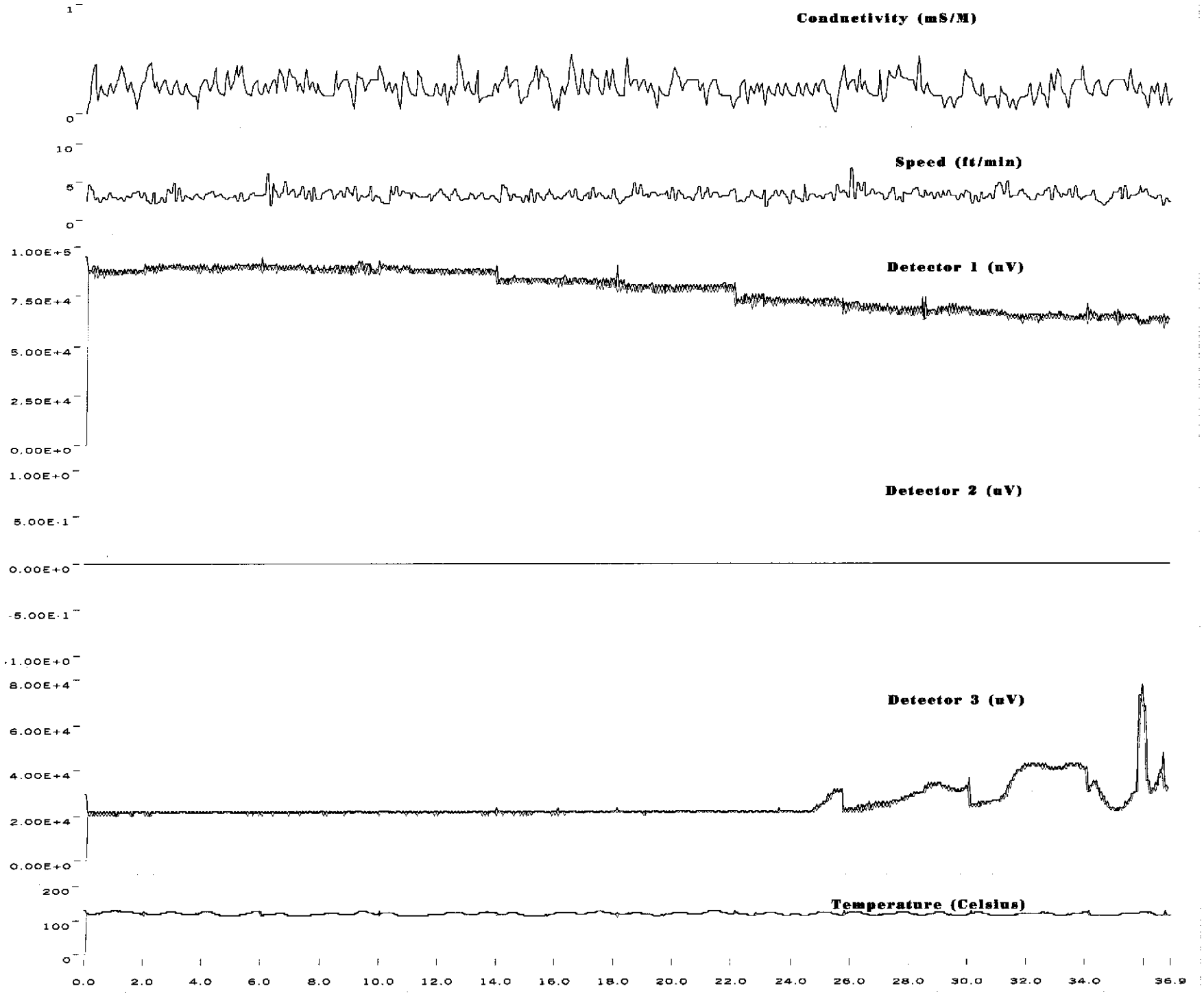

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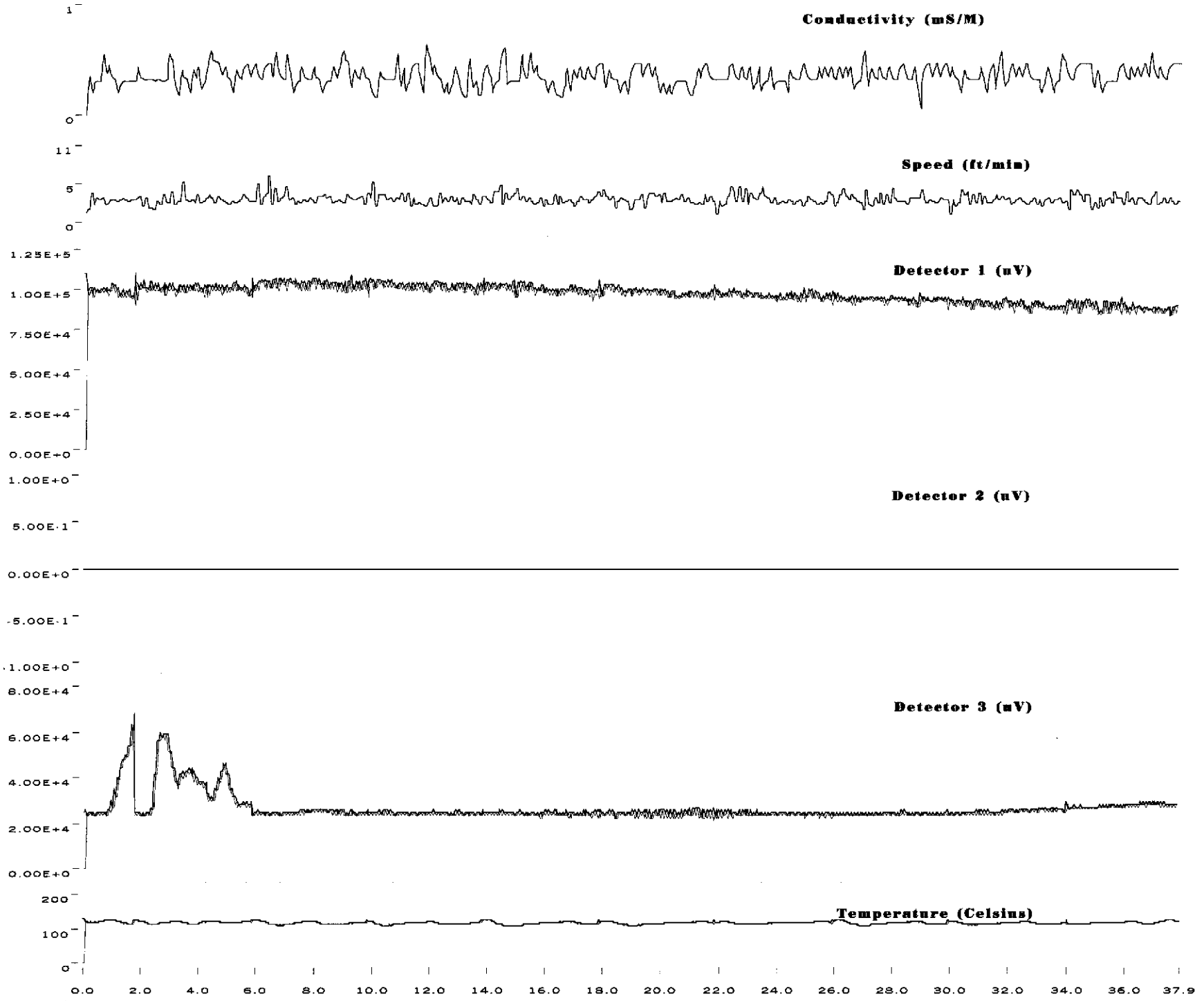


Appendix C

Log of Calibration Borehole

SOMA ENVIRONMENTAL ENGINEERING, INC.	GEOLOGIC LOG OF BOREHOLE: CPT-11 (Calibration Borehole)	PAGE 1 OF 2

PROJECT: 2832

SITE LOCATION: 5725 Thornhill Drive, Oakland, CA

DRILLER: Gregg Drilling & Testing

DRILLING METHOD: HSA

BORING DIAMETER: 2"

LOGGED BY: E. Jennings

DATE DRILLED: 5/27/05

CASING ELEVATION: NA

DEPTH TO GW: 14' bgs

T.O.C. TO SCREEN: NA

SCREEN LENGTH: NA

APPROVED BY: M. Sepehr. Ph. D., P.E.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPLIT SPOON / CORE — SAMPLED	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM N/A
				4" Asphalt over 4" baserock	Hand Augered to 5'			
0	5		CL	SILTY CLAY: Dark brown, moist, soft, moderate-high plasticity. Low estimated permeability (LEK). No petroleum hydrocarbon (PHC) odor.			2 4 5 3 5 6	
				(At 7') 6" SILTY SAND WITH SOME GRAVEL: Very Moist.				
0	10		CL	SILTY CLAY WITH SOME SAND AND GRAVEL: Dark brown to reddish brown, moist, soft-moderately stiff. MEK. No PHC odor.			2 2 3 4 3 4 9 4 4 6	
0	15		CL	SILTY CLAY WITH SOME FINES: Dark greenish gray, very moist, soft. MEK-HEK. No PHC odor.		▼	2 2 4 5 2 2 4 4 5 6	
				Becomes saturated, HEK.				
0			CL	SILTY CLAY WITH GRAVEL: Dark greenish gray, very moist-saturated, soft-moderately stiff, loose subrounded-subangular gravel to 11/2". MEK-HEK. No PHC			3 4 4 4 3 5 5 3 5 6	
0	20		CL	SILTY CLAY: Dark greenish gray, very moist-saturated, soft. MEK-HEK. No PHC odor.			5 6 7 7	
				Becomes very moist and moderately stiff.				
	25		CL	SILTY CLAY WITH SOME SAND AND GRAVEL: Greenish gray, very moist, soft-moderately stiff, subrounded-subangular gravel to 1/4". MEK. No PHC odor.				

SOMA ENVIRONMENTAL ENGINEERING, INC.	GEOLOGIC LOG OF BOREHOLE: CPT-11 (Calibration Borehole)	PAGE 2 OF 2

PROJECT: 2832

SITE LOCATION: 5725 Thornhill Drive, Oakland, CA

DRILLER: Gregg Drilling & Testing

DRILLING METHOD: HSA

BORING DIAMETER: 2"

LOGGED BY: E. Jennings

DATE DRILLED: 5/27/05

CASING ELEVATION: NA

DEPTH TO GW: 14' bgs

T.O.C. TO SCREEN: NA

SCREEN LENGTH: NA

APPROVED BY: M. Sepehr. Ph. D., P.E.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM N/A
0	30		CL	SILTY CLAY WITH SOME SAND AND GRAVEL: Greenish gray, very moist, soft-moderately stiff, subrounded-subangular gravel to 1/4". MEK. No PHC odor.				4 5 5 4 4 5 3 3 4 5 5 6 6 8 9 11 7 9 11 13	
			CL	SILTY CLAY WITH SOME SAND: Greenish gray, very moist, soft. MEK-HEK. No PHC odor.					
				Becomes saturated with subrounded-subangular gravel to 11/4".					
				Becomes bluish, greenish gray.					
	35								
	40								
	45								
	50								

COMMENTS: TOTAL DEPTH 35' BGS

Appendix D

Log of Monitoring Well Borehole

And

Monitoring Well Construction Details

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: SOMA-4

PROJECT: 2832

SITE LOCATION: 5725 Thornhill Drive, Oakland, CA

DRILLER: Gregg Drilling & Testing

DRILLING METHOD: HSA

BORING DIAMETER: 8"

LOGGED BY: E. Jennings

DATE DRILLED: 5/27/05

CASING ELEVATION: NA

DEPTH TO GW: 12' bgs

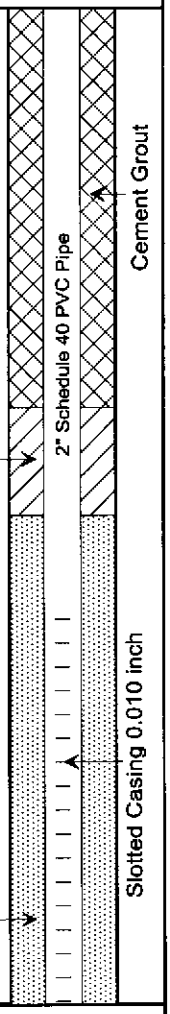
T.O.C. TO SCREEN: 12'

SCREEN LENGTH: 8'

APPROVED BY: M. Sepehr. Ph. D., P.E.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPLIT SPOON SAMPLED / CORE	GW LEVEL	BLOWCOUNTS
				4" Asphalt over 4" baserock	Hand Augered to 5'		
	5		CL	SILTY CLAY: Brown, moist, soft, moderate plasticity; Low estimated permeability (LEK). No petroleum hydrocarbon (PHC) odor.			
	10			(At 10') 6" GRAVELLY SAND/SANDY GRAVEL lens: Saturated.			
			SM	SILTY SAND: Gray brown, very moist to saturated; HEK. Moderate to strong PHC odor.	X		3 3 5
			CL	SILTY CLAY with some Sand: Grayish brown mottled reddish brown, very moist, soft, slight plasticity; MEK. No PHC odor.		▼	4 4
	15			(At 13') 4" GRAVEL lens: very moist (@ 13').			6 4 4 5 6
			CL	SILTY CLAY WITH SOMA SAND AND GRAVEL: Brown, saturated, soft, loose subrounded-subangular gravel to 1"; HEK. No PHC odor.			7 11 20
	20			TOTAL DEPTH 20' BGS			
	25						

WELL DIAGRAM



NOTES: Hard brittle siltstone encountered at 20' below ground surface (bgs).
TOTAL DEPTH 20' BGS

X - Soil Sample Collected

Appendix E

Monitoring Well Development Data

ENVIRONMENTAL ENGINEERING, INC

Well No.:	SOMA - 4	**Project No.:**	2831
Casing Diameter:	2 inches	**Address:**	5725 Thornhill Drive
Depth of Well:	20.00 feet		Oakland, CA
Top of Casing Elevation:	NS feet	**Date:**	June 1, 2005
Depth to Groundwater:	7.83 feet	**Sampler:**	John Lohman
Groundwater Elevation:	NC feet		
Water Column Height:	12.17 feet		
Purged Volume:	55 gallons		

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 (^{0}F)	E.C. (µs/cm)
9:07 AM	START PURGE		-	-
9:32 AM	15	7.48	63.8	685
9:35 AM	20	7.09	63.1	663
9:41 AM	30	7.03	64.8	652
9:50 AM	45	6.95	65.5	643
9:57 AM	55	6.94	65.8	641

Appendix F

Laboratory Analytical Report for Groundwater Samples

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

23 May 2005

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

RE: Thornhill Dr., Oakland

Work Order Number: 5050012

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 FORM

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

PAL
Login# 5050012

Project No: 2832	Sampler: Eric Jennings
Project Name: Thornhill Dr., Oakland	Report To: Joyce Bobek
Project P.O.: ----	Company: SOMA Environmental Engineering, Inc.
Turnaround Time: Standard	Tel: 925-244-6600 Fax: 925-244-6601

Analyses/Method

Lab No.	Sample ID	Sampling Date	Sampling Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	HCL	H_2SO_4	HNO_3	ICE	Field Notes	TPH-g	TPH-d	TPH-Mo	BTEX	GAS OX INCLUDING MtBE & ETHANOL			
	GS ~~CPT~~-1 (16-18)	5/9/05	1500		X		4 Voas 1 Amber	X			X		X	X	X	X	X			
	GS ~~CPT~~-1 (30-34)	5/9/05	1630		X		↓	X			X		X	X	X	X	X			
	GS ~~CPT~~-2 (19-21)	5/10/05	1525		X			X			X		X	X	X	X	X			
	GS ~~CPT~~-3 (22-26)	5/9/05	1120		X			X			X		X	X	X	X	X			
	GS ~~CPT~~-3 (36-40)	5/9/05	1230		X			X			X		X	X	X	X	X			
	GS ~~CPT~~-4 (24-28)	5/9/05	1340		X			X			X		X	X	X	X	X			
	GS ~~CPT~~-4 (35-39)	5/9/05	1410		X			X			X		X	X	X	X	X			
	GS ~~CPT~~-5 (24-28)	5/10/05	1430		X			X			X		X	X	X	X	X			
	GS ~~CPT~~-7 (29-33)	5/10/05	1410		X			X			X		X	X	X	X	X			
	GS ~~CPT~~-8 (20-24)	5/10/05	1550		X		↓	X			X		X	X	X	X	X			

Sampler Remarks:	Relinquished by:	Date/Time:	Received by:	Date/Time:
EDF OUTPUT REQUIRED • TPH-g, TPH-d and TPH-Mo using EPA Method 8015B • BTEX, MtBE, TBA, DIPE, ETBE, TAME, 1,2-Dichloroethane, 1,2- Dibromoethane (collectively as gas oxygenates) and Ethanol using EPA Method 8260B	[illegible signature]	4:10 PM 5/11/05	[illegible signature]	5/11/05 4:10 PM

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# 5050012

Project No: 2832	Sampler: Eric Jennings
Project Name: Thornhill Dr., Oakland	Report To: Joyce Bobek
Project P.O.: ----	Company: SOMA Environmental Engineering, Inc.
Turnaround Time: Standard	Tel: 925-244-6600 Fax: 925-244-6601

Lab No.	Sample ID	Date	Time	Soil	Water	Waste	# of Containers	HCL	H_2SO_4	HNO_3	ICE	Field Notes	TPH-g	TPH-d	TPH-Mo	BTEX	GAS OX INCLUDING MtBE + ETHANOL			
	GS ~~CPT~~-8 (35-39)	5/10/05	1625		X		4 Voas 1 Amber	X			X		X	X	X	X	X			
	GS ~~CPT~~-9 (24-28)	5/9/05	1750		X		↓	X			X		X	X	X	X	X			
	GS ~~CPT~~-9 (36-38)	5/9/05	1840		X		↓	X			X		X	X	X	X	X			
	GS ~~CPT~~ 10 (22-26)	5/10/05	1455		X		↓	X			X		X	X	X	X	X			
	GS ~~CPT~~ 11 (23-27)	5/10/05	0955		X		↓	X			X		X	X	X	X	X			
	GS ~~CPT~~ 11 (35-39)	5/10/05	1135		X		↓	X			X		X	X	X	X	X			

Sampler Remarks:

EDF OUTPUT REQUIRED

- TPH-g, TPH-d and TPH-Mo using EPA Method 8015B
- BTEX, MtBE, TBA, DIPE, ETBE, TAME, 1,2-Dichloroethane, 1,2- Dibromoethane (collectively as gas oxygenates) and Ethanol using EPA Method 8260B

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	5/11/05 4:10pm	Janice Zuniga [signature]	5/11/05 4:10 PM

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GS-1 (16-18)	5050012-01	Water	09-May-05 15:00	11-May-05 16:32
GS-1 (30-34)	5050012-02	Water	09-May-05 16:30	11-May-05 16:32
GS-2 (19-21)	5050012-03	Water	10-May-05 15:25	11-May-05 16:32
GS-3 (22-26)	5050012-04	Water	09-May-05 11:20	11-May-05 16:32
GS-3 (36-40)	5050012-05	Water	09-May-05 12:30	11-May-05 16:32
GS-4 (24-28)	5050012-06	Water	09-May-05 13:40	11-May-05 16:32
GS-4 (35-39)	5050012-07	Water	09-May-05 14:10	11-May-05 16:32
GS-5 (24-28)	5050012-08	Water	10-May-05 14:30	11-May-05 16:32
GS-7 (29-33)	5050012-09	Water	10-May-05 14:10	11-May-05 16:32
GS-8 (20-24)	5050012-10	Water	10-May-05 15:50	11-May-05 16:32
GS-8 (35-39)	5050012-11	Water	10-May-05 16:25	11-May-05 16:32
GS-9 (24-28)	5050012-12	Water	09-May-05 17:50	11-May-05 16:32
GS-9 (36-38)	5050012-13	Water	09-May-05 18:40	11-May-05 16:32
GS-10 (22-26)	5050012-14	Water	10-May-05 14:55	11-May-05 16:32
GS-11 (23-27)	5050012-15	Water	10-May-05 09:55	11-May-05 16:32
GS-11 (35-39)	5050012-16	Water	10-May-05 11:35	11-May-05 16:32

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-1 (16-18) (5050012-01RE1) Water Sampled: 09-May-05 15:00 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	16-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.2 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*112 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*97.2 %*		*70-130*	"	"	"	"	
GS-1 (30-34) (5050012-02RE2) Water Sampled: 09-May-05 16:30 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	20-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.8 %*		*70-130*	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-1 (30-34) (5050012-02RE2) Water	**Sampled: 09-May-05 16:30**	**Received: 11-May-05 16:32**							
Surrogate: Dibromofluoromethane		*105 %*	*70-130*		*BE51602*	*11-May-05*	*20-May-05*	*EPA 8260B*	
Surrogate: Perdeuterotoluene		*98.0 %*	*70-130*		"	"	"	"	
GS-2 (19-21) (5050012-03RE2) Water	**Sampled: 10-May-05 15:25**	**Received: 11-May-05 16:32**							
Gasoline (C6-C12)	**11400**	200	ug/l	1	BE51602	11-May-05	20-May-05	EPA 8260B	
Benzene	**1.11**	0.500	"	"	"	"	"	"	
Ethylbenzene	**1.68**	0.500	"	"	"	"	"	"	
m&p-Xylene	**2.32**	1.00	"	"	"	"	"	"	
o-xylene	**1.66**	0.500	"	"	"	"	"	"	
Toluene	**2.29**	0.500	"	"	"	"	"	"	
MTBE	**36.1**	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*116 %*	*70-130*		"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*	*70-130*		"	"	"	"	
Surrogate: Perdeuterotoluene		*103 %*	*70-130*		"	"	"	"	
GS-3 (22-26) (5050012-04) Water	**Sampled: 09-May-05 11:20**	**Received: 11-May-05 16:32**							
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	14-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-3 (22-26) (5050012-04) Water Sampled: 09-May-05 11:20 Received: 11-May-05 16:32									
Surrogate: 4-Bromofluorobenzene		*89.2 %*		*70-130*	*BE51602*	*11-May-05*	*14-May-05*	*EPA 8260B*	
Surrogate: Dibromofluoromethane		*110 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*98.4 %*		*70-130*	"	"	"	"	
GS-3 (36-40) (5050012-05RE1) Water Sampled: 09-May-05 12:30 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.8 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*110 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*96.2 %*		*70-130*	"	"	"	"	
GS-4 (24-28) (5050012-06RE1) Water Sampled: 09-May-05 13:40 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-4 (24-28) (5050012-06RE1) Water Sampled: 09-May-05 13:40 Received: 11-May-05 16:32									
Ethanol	ND	1000	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		*88.4 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*114 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*95.6 %*		*70-130*	"	"	"	"	
GS-4 (35-39) (5050012-07RE1) Water Sampled: 09-May-05 14:10 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	**5.59**	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.8 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*112 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*93.8 %*		*70-130*	"	"	"	"	
GS-5 (24-28) (5050012-08RE1) Water Sampled: 10-May-05 14:30 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-5 (24-28) (5050012-08RE1) Water Sampled: 10-May-05 14:30 Received: 11-May-05 16:32									
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84.2 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*113 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*95.6 %*		*70-130*	"	"	"	"	
GS-7 (29-33) (5050012-09) Water Sampled: 10-May-05 14:10 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	14-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	**164**	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.6 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*112 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*98.0 %*		*70-130*	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bubek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-8 (20-24) (5050012-10RE1) Water Sampled: 10-May-05 15:50 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.6 %*		*70-130*		"	"	"	
Surrogate: Dibromofluoromethane		*116 %*		*70-130*		"	"	"	
Surrogate: Perdeuterotoluene		*95.0 %*		*70-130*		"	"	"	
GS-8 (35-39) (5050012-11) Water Sampled: 10-May-05 16:25 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	14-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*81.4 %*		*70-130*		"	"	"	
Surrogate: Dibromofluoromethane		*112 %*		*70-130*		"	"	"	
Surrogate: Perdeuterotoluene		*98.8 %*		*70-130*		"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-9 (24-28) (5050012-12) Water Sampled: 09-May-05 17:50 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	14-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.2 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*111 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*99.8 %*		*70-130*	"	"	"	"	
GS-9 (36-38) (5050012-13RE1) Water Sampled: 09-May-05 18:40 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.4 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*116 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*96.4 %*		*70-130*	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-10 (22-26) (5050012-14RE1) Water Sampled: 10-May-05 14:55 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	17-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.6 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*119 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*95.6 %*		*70-130*	"	"	"	"	
GS-11 (23-27) (5050012-15) Water Sampled: 10-May-05 09:55 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	15-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.4 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*116 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*100 %*		*70-130*	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
GS-11 (35-39) (5050012-16) Water Sampled: 10-May-05 11:35 Received: 11-May-05 16:32									
Gasoline (C6-C12)	ND	200	ug/l	1	BE51602	11-May-05	15-May-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.8 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*117 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*99.6 %*		*70-130*	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

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 BE51602 - EPA 5030 Water MS										
Blank (BE51602-BLK1)				Prepared & Analyzed: 16-May-05						
Surrogate: 4-Bromofluorobenzene	*45.2*		*ug/l*	*50.0*		*90.4*	*70-130*			
Surrogate: Dibromofluoromethane	*54.6*		*"*	*50.0*		*109*	*70-130*			
Surrogate: Perdeuterotoluene	*48.2*		*"*	*50.0*		*96.4*	*70-130*			
MTBE	ND	0.500	"							
DIPE	ND	0.500	"							
ETBE	ND	0.500	"							
TAME	ND	2.00	"							
Gasoline (C6-C12)	ND	200	"							
TBA	ND	10.0	"							
1,2-dichloroethane	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
Ethanol	ND	1000	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
m&p-Xylene	ND	1.00	"							
o-xylene	ND	0.500	"							
Toluene	ND	0.500	"							
LCS (BE51602-BS1)				Prepared & Analyzed: 16-May-05						
Surrogate: 4-Bromofluorobenzene	*50.1*		*ug/l*	*50.0*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*52.7*		*"*	*50.0*		*105*	*70-130*			
Surrogate: Perdeuterotoluene	*47.9*		*"*	*50.0*		*95.8*	*70-130*			
MTBE	116	0.500	"	104		112	70-130			
DIPE	120	0.500	"	104		115	70-130			
ETBE	95.4	0.500	"	104		91.7	70-130			
TAME	88.4	2.00	"	104		85.0	70-130			
Gasoline (C6-C12)	1880	200	"	2000		94.0	70-130			
TBA	516	10.0	"	520		99.2	70-130			
Benzene	98.8	0.500	"	104		95.0	70-130			
Ethylbenzene	115	0.500	"	104		111	70-130			
m&p-Xylene	118	1.00	"	104		113	70-130			
o-xylene	119	0.500	"	104		114	70-130			
Toluene	96.1	0.500	"	104		92.4	70-130			

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

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 BE51602 - EPA 5030 Water MS										
LCS Dup (BE51602-BSD1)				Prepared & Analyzed: 16-May-05						
Surrogate: 4-Bromofluorobenzene	*49.4*		*ug/l*	*50.0*		*98.8*	*70-130*			
Surrogate: Dibromofluoromethane	*53.6*		"	*50.0*		*107*	*70-130*			
Surrogate: Perdeuterotoluene	*47.9*		"	*50.0*		*95.8*	*70-130*			
MTBE	119	0.500	"	104		114	70-130	2.55	20	
DIPE	123	0.500	"	104		118	70-130	2.47	20	
ETBE	98.4	0.500	"	104		94.6	70-130	3.10	20	
TAME	91.0	2.00	"	104		87.5	70-130	2.90	20	
Gasoline (C6-C12)	1680	200	"	2000		84.0	70-130	11.2	20	
TBA	525	10.0	"	520		101	70-130	1.73	20	
Benzene	101	0.500	"	104		97.1	70-130	2.20	20	
Ethylbenzene	116	0.500	"	104		112	70-130	0.866	20	
m&p-Xylene	120	1.00	"	104		115	70-130	1.68	20	
o-xylene	120	0.500	"	104		115	70-130	0.837	20	
Toluene	97.2	0.500	"	104		93.5	70-130	1.14	20	

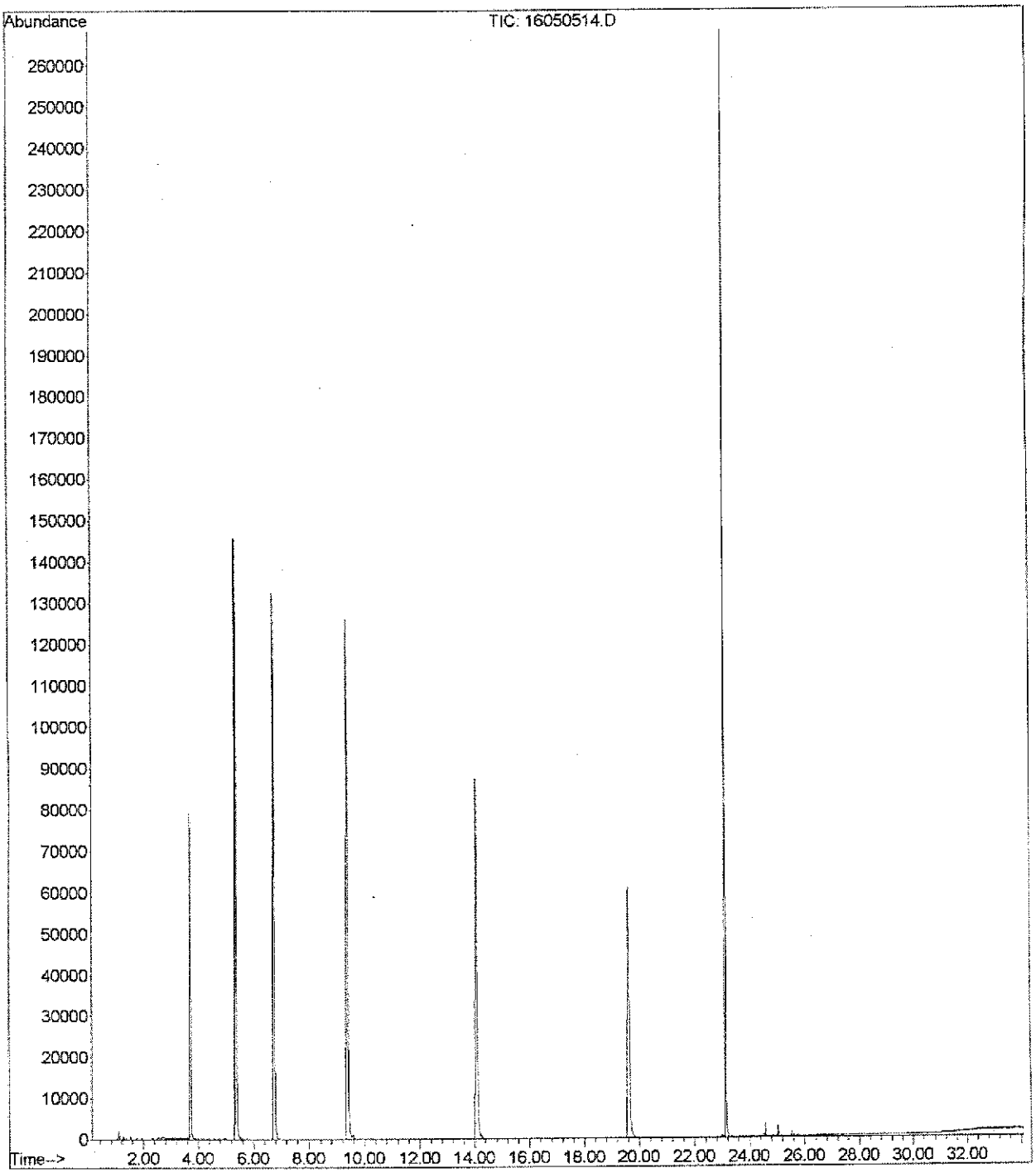
PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	23-May-05 14:50

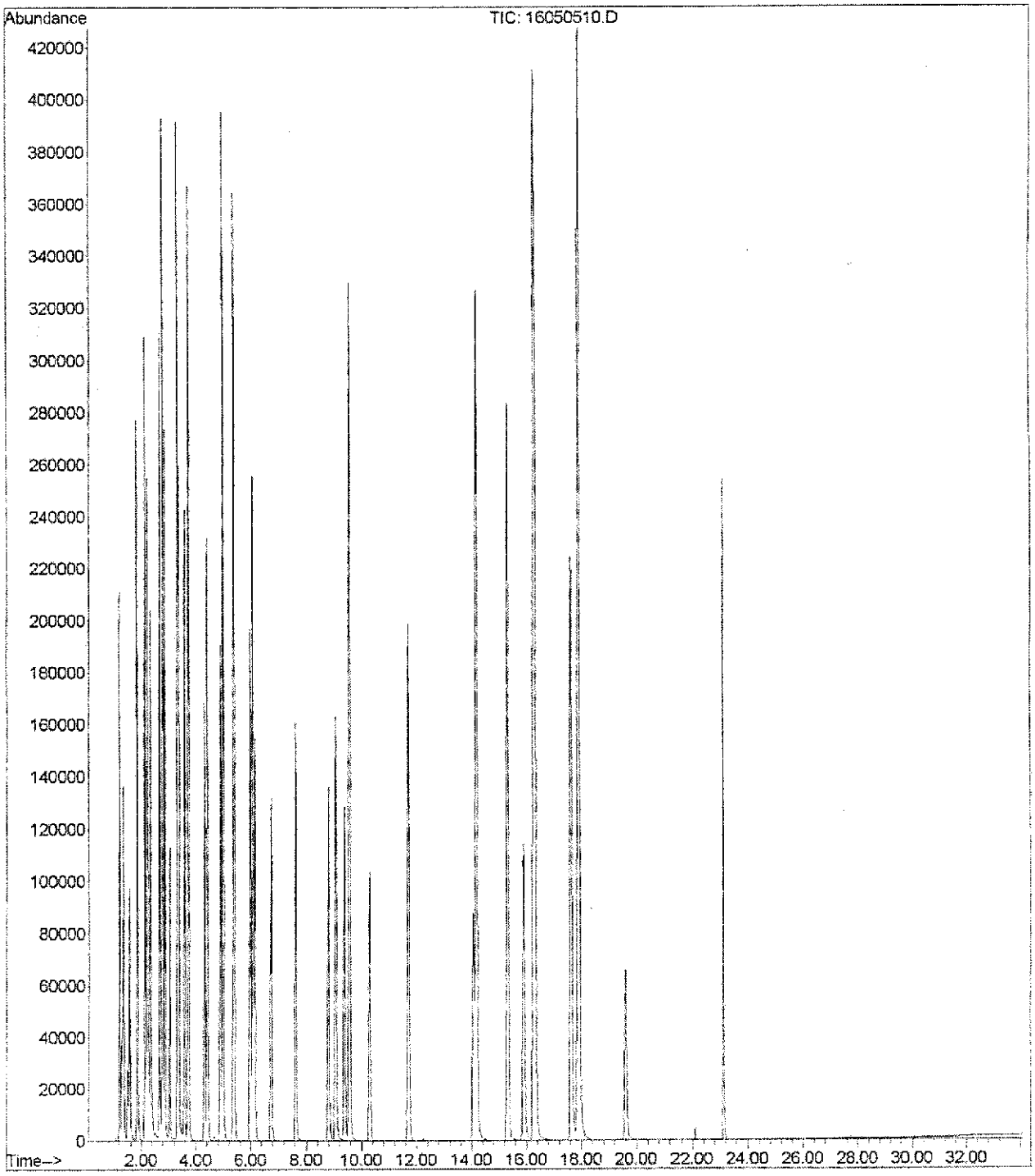
Notes and Definitions

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

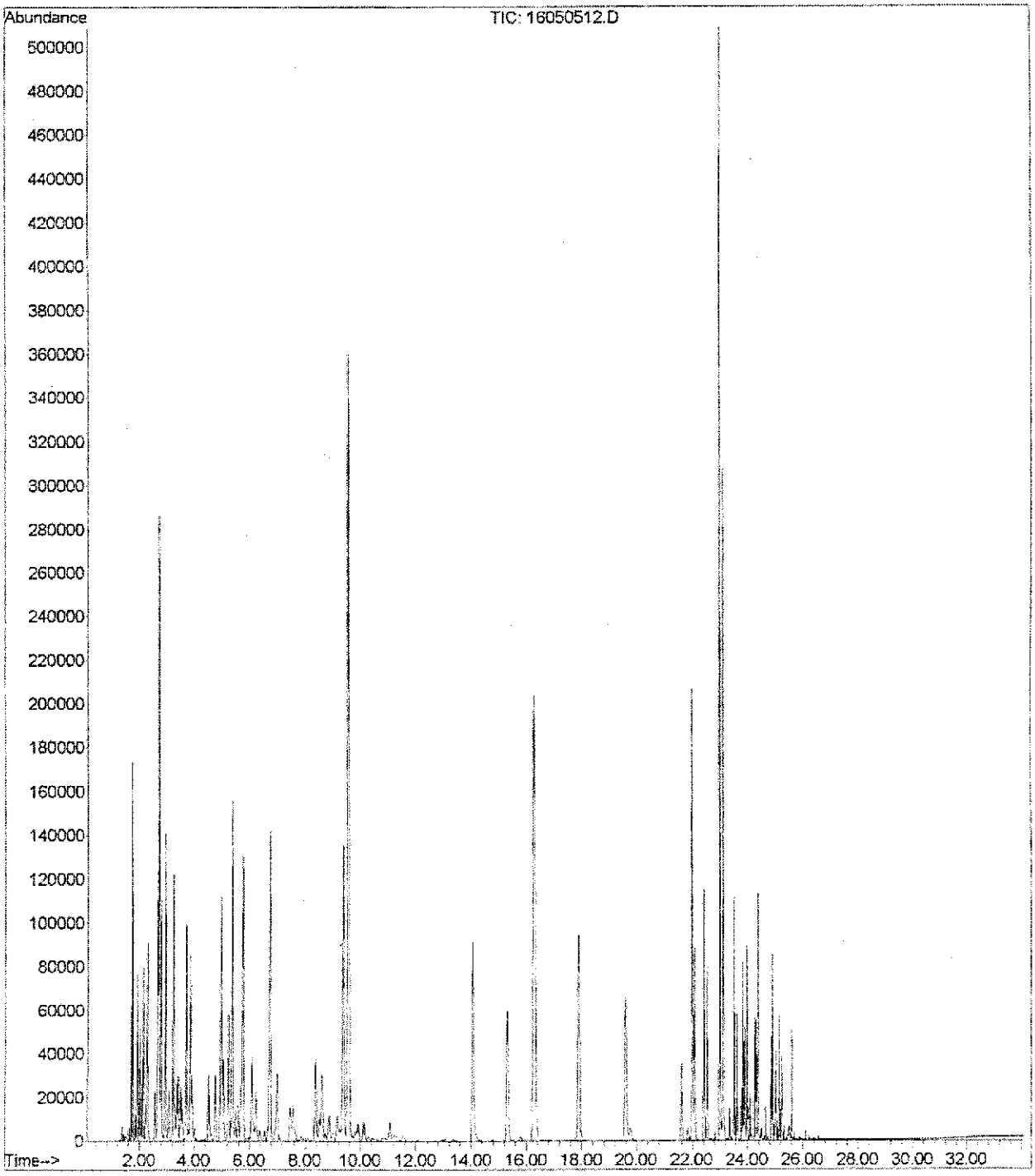
File :C:\MSDChem\1\DATA\2005-May-16-1134.b\16050514.D
Operator :
Acquired : 16 May 2005 9:41 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BE51602-BLK1
Misc Info :
Vial Number: 14



File :C:\MSDChem\1\DATA\2005-May-16-1134.b\16050510.D
Operator :
Acquired : 16 May 2005 6:43 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BE51602-BS1@voc
Misc Info :
Vial Number: 10



File :C:\MSDChem\1\DATA\2005-May-16-1134.b\16050512.D
Operator :
Acquired : 16 May 2005 8:12 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BE51602-BS1@gas
Misc Info :
Vial Number: 12



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: 26-MAY-05
Lab Job Number: 179407
Project ID: STANDARD
Location: Thornhill Dr., Oakland

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:	**179407**
Client:	**Pacific Analytical Laboratory**
Location:	**Thornhill Dr., Oakland**
Request Date:	**05/12/05**
Samples Received:	**05/12/05**

This hardcopy data package contains sample and QC results for sixteen water samples, requested for the above referenced project on 05/12/05. The samples were received on ice and intact.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

5.0

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# 179407

Project No: 2832	Sampler: Eric Jennings
Project Name: Thornhill Dr., Oakland	Report To: Joyce Bobek
Project P.O.: ----	Company: SOMA Environmental Engineering, Inc.
Turnaround Time: Standard	Tel: 925-244-6600 Fax: 925-244-6601

Lab No.	Sample ID	Sampling Date/Time		Matrix			# of Containers	Preservatives				Field Notes	Analyses/Method: TPH-g	TPH-d	TPH-Mo	BTEX	8260 MtBE + ETHANOL
		Date	Time	Soil	Water	Waste		HCL	H_2So4	HNO_3	ICE						
-1	CPT-1 (16-18)	5/9/05	1500		X		4 Voas 1 Amber	X			X		X	X	X	X	X
-2	CPT-1 (30-34)	5/9/05	1630		X			X			X		X	X	X	X	X
-3	CPT-2 (19-21)	5/10/05	1525		X			X			X		X	X	X	X	X
-4	CPT-3 (22-26)	5/9/05	1120		X			X			X		X	X	X	X	X
-5	CPT-3 (36-40)	5/9/05	1230		X			X			X		X	X	X	X	X
-6	CPT-4 (24-28)	5/9/05	1340		X			X			X		X	X	X	X	X
-7	CPT-4 (35-39)	5/9/05	1410		X			X			X		X	X	X	X	X
-8	CPT-5 (24-28)	5/10/05	1430		X			X			X		X	X	X	X	X
-9	CPT-7 (29-33)	5/10/05	1410		X			X			X		X	X	X	X	X
-10	CPT-8 (20-24)	5/10/05	1550		X			X			X		X	X	X	X	X

Sampler Remarks:

EDF OUTPUT REQUIRED

- TPH-g, TPH-d and TPH-Mo using EPA Method 8015B
- BTEX, MtBE, TBA, DIPE, ETBE, TAME, 1,2-Dichloroethane, 1,2- Dibromoethane (collectively as gas oxygenates) and Ethanol using EPA Method 8260B

Relinquished by:	Date/Time:	Received by:	Date/Time:
	4:10 PM 5/11/05		5/11/05 4:10 PM
	12:00 PM 5/12/05		5/12/05 12:00

Received: ☐ On Ice ☐ Cold ☐ Ambient ☐ Intact

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# 179407

Project No: 2832	Sampler: Eric Jennings
Project Name: Thornhill Dr., Oakland	Report To: Joyce Bobek
Project P.O.: ----	Company: SOMA Environmental Engineering, Inc.
Turnaround Time: Standard	Tel: 925-244-6600 Fax: 925-244-6601

Analyses/Method: TPH-g | TPH-d | TPH-Mo | BTEX | GAS OX INCLUDING MtBE & ETHANOL

Lab No.	Sample ID	Date	Time	Soil	Water	Waste	# of Containers	HCL	H_2SO_4	HNO_3	ICE	Field Notes	TPH-g	TPH-d	TPH-Mo	BTEX	GAS OX INCLUDING MtBE & ETHANOL
-11	CPT-8 (35-39)	5/10/05	1625		X		4 Voas 1 Amber	X			X		X	X	X	X	X
-12	CPT-9 (24-28)	5/9/05	1750		X		↓	X			X		X	X	X	X	X
-13	CPT-9 (36-38)	5/9/05	1840		X		↓	X			X		X	X	X	X	X
-14	CPT-10 (22-26)	5/10/05	1455		X		↓	X			X		X	X	X	X	X
-15	CPT-11 (23-27)	5/10/05	0955		X		↓	X			X		X	X	X	X	X
-16	CPT-11 (35-39)	5/10/05	1135		X		↓	X			X		X	X	X	X	X

Sampler Remarks:

EDF OUTPUT REQUIRED

- TPH-g, TPH-d and TPH-Mo using EPA Method 8015B
- BTEX, MtBE, TBA, DIPE, ETBE, TAME, 1,2-Dichloroethane, 1,2- Dibromoethane (collectively as gas oxygenates) and Ethanol using EPA Method 8260B

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	5/11/05 4:10 PM	[signature]	5/11/05 4:10 PM
[signature]	5/12/05 12:00 PM	[signature]	5/12/05 12:30

Received ☐ Cold ☐ Ambient ☐ Intact

Subject: Job No. 179407
From: "Eric Jennings" <ejennings@somaenv.com>
Date: Fri, 13 May 2005 10:28:46 -0700
To: <lisa@ctberk.com>

Lisa,

As per our conversation, please change all of the sample IDs from "CPT-" to
"GS-". Thank you.

Regards,
Eric

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	179407	Location:	Thornhill Dr., Oakland
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	102026
Units:	ug/L	Received:	05/12/05
Diln Fac:	1.000	Prepared:	05/14/05

Field ID: GS-1(16-18) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/16/05
Lab ID: 179407-001

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

Surrogate	%REC	Limits
Hexacosane	86	55-143

Field ID: GS-1(30-34) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/16/05
Lab ID: 179407-002

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

Surrogate	%REC	Limits
Hexacosane	104	55-143

Field ID: GS-2(19-21) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/16/05
Lab ID: 179407-003

Analyte	Result	RL
Diesel C10-C24	8,900 L Y	50
Motor Oil C24-C36	300 L Y	300

Surrogate	%REC	Limits
Hexacosane	105	55-143

Field ID: GS-3(22-26) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/16/05
Lab ID: 179407-004

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

Surrogate	%REC	Limits
Hexacosane	87	55-143

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	179407	Location:	Thornhill Dr., Oakland
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	102026
Units:	ug/L	Received:	05/12/05
Diln Fac:	1.000	Prepared:	05/14/05

Field ID: GS-3(36-40) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/16/05
Lab ID: 179407-005

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

Surrogate	%REC	Limits
Hexacosane	104	55-143

Field ID: GS-4(24-28) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/16/05
Lab ID: 179407-006

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

Surrogate	%REC	Limits
Hexacosane	93	55-143

Field ID: GS-4(35-39) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/16/05
Lab ID: 179407-007

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

Surrogate	%REC	Limits
Hexacosane	91	55-143

Field ID: GS-5(24-28) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-008

Analyte	Result	RL
Diesel C10-C24	180 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	98	55-143

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	179407	Location:	Thornhill Dr., Oakland
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	102026
Units:	ug/L	Received:	05/12/05
Diln Fac:	1.000	Prepared:	05/14/05

Field ID: GS-7(29-33) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-009

Analyte	Result	RL
Diesel C10-C24	190 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	110	55-143

Field ID: GS-8(20-24) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-010

Analyte	Result	RL
Diesel C10-C24	2,800 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	97	55-143

Field ID: GS-8(35-39) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-011

Analyte	Result	RL
Diesel C10-C24	220 L Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	99	55-143

Field ID: GS-9(24-28) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-012

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

Surrogate	%REC	Limits
Hexacosane	102	55-143

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	179407	Location:	Thornhill Dr., Oakland
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	102026
Units:	ug/L	Received:	05/12/05
Diln Fac:	1.000	Prepared:	05/14/05

Field ID: GS-9(36-38) Sampled: 05/09/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-013

Analyte	Result	RL
Diesel C10-C24	53 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	106	55-143

Field ID: GS-10(22-26) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-014

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

Surrogate	%REC	Limits
Hexacosane	100	55-143

Field ID: GS-11(23-27) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-015

Analyte	Result	RL
Diesel C10-C24	60 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	107	55-143

Field ID: GS-11(35-39) Sampled: 05/10/05
Type: SAMPLE Analyzed: 05/17/05
Lab ID: 179407-016

Analyte	Result	RL
Diesel C10-C24	51 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	94	55-143

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	179407	Location:	Thornhill Dr., Oakland
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	102026
Units:	ug/L	Received:	05/12/05
Diln Fac:	1.000	Prepared:	05/14/05

Type:	BLANK	Analyzed:	05/17/05
Lab ID:	QC293773	Cleanup Method:	EPA 3630C

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

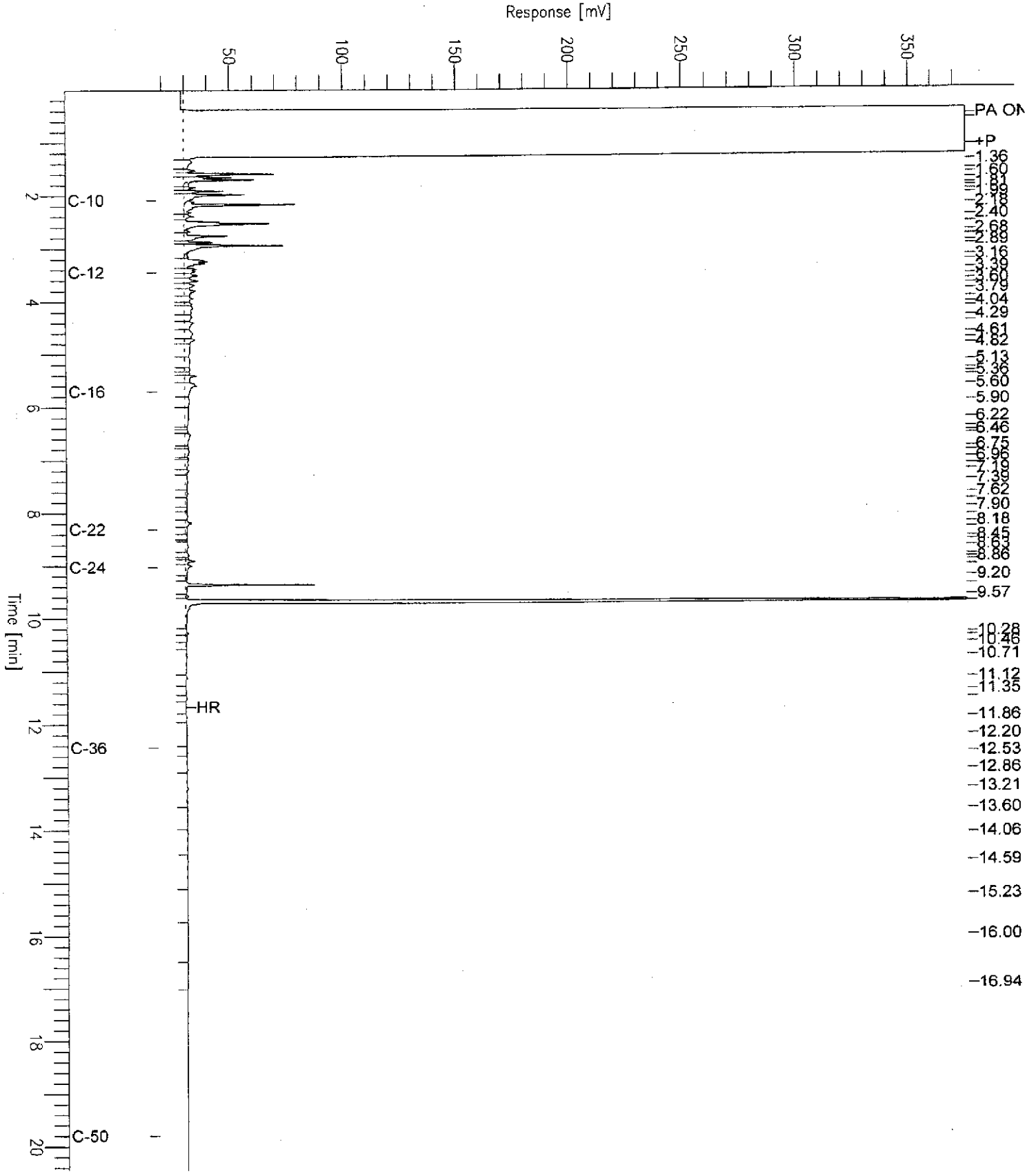
Surrogate	%REC	Limits
Hexacosane	108	55-143

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 179407-008,102026
FileName : G:\GC11\CHA\136A025.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 18 mV

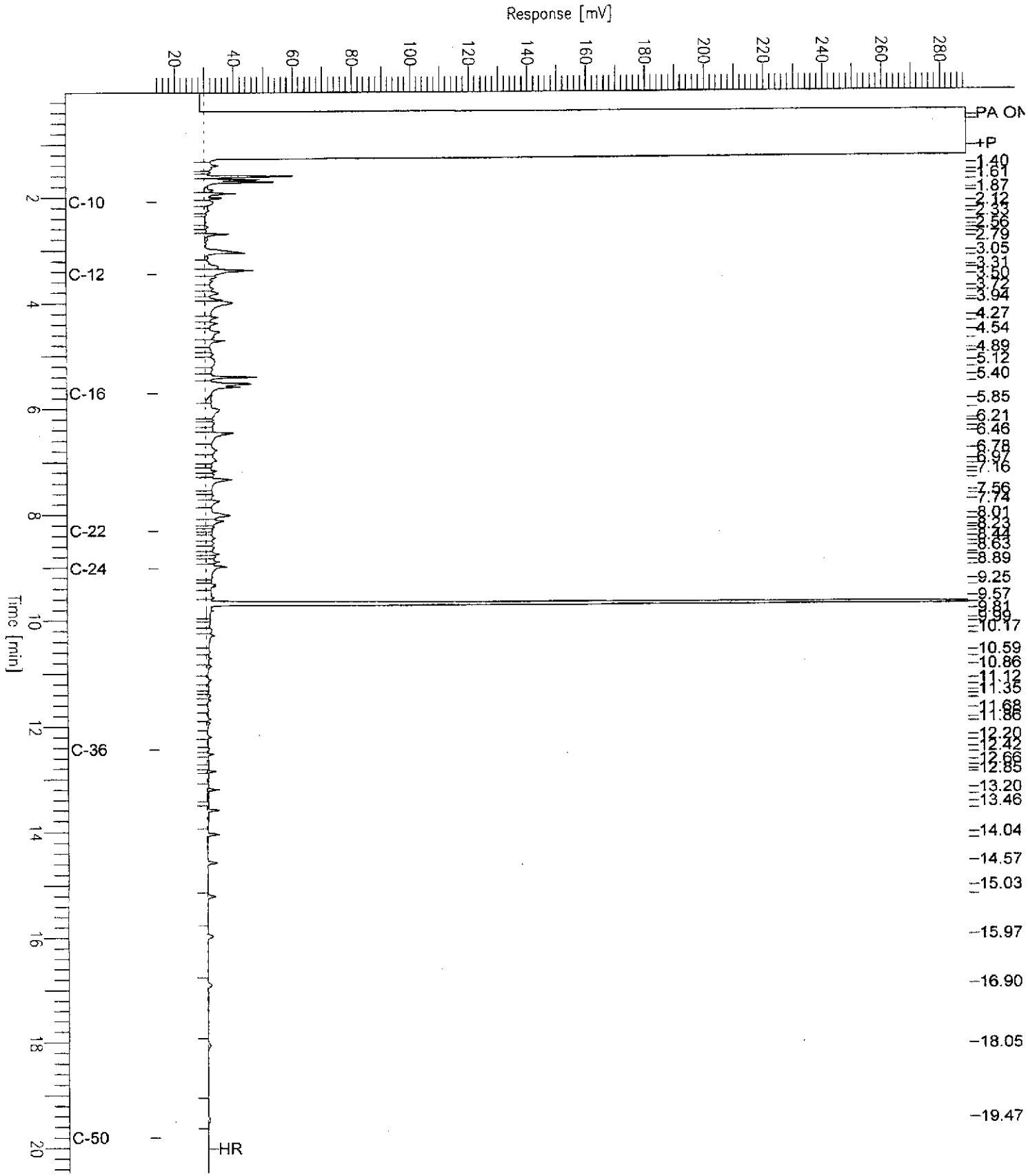
Sample #: 102026 Page 1 of 1
Date : 5/17/05 08:28 AM
Time of Injection: 5/17/05 12:23 AM
Low Point : 17.64 mV High Point : 375.68 mV
Plot Scale: 358.0 mV



Chromatogram

Sample Name : 179407-009,102026
FileName : G:\GC11\CHA\136A026.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 14 mV

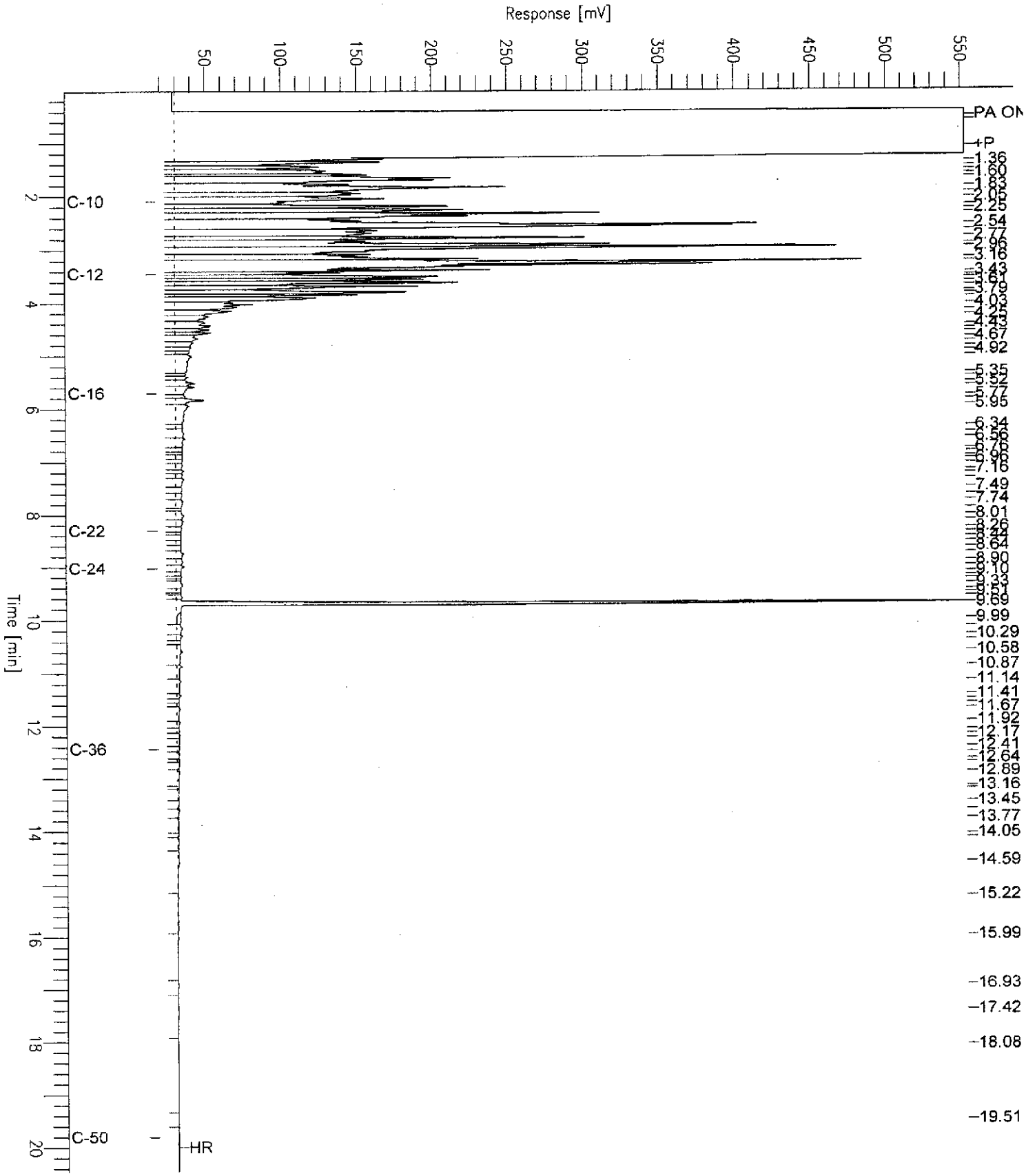
Sample #: 102026 Page 1 of 1
Date : 5/17/05 08:28 AM
Time of Injection: 5/17/05 12:53 AM
Low Point : 13.82 mV High Point : 288.89 mV
Plot Scale: 275.1 mV



Chromatogram

Sample Name : 179407-010,102026
FileName : G:\GC11\CHA\136A027.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 18 mV

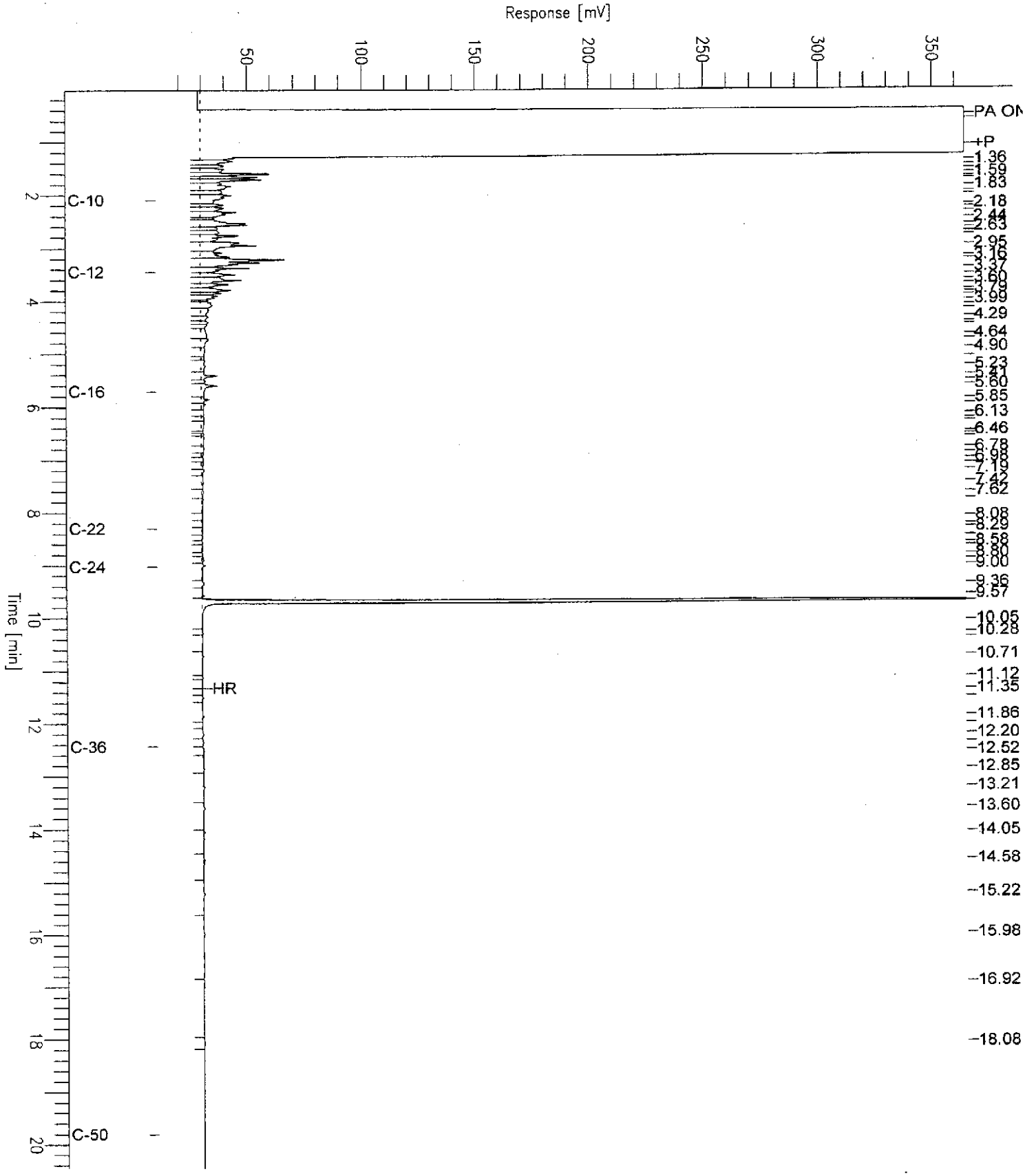
Sample #: 102026 Page 1 of 1
Date : 5/17/05 08:29 AM
Time of Injection: 5/17/05 01:22 AM
Low Point : 17.54 mV High Point : 552.85 mV
Plot Scale: 535.3 mV



Chromatogram

Sample Name : 179407-011,102026
FileName : G:\GC11\CHA\136A028.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 10 mV

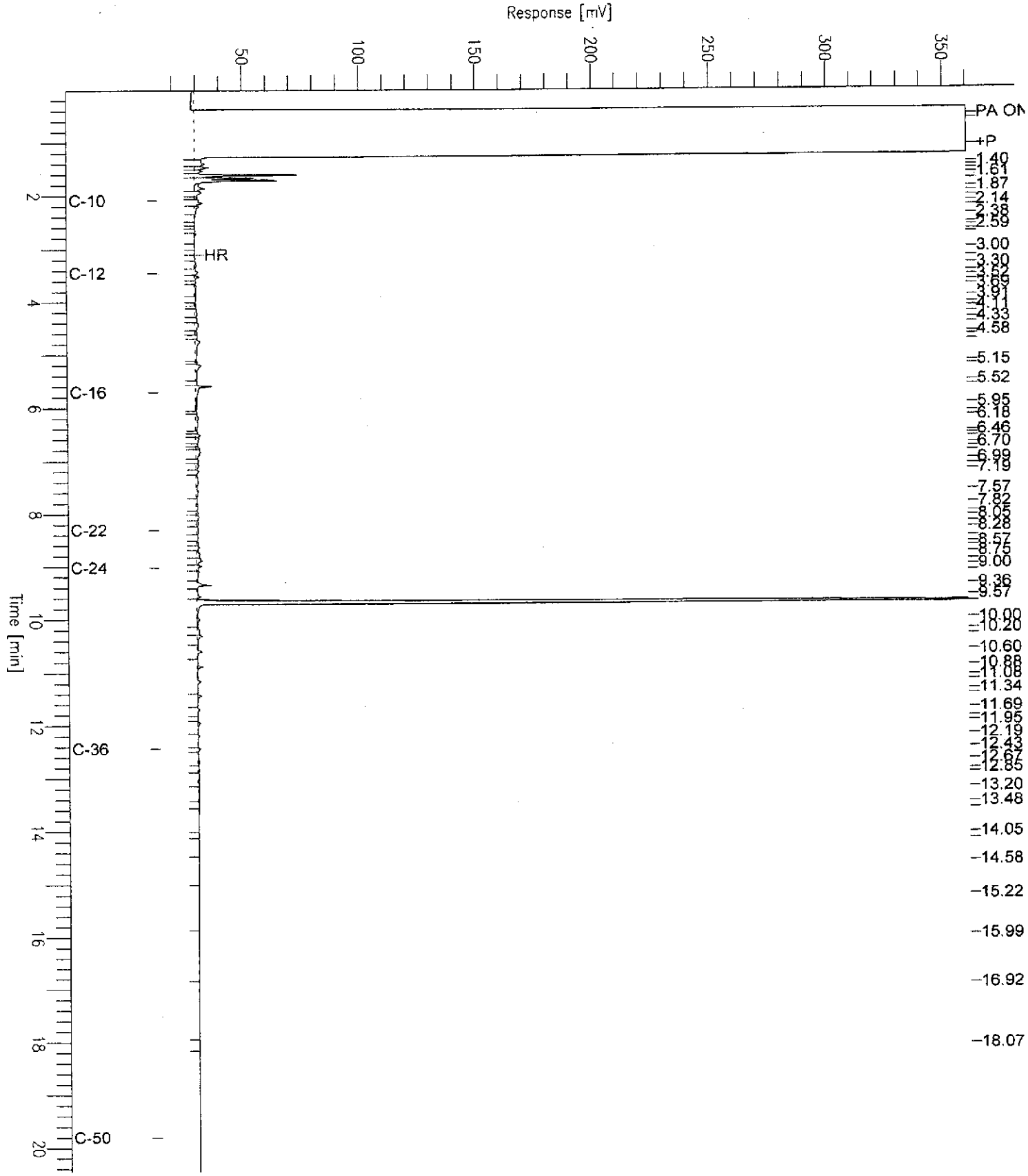
Sample #: 102026 Page 1 of 1
Date : 5/17/05 08:32 AM
Time of Injection: 5/17/05 01:52 AM
Low Point : 10.05 mV High Point : 364.30 mV
Plot Scale: 354.3 mV



Chromatogram

Sample Name : 179407-013,102026
FileName : G:\GC11\CHA\136A030.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 14 mV

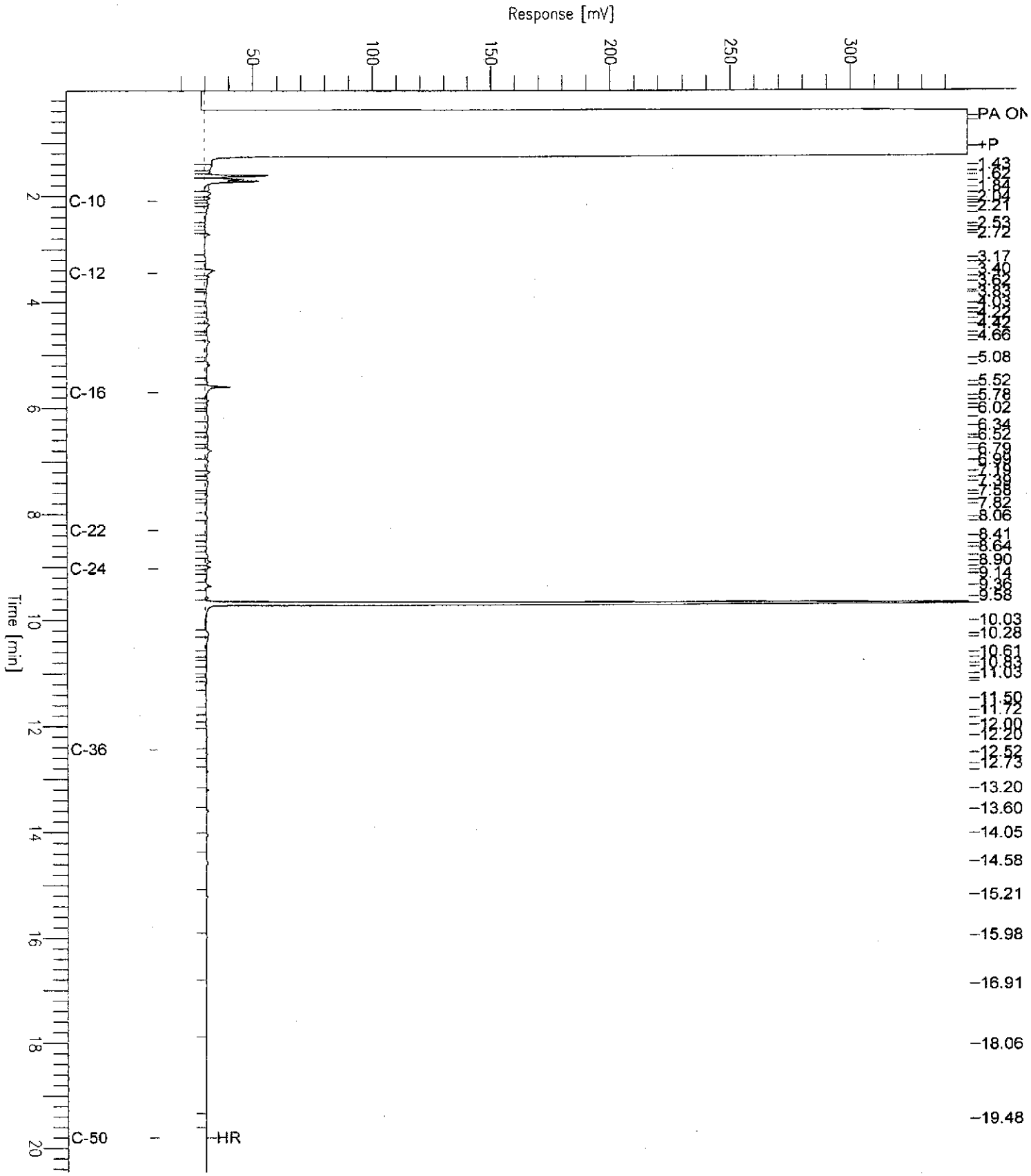
Sample #: 102026 Page 1 of 1
Date : 5/17/05 08:33 AM
Time of Injection: 5/17/05 02:51 AM
Low Point : 13.75 mV High Point : 360.52 mV
Plot Scale: 346.8 mV



Chromatogram

Sample Name : 179407-015,102026
FileName : G:\GC11\CHA\136A035.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 10 mV

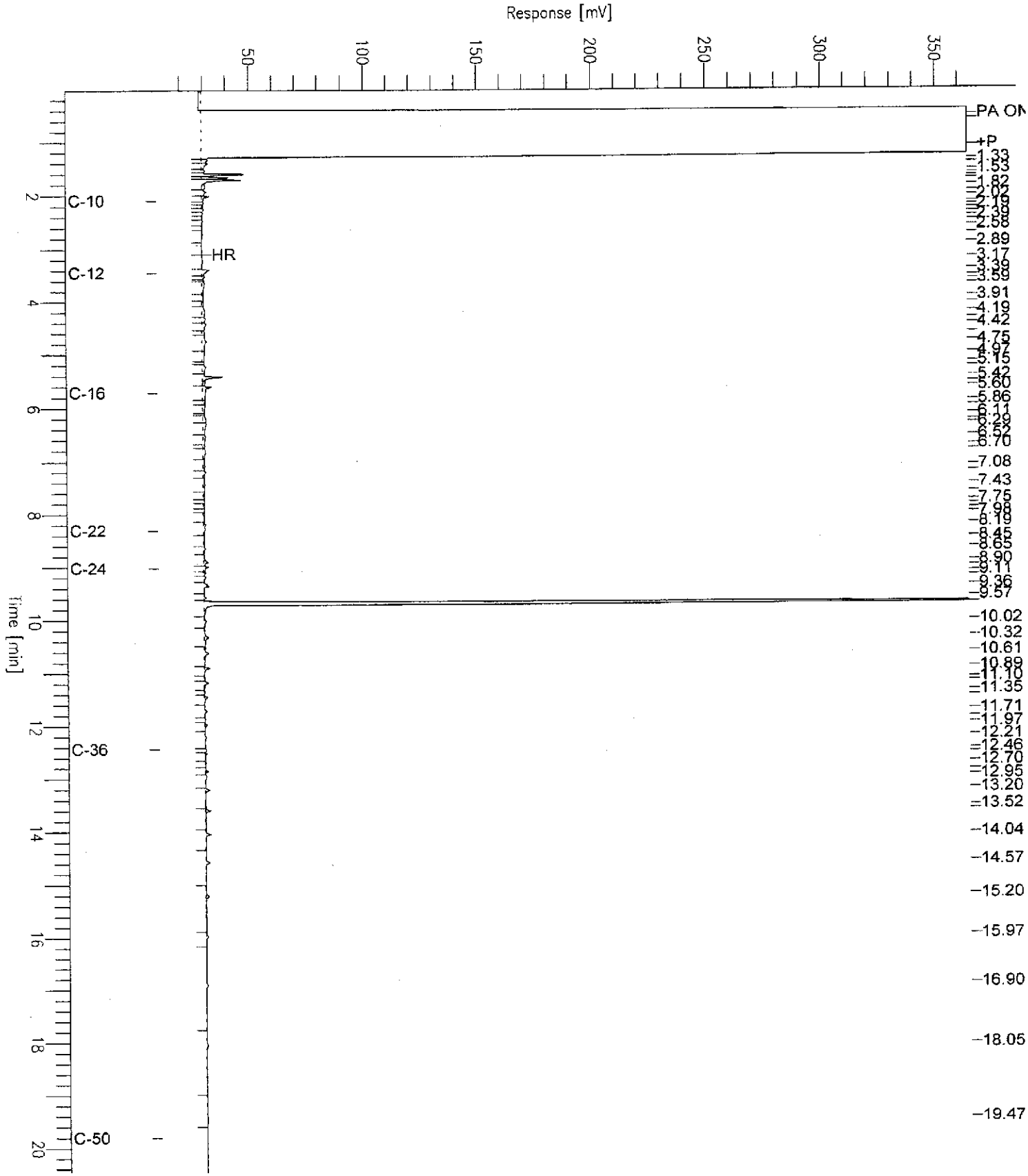
Sample #: 102026 Page 1 of 1
Date : 5/17/05 08:36 AM
Time of Injection: 5/17/05 05:18 AM
Low Point : 10.06 mV High Point : 349.29 mV
Plot Scale: 339.2 mV



Chromatogram

Sample Name : 179407-016,102026
FileName : G:\GC11\CHA\136A036.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 10 mV

Sample #: 102026 Page 1 of 1
Date : 5/17/05 08:36 AM
Time of Injection: 5/17/05 05:48 AM
Low Point : 10.02 mV High Point : 364.28 mV
Plot Scale: 354.3 mV



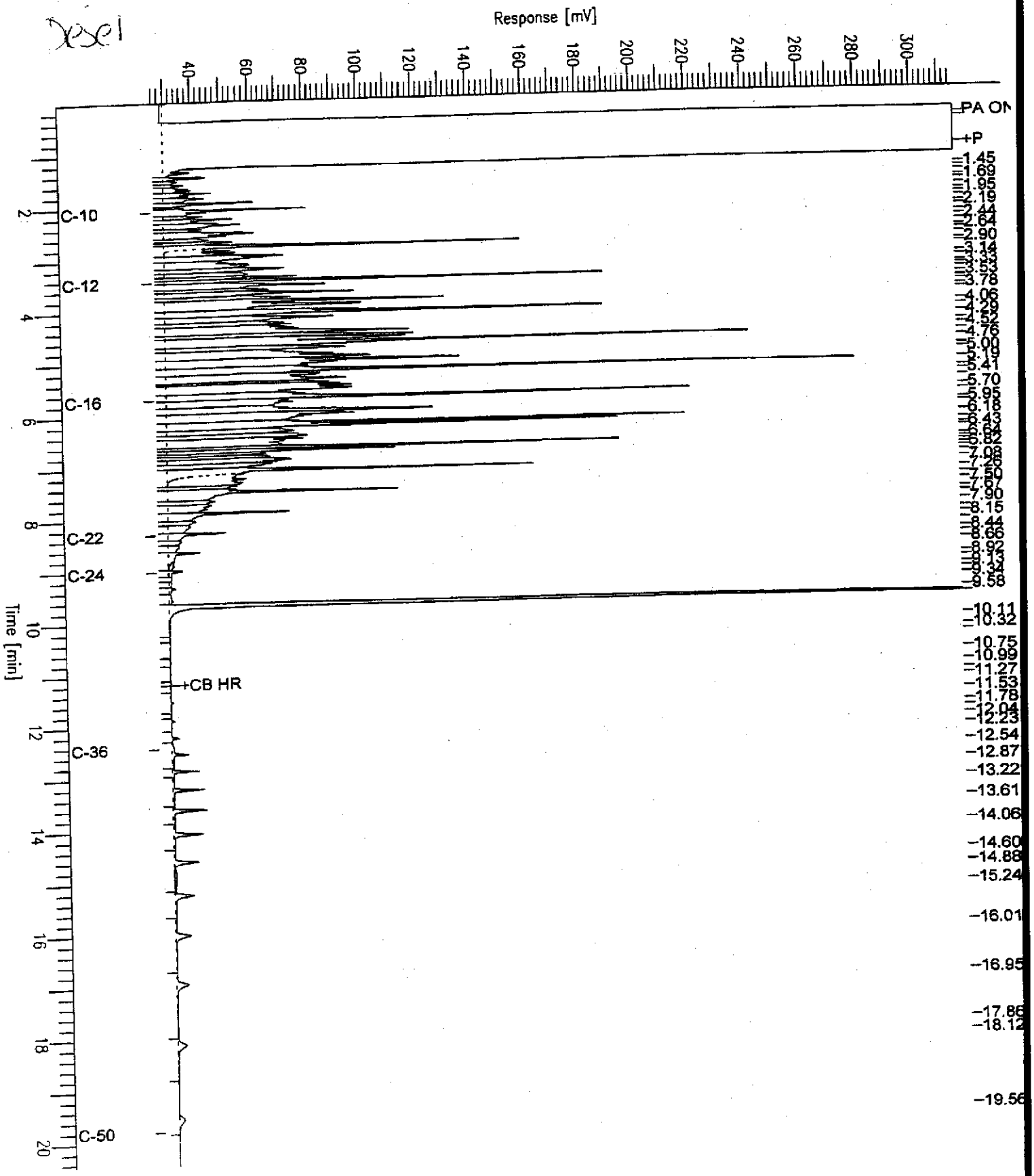
Chromatogram

Sample Name : ccv,S467,dsl
FileName : G:\GC11\CHA\136A006.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 20.45 min
Plot Offset: 26 mV

Sample #: 500mg/L
Date : 5/16/05 03:07 PM
Time of Injection: 5/16/05 02:41 PM
Low Point : 25.56 mV
Plot Scale: 290.1 mV

High Point : 315.66 mV



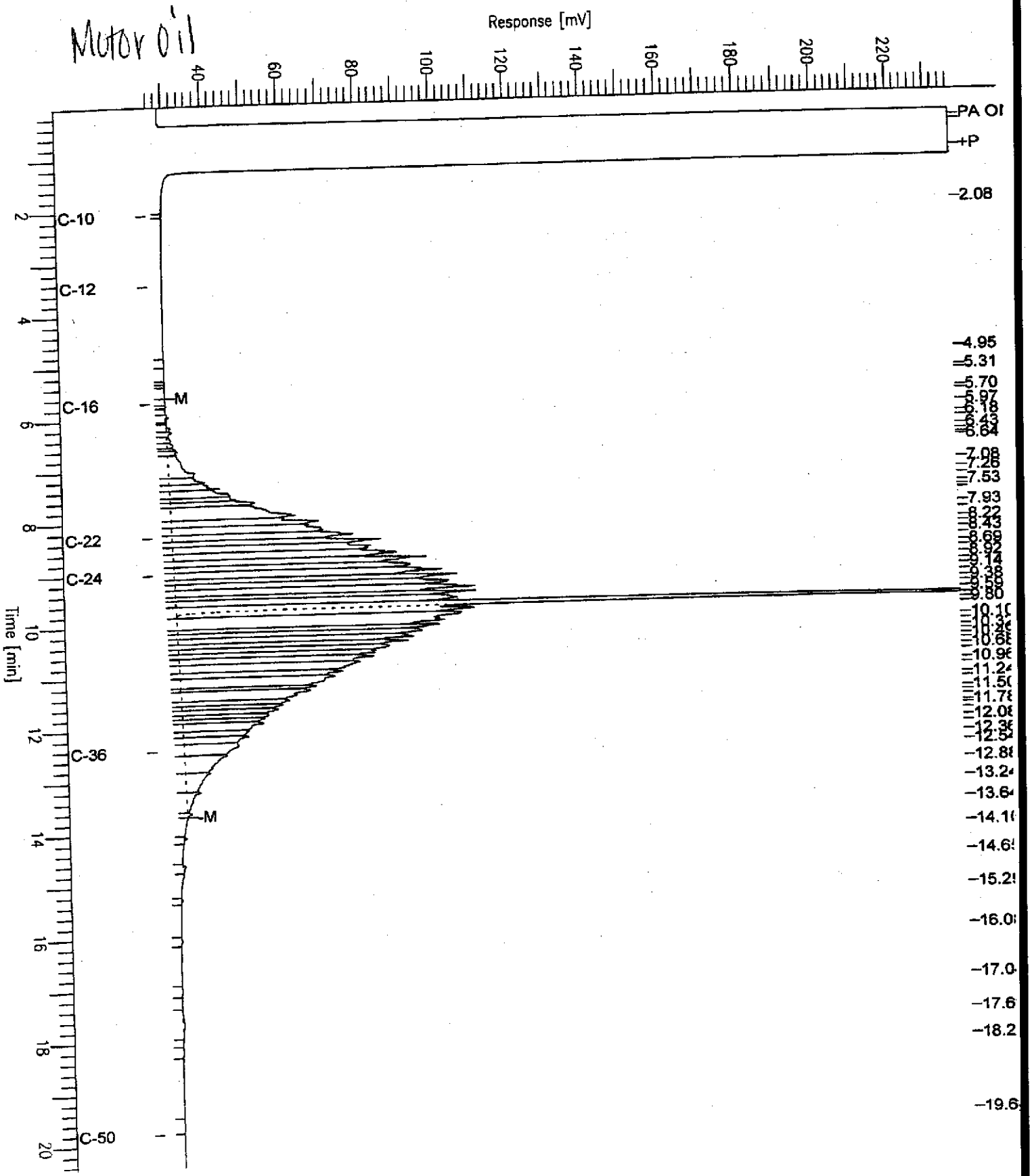
Chromatogram

Sample Name : ccv,S442,mo
FileName : G:\GC11\CHA\136A007.RAW
Method : ATEH136S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 20.45 min
Plot Offset: 26 mV

Sample #: 500mg/L
Date : 5/16/05 03:38 PM
Time of Injection: 5/16/05 03:11 PM
Low Point : 25.61 mV
High Point : 236.52 mV
Plot Scale: 210.9 mV

Motor Oil



Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	179407	Location:	Thornhill Dr., Oakland
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC293774	Batch#:	102026
Matrix:	Water	Prepared:	05/14/05
Units:	ug/L	Analyzed:	05/17/05

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,638	106	50-133

Surrogate	%REC	Limits
Hexacosane	98	55-143

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	179407	Location:	Thornhill Dr., Oakland
Client:	Pacific Analytical Laboratory	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	102026
MSS Lab ID:	179342-002	Sampled:	05/10/05
Matrix:	Water	Received:	05/10/05
Units:	ug/L	Prepared:	05/14/05
Diln Fac:	1.000	Analyzed:	05/16/05

Type: MS Lab ID: QC293775

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	41.96	2,500	2,215	87	42-127

Surrogate	%REC	Limits
Hexacosane	94	55-143

Type: MSD Lab ID: QC293776

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,430	96	42-127	9	45

Surrogate	%REC	Limits
Hexacosane	104	55-143

RPD= Relative Percent Difference

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

06 June 2005

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

RE: Thornhill Dr., Oakland

Work Order Number: 5060001

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 Akh

Majid Akhavan
Laboratory Director

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

PAL
Login# 5060001

Project No: 2832				Sampler: ERIC JENNINGS										Analyses/Method						
Project Name: 5725 THORNHILL DR., OAKLAND				Report To: ~~Majid Akhavan~~ Joyce Bobek										TPHD 8015	TPH MO 8015	Ethanol	TPH-g 8015	BTEX 8260	GAS OXYGENATES 8260	
Project P.O.: ----				Company: ~~Pacific Analytical Laboratory~~ Soma																
Turnaround Time: Standard				Tel: ~~510-864-0364~~ 925-244-6600 Fax: ~~510-864-0365~~																
		Sampling Date/Time		Matrix			# of Containers	Preservatives												
Lab No.	Sample ID	Date	Time	Soil	Water	Waste		HCL	H_2SO_4	HNO_3	ICE	Field Notes								
	SOMA-4@11.5-12	5/27/05	2:45 PM	X			1				X			X	X	X	X	X	X	

Sampler Remarks:	Relinquished by:	Date/Time:	Received by:	Date/Time:
EDF Output Required	E Jennings	5/27/05 4:40 PM	Majid Akhavan	5.27.05 4:40

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	06-Jun-05 10:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SOMA-4@11.5-12	5060001-01	Soil	27-May-05 14:45	27-May-05 16:40

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	06-Jun-05 10:25

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SOMA-4@11.5-12 (5060001-01) Soil Sampled: 27-May-05 14:45 Received: 27-May-05 16:40									
Gasoline (C6-C12)	**62900**	12000	ug/kg	60	BF50301	01-Jun-05	03-Jun-05	EPA 8260B	
Benzene	**1540**	30.0	"	"	"	"	"	"	
Ethylbenzene	**497**	30.0	"	"	"	"	"	"	
m&p-Xylene	**1390**	60.0	"	"	"	"	"	"	
o-xylene	**587**	30.0	"	"	"	"	"	"	
Toluene	**6360**	120	"	"	"	"	"	"	
MTBE	ND	30.0	"	"	"	"	"	"	
DIPE	ND	30.0	"	"	"	"	"	"	
ETBE	ND	30.0	"	"	"	"	"	"	
TAME	ND	120	"	"	"	"	"	"	
TBA	ND	600	"	"	"	"	"	"	
1,2-dichloroethane	ND	30.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	30.0	"	"	"	"	"	"	
Ethanol	ND	60000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*70-130*		"	"	"	"	
Surrogate: Dibromofluoromethane		*118 %*	*70-130*		"	"	"	"	
Surrogate: Perdeuterotoluene		*99.6 %*	*70-130*		"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	06-Jun-05 10:25

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 BF50301 - EPA 5030 Soil MS										
Blank (BF50301-BLK1)			Prepared & Analyzed: 03-Jun-05							
Surrogate: 4-Bromofluorobenzene	*45.5*		*ug/kg*	*50.0*		*91.0*	*70-130*			
Surrogate: Dibromofluoromethane	*53.2*		*"*	*50.0*		*106*	*70-130*			
Surrogate: Perdeuterotoluene	*48.6*		*"*	*50.0*		*97.2*	*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	200	"							
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 (BF50301-BS1)			Prepared & Analyzed: 03-Jun-05							
Surrogate: 4-Bromofluorobenzene	*50.4*		*ug/kg*	*50.0*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*51.6*		*"*	*50.0*		*103*	*70-130*			
Surrogate: Perdeuterotoluene	*47.6*		*"*	*50.0*		*95.2*	*70-130*			
MTBE	99.5	0.500	"	100		99.5	70-130			
DIPE	122	0.500	"	100		122	70-130			
ETBE	85.7	0.500	"	100		85.7	70-130			
TAME	79.4	2.00	"	100		79.4	70-130			
Gasoline (C6-C12)	1980	200	"	2000		99.0	70-130			
TBA	452	10.0	"	500		90.4	70-130			
Benzene	101	0.500	"	100		101	70-130			
Ethylbenzene	119	0.500	"	100		119	70-130			
m&p-Xylene	126	1.00	"	100		126	70-130			
o-xylene	128	0.500	"	100		128	70-130			
Toluene	99.4	2.00	"	100		99.4	70-130			

PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	06-Jun-05 10:25

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 BF50301 - EPA 5030 Soil MS										
LCS Dup (BF50301-BSD1)				Prepared & Analyzed: 03-Jun-05						
Surrogate: 4-Bromofluorobenzene	*47.8*		*ug/kg*	*50.0*		*95.6*	*70-130*			
Surrogate: Dibromofluoromethane	*51.1*		*"*	*50.0*		*102*	*70-130*			
Surrogate: Perdeuterotoluene	*47.9*		*"*	*50.0*		*95.8*	*70-130*			
MTBE	121	0.500	"	100		121	70-130	19.5	20	
DIPE	128	0.500	"	100		128	70-130	4.80	20	
ETBE	99.5	0.500	"	100		99.5	70-130	14.9	20	
TAME	92.6	2.00	"	100		92.6	70-130	15.3	20	
Gasoline (C6-C12)	2000	200	"	2000		100	70-130	1.01	20	
TBA	523	10.0	"	500		105	70-130	14.6	20	
Benzene	104	0.500	"	100		104	70-130	2.93	20	
Ethylbenzene	121	0.500	"	100		121	70-130	1.67	20	
m&p-Xylene	123	1.00	"	100		123	70-130	2.41	20	
o-xylene	123	0.500	"	100		123	70-130	3.98	20	
Toluene	101	2.00	"	100		101	70-130	1.60	20	

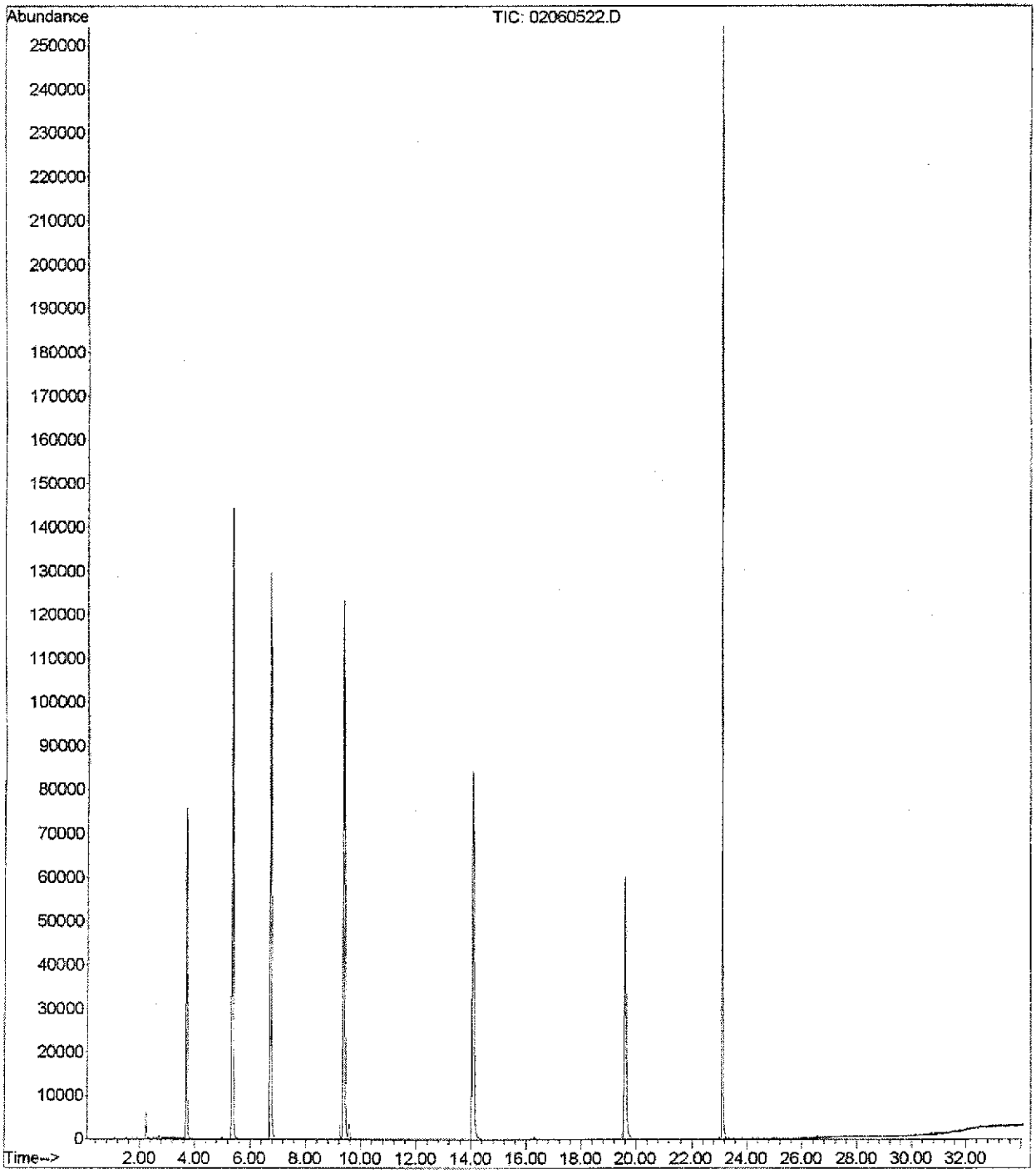
PAL

SOMA Environmental Engineering Inc.	Project: Thornhill Dr., Oakland	
2680 Bishop Dr., Suite 203	Project Number: 2832	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	06-Jun-05 10:25

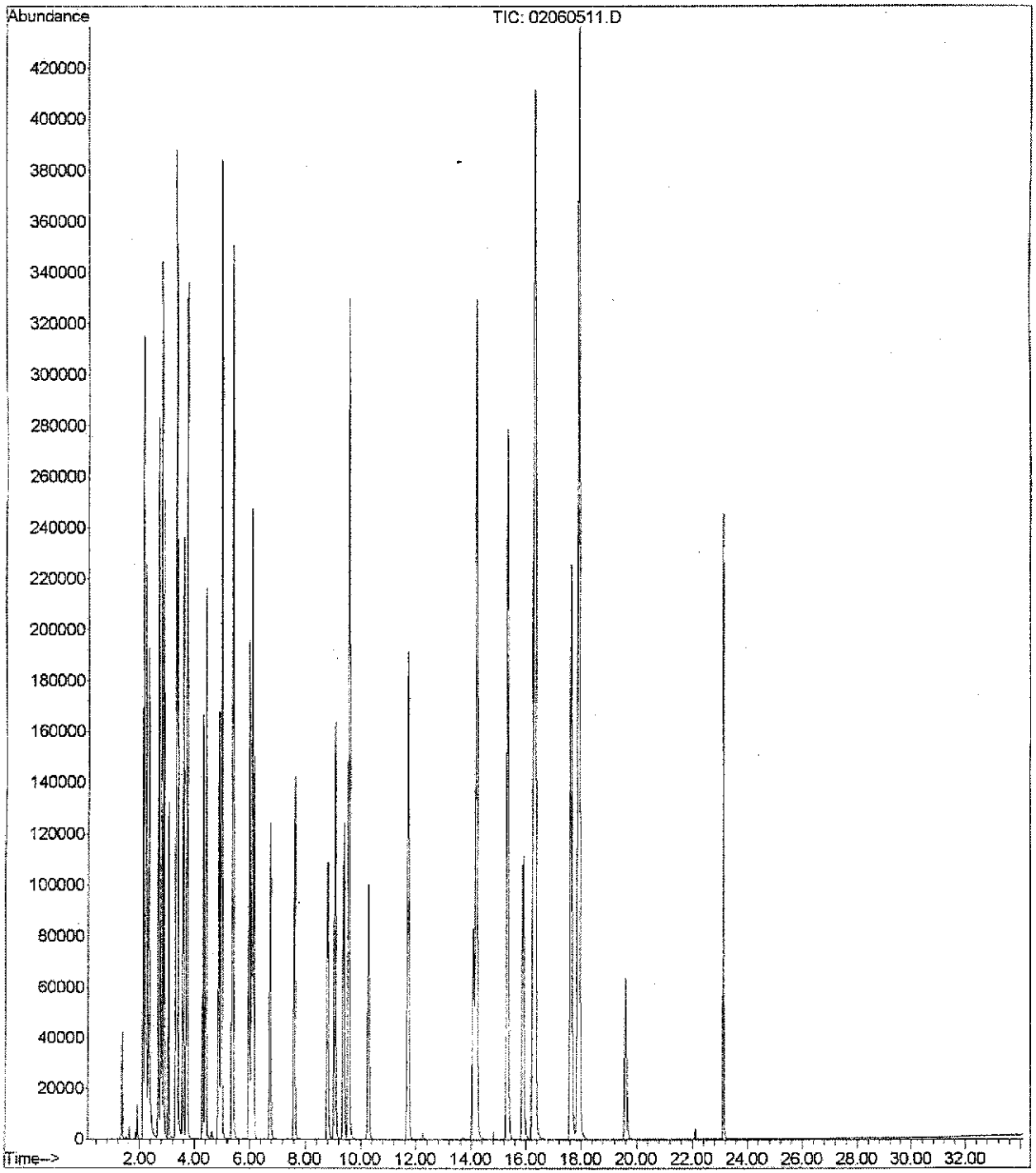
Notes and Definitions

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

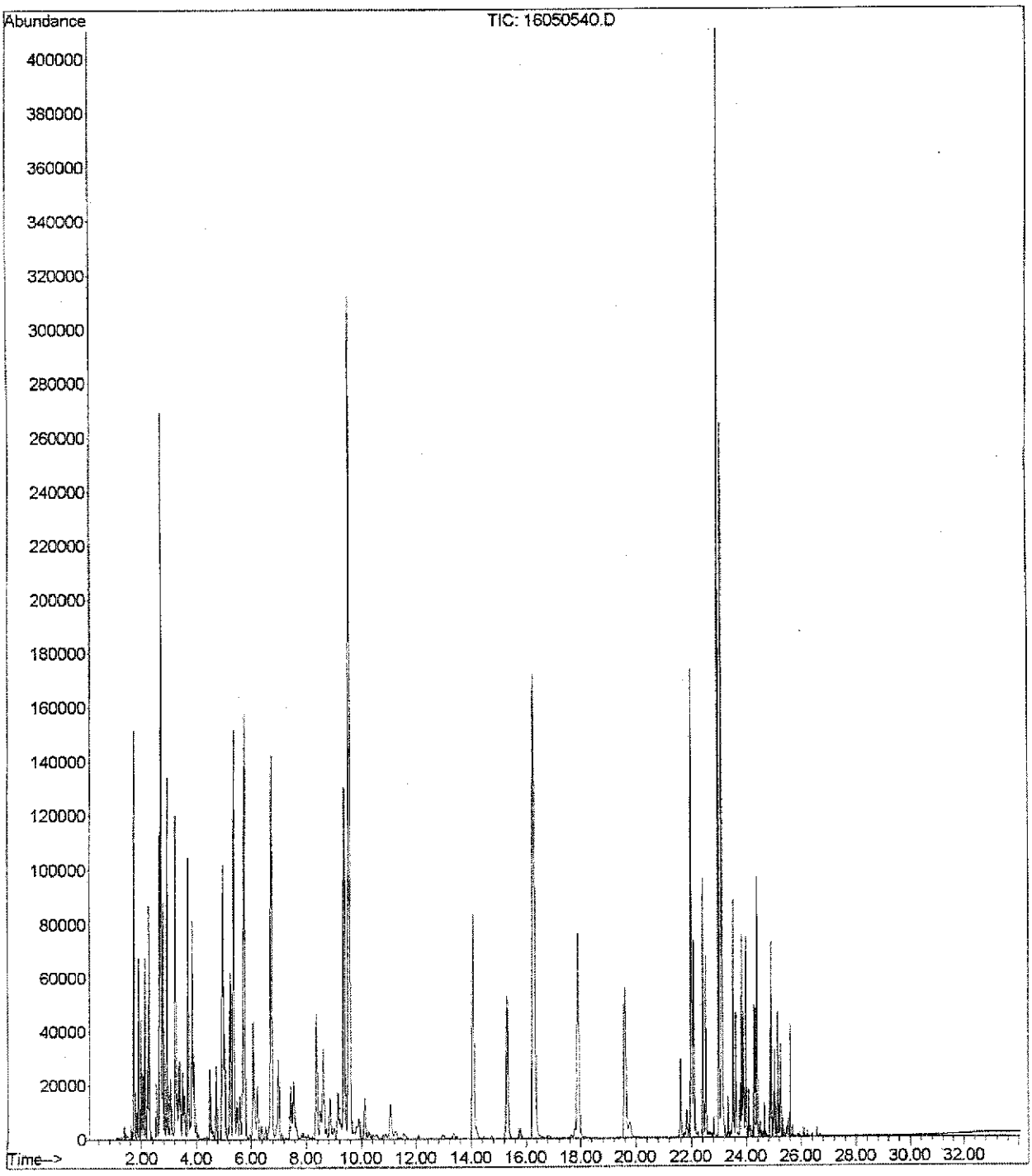
File :C:\MSDChem\1\DATA\2005-Jun-02-1431.b\02060522.D
Operator :
Acquired : 3 Jun 2005 6:11 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BF50301-BLK1
Misc Info :
Vial Number: 22



File :C:\MSDChem\1\DATA\2005-Jun-02-1431.b\02060511.D
Operator :
Acquired : 2 Jun 2005 10:09 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BF50301-BS1
Misc Info :
Vial Number: 11



File : C:\MSDChem\1\DATA\2005-May-16-1134.b\16050540.D
Operator :
Acquired : 17 May 2005 6:31 pm using AcqMethod VOCOXY.M
Instrument : PAL GCMS
Sample Name: BE51201-BS1@gas
Misc Info :
Vial Number: 40



PAL Pacific Analytical Laboratory
851 West Midway Ave., Suite 201B
Alameda, CA 94501
510-864-0364 Telephone
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PAL
Login# 5060001

179813

Project No: 2832	Sampler: ERIC JENNINGS
Project Name: 5725 THORNHILL DR., OAKLAND	Report To: ~~Majid Akhavan~~ Joyce Bobek
Project P.O.: ----	Company: ~~Pacific Analytical Laboratory~~ Soma
Turnaround Time: Standard	Tel: ~~510-864-0364~~ 925-244-6600 Fax: ~~510-864-0365~~

Lab No.	Sample ID	Sampling Date/Time: Date	Time	Matrix: Soil	Water	Waste	# of Containers	Preservatives: HCL	H_2SO4	HNO_3	ICE	Field Notes	TPHD 8015	TPH MO 8015	~~Ethanol~~	~~TPHG 8015~~	~~BTEX 8260~~	~~GAS OXYGENATES 8260~~		
1	SOMA-4@11.5-12	5/27/05	2:45 PM	X			1				X		X	X	X	X	X	X		

Sampler Remarks:	Relinquished by:	Date/Time:	Received by:	Date/Time:
EDF Output Required	E Jennings	5/27/05 4:40 PM	[signature]	5.27.05 4:40
	James Zuniga	6/2/05 6:15 PM	Anna Pizzutti	6/2/05 1815

Received ☑ On Ice
☐ Cold ☐ Ambient ☑ Intact

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	179813	Location:	5725 Thornhill Dr.
Client:	Pacific Analytical Laboratory	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	SOMA-4@11.5-12	Batch#:	102772
Matrix:	Soil	Sampled:	05/27/05
Units:	mg/Kg	Received:	06/02/05
Basis:	as received	Prepared:	06/08/05
Diln Fac:	1.000	Analyzed:	06/09/05

Type: SAMPLE Lab ID: 179813-001

Analyte	Result	RL
Diesel C10-C24	63 L Y	1.0
Motor Oil C24-C36	18 Y	5.0

Surrogate	%REC	Limits
Hexacosane	83	51-136

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC296759

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	107	51-136

L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit