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Alameda County
Environmental Health

October 15, 2007

Mr. Steven Plunkett
Alameda County
Department of Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California, 94502

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

Dear Mr. Plunkett:

As requested, enclosed for your review is SOMA's "Further Site Investigation for Updating Site Conceptual Model and Site Closure Request" for the subject site. This report has been uploaded to the State's GeoTracker Database and Alameda County FTP site for your review.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Mansour Sepehr', is written over a horizontal line.

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



cc: Mr. Mo Mashhoon w/report enclosure

**FURTHER SITE INVESTIGATION
FOR UPDATING SITE CONCEPTUAL MODEL
AND SITE CLOSURE REQUEST**

**5725 Thornhill Drive
Oakland, California**

October 15, 2007

Project 2832

**Prepared for
Mr. Mohammad Mashhoon
Mash Petroleum, Inc.
1721 Jefferson Street
Oakland, California**

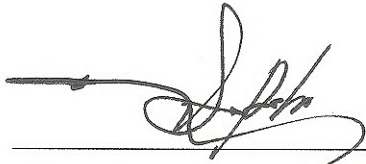


ENVIRONMENTAL ENGINEERING, INC.

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CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this report on behalf of Mr. Mohammad Mashhoon, owner of the property located at 5725 Thornhill Drive, Oakland, California. It was prepared in accordance with SOMA's Workplan entitled "Supplemental Workplan, Mash Petroleum, Inc., 1721 Jefferson Street, Oakland, California" dated November 15, 2006, and approved by Alameda County Health Care Services agency in correspondence dated June 14, 2007 and July 5, 2007.



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



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1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of Mr. Mohammad Mashhoon, property owner of 5725 Thornhill Drive, Oakland, California (the Site, 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.

This report was prepared in accordance with SOMA's workplan dated November 15, 2006 and Alameda County Health Care Services (ACHCS) approval letters dated June 14, 2007 and July 5, 2007.

The purpose of the investigation described in this report was to provide a more thorough understanding of the nature and extent of soil and groundwater contamination distribution and evaluate whether existing subsurface levels of contaminants pose any unacceptable human health risk to current or future Site workers or nearby residents. As such, in order to complete site conceptual model (SCM) and evaluate the site regulatory status, SOMA performed an additional site characterization study, which included a utility corridor evaluation and a monitoring well installation. Approval correspondence is included in Appendix A.

2. SITE BACKGROUND

2.1 Site Location and Description

November 1998: Penn Environmental (Penn) removed a 550-gallon steel underground waste oil tank (WOT) from the Site. Soil samples collected from the WOT excavation contained up to 1,100,000 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).

February 4, 1999: Penn 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.

July 1999: ASE drilled borehole BH-A in the vicinity of the former WOT.

September 6, 2000: ASE drilled soil boreholes BH-B and BH-C.

October 23, 2000: ASE drilled soil boreholes BH-D and BH-E. ASE also collected water samples from Temescal Creek. No hydrocarbons were detected in the water sample collected from Temescal Creek. Figure 2 shows boring locations.

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

Results of the March 2004 investigation and details of well installations are presented in SOMA's report entitled "Soil and Groundwater Investigation and Monitoring Well Installation Report at 5725 Thornhill Drive, Oakland, California," dated April 16, 2004.

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

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

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

Tables 1 through 3A illustrate the results of historical soil and groundwater investigations.

2.2 Site Hydrogeology and Background

Results of the May 2005 subsurface investigation and numerous quarterly groundwater monitoring events since 2004 have revealed the Site hydrogeology and distribution of chemicals in subsurface beneath the on- and off-site areas. Results of the CPT/MIP evaluation in May 2005 indicated that there is at least

one main water-bearing zone and one discontinuous water-bearing zone beneath 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). However, based on existing cross-sections (see SOMA's May 2005 report) there is also a shallow perched water-bearing zone beneath the Site at approximate depth of 8-11 feet below ground surface (bgs), where the 15-inch-diameter sewer line along the Thornhill Drive is passing. The clayey gravel and sandy clay material at this depths along with gravel bed around the 15-inch diameter sewer line is forming a saturated or semi-saturated zone around the sewer line. During the 1999 and 2000 investigation conducted by ASE, four shallow soil borings BH-B through BH-E were drilled along the sewer line at a total depths of 8-11 feet bgs (Table - 2). During this investigation soil and groundwater samples were collected and analyzed for TPH-g, TPH-d, and TPH-mo; for benzene, toluene, ethylbenzene and xylenes (collectively is referred to as BTEX); and for MtBE. Results of laboratory analysis of groundwater samples collected from the perched groundwater zone beneath the sewer line revealed the presence of elevated levels of TPH-g (up to 13,000 µg/L), TPH-d (up to 110,000 µg/L) TPH-mo (up to 18,000 µg/L) and MtBE (up to 16,000 µg/L). Benzene up 180 µg/L was also detected in groundwater sample collected from BH-D. Results of subsequent groundwater investigations conducted by SOMA in 2004, and especially in 2005, using MIP has not confirmed or verified the presence of elevated levels of MtBE concentrations in the Shallow Perched Zone as reported by ASE.

From approximately 18 to 28 feet bgs, the UWBZ occurs as an approximately 1- to 4-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. Existing groundwater monitoring wells at the Site have been completed within the UWBZ. Results of quarterly groundwater events since 2004 have shown minor concentrations of petroleum hydrocarbons in the UWBZ. Results of the latest groundwater monitoring event (Third Quarter 2007) have reported the maximum concentration of TPH-g, TPH-d, BTEX and MtBE at 2,670 µg/L (SOMA-4), 642 µg/L (SOMA-2), less than 250 µg/L (SOMA-1 and SOMA-2), less than 0.5 µg/L, less than 2 µg/L, 4.64 µg/L, 2.79 and 58 µg/L, respectively.

The confining zone below the UWBZ is approximately 6 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-permeability water-bearing zone is approximately 2 to 4 feet thick and extends from approximately 34 to 40 feet bgs, where drilling resistance was encountered. The results of May 2005 groundwater investigation using CPT/MIP have not revealed the presence of TPH-g, TPH-mo or BTEX in LWBZ. However,

MtBE and TPH-d with maximum concentrations of 164 and 220 µg/L were detected in groundwater samples collected from LWBZ (Table 2).

As discussed above, Figure 2 shows the location of the geologic cross-sections and Figures 3, 3A and 3B show the geologic cross-sections and corresponding depth of each hydrogeologic unit.

3. SCOPE OF WORK

The objectives of the additional site investigation were as follows:

- To evaluate possible chemical source(s) of elevated levels of petroleum hydrocarbons and MtBE as reported by ASE upgradient of the Site within the perched groundwater zone around the 15-inch-diameter sewer line as detected in borings BH-B through BH-E.
- To determine whether dissolved phase petroleum hydrocarbon contamination is adversely impacting the water quality of Temescal Creek, located downgradient of the Site.
- To compare existing contaminant levels in soil and groundwater with the environmental screening levels (ESLs) set forth by the Regional Water Quality Control Board (RWQCB) and determine if the Site is qualified for “No Further Action” (NFA) status as designated by the RWQCB.

To evaluate these issues, one utility sampling borehole, USB-1, was installed approximately 50 feet up gradient from the Site in the southbound lane of Thornhill Drive and a groundwater monitoring well, SOMA-5, was installed approximately 100 feet downgradient of the Site in the northern sidewalk area of Thornhill Drive, adjacent to the Temescal Creek. Figure 2 illustrates these locations.

3.1 Pre-Field Work Activities

3.1.1 Health and Safety Plan

Before initiating field activities, SOMA prepared a site-specific Health and Safety Plan (HASP). The HASP is a requirement of the Occupational Safety and Health Administration (OSHA), “Hazardous Waste Operation and Emergency Response” guidelines (29 CFR 1910.120) and the California Occupational Safety and Health Administration (Cal/OSHA) “Hazardous Waste Operation and Emergency Response” guidelines (CCR Title 8, section 5192). The HASP is designed to address safety provisions during field activities and protect the field crew from potential physical and chemical hazards resulting from drilling and sampling. The HASP establishes personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards,

decontamination procedures, and emergency action plans. The HASP was reviewed and signed by field staff and contractors prior to beginning field operations at the Site.

3.1.2 Permitting

To implement field activities, SOMA obtained the following permits:

- Excavation Permit from the City of Oakland, Office of Planning and Building Department, to advance boring USB-1 and install monitoring well SOMA-5 (Permit Number X0700966)
- Minor Encroachment Permit from the City of Oakland, Community and Economic Development Agency, to advance boring USB-1 and install monitoring well SOMA-5 (Permit Number ENMI07246 and ENMI07246)
- Obstruction Permit from the City of Oakland, Community and Economic Development Agency, to advance boring USB-1 and install monitoring well SOMA-5 (Permit Number OB070645)
- Traffic Control Plan, approved by the City of Oakland Public Works Agency, to achieve a lane closure of the Thornhill Drive (northbound and southbound, ½ day each way)
- Monitoring Well/Borings Installation Permit from the Alameda County Public Works Agency to advance boring USB-1 and install monitoring well SOMA-5 (Permit Numbers W2007-0891 and W2007-0892)

Permit copies as well as permit applications are included in Appendix B.

3.1.3 Subsurface Utility Clearance

Prior to initiating field activities, SOMA retained a private utility locator, Precision Locating, to determine exact locations of utility lines in close proximity to the Site and establish whether proposed locations are clear of any subsurface obstructions. All borings and underground utility conduits were marked with washable paint of appropriate color.

In addition, SOMA contacted Underground Service Alert (USA) 48 hours prior to initiating field work (USA ticket No 347841). Prior to advancing the borings, each boring/well location was cleared to a depth of 5 feet bgs using a hand auger.

3.2 Utility Corridor Evaluation

To determine whether the high TPH-g, TPH-d, TPH-mo and MtBE concentrations in groundwater, reported in 1999 and 2000 by ASE within the Shallow Perched Zone and gravel bedding of the 15-inch-diameter sewer line, are emanating from the upgradient source(s) and traveling through the sewer-main utility trench as a

preferential pathway from previously identified historical sources, SOMA drilled and sampled one borehole, USB-1. As shown in Figure 2, this borehole was located immediately adjacent to the sewer main on the south side of Thornhill Drive.

On September 21, 2007, Gregg used an “Air Knife” rig to drill and sample the aforementioned borehole. The “Air Knife” is essentially a high-powered vacuum mounted onto a lance-shaped head of PVC. The sharp-lanced end of this drilling device loosened the gravel and allowed the vacuum to remove the loosened material without rupturing underground utilities.

The drilling crew advanced the borehole by first cutting the asphalt with a concrete cutter to remove a 6-inch by 3-foot slot oriented orthogonal to the marked location of the sewer main. After removing the asphalt and exposing the underlying base rock, the field crew loosened and vacuumed the base rock through a PVC casing with the Air Knife rig. As the trench backfill was removed, the casing was advanced downward to the bottom of the utility trench, approximately 10 feet bgs. The boring log for USB-1 is attached in Appendix C.

SOMA’s geologist then collected a water sample from the trench with a disposable poly bailer and decanted the water sample into VOA vials and 1-L amber bottles. The geologist verified that the VOA vials contained no headspace by examining the 40-mL containers for bubbles. The samples were immediately labeled and placed into a chilled cooler with ice, pending delivery to the laboratory with chain of custody (COC) documentation.

SOMA’s field personnel also collected a soil sample from the trench bottom with a sleeved slide-hammer sampler. Field personnel extracted the soil-filled sleeve from the sampling shoe, covered both ends of the sample with Teflon tape, and capped both ends with plastic end caps. The sample was then labeled and placed into a chilled cooler with ice, pending delivery to the laboratory with COC documentation.

The above soil and groundwater samples were analyzed for TPH-g, TPH-d, and TPH-mo using USEPA Method 8015M; volatile organics and gasoline oxygenates using EPA Method 8260B, and ethanol using USEPA Method 8260B.

3.2.1 Utility Sampling Borehole Abandonment

The utility sampling borehole was abandoned using neat cement grout mixed at a ratio of 6 gallons of water per 94 pounds of Portland cement. Because the boring was advanced below groundwater, it was backfilled from the bottom up using a tremie pipe. A cement cap was placed at ground surface to match existing grade.

3.3 Monitoring Well SOMA-5

To evaluate the hydraulic communication and water quality of the perched water bearing zone adjacent to the underground culvert carrying the flow within Temescal Creek, monitoring well SOMA-5 was installed southwest of the Site in the sidewalk area. The data gathered during this investigation will also reveal the lateral extent of dissolved-phase hydrocarbons in the perched groundwater next to the Temescal Creek.

On September 21, 2007, SOMA observed drilling and installation of the 2-inch-diameter groundwater monitoring well SOMA-5 by Gregg, Inc., using combination of hollow-stem auger and direct push technology (DPT) drilling techniques. The monitoring well boring was drilled 8 inches in diameter to a depth of 15 feet bgs.

3.3.1 Monitoring Well Installation

The monitoring well was constructed of 2-inch-diameter interior/exterior flush threaded, NSF-approved rigid PVC Schedule 40 well casing and well screen. Well screen perforations were precision machine slotted. Screen slot sizes were 0.02-inch (20 slot) to maximize development of the monitoring well, expedite purging of the well prior to sampling, and lower groundwater entrance velocities to minimize volatilization of groundwater samples collected from the well. Well screen length was 5 feet. The well screen was installed to penetrate within the perched zone located approximately 12-15 feet bgs.

All screen/casing strings were threaded together. Use of solvent glues was not allowed in assembling the screen/casing strings. Filter pack was installed in the annular space adjacent to the well screen. A minimum 2-foot-thick hydrated bentonite chip seal was placed within the annular space above the filter pack material. The remaining portion of the annular space to approximately 6 inches below grade was sealed with neat cement grout mixed at a ratio of 6 gallons of water per 94 pounds of Portland cement. To protect the monitoring well from accidental damage or tampering, a traffic rated 8-inch-diameter utility box with steel protective cover and locking well cap was placed over the monitoring wellhead, set in concrete and resting flush with existing grade. Materials and construction details are presented in the boring log for Monitoring Well SOMA-5 in Appendix C.

SOMA's field personnel collected three soil samples (from the aforementioned location): from 5 to 6 feet bgs, from 11-12 feet bgs, and from 14 to 15 feet bgs. Field personnel extracted the soil-filled sleeve from the sampling shoe, covered both ends of the sample with Teflon tape, and capped both ends with plastic end caps. The sample was then labeled and placed into a chilled cooler with ice, pending delivery to the laboratory with COC documentation.

On September 23, 2007, SOMA's geologist used a disposable bailer to collect a water sample from the installed well. A sample was decanted into VOA vials and 1-L amber bottles. The geologist verified that the VOA vials contained no headspace by examining the 40-mL containers for bubbles. The samples were immediately labeled and placed into a chilled cooler with ice, pending delivery to the laboratory with chain of custody (COC) documentation.

Soil and groundwater samples were analyzed for TPH-g, TPH-d, and TPH-mo using USEPA Method 8015M; volatile organics and gasoline oxygenates using EPA Method 8260B, and ethanol using USEPA Method 8260B.

3.3.2 Monitoring Well Development

On October 3, 2007, SOMA developed monitoring well SOMA-5. The screened portion of the monitoring well was mechanically surged with a vented surge block, followed by bailing of the well to remove material finer than the filter pack material entering through the well screen in response to surging operations, followed by pumping of the well with a submersible pump. The monitoring well screen was surged for 30 minutes. Following surging, fine-grained material consisting of silt and clay at the bottom of the well was removed by bailer. The well was then pumped at a flow rate of approximately 1 gallon per minute (gpm), during which water quality parameters including pH, electrical conductivity, dissolved oxygen, turbidity and temperature were consistently monitored in the discharge. All the water quality parameters stabilized after 26 gallons of water were pumped from the monitoring well. No fine-grained material was present at the bottom of the well at the conclusion of well development operations. The field data sheet documenting development activities at monitoring well SOMA-5 is included in Appendix D.

SOMA did not observe hydrocarbon odors in the water discharged from the monitoring well.

3.3.3 Monitoring Well Surveying

On October 4, 2007, Aliquot Associates (LLS # 4210) surveyed the location of monitoring well SOMA-5. The latitude and longitude coordinates were surveyed to Zone III NAD 83 datum, and the elevation coordinate surveyed to the NAVD 88 datum from GPS observations. Survey data are included in Appendix E.

3.4 Investigative Derived Waste

Soil core and waste polybutryate liners generated during advancement of utility sampling borehole, soil cuttings generated during drilling of the boring for monitoring well SOMA-5, and water generated during development of monitoring well SOMA-5, were placed in five 55-gallon capacity DOT rated steel drums. Each drum was labeled with contents and date of accumulation, ownership and

street address information and contact phone number. The drums were temporarily stored in the southeast portion of the Site and transported on October 10, 2007, under non-hazardous waste manifest, by NRC Environmental Services Inc. of Alameda, California to Crosby and Overton, Inc of Long Beach, California. The Generator/Shipper Initial Copy of the non-hazardous waste manifest is included in Appendix F.

4. FINDINGS

4.1 Subsurface Conditions

Subsurface soil encountered in utility sampling borehole USB-1, upgradient of the Site, consists of a trench fill material ranging from sandy gravel from 0.5 feet to 7.5 feet bgs, to pea gravel from 7.5 feet to 9 feet bgs, and to saturated gravelly clay from 9 to 10 feet bgs. No petroleum hydrocarbon odor was observed at the time of the borehole advancement.

Subsurface soil encountered in well installation borehole SOMA-5 downgradient of the Site consists of gravelly sand from 0.5 feet to 8.5 feet bgs, clayey gravel 8.5 feet to 12.5 feet bgs, and saturated sandy clay from 12.5 to 15 feet bgs. Soil with petroleum hydrocarbon impact, demonstrated by elevated PID readings and slight petroleum hydrocarbon odor, was observed in this boring from 10 to 15 feet bgs. Soil borings and well completion report are attached in Appendix C.

4.2 Soil Sample Analytical Results

Soil samples were submitted on September 24, 2007, to Pacific Analytical Laboratory (PAL), a California state-certified analytical laboratory. The samples were analyzed for the following constituents using the listed methods:

- TPH-g, TPH-d and TPH-mo using EPA Method 8015B
- BTEX, MtBE, TBA, DIPE, ETBE, TAME, 1,2-dichloroethane, 1,2-dibromomethane (collectively known as “gas oxygenates”) and ethanol using EPA Method 8260B.

Three soil samples, collected from groundwater monitoring well borehole SOMA-5 (samples SOMA-5A, SOMA-5B, and SOMA-5C, and utility sampling borehole USB-1) were submitted for laboratory analyses.

Sample SOMA-5B, collected at 11 to 12 feet bgs, exhibited trace MtBE and TBA concentrations at 0.68 µg/kg and 5.33 µg/kg respectively. Sample SOMA-5C, collected at 14 to 15 feet bgs, exhibited TPH-g, ethylbenzene, o-xylene, MtBE and TBA concentrations at 354 µg/kg, 4.52 µg/kg, 2.5 µg/kg, 0.86 µg/kg, and 20.9 µg/kg respectively. All other analytes were below the laboratory-reporting limit in all the samples collected from SOMA-5 location.

Results for samples collected at 9 to 9.5 feet bgs at the USB-1 location were below the laboratory-reporting limit for all analyzed constituents.

Analytical results are included in Table 4. Certified analytical reports are included in Appendix G.

4.3 Grab Groundwater Sample Analytical Results

Groundwater samples were submitted on September 24, 2007 to PAL and were analyzed for the following constituents using the listed methods:

- TPH-g, TPH-d and TPH-mo using EPA Method 8015B
- BTEX, MtBE, TBA, DIPE, ETBE, TAME, 1,2-dichloroethane, 1,2-dibromomethane (collectively known as “gas oxygenates”) and ethanol using EPA Method 8260B.

One grab groundwater sample was collected from each drilled location. In borehole SOMA-5, TPH-d, MtBE and TBA were detected at 111 µg/L 54.9 µg/L and 203 µg/L respectively. All other analytes were below the laboratory-reporting limit.

In borehole USB-1, TPH-d, and ethylbenzene were detected at 75.4 µg/L and 4.31 µg/L respectively. All other analytes were below the laboratory-reporting limit. Analytical results are included in Table 5. Certified analytical reports are included in Appendix G.

5. SITE CONCEPTUAL MODEL

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 soil and groundwater. The following describes the SCM in light of existing data.

5.1 Site Hydrogeology

SOMA incorporated results of the current and previous CPT borehole study and lithologic log of the newly constructed groundwater monitoring well to construct three geologic cross-section diagrams. Figures 3, 3A, and 3B show the geologic cross-section diagrams of A–A’, B–B’, and C–C’, respectively. As they show, an unconsolidated sequence of permeable and relatively impermeable sediments underlies the Site investigation area as described below.

5.1.1 Water-Bearing and Confining Zones

Based on existing cross-sections (see SOMA's May 2005 report), the uppermost water-bearing zone is a shallow and perched water-bearing zone beneath the Site at approximate depth of 8-11 feet bgs, where the 15-inch-diameter sewer line along the Thornhill Drive passes. The clayey gravel and sandy clay material at these depths along with gravel bed around the 15-inch-diameter sewer line is forming a saturated or semi-saturated zone around the sewer line.

At least one main water-bearing zone (UWBZ) and one discontinuous water-bearing zone (LWBZ) were encountered within the depths explored at the subject property. From approximately 18 to 28 feet bgs, the UWBZ occurs as an approximately 1- to 4-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 6 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-permeability water-bearing zone is approximately 2 to 4 feet thick and extends from approximately 34 to 40 feet bgs, where drilling resistance was encountered.

5.2 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 investigations conducted in May 2005 and 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, results of the May 2005 groundwater study were used to evaluate the presence of petroleum hydrocarbons in the LWBZ.

5.2.1 Shallow Perched Water-Bearing Zone

During the 1999 and 2000 investigations conducted by ASE, four shallow soil borings BH-B through BH-E were drilled along the sewer line at total depths of 8-11 feet bgs (Table 2). During this investigation soil and groundwater samples were collected and analyzed for TPH-g, TPH-d, TPH-mo, BTEX and MtBE. Results of laboratory analysis of groundwater samples collected from the

perched groundwater zone beneath the sewer line revealed the presence of elevated levels of TPH-g (up to 13,000 µg/L), TPH-d (up to 110,000 µg/L) TPH-mo (up to 18,000 µg/L) and MtBE (up to 16,000 µg/L). Benzene up 180 µg/L was also detected in groundwater samples collected from BH-D. Results of subsequent groundwater investigations conducted by SOMA in 2004, and especially in 2005 using MIP has not confirmed or verified the presence of elevated levels of MtBE concentrations in the Shallow Perched Zone as reported by ASE.

During the current investigation SOMA drilled one soil boring upgradient from the Site within the Shallow Perched Zone to evaluate water quality in the Shallow Perched Zone entering into the Site. In addition, SOMA installed a new groundwater monitoring well, SOMA-5, within this zone downgradient of the Site. SOMA collected grab groundwater samples from the upgradient soil boring and SOMA-5 which were analyzed for TPH-g, TPH-d, BTEX, MtBE and fuel oxygenates. Results of the current investigation also did not verify the presence elevated levels of petroleum hydrocarbons and MtBE in the Shallow Perched Zone (see Section 4.3). During the current investigation TPH-mo, MtBE, and TBA were detected at 111 µg/L, 54.9 µg/L and 203 µg/L, respectively.

5.2.2 Upper Water-Bearing Zone

Results from quarterly groundwater monitoring events and the May 2005 groundwater investigation, along with previously available data on the UWBZ, were used to better characterize the extent of 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 UWBZ.

5.2.2.1 TPH-g in the UWBZ

During the May 2005 groundwater study TPH-g was detected at maximum concentration of 11,400 µg/L at sample location GS-2 southeast of the pump island canopy. TPH-g was not detected in any 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 Second Quarter 2005 groundwater monitoring, TPH-g was detected at 5,960 µg/L in the sample collected from SOMA-2. Since 2005, TPH-g concentration in SOMA-2 has decreased significantly. During the most recent groundwater monitoring event (Third Quarter 2007) TPH-g concentration was 906 µg/L in SOMA-2, located immediately downgradient from the pump island canopy. Table 2 presents reported TPH-g concentration during the current and previous groundwater studies; Figure 7 shows TPH-g concentration contours using historical data.

5.2.2.2 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 May 2005 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 First Quarter 2005, TPH-d was detected in SOMA-2 at 2,100 µg/L. Since 2005, TPH-d concentration in SOMA-2 has decreased significantly. During the most recent groundwater monitoring event (Third Quarter 2007), TPH-d concentration in SOMA-2 was 427 µg/L. The maximum concentration of TPH-d was detected at HP-10 adjacent to SOMA-4. Results of groundwater monitoring event in Third Quarter 2007 showed a dramatic reduction in TPH-d concentration 642 µg/L. Table 2 presents current and previous reported TPH-d concentrations in groundwater studies; Figure 8 shows the TPH-d concentration contour map using historical data.

5.2.2.3 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. No TPH-mo concentrations were detected during groundwater monitoring events. Table 2 presents current and previous reported TPH-mo concentrations in groundwater studies; Figure 9 shows the TPH-mo concentration contour map using historical data.

5.2.2.4 BTEX in the UWBZ

During the May 2005 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. In general, results of groundwater monitoring events have shown non-detectable or very minor levels of BTEX in the groundwater monitoring wells. Table 2 presents the current and previous reported BTEX constituent concentrations in groundwater studies.

5.2.2.5 MtBE in the UWBZ

During the May 2005 groundwater investigation, MtBE was detected only 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. In contrast to the higher MtBE concentrations reported by ASE in 2000, reported concentrations of MtBE during the current, May 2005 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, results 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. Results of the Third Quarter 2007 groundwater monitoring event, MtBE at maximum concentration of 58 µg/L was detected in SOMA-2. MtBE at maximum concentration of 1,900 µg/L was detected in SOMA-2 during Second Quarter 2004. However, since 2004, the concentration of MtBE in SOMA-2 has significantly decreased.

5.2.2.6 Fuel Oxygenates in the UWBZ

During the May 2005 and previous investigation by SOMA, no fuel oxygenates were detected in groundwater. During the groundwater monitoring events only tertiary butyl alcohol (TBA) has been detected in groundwater monitoring wells SOMA-2 and SOMA-4. During Third Quarter 2007 groundwater monitoring, TBA was detected in SOMA-2 and SOMA-4 at 61.1 and 278 µg/L, respectively.

5.2.3 Lower Water-Bearing Zone

Since maximum depth of previous hydropunches did exceed the UWBZ depths, no water quality data is available from the March 2004 groundwater investigation. Therefore, the results of May 2005 groundwater investigation data were used to evaluate the extent of petroleum hydrocarbons in the LWBZ.

Based on results of the May 2005 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.

Results of the May 2005 investigation did not show the presence of BTEX in the LWBZ. However, MtBE at maximum concentration of 164 µg/L was detected in GS-7, located further downgradient of the Site next to Temescal Creek. MtBE was also detected at 5.59 µg/L at sample location GS-4, which is next to the USTs.

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

5.3 Preferential Flow Pathway and Sensitive Receptor Survey

During the 2005 investigation, SOMA completed a preferential flow path and sensitive receptor study of the area within a quarter-mile radius of the Site. To evaluate the presence of potential preferential flow pathways beneath the Site, records pertaining to the locations of sewer, storm drain conduits were obtained from the City of Oakland Public Works Department. Study results indicated the presence of several utility lines beneath Thornhill Drive, next to the Site. According to existing records, depths of utility lines next to the Site range between 6 and 8 feet. Based on SOMA field investigation results, the Shallow Perched Zone may be in direct communication with the 15-inch-diameter sewer line beneath the Site. However, due to low concentration of chemicals in groundwater, it does not seem that the preferential flow pathway will impact groundwater quality conditions at downgradient areas.

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

5.4 Comparison of Site-Related Chemicals with ESLs

To determine the impact of the residual concentrations of contaminants of concern on human health and on the environment, the current concentrations of petroleum hydrocarbons in the groundwater were compared with ESL values set forth by the CRWQCB (based on results of the sensitive survey currently groundwater is not used as a drinking and irrigation water source within a quarter-mile radius of the site). Results indicated that the 95% Upper Confidence Limits (95 % UCL) of the chemical concentrations for TPH-d, TPH-mo, benzene, toluene, ethylbenzene, xylenes, MtBE and TBA are below the ESL levels, and do not pose any adverse health effects to the current or future site workers, site neighbors, or the environment. Table 6 shows the remaining site-wide contaminant concentrations, 95% UCLs, and compares them to ESL values as set forth by the CRWQCB. Results of the recent soil and groundwater investigation indicate that all the constituents of concern, are below ESL levels, do not pose a risk to the off-site current and future workers, neighbors or the environment. Tables 4 and 5 show the contaminant concentrations at the SOMA-5 location and compare them to ESL values as set forth by the CRWQCB.

To evaluate the existing chemical plume stability, SOMA has evaluated the historical water quality data; as Figures 3 through 6 show, TPH-g, benzene and MtBE concentrations have been decreasing over the years. In the monitoring well SOMA-1, MtBE is the only constituent of concern with trace concentrations

above the laboratory-detection limit. As Figure 4 shows, the MtBE concentration in SOMA-1 shows a decreasing pattern. As Figures 5, 6 and 7 show, the TPH-g, TPH-d and MTBE concentrations in monitoring wells SOMA-2 through SOMA-4 all exhibit a stable or a radically decreasing trend.

6. CONCLUSIONS AND RECOMMENDATIONS

Following are our conclusions, based on current and previous investigation results.

1. Based on results of this investigation, three water-bearing zones underlie the Site, referred to as the Shallow Perched Zone, and the UWBZ and LWBZ (Upper and Lower water bearing zones, respectively).
2. Results of the current investigation indicate that the 15-inch-diameter sewer line beneath the Site may act as preferential flow path. However, no significant amounts of chemicals are being contributed to the Site from upgradient sources at present time.
3. The Shallow Perched zone is discontinuous and may not be present across the site. Only SOMA-5 has been completed in this layer. Groundwater flow direction in the UWBZ appears to be southwest toward Temescal Creek. No groundwater monitoring wells have been completed within the LWBZ, because this layer is discontinuous and has not been significantly impacted by petroleum hydrocarbons.
4. Results of the current and previous groundwater investigations, along with results of recent groundwater monitoring events, were used to evaluate the extent of the chemicals in the Shallow Perched Zone, UWBZ and LWBZ. Based on geologic cross-section diagrams and available analytical results, the horizontal and vertical extent of chemicals beneath the on- and off-site areas have been defined.
5. The vertical extent of TPH-g, TPH-mo and BTEX is limited to the UWBZ. However, TPH-d and MtBE have already impacted the LWBZ.
6. Results of groundwater monitoring events have revealed the presence of TBA in the Shallow Perched Zone well SOMA-5 and UWBZ wells SOMA-2 and SOMA-4. However, it appears that extent of the TBA plume in the UWBZ is limited. No TBA has been reported in LWBZ.
7. In contrast to reports from the previous consultant, the extent of MtBE contamination in the UWBZ is limited and it does not seem that the higher concentrations reported by ASE are still valid.
8. It appears that Temescal Creek is in hydraulic communication with the Shallow Perched zone. However, due to low concentrations of chemicals found in groundwater samples collected from SOMA-5, the

water quality in the Temescal Creek will not be impacted by Site-related contaminants.

9. 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.
10. Based on SOMA field investigation results, the Shallow Perched Zone may be in direct communication with the 15-inch-diameter sewer line beneath the Site. However, due to low concentration of chemicals in groundwater it does not seem that the preferential flow pathway will impact the groundwater quality conditions at downgradient areas.
11. Comparisons of concentrations of chemicals detected in groundwater monitoring wells to ESLs for groundwater that is currently is not used as a drinking and irrigation water source, indicate that Site-related chemicals will not pose a significant health risk to Site workers or nearby residents.
12. Based on results of groundwater monitoring data, the plume of chemicals in groundwater appears to be shrinking.
13. Results of site investigation and groundwater monitoring events do not indicate the presence of free-phase petroleum hydrocarbons in subsurface.
14. It appears that the source of groundwater contaminants has been removed or dissipated in the subsurface, and the residual levels of petroleum hydrocarbons will not expand or impact the sensitive receptors or larger water bodies in the future.

Based on above conclusions, the Site can be categorized as a low-risk petroleum release site. Therefore, SOMA recommends that a “No Further Action” status be adopted for the Site.

TABLES

Table 1
ASE Groundwater Analytical Data
5725 Thornhill Drive, Oakland, CA (1999-2000)

Borehole ID	Date Sampled	TPH-g (ug/L)	TPH-d (ug/L)	TPH-mo (ug/L)	MtBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl benzene (ug/L)	Total Xylenes (ug/L)
BH-A	Aug-99	1,700	10,000	4,700	NA	NA	NA	NA	NA
BH-B	6-Sep-00	12,000	11,000	420	4,300	44	NA	360	49
BH-C	6-Sep-00	7,300	25,000	620	5,300	NA	NA	NA	NA
BH-D	23-Oct-00	13,000	110,000	18,000	16,000	180	NA	490	1,000
BH-E	23-Oct-00	NA	NA	NA	730	NA	0.95	NA	1.8
ESL**		500	640	640	1,800	46	130	290	100

Notes

** Environmental Screening Levels (ESL) residential scenario, >9 ft bgs, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005

Table 2
ASE Soil Analytical Data
5725 Thornhill Drive, Oakland, CA (1999-2000)

Borehole ID and sampled depth	Date Sampled	TPH-g (ug/kg)	TPH-d (ug/kg)	TPH-mo (ug/kg)	MtBE (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl benzene (ug/kg)	Total Xylenes (ug/kg)
BH-A @ 8'	23-Jul-99	NA	NA	NA	NA	NA	NA	NA	NA
BH-B @ 8'	6-Sep-00	240,000	370,000	<200,000	<20	43.00	<20	130	<20
BH-C @ 8'	6-Sep-00	<1000	<1000	<1000	<5	<5	<5	<5	<5
BH-D @ 11'	23-Oct-00	<1000	<1000	<1000	330.00	<5	<5	7.4	23.0
BH-E @ 9.5'	23-Oct-00	<1000	<1000	<1000	37.00	<5	<5	<5	<5
ESL** <9.8 ft		100,000	100,000	500,000	2,000	180.00	9,300	32,000	11,000
ESL** >9.8 ft		400,000	500,000	1,000,000	2,000	180.00	9,300	32,000	11,000

** Environmental Screening Levels (ESL) residential scenario, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005
Environmental Screening Levels (ESL) residential scenario, Regional Water Quality Control Board, February 2005

TABLE 3
Soil Analytical Data
5725 Thornhill Drive Oakland, CA

Temporary Well Borehole Field ID	Date Sampled	TPH-Gasoline (µg/kg)	TPH-Diesel (µg/kg)	TPH-Motor Oil (µg/kg)	MtBE (µg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl benzene (µg/kg)	Total Xylenes (µg/kg)
<i>ESL** <9.8 ft</i>		100,000	100,000	500,000	2,000	180.00	9,300	32,000	11,000
<i>ESL** >9.8 ft</i>		400,000	500,000	1,000,000	2,000	180.00	9,300	32,000	11,000
HP1- (5-5.5')	03/01/04	<930	7,800^{HY}	62,000	<4.5	<4.5	<4.5	<4.5	<4.5
HP1- (9-9.5')	03/01/04	16,000^Y	6,000^{HY}	17,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP1- (14.5-15')	03/01/04	<1,100	5,400^{HY}	19,000	<4.9	<4.9	<4.9	<4.9	<4.9
HP1- (19.5-20')	03/01/04	<970	2,000^Y	<5,000	<4.5	<4.5	<4.5	<4.5	<4.5
HP1- (24.5-25')	03/01/04	<1,000	1,500^Y	<5,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP2- (4-4.5')	03/01/04	<1,100	3,500^{HY}	51,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP2- (9-9.5')	03/01/04	<1,100	210,000^{HY}	910,000	<4.3	<4.3	<4.3	<4.3	<4.3
HP2- (14-14.5')	03/01/04	<1,100	5,200^{HY}	34,000	6.3	<4.6	<4.6	<4.6	<4.6
HP2- (19-19.5')	03/01/04	<970	10,000^{HY}	59,000	<4.4	<4.4	<4.4	<4.4	<4.4
HP2- (25-25.5')	03/01/04	<950	6,500^{HY}	39,000	4.7	<4.3	<4.3	<4.3	<4.3
HP3- (5.5-6')	03/01/04	<950	23,000^{HY}	78,000	<4.8	<4.8	<4.8	<4.8	<4.8
HP3- (10-10.5')	03/01/04	<1,000	22,000^{HY}	65,000	<5.0	<5.0	<5.0	<5.0	<5.0
HP3- (16-16.5')	03/01/04	<930	17,000^{HY}	77,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP3- (21-21.5')	03/01/04	<1,100	11,000^{HY}	60,000	<4.5	<4.5	<4.5	<4.5	<4.5
HP3- (26-26.5')	03/01/04	<980	8,300^{HY}	39,000	<4.2	<4.2	<4.2	<4.2	<4.2
HP4- (4-4.5')	03/01/04	<1.0	3,000^{HY}	17,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP4- (9-9.5')	03/01/04	<0.92	<1,000	<5,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP4- (14-14.5')	03/01/04	<1,000	1,100^{HY}	11,000	<4.9	<4.9	<4.9	<4.9	<4.9
HP4- (19-19.5')	03/01/04	<910	1,100^Y	<5,000	<4.8	<4.8	<4.8	<4.8	<4.8
HP4- (24-24.5')	03/01/04	<960	5,000^{HY}	42,000^H	<4.7	<4.7	<4.7	<4.7	<4.7
HP5- (5-5.5')	03/01/04	<1,000	22,000^{HY}	140,000	17	<4.4	<4.4	<4.4	<4.4
HP5- (10-10.5')	03/01/04	<1,100	<1,000	<5,000	10	<4.3	<4.3	<4.3	<4.3
HP5- (15.5-16')	03/01/04	2,600^{HY}	6,100^{HY}	33,000	24	<4.5	<4.5	<4.5	<4.5
HP5- (19.5-20')	03/01/04	<1,100	1,700^Y	<5,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP5- (27-27.5')	03/01/04	9,100^{HY}	2,800^Y	<5,000	11	<4.9	<4.9	<4.9	<4.9
HP6- (4-4.5')	03/01/04	<1,100	<1,000	<5,000	<4.3	<4.3	<4.3	<4.3	<4.3
HP6- (9-9.5')	03/01/04	<960	5,400^{HY}	30,000	<4.3	<4.3	<4.3	<4.3	<4.3
HP6- (14-14.5')	03/01/04	<910	2,200^{HY}	16,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP6- (19-19.5')	03/01/04	<910	2,500^{HY}	8,100	4.9	<4.5	<4.5	<4.5	<4.5
HP6- (23.5-24')	03/01/04	<960	3,200^{HY}	19,000	<4.6	<4.6	<4.6	<4.6	<4.6

TABLE 3
Soil Analytical Data
5725 Thornhill Drive Oakland, CA

Temporary Well Borehole Field ID	Date Sampled	TPH-Gasoline (µg/kg)	TPH-Diesel (µg/kg)	TPH-Motor Oil (µg/kg)	MtBE (µg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl benzene (µg/kg)	Total Xylenes (µg/kg)
ESL** <9.8 ft		100,000	100,000	500,000	2,000	180.00	9,300	32,000	11,000
ESL** >9.8 ft		400,000	500,000	1,000,000	2,000	180.00	9,300	32,000	11,000
HP6- (27.5-28')	03/01/04	<1,000	2,200^Y	<5,000	7.0	<4.7	<4.7	<4.7	<4.7
HP7- (6-6.5')	03/02/04	<970	6,300^{HY}	16,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP7- (11.5-12')	03/02/04	<1,000	2,000^{HY}	6,400^{HY}	<4.8	<4.8	<4.8	<4.8	<4.8
HP7- (16.5-17')	03/02/04	<930	3,700^Y	<5,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP7- (22-22.5')	03/02/04	<920	<1,000	<5,000	<5.0	<5.0	<5.0	<5.0	<5.0
HP7- (26.5-27')	03/02/04	<970	11,000^{HY}	15,000	<5.0	<5.0	<5.0	<5.0	<5.0
HP9- (7-7.5')	03/02/04	<1,100	1,900^Y	<5,000	<4.4	<4.4	<4.4	<4.4	<4.4
HP9- (11.5-12')	03/02/04	<960	4,300^{HY}	53,000^H	<4.8	<4.8	<4.8	<4.8	<4.8
HP9- (16-16.5')	03/02/04	<990	5,300^{HY}	52,000^H	<4.6	<4.6	<4.6	<4.6	<4.6
HP9- (21.5-22')	03/02/04	<980	<1,000	5,600	28	<5.0	<5.0	<5.0	<5.0
HP9- (26.5-27')	03/02/04	<1,100	<990	<5,000	36	<4.4	<4.4	<4.4	<4.4
HP10- (6-6.5')	03/02/04	<940	5,700^{HY}	72,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP10- (11.5-12')	03/02/04	16,000^Y	16,000^{LY}	<5,000	94	<5.0	<5.0	<5.0	<5.0
HP10- (18.5-19')	03/02/04	130,000^Y	58,000^{HL^Y}	16,000	270	<5.0	<5.0	<5.0	<5.0
HP10- (19.5-20')	03/02/04	<920	<990	<5,000	11	<4.8	<4.8	<4.8	<4.8
HP10- (22.5-23')	03/02/04	3,700^Y	8,000^{HY}	22,000	<4.9	<4.9	<4.9	<4.9	<4.9
SOMA 4 (11.5-12')	05/27/05	62,900	63,000	18,000	<30	1,540	6,360	497	1,847

Notes:

(1) µg/kg= micrograms per kilogram

(2) <= Not detected at or above the laboratory reporting limit

(3) ^H Heavier hydrocarbons contributed to the quantification

(4) ^L Lighter hydrocarbons contributed to the quantification

(5) ^Y Sample exhibits chromatographic pattern which does not resemble standard

** Residential land use, Groundwater is not current or potential drinking water source

Environmental Screening Levels (ESL) residential scenario, >9 ft bgs, groundwater is current of potential drinking water source, California Regional Water Quality Control Board, February 2005

Table 3A
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)	TBA (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	<10.0
GS-2(19-21)	11,400	8,900^{LY}	300^{LY}	1.11	2.29	1.68	3.98	36.1	<10.0
GS-3(22-26)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-4(24-28)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-5(24-28)	<200	180^{LY}	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-8(20-24)	<200	2,800^{LY}	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-9(24-28)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-10(22-26)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-11(23-27)	<200	60^Y	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
Lower Water-Bearing Zone (May 2005 Investigation)									
GS-1(30-34)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-3(36-40)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-4(35-39)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	5.59	<10.0
GS-7(29-33)	<200	190^Y	<300	<0.5	<0.5	<0.5	<1.0	164	<10.0
GS-8(35-39)	<200	220^{LY}	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-9(36-38)	<200	53^Y	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-11(35-39)	<200	51^Y	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
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	<10.0
HP-2	360^Y	10,000^{HY}	58,000	<0.5	<0.5	<0.5	<0.5	20	<10.0
HP-3	<50	3,500^{HY}	5,700	<0.5	<0.5	<0.5	<0.5	<5	<10.0
HP-4	<50	740^{HY}	6,300^H	<0.5	<0.5	<0.5	<0.5	<5	<10.0
HP-5	6,700^Y	3,600^{HLY}	650	<0.5	<0.5	<0.5	0.7	33	<10.0
HP-6	250^{HY}	370^{HY}	730	<0.5	1.5	<0.5	2.5	8.1	<10.0
HP-7	<50	1,600^{HY}	1,400	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0
HP-9	<50	160^{HY}	1,700	<1.3	<1.3	<1.3	<0.5	440	<10.0
HP-10	9,700^Y	21,000^{HLY}	5,700	<3.6	<3.6	<3.6	<0.5	1,100	<10.0

Table 3A
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)	TBA (µg/L)
Groundwater Monitoring Data Third Quarter 2006									
SOMA-1	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	4.52	<10
SOMA-2	3,580	286 ^{A,B}	<250	0.8	0.7	2.65	0.7	44.8	32.4
SOMA-3	<50	60 ^{A,Y}	<250	<0.5	<0.5	<0.5	<1.0	8.05	<10
SOMA-4	4,340	357 ^{A,B}	<250	<0.5	0.52	<0.5	0.52	34.2	216
Abandoned Monitoring Wells (March 2004)									
MW-1	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	NA
MW-2	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	NA
MW-3	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	NA
ESL**									
	500	640	640	46	130	290	100	1,800	930

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

A To reduce matrix interference, the sample extract has undergone silica-gel clean-up, method 3630, which is specific to polar compound contamination, diesel 2Q06.

B Unidentified hydrocarbons C9-C16, diesel 2Q06.

** Environmental Screening Levels (ESL) residential scenario, >9 ft bgs, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005

Table 4
Soil Analytical Results (EPA Method 8260B)
5725 Thornhill Drive, Oakland California

Sample ID	Sampling Depth	Date	TPH-g	Benzene	Ethylbenzene	Total Xylenes	Toluene	MTBE	TAME	TBA
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
USB-1	9-9.5' bgs	9/21/2007	<50	<0.5	<0.5	<2	<2	<0.5	<2	<2
SOMA-5A	5-6' bgs	9/21/2007	<50	<0.5	<0.5	<2	<2	<0.5	<2	<2
SOMA-5B	11-12' bgs	9/21/2007	<50	<0.5	<0.5	<2	<2	0.68	<2	5.33
SOMA-5C	14-15' bgs	9/21/2007	354.0	<0.5	4.52	2.51	<2	0.86	<2	20.9
ESLs**			400000	180	32000	11000	NA	2,000	NA	110000

Notes:

< Less than the Laboratory Reporting Limit

** Environmental Screening Levels (ESL), residential exposure scenario, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005
Environmental Screening Levels (ESL) residential scenario,
Regional Water Quality Control Board, February 2005
NA Not Applicable

Table 5
Groundwater Analytical Results
5725 Thornhill Drive, Oakland California

Analyte	USB-1 (ug/L)	SOMA-5 (ug/L)	ESL **
	9/21/2007	9/23/2007	ug/L
TPH-mo	75.40	111 [1][2]	640
TPH-d	<250	<250	640
TPH-g	<50	<50	500
Benzene	<0.5	<0.5	46
Ethylbenzene	4.31	<0.5	290
Total Xylenes	<2	<2	100
MTBE	<0.5	54.90	1,800
DIPE	<0.5	<0.5	NA
ETBE	<0.5	<0.5	NA
TAME	<2	<2	NA
TBA	<2	203.00	18000
1,2 DCE	<0.5	<0.5	NA
1,2 EDB	<0.5	<0.5	NA
Ethanol	<1000	<1000	NA

Notes:

< Less than the Laboratory Reporting Limit

1 The sample chromatographic pattern does not resemble the fuel standard used for quantification.

2 Unidentified hydrocarbons C9-C16.

** Environmental Screening Levels (ESL), groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005
Environmental Screening Levels (ESL) residential scenario,
 Regional Water Quality Control Board, February 2005

NA Not Applicable

Table 6
Historical Groundwater Analytical Results
5725 Thornhill Drive, Oakland California

Monitoring Well	Date	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE ⁺ 8260B (µg/L)	TBA (µg/L)
SOMA-1	4/22/2004	63	<50	<300	<0.5	<0.5	<0.5	<0.5	7.7	<10
	7/27/2004	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	9.1	<10
	10/28/2004	<50	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	6.4	<2.5
	1/11/2005	<50	200 HY	900	<0.5	<0.5	<0.5	<0.5	4.7	<10
	4/12/2005	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	7.49	<2.5
	7/19/2005	<200	<50	<300	<0.5	<2.0	<0.5	<1.0	4.94	<10
	10/18/2005	<50	<50	<300	<0.5	<2.0	<0.5	<1.0	5.33	<10
	2/6/2006	<50	920LY	<300	<0.5	<2.0	<0.5	<1.0	2.74	<10
	4/26/2006	<50	<50 ¹	<250 ¹	<0.5	<2.0	<0.5	<1.0	5.28	<10
	8/3/2006	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	4.52	<10
	10/30/2006	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	3.38	<10
	1/8/2007	<50	<50 ⁴	<250 ⁴	<0.5	<2.0	<0.5	<2.0	3.07	<2.0
	6/14/2007	<50	<50 ⁴	<250 ⁴	<0.5	<2.0	<0.5	<2.0	1.91	<2.0
	9/13/2007	<50	<50¹	<250¹	<0.5	<2.0	<0.5	<2.0	0.85	<2.0
SOMA-2	4/22/2004	1,900	690 LY	<300	<0.5	<0.5	5.2	9.9	1,900	<100
	7/27/2004	1,500	710 LY	<300	8.9 C	<0.5	1.5 C	2.9 C	740	<33
	10/28/2004	955	790 LY	<1.0	<2.5	<2.5	<2.5	< 5	785	36.3
	1/11/2005	3,700	2100 LY	380	3.7	<2.0	3.5	102	310	67
	4/12/2005	5,960	1200 LY	<300	1.19	<0.5	20.6	25	241	71
	7/19/2005	2,480	800 LY	<300	1.09	<2.0	2.65	0.73	162	74.2
	10/18/2005	2,710	1,100 LY	<300	1.41	<2.0	2.24	0.64	130	81.7
	2/6/2006	2,730	66Y	<300	0.68	<2.0	0.71	6.33	49	37.8
	4/26/2006	6,490	1,580 ^{1,2,3}	<250 ¹	<0.5	<2.0	15.3	8.49	38.5	36.1
	8/3/2006	3,580	286 ^{1,3}	<250	0.8	0.7	2.65	0.7	44.8	32.4
	10/30/2006	1,680	608 ^{2,3}	448	<0.5	<2.0	3.78	<1.0	51.4	20.7
	1/8/2007	1,720	1010 ^{3,Y}	<250	<0.5	<2.0	2.75	<2.0	33.3	22.2
	6/14/2007	988	427 ^{3,4,Y}	<250 ⁴	<0.5	<2.0	4.80	2.46	28.9	35.6
	9/13/2007	906	427^{1,2,3}	<250¹	<0.5	<2.0	4.64	2.37	58	61.1
SOMA-3	4/22/2004	190	120 Y	<300	<0.5	<0.5	<0.5	<0.5	5.1	<10
	7/27/2004	130	120 LY	<300	<0.5	<0.5	<0.5	<0.5	9.1	<10
	10/28/2004	57	280 LY	<1.0	<0.5	<0.5	<0.5	<2	11.3	<2.5

Table 6
Historical Groundwater Analytical Results
5725 Thornhill Drive, Oakland California

Monitoring Well	Date	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE* 8260B (µg/L)	TBA (µg/L)
SOMA-3 cont	1/11/2005	140	210 Y	<300	<0.5	<0.5	<0.5	<0.5	5.8	<10
	4/12/2005	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	4.53	<2.5
	7/19/2005	<200	120 Y	<300	<0.5	<2.0	<0.5	<1.0	4.69	<10
	10/18/2005	50.1	120 Y	<300	<0.5	<2.0	<0.5	<1.0	8.63	<10
	2/6/2006	1,010	220Y	<300	<0.5	<2.0	<0.5	2.06	32	40.9
	4/26/2006	121	123 ^{1,2,3}	<250 ¹	<0.5	<2.0	<0.5	<1.0	5.49	<10
	8/3/2006	<50	60 ^{1,2}	<250	<0.5	<0.5	<0.5	<1.0	8.05	<10
	10/30/2006	<50	199 ^{2,3}	<250	<0.5	<2.0	<0.5	<1.0	7.37	<10
	1/8/2007	<50	181 ^{3,Y}	<250	<0.5	<2.0	<0.5	<2.0	8.65	<2.0
	6/14/2007	<50	569 ^{3,Y}	<250	<0.5	<2.0	<0.5	<2.0	5.57	<2.0
	9/13/2007	<50	<50¹	<250¹	<0.5	<2.0	<0.5	<2.0	8.55	<2.0
SOMA-4	7/19/2005	3,350	1,200 LY	<300	<1.0	<4.0	<1.0	<2.0	455	84.1
	10/18/2005	1,580	1,200 LY	<300	<2.15	<8.6	<2.15	<4.3	425	314
	2/6/2006	1,940	830 LY	<300	<2.15	<8.60	<2.15	<4.3	409	417
	4/26/2006	3,930	1,080 ^{1,2,3}	<250 ¹	<0.5	<2.0	<0.5	<1.0	231	357
	8/3/2006	4,340	357 ^{1,3}	<250	<0.5	0.52	<0.5	0.52	34.2	216
	10/30/2006	4,320	1070 ^{2,3}	<250	<0.5	<2.0	3.34	0.54	37.4	269
	1/8/2007	2,280	977 ^{3,Y}	<250	<0.5	<2.0	<0.5	<2.0	36	233
	6/14/2007	2,600	407 ^{3,4,Y}	<250 ⁴	<0.5	<2.0	4.39	2.69	10.3	87.9
	9/13/2007	2,670	642^{1,2,3}	<250¹	<0.5	<2.0	4.52	2.79	25.3	278
Maximum		6,490	2,100	900	9	1	21	102	1,900	417
Sample Size		51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
Average		1,295.5	451.0	33.9	0.4	0.0	1.6	3.3	126.0	56.3
Standard Deviation		1,699.9	496.8	148.1	1.4	0.1	3.7	14.6	309.5	103.7
95% Confidence		466.5	136.3	40.6	0.4	0.0	1.0	4.0	84.9	28.5
95% Uppler Confidence Lin		1,762.0	587.3	74.5	0.7	0.1	2.7	7.4	211.0	84.8
ESLs**		500	640	640	46	130	290	100	1,800	18,000

Notes:

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

- 1 To reduce matrix interference, the sample extract has undergone silica-gel clean-up, method 3630, which is specific to polar compound contamination, diesel 2Q06.
- 2 The sample chromatographic pattern does not resemble fuel standard used for quantitation, diesel 2Q06 to 4Q06.
- 3 Unidentified hydrocarbons C9-C16, diesel 2Q06 to 3Q07.
- 4 Surrogate recovery for this sample is outside of established control limits due to sample matrix effect, diesel & motor oil 1Q07, 2Q07.

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

** Environmental Screening Levels (ESL) residential scenario, groundwater is not current or potential drinking water source, California Regional Water Quality Control Board, February 2005
Environmental Screening Levels (ESL) residential scenario, Regional Water Quality Control Board, February 2005

FIGURES

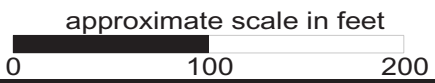
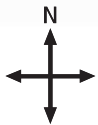
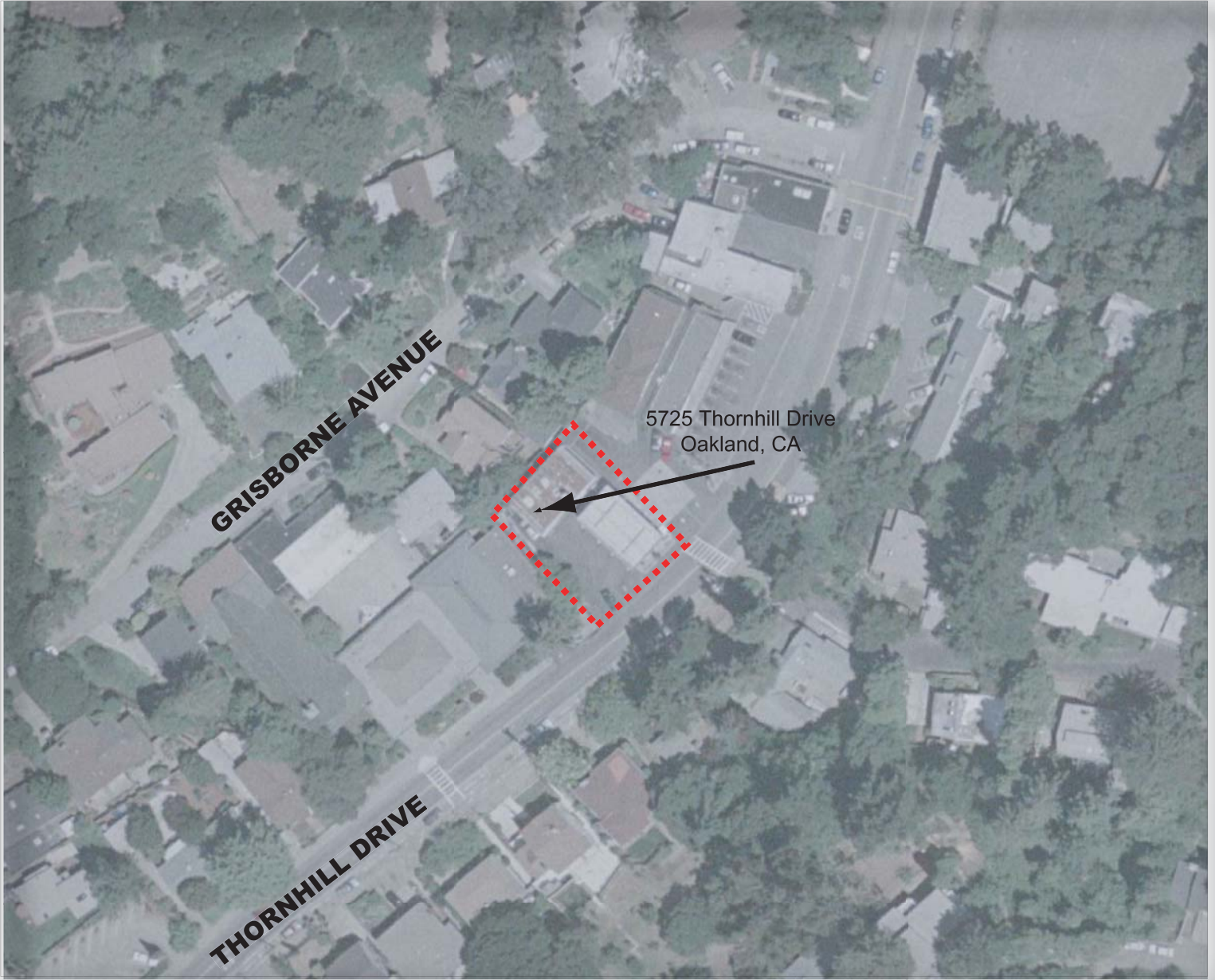


Figure 1: Site vicinity map.



RESIDENTIAL AREA

GRISBOURNE AVE

RESIDENTIAL AREA

STATION BUILDING

COMMERCIAL AREA

CHURCH PROPERTY

CHURCH PROPERTY

RESIDENTIAL AREA

TEMESCAL (Kohler) CREEK
flow direction

66" CULVERT

TEMESCAL CREEK underground

THORNHILL DRIVE

66" x 54" Culvert

CPT-7

BH-E

SOMA-5

BH-C

CPT-6

SOMA-4

HP-10

CPT-5

BH-B

SOMA-2

HP-1

SOMA-3

CPT-11

BH-A

HP-2

HP-5

PUMP CANOPY

UST PIT

HP-3

HP-4

CPT-3

CPT-4

HP-6

SOMA-1

CPT-2

BH-D

CPT-8

HP-7

CPT-10

HP-9

A

B'

B

A'

USB-1

- GROUNDWATER MONITORING WELL (September 2007)
- TRENCH SAMPLING BOREHOLE (September 2007)
- CPT/MIP/GS BOREHOLE (May 2005)
- CPT/MIP/GS BOREHOLE WITH ADJACENT CALIBRATION BORING (May 2005)
- MONITORING WELL (May 2005)
- MONITORING WELL
- SOMA SOIL BORING
- AQUA SCIENCE SOIL BORING
- LOCATION NOT DRILLED DUE TO SUBSURFACE OBSTRUCTION
- SEWER CONDUIT
- STORM (CULVERT) CONDUIT

Note: A-A', B-B' and C-C' Geologic Cross Sections

approximate scale in feet

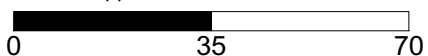


Figure 2: Site Map Showing the Locations of existing and newly installed borings and groundwater monitoring wells



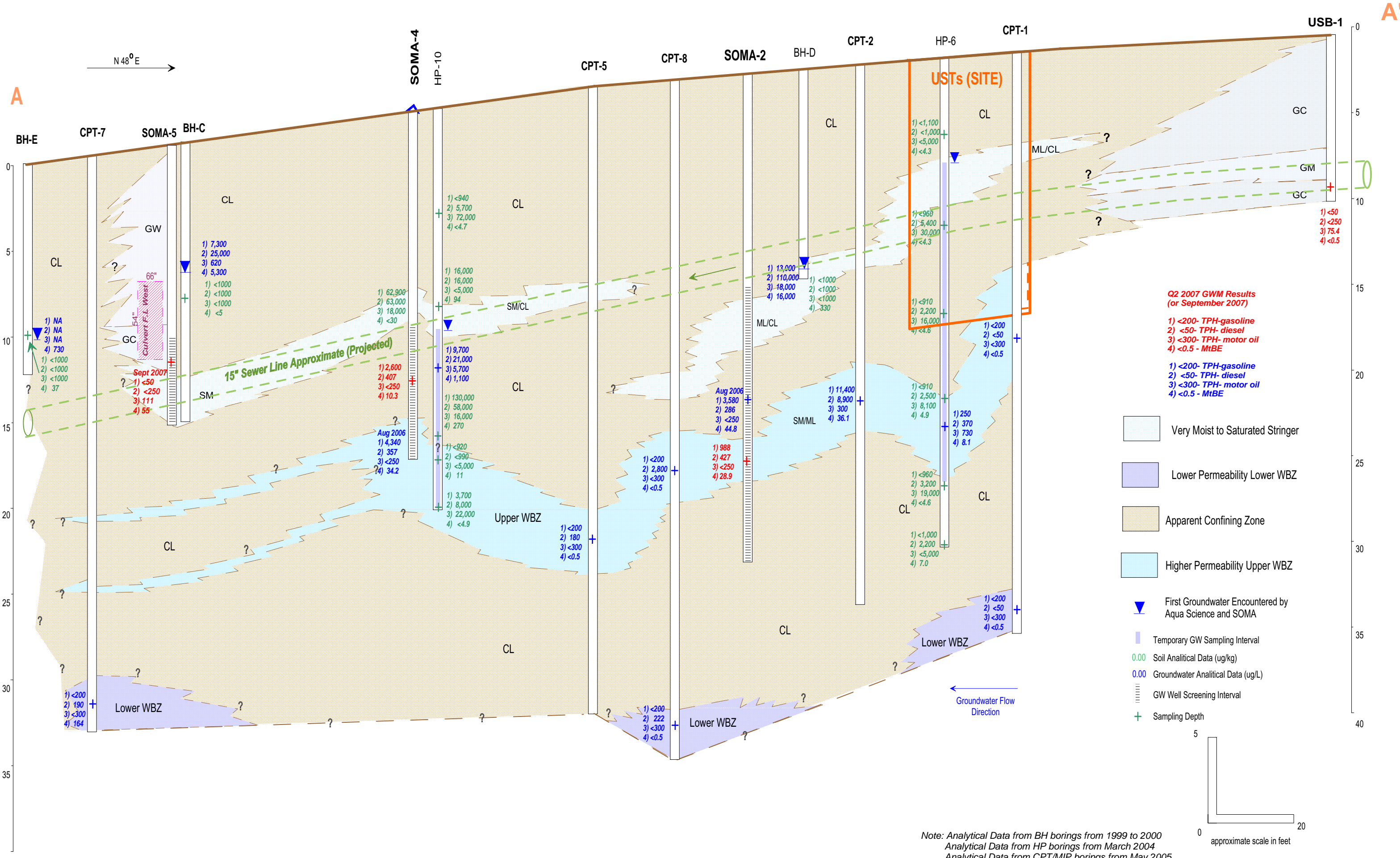
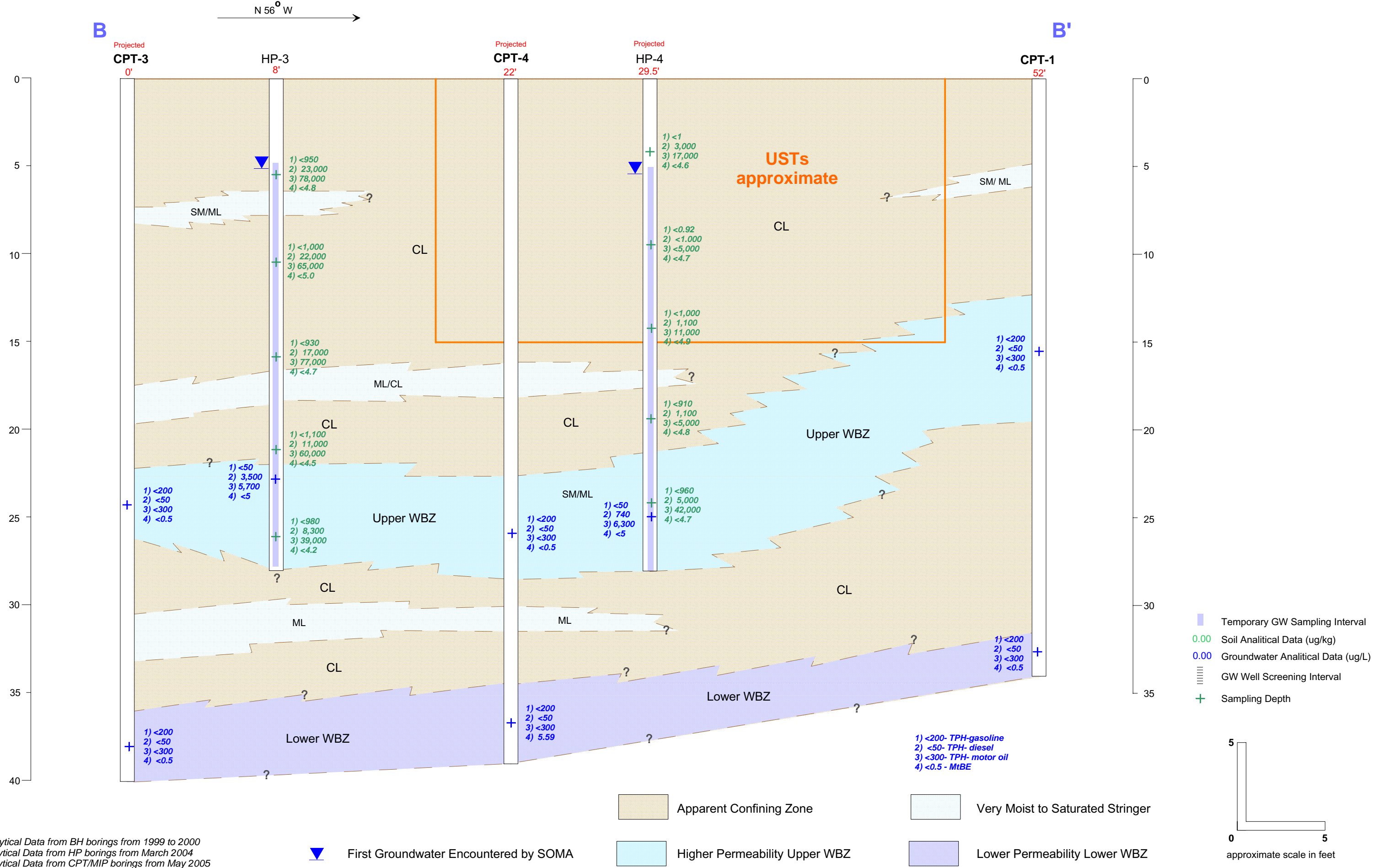


Figure 3: Geologic Cross Section A-A'.



Note: Analytical Data from BH borings from 1999 to 2000
 Analytical Data from HP borings from March 2004
 Analytical Data from CPT/MIP borings from May 2005

Figure 3A: Geologic Cross Section B-B'.

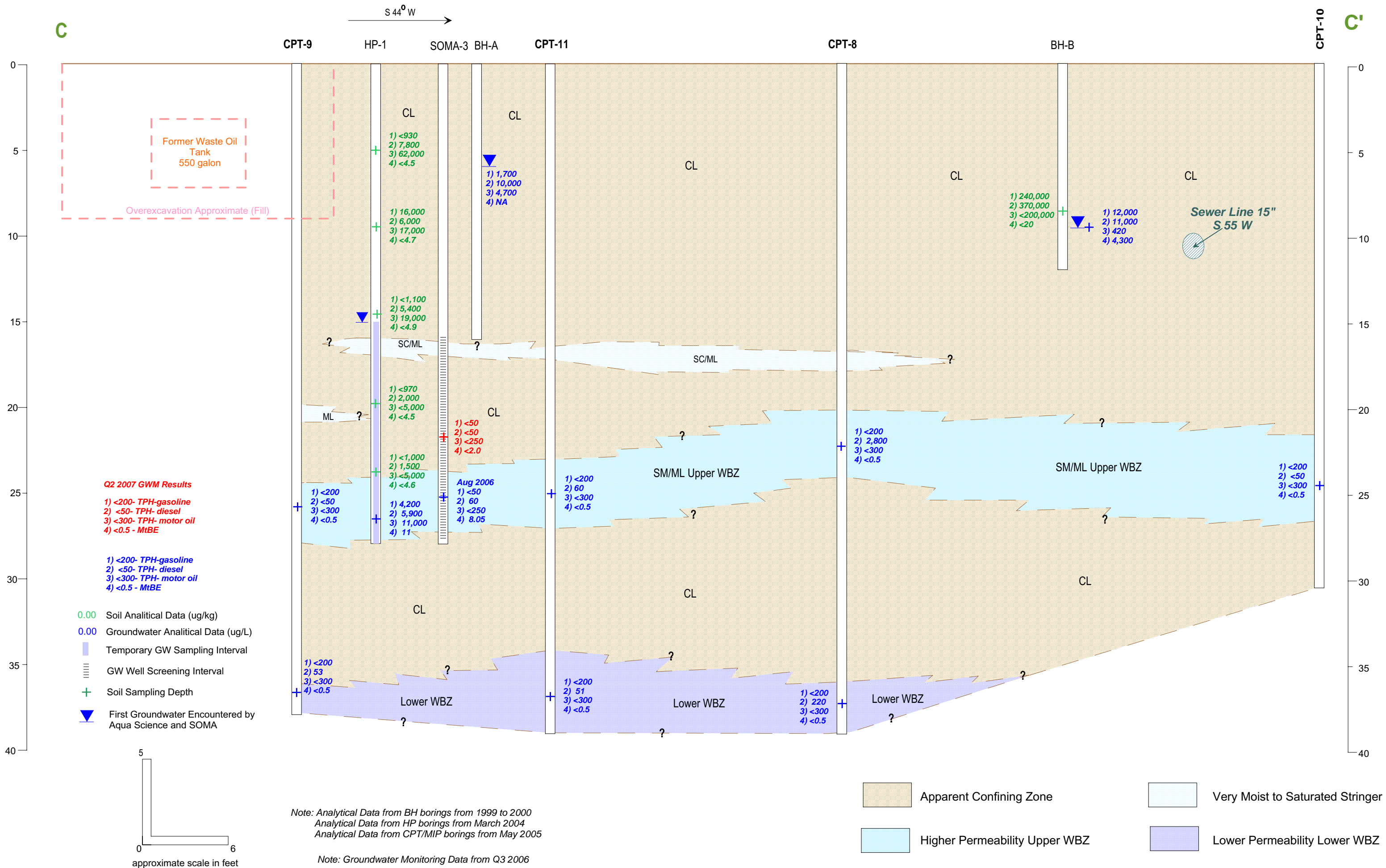


Figure 3B: Geologic Cross Section C-C'.

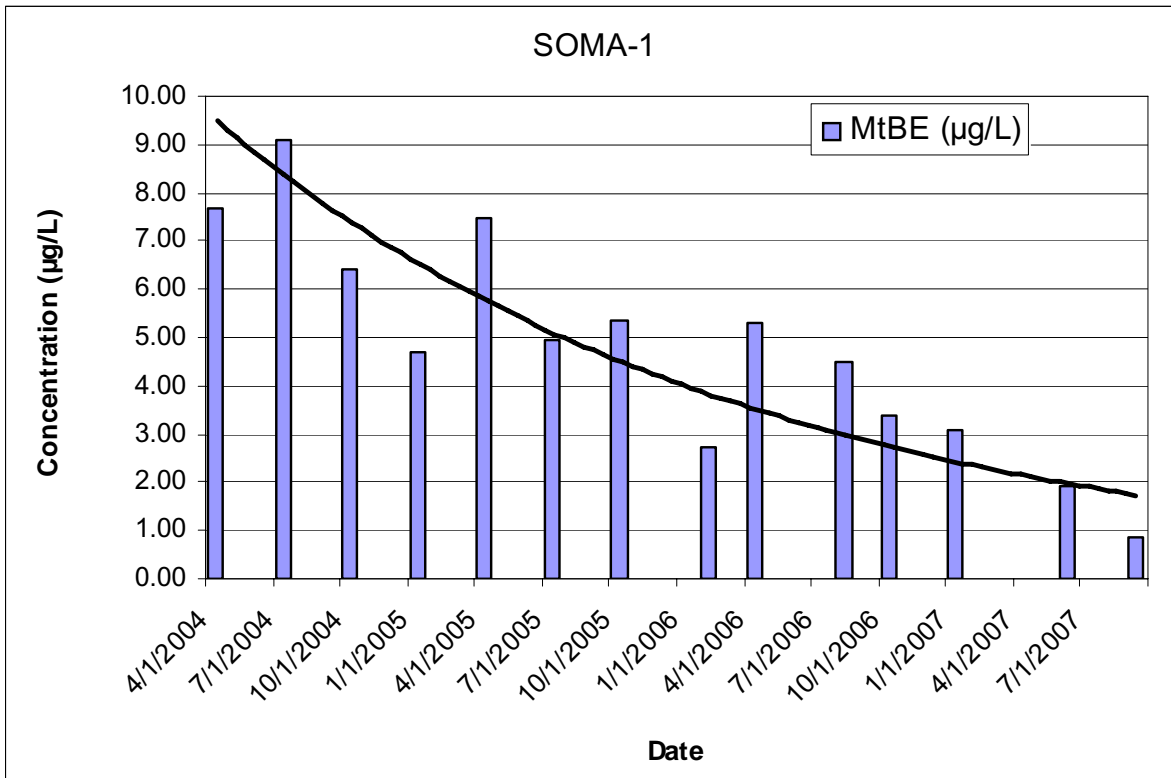


Figure 4: Concentration vs. Time Trend (Well SOMA-1)

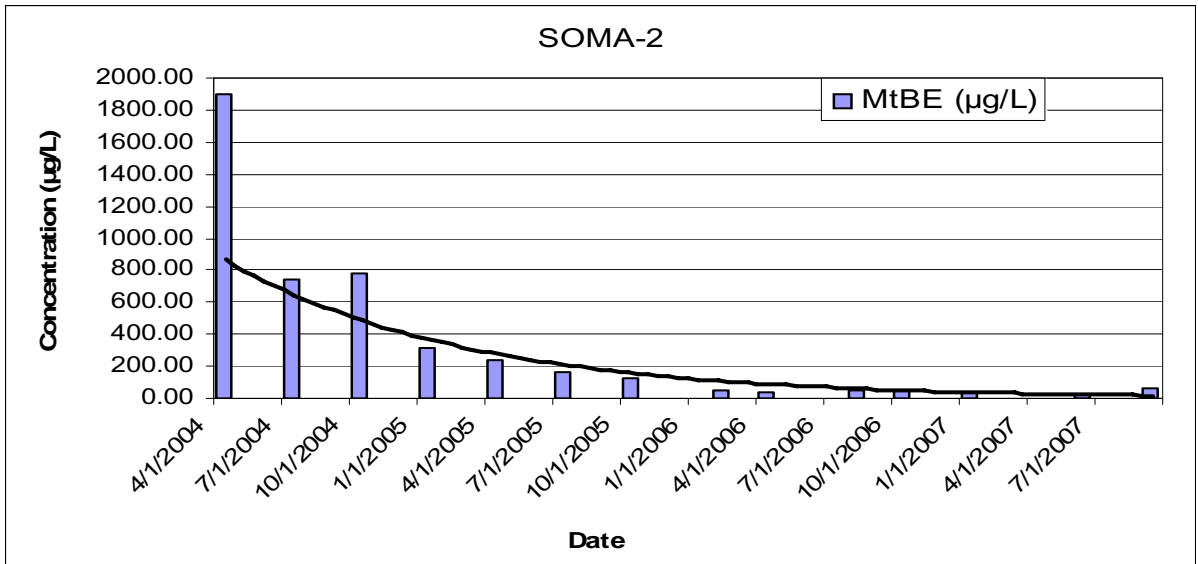
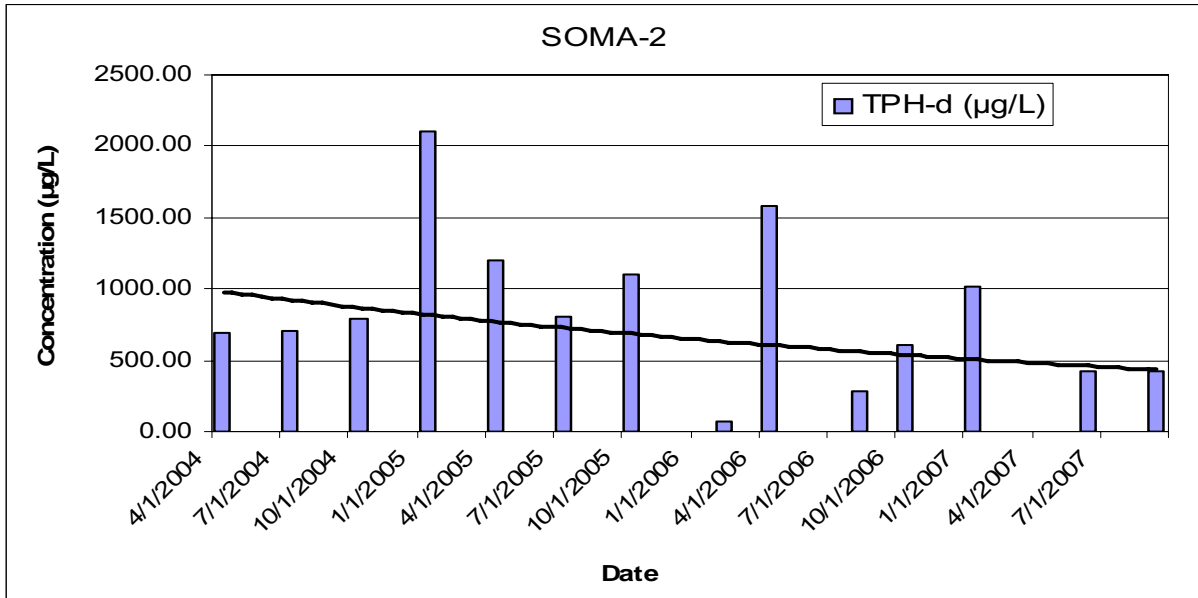
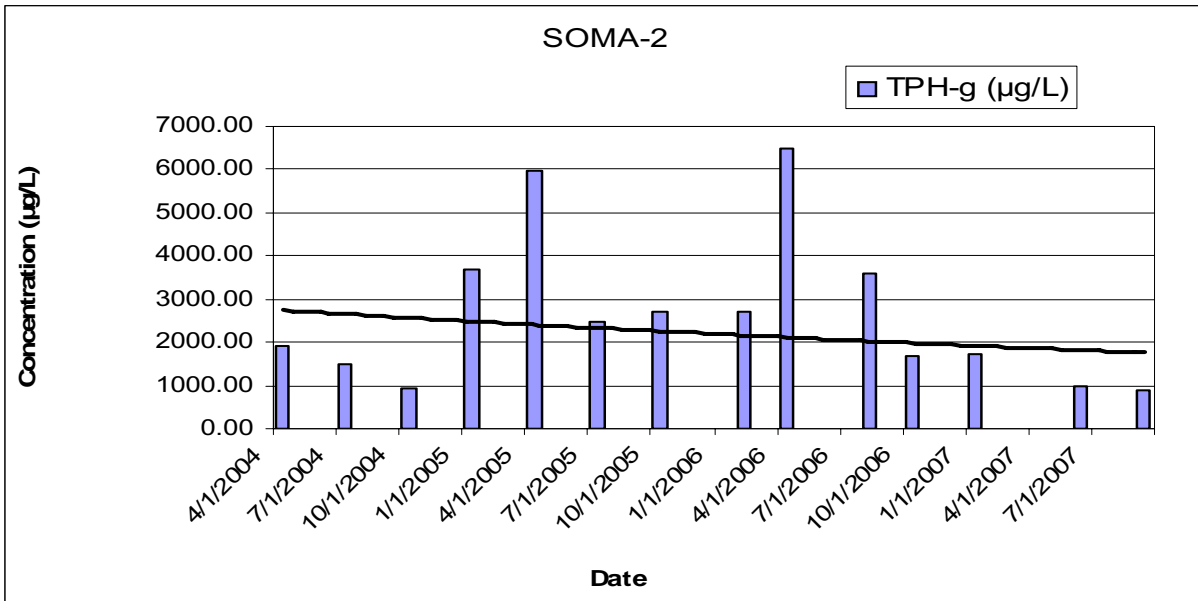


Figure 5: Concentration vs. Time Trend (Well SOMA-2)

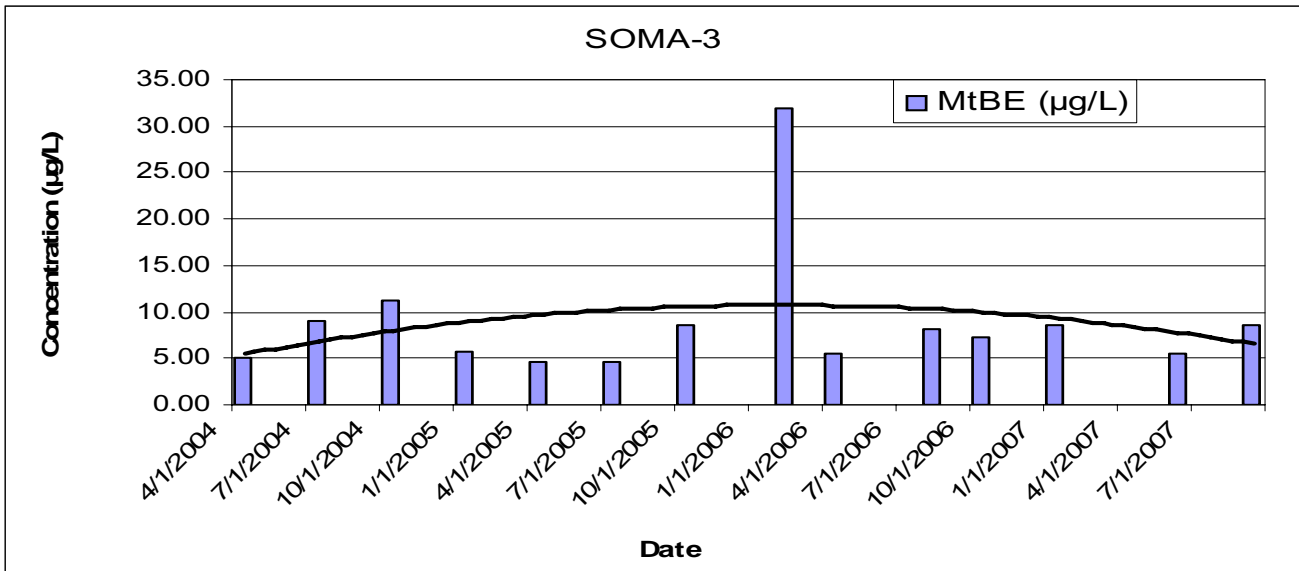
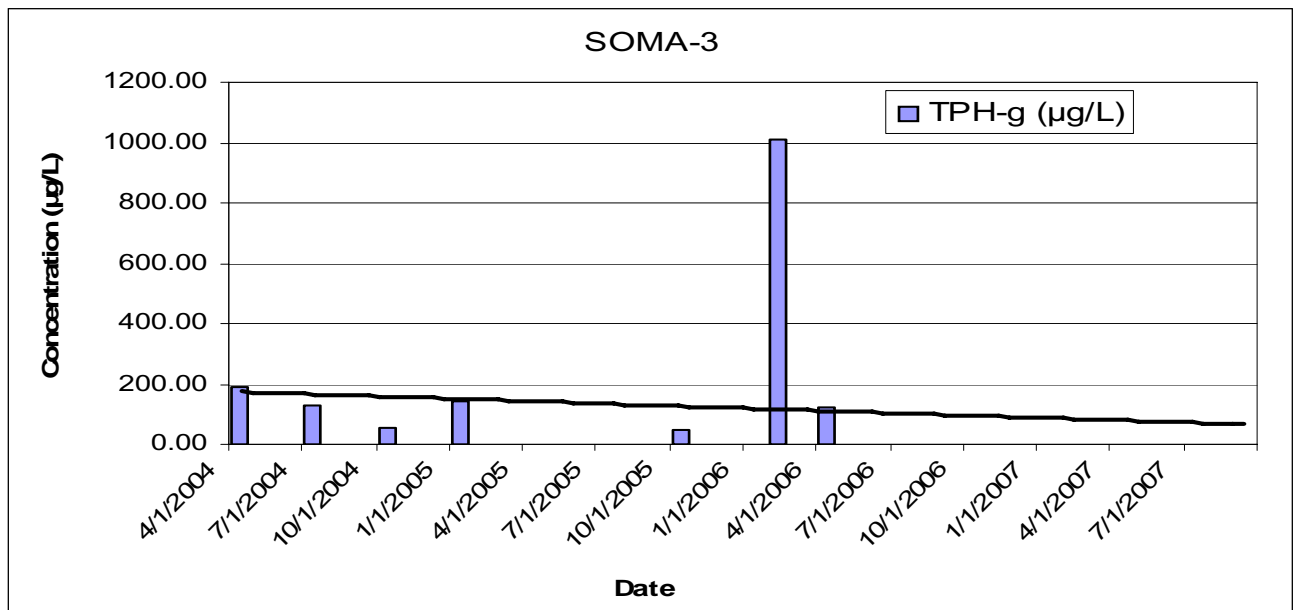
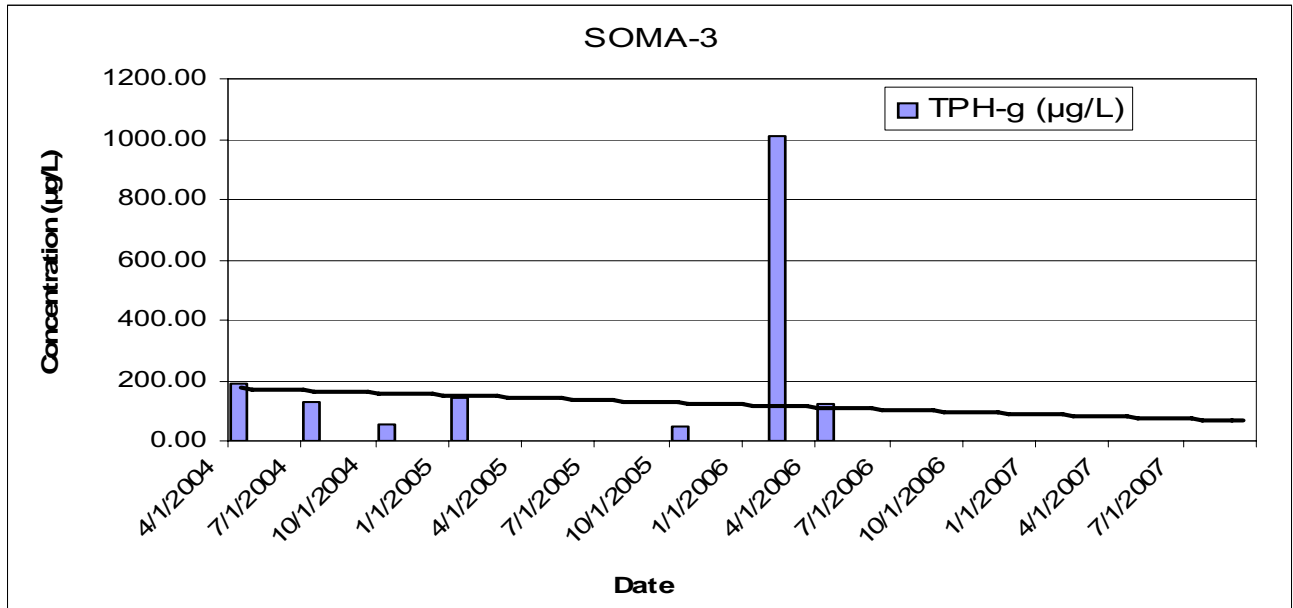


Figure 6: Concentration vs. Time (Well SOMA-3)

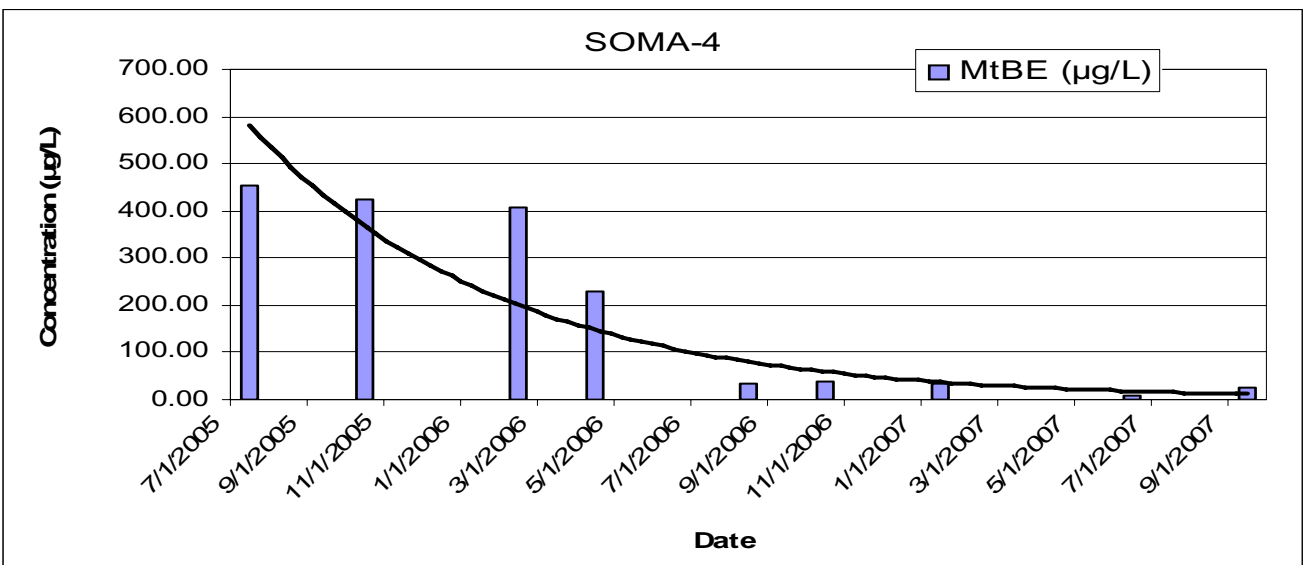
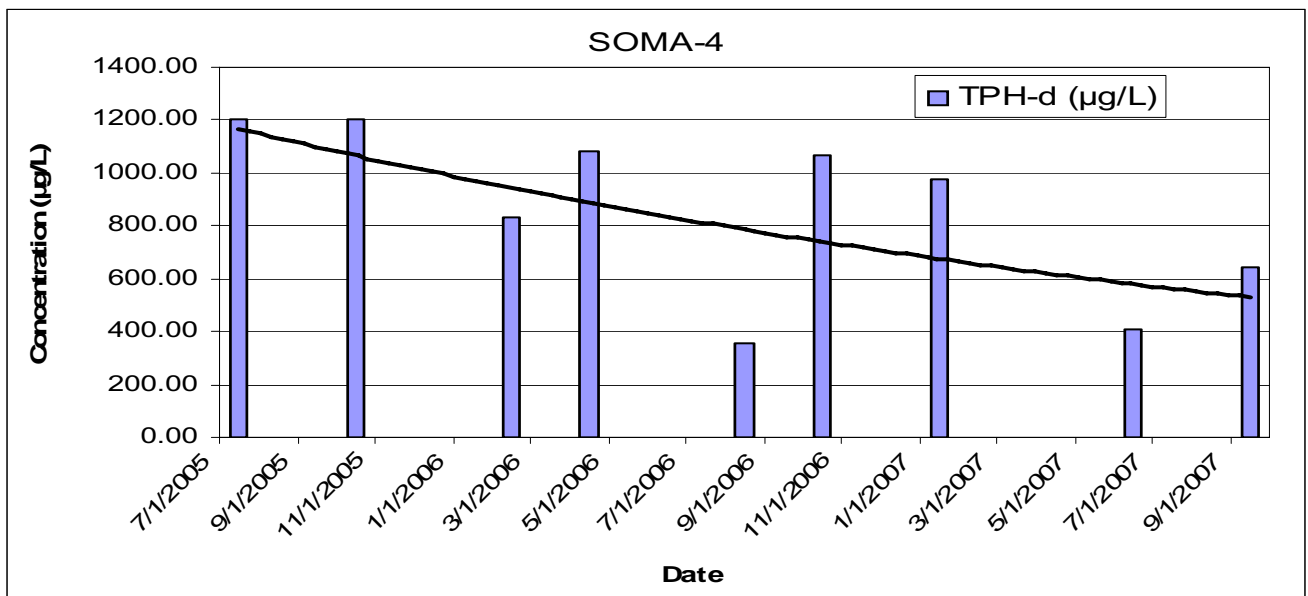
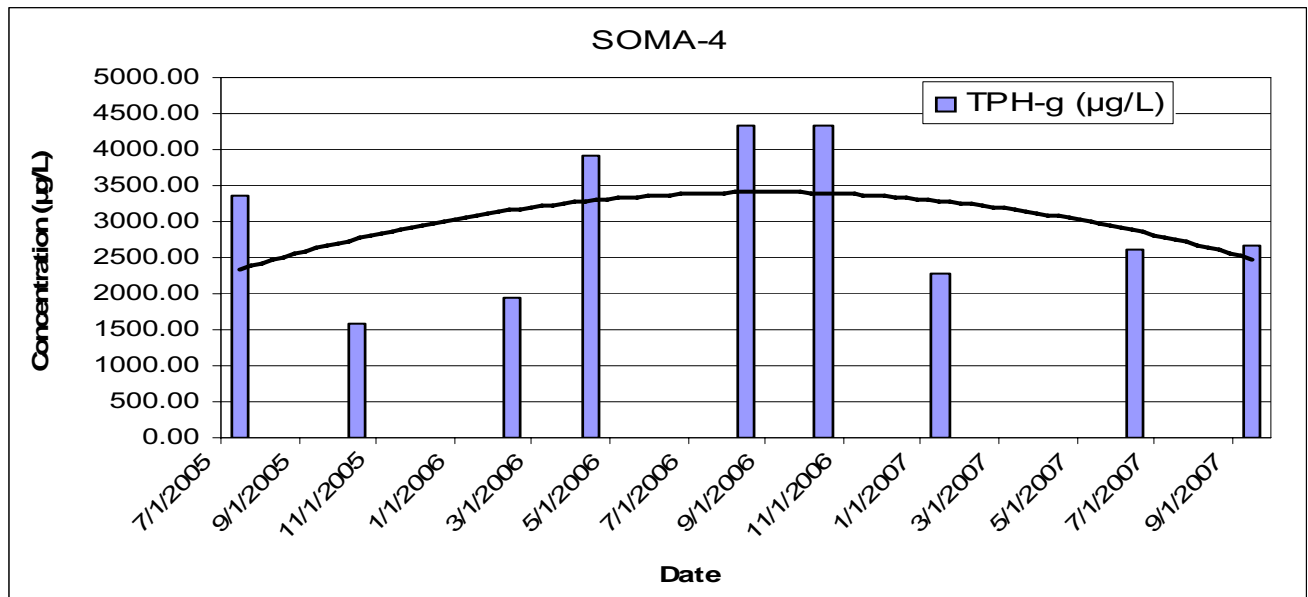


Figure 7: Concentration vs. Time Trend (Well SOMA-4)

Appendix A

Approval Correspondence

Further Site Investigation for Updating SCM and Site Closure Request

SOMA Environmental Engineering, Inc.

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

July 5, 2007

Mr. Mohammad Mashhoon
Mash Petroleum Inc.
5725 Thornhill Drive
Oakland, CA 94611

Subject: Fuel Leak Case No. RO0000317, Union 76, 5725 Thornhill Drive, Oakland, CA

Dear Mr Mashhoon:

Alameda County Environmental Health Department (ACEH) staff has reviewed the case file and reports entitled, "Supplemental Work Plan", dated November 2006 and "Evaluation of Possible Off-Site Petroleum Hydrocarbon Source Areas," and dated June 29, 2007 prepared on your behalf by SOMA Environmental Engineering, Inc. The off-site petroleum hydrocarbon preferential pathway study was prepared as the result of a request by ACEH dated June 10, 2007. ACEH generally concurs with the recommendations as proposed in the work plan, provided the technical comments discussed below are implemented.

Based on ACEH staff review of the documents referenced above, we request that you address the following technical comments, perform the proposed work, and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to steven.plunkett@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

- Utility Corridor Sampling.** SOMA has proposed offsite, up gradient soil sampling in the utility corridor to determine if an up gradient source of dissolved phase MtBE exists, and if it has impacted your site. Review of historical data including aerial photos, Sanborn maps and other documents indicates that several up-gradients sources historically used hazardous materials that may have impacted your site; in particular, a former gasoline service station located at 5745 Thornhill Drive, Oakland. ACEH concurs with the recommendation to evaluate the utility corridor as a possible preferential pathway for dissolved phase petroleum hydrocarbon contamination migration. Please present the results from the utility corridor investigation in the report requested below.
- Soil Boring Locations.** In conjunction with the utility corridor investigation ACEH requests proposed soil boring DPT/HSA-6, which is in close proximity to a 66 inch culvert that diverts Temescal Creek, must be installed to determine if dissolved phase petroleum hydrocarbon contamination is adversely impacting Temescal Creek. According to the boring log for soil boring BH-C, strong petroleum hydrocarbon odor and elevated PID readings of 3,620 ppm was detected at 13 to 15 feet bgs; pay particular attention to this interval when collecting soil and groundwater sample. After the soil boring has been completed to the proposed depth, and soil and groundwater samples have been collected, ACEH requests the soil boring be converted into a groundwater monitoring well. ACEH recommends the use of monitoring

wells designed with screen intervals of 5 feet or less, as these wells will likely be representative of depth discrete groundwater conditions. Please present results from soil boring and monitoring well installation in the report requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Mr. Steven Plunkett), according to the following schedule:

- **September 1, 2007 – Monitoring Well Installation and Utility Corridor Evaluation**

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

Mr. Mohammad Mashhoon
July 5, 2007
Page 3

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation; later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at (510) 383-1767.

Sincerely,



Steven Plunkett
Hazardous Materials Specialist

cc: Mansour Sepehr
SOMA Environmental Engineering, Inc.
6620 Owens Drive, Suite A
Pleasanton, CA 94588-3334

Donna Drogos, ACEH
Steven Plunkett, ACEH
File

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

June 14, 2007

Mr. Mohammad Mashhoon
Mash Petroleum Inc.
5725 Thornhill Drive
Oakland, CA 94611

Subject: Fuel Leak Case No. RO0000317, Union 76, 5725 Thornhill Drive, Oakland, CA

Dear Mr Pazdel:

Alameda County Environmental Health Department (ACEH) staff has reviewed the case file and reports entitled, "Supplemental Work Plan", dated November 2006 and "First Quarter 2007 Groundwater Monitoring Report", prepared on your behalf by SOMA Environmental Engineering, Inc. The work plan was submitted in response to a request by ACEH dated August 15, 2006. ACEH agrees with the need for additional investigation to characterize the contaminant plume and the potential plume migration issues beneath nearby residences. The scope of work as proposed in the Work Plan recommends the installation of three soil borings in the vicinity of the former waste oil tank and one soil boring downgradient of the site adjacent to soil boring BH-C.

Based on ACEH staff review of the documents referenced above, we request that you address the following technical comments, perform the proposed work, and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to steven.plunkett@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Soil Boring Locations.** Review of onsite soil and groundwater data from soil borings HP-1 and CPT- 9 indicate that contamination in the area of the former waste oil tank is well defined. Consequently, proposed soil boring DPT-2 is not necessary at this time. In addition, soil boring DPT-3 is bounded by soil borings CPT-11 and CPT 8, which are approximately six feet away from soil boring DPT-3. MIP data from a previous investigation completed in May 2005 identified distinct hydrocarbon peaks for soil contamination in CPT-8 and CPT-11; however, the MIP data indicate the concentration of petroleum hydrocarbon contamination in soil is well below ESLs. Therefore, proposed soil boring DPT-3 is not necessary at this time. Lastly, considering the extent of onsite investigation near the former waste oil tank ACEH does not consider soil boring DPT-1 to be necessary at this time.

Proposed soil boring DPT/HAS-6, which is in close proximity to a 66 inch culvert that diverts Temescal Creek must be installed to determine if dissolved phase petroleum hydrocarbon contamination is adversely impacting Temescal Creek. According to the boring log for soil boring BH-C, strong petroleum hydrocarbon odor and elevated PID readings of 3,620 ppm was detected at 13 to 15 feet bgs; pay particular attention to this interval when collecting soil and groundwater sample. After the soil boring has been completed to the proposed depth,

and soil and groundwater samples have been collected, ACEH requests the soil boring be converted into a groundwater monitoring well. ACEH recommends the use of monitoring wells designed with screen intervals of 5 feet or less, as these wells will likely be representative of depth discrete groundwater conditions. Please present results from soil boring and monitoring well installation in the report requested below.

2. **Utility Corridor Sampling.** SOMA has proposed offsite, up gradient soil sampling in the utility corridor to determine if an up gradient source of dissolved phase MtBE exists, and if it has impacted your site. Yet, no detailed review or evaluation of a potential offsite, up gradient source(s) has been discussed. Prior to approval of up gradient sampling in the utility corridor, ACEH request that you complete an extensive review of possible up gradient sources. At a minimum, your discussion should include historical land use practices, historical site activities, and possible hazardous material storage practices that may have occurred at up gradient sites. In addition, please review historical documents including Sanborn maps, aerial photographs and other sources of information that may provide an understanding of possible contamination from offsite, up gradient sources. Please present the results from your detailed review of possible offsite up gradient sources in the report requested below
3. **Soil Sampling and Analysis.** All soils from the boreholes are to be examined for staining and odor and screened using a PID. Soil samples are to be collected from any interval where staining, odor, or elevated PID readings are observed or changes in lithology occur. If no staining, odor, or elevated PID readings are observed, soil samples are to be collected from each boring at the capillary fringe, where groundwater is first encountered, changes in lithology, and at five foot intervals until total depth of the boring is reached.

All soil samples must be analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and fuel oxygenates MTBE, Tertiary Amyl Methyl Ether (TAME), Ethyl Tertiary Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tertiary Butyl Alcohol (TBA), and Ethanol by EPA Method 8260 and the lead scavengers, Ethylene Dibromide (EDB), Ethylene Dichloride (EDC) and total petroleum hydrocarbons as diesel (TPHd) using EPA method 8015M. Please present the results from soil sampling in the report requested below

Groundwater Sampling and Analysis. ACEH recommends collection of groundwater samples at 2 to 5 feet below first encountered groundwater and at depth intervals determined during soil boring installation. All groundwater samples are to be analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and fuel oxygenates MTBE, Tertiary Amyl Methyl Ether (TAME), Ethyl Tertiary Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tertiary Butyl Alcohol (TBA), and Ethanol by EPA Method 8260 and the lead scavengers, Ethylene Dibromide (EDB), Ethylene Dichloride (EDC) and total petroleum hydrocarbons as diesel (TPHd) using EPA method 8015M. Please present the results from soil sampling in the report requested below

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Mr. Steven Plunkett), according to the following schedule:

- **July 1, 2007** – Possible Offsite Petroleum Hydrocarbon Source Areas
- **August 1, 2007** – site Conceptual Model with Monitoring Well Installation Report.

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature,

Mr. Mohammad Mashhoon
June 11, 2007
Page 4

and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at (510) 383-1767.

Sincerely,



Steven Plunkett
Hazardous Materials Specialist

cc: Mansour Sepehr
SOMA Environmental Engineering, Inc.
6620 Owens Drive, Suite A
Pleasanton, CA 94588-3334

Donna Drogos, ACEH
Steven Plunkett, ACEH
File

Appendix B

Permits

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/01/2007 By Jamesy

Permit Numbers: W2007-0891 to W2007-0892
Permits Valid from 09/21/2007 to 09/24/2007

Application Id: 1185909077367
Site Location: 5725 Thornhill Drive,

City of Project Site:Oakland

Project Start Date: 08/30/2007
Extension Start Date: 09/21/2007
Extension Count: 1

Completion Date:08/31/2007
Extension End Date: 09/24/2007
Extended By: vickyh1

Applicant: SOMA Environmental Engineering - Elena Manzo
6620 Owens Drive, Suite A, Pleasanton, CA 94588
Property Owner: Mo Mashhoon
1721 Jefferson St, Oakland, CA 94612
Client: ** same as Property Owner **

Phone: 925-734-6400

Phone: --

Receipt Number: WR2007-0350	Total Due:	\$500.00
Payer Name : Mansour Sepehr	Total Amount Paid:	\$500.00
	Paid By: VISA	PAID IN FULL

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 1 Wells
Driller: Gregg Drilling & Testing - Lic #: 485165 - Method: hstem

Work Total: \$300.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2007-0891	08/01/2007	11/28/2007	SOMA-5	8.00 in.	2.00 in.	0.00 ft	35.00 ft

Specific Work Permit Conditions

1. 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.
2. 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 statutes 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.
3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an 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.
4. Compliance with the well-sealing specifications shall not exemnt the well-sealing contractor from complvina with

Alameda County Public Works Agency - Water Resources Well Permit

appropriate State reporting-requirements related to well construction or 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.

5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org 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.
6. 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.
7. Minimum surface seal thickness is two inches of cement grout placed by tremie
8. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

Borehole(s) for Investigation-Contamination Study - 2 Boreholes

Driller: USB-1, DPT-6 - Lic #: 485165 - Method: other

Work Total: \$200.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2007-0892	08/01/2007	11/28/2007	2	12.00 in.	40.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
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. 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.
4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities

Alameda County Public Works Agency - Water Resources Well Permit

permits and requirements have been approved or obtained.

5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org 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.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

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



EXCAVATION PERMIT

416⁵⁵

CIVIL ENGINEERING

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

PAGE 2 of 2

Permit valid for 90 days from date of issuance.

PERMIT NUMBER X 0 7 0 0 9 6 6		SITE ADDRESS/LOCATION * 5725 Thornhill Drive, Oakland, CA
APPROX. START DATE Aug 30, 2007	APPROX. END DATE Aug 31, 2007	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) (925) 734-6400
CONTRACTOR'S LICENSE # AND CLASS C-57 (# 485165) Gregg Drilling		CITY BUSINESS TAX # 585033

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.

X Elena Manzo _____ Date August 2, 2007

Signature of Permittee <input checked="" type="checkbox"/> Agent for <input type="checkbox"/> Contractor <input type="checkbox"/> Owner		Date	
DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
ISSUED BY		DATE ISSUED	

Applications for which no permit is issued within 180 days shall expire by limitation.

Job Site 5725 THORNHILL DR Parcel# 048G-7420-007-00 Appl# X0700966

Descr to allow placement of monitoring wells in Thornhill Dr Permit Issued 09/17/07
(SOMA-4) & (SOMA-5) *soil boring per Traffic Control Plan*

Work Type EXCAVATION-PRIVATE P

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

Applcmt Phone# Lic# --License Classes--

Owner MASH PETROLEUM INC

Contractor GREGG DRILLING & TESTING, INC. X (925)313-5800 485165 C57

Arch/Engr

Agent SOMA ENVIRONMENTAL/ E MANZO (925) 734-6400

Applic Addr 950 HOWE RD, MARTINEZ, CA., 94553

\$416.55 TOTAL FEES PAID AT ISSUANCE
\$63.00 Applic \$300.00 Permit
\$.00 Process \$34.49 Rec Mgmt
\$.00 Gen Plan \$.00 Invstg
\$.00 Other \$19.06 Tech Enh

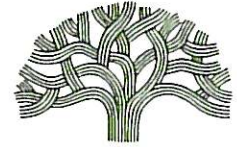
JOB SITE

CITY OF OAKLAND

ADDRESS:

DIST:

CITY OF OAKLAND



250 FRANK H. OGAWA PLAZA, 2ND FLOOR • OAKLAND, CALIFORNIA 94612-2031

Community and Economic Development Agency
Building Services Division

(510) 238-3102
FAX (510) 238-6445
TDD (510) 238-6312

09/17, 2007

Mr. Mo Mashhoon, Mash Petroleum, Inc.
c/o Soma Environmental, E. Manzo
6620 Owens Drive, Suite A
Pleasanton, California 94588-6401

RE: 5725 Thornhill Dr. Minor Encroachment Permit no. ENMI07246

Dear Mr. Mashhoon:

Enclosed is a Minor Encroachment Agreement allowing you to encroach onto Thornhill Drive with two monitoring wells. Before the agreement becomes effective, the person(s) having the legal authority to do so, must sign and properly notarize the document with a notary acknowledgement slip, and return the documents to this office, attention of Chris Bacina for recordation with the County of Alameda.

Additionally, there are fees due in the amount of \$397.04 on the application for overtime dedicated to the project. Please arrange to pay these fees as soon as possible.

Appl#: ENMI07246			
5725 THORNHILL	DR	Parcel: 048G-7420-007-00	
Descr: To allow placement of monitoring wells in Thornhill Dr			
Type	Amount	Date	Paid
FILING	974.23	09/12/07	09/13/07
PLANCHECK OT	\$397.04	09/14/07	DUE

If you have any questions, please call Chris Bacina at 238-3759 any workday from 8:00 AM to 4:00 PM.

Sincerely,

TIMOTHY LOW, P.E.
SUPERVISING CIVIL ENGINEER

Enclosures

Applications for which no permit is issued within 180 days shall expire by limitation.

Job Site 5725 THORNHILL DR Parcel# 048G-7420-007-00 Appl# OB070645
to allow placement of monitoring wells in Thornhill Dr Permit Issued 09/17/07
(SOMA-4) & (SOMA-5) per approved TCP

Nbr of days: 1
Effective: 09/21/07

Linear feet: 75
Expiration: 09/21/07

SHORT TERM NON-METERED

	Applc#	Phone#	Lic#	--License Classes--
Owner MASH PETROLEUM INC				
Contractor GREGG DRILLING & TESTING, INC.	X	(925) 313-5800	485165	C57
Arch/Engr				
Agent SOMA ENVIRONMENTAL/ E MANZO		(925) 734-6400		
Applic Addr 950 HOWE RD, MARTINEZ, CA., 94553				

\$125.08 TOTAL FEES PAID AT ISSUANCE	
\$63.00 Applic	\$46.00 Permit
\$.00 Process	\$10.36 Rec Mgmt
\$.00 Gen Plan	\$.00 Invstg
\$.00 Other	\$5.72 Tech Enh

DIST: ADDRESS:

CITY OF OAKLAND
JOB SITE

TCP needs to be approved by Transportation Services every 30 days or whenever deviated from the previously approved plan.

Applicant: *[Signature]* 9/17/07
Issued by: *[Signature]*

Applications for which no permit is issued within 180 days shall expire by limitation.

Thornhill Dr

5725

Job Site 5725 THORNHILL DR

Parcel# 048G-7420-007-00

Appl# ENMI07246

Descr to allow placement of monitoring well in Thornhill Dr
(SOMA-5)

Filed 09/12/07

Insurance Required? YES Carrier Expires

Applicant Phone# Lic# --License Classes--

Owner MASH PETROLEUM INC

Contractor

Arch/Engr

Agent SOMA ENVIRONMENTAL/ E MANZO X (925) 734-6400

Applic Addr

\$974.23 TOTAL FEES PAID AT FILING	\$0.00 TOTAL FEES PAID AT ISSUANCE
\$63.00 Applic	\$0.00 Permit
\$786.00 Process	\$80.66 Rec Mgmt
\$0.00 Gen Plan	\$0.00 Invstg
\$0.00 Other	\$44.57 Tech Enh

CITY OF OAKLAND

JOB SITE JOB SITE

P A I D
202107577
Alex 9/13/07

DIST: ADDRESS:

CITY OF OAKLAND



PUBLIC WORKS AGENCY • 250 FRANK H. OGAWA PLAZA • SUITE 4344 • OAKLAND, CALIFORNIA 94612-2033

Transportation Services Division

Office (510) 238-3466

FAX (510) 238-7415

TDD (510) 839-6451

Traffic Engineering Services Analysis Fee Invoice

Date: August 29, 2007

TSD Invoice # : 07-0163

To: Elena Manzo

Company: SOMA Environmental Eng.

Address: 6620 Owens Drive, Ste A, Pleasanton, CA

Phone: 925-734-6400

Created/Received By: Joe Watson

Location	Description of Work	Project Name / Permit #	# of Hours *
5725 Thornhill Drive	Lane Closure		1
Total Hours			1
TSD Service Rate			\$ 100.00
Total Fee			\$ 100.00

* - minimum 1 hour service

FOR CITY USE ONLY	
Cost Center No.	W659
Organization No.	30262
Account No.	45119
Fund No.	1750

Cc: Rosalie

APPLICATION FOR TRAFFIC CONTROL PLAN



City of Oakland

Public Works Agency
Transportation Services Division

Transportation Services Fee: \$100/hour
(Check or Money Order Only)

- Check the box that apply:
- New Application (Utility, Excavation)
 - Renewal Application
 - New Development w/ Mgmt Plan
 - City of Oakland Project

Please read the following:

1. Processing time for a Traffic Control Application is a minimum of 10 working days.
2. Traffic Control review is scheduled only on Tuesdays and Thursdays from 8:30am thru 11:30am by appointment only.
3. A scheduled appointment by phone or email with a TSD staff member is necessary to discuss any and all traffic control application and plans.
4. Please call ahead to confirm that the traffic control application is ready for pickup @ 510-238-3467.
5. Businesses and residences adjacent to the work area must be provided 72 hour advance notice.
6. A completed traffic control application may be faxed to (510) 238-7415.
7. Incomplete traffic control applications will not be processed and will be returned to applicant.
8. The initial approval for a traffic control plan is 1 month, the renewal submittal may be approved up to 3 months.
9. The traffic control provision dates cannot be changed or extended if work has already commenced.
10. Upon receiving TSD approval of the traffic control plan, the applicant (or contractor) shall proceed to the Building Services Division of CEDA to obtain an "Obstruction Permit." CEDA is located at 250 Frank Ogawa Plaza, 2nd Floor, Oakland, CA 94612.

Contact Person: ELENA MANZO Phone: (925) 734-6400
 Name of Company: SOMA ENVIRONMENTAL ENG. Fax: (925) 734-6401
 Address of Company: 6620 OWENS DRIVE, SUITE A, PLEASANTON, CA
 Describe type of work to be performed: DRILL ONE TEMPORARY BOREHOLE USING DIRECT PUSH TECHNOLOGY, UPON COMPLETION CONVERT THE BORING INTO MONITORING WELL, ADVANCE ONE UTILITY TRENCH SAMPLING BOREHOLE USING AIR RYFE TECHNOLOGY.
 Location of work: 5725 Thornhill Dr Between* GRISBORNE And* GRISBORNE AVE
 Between* _____ And* _____

* Name the streets that are the boundaries of your work area.

Work date (s): August 30, 07 Mon-Fri Sat-Sun Mon-Fri Sat-Sun
 Work Hours: 0700 to 1600

Please Follow these Steps to Complete a Traffic Control Plan

Sept 21, 2007

- A. **Drawing Area:** The full width of all streets adjacent to the site **MUST** be included in the drawing. Include the entire block in which your work is located for every street that is adjacent to your site.
- B. **Include Street Names, Direction of Traffic on the Street, and North Arrow**
- C. **Show Existing Number of Lanes in all Directions** (with any pavement arrows)
- D. **Check the Box(s) that Apply: All checked items MUST be shown on the drawing**
 - Lane Closure (1/2 each side) Use of Median Sidewalk Closure
 - Street Closures (must provide detour plan) Use Parking Lane Sidewalk Closure (must provide pedestrian walk way)
- E. **Show All Dimensions** of street widths (curb to curb), lane widths, sidewalk widths, and work area dimension.
(Note: Traffic Control Application / Plans missing the above information will not be accepted or processed.)
- F. **Show the Name and Locations** of all advanced warning devices, flaggers, delineators, warning and construction signs to be used.

RENEWAL PROCESS: Resubmit a completed Traffic Control Application with the old approved plan (with the necessary modifications / changes to the plans).

FOR HELP in constructing a traffic control plan please refer to the "WATCH" hand book or chapter 5 of the MUTCD manual available online at: <http://www.dot.ca.gov/hq/traffops/signtech/signdel/chp5/chap5.htm>

For our Website: http://www.oal.landpw.com/transportation/traffic_control_plan.htm

SPECIAL PROVISION 7-10.1 TRAFFIC REQUIREMENTS

Project Name: _____
 Project Number: TSD-07-0163
 Reviewed By: J. Watson *J. Watson*
 Date: 8/29/2007
 Permit good from 9/21/2007
 to 9/21/2007

03070645

ADD NEW SUBSECTION TO READ:
SP 7-10.1.4 Vehicular Traffic

Attention is directed to Section 7-10. Public Convenience and Safety, of the City of Oakland Standard Specification for Public Works Construction, 2000 Edition (Include this paragraph for p-jobs, excavation permits or obstruction permits).

The Contractor shall conduct its work in such a manner as to provide public convenience and safety and according to the provisions in this subsection. The provisions shall not be modified or altered without written approval from the Engineer.

Standard traffic control devices shall be placed at the construction zone according to the latest edition of the Work Area Traffic Control Handbook or Caltrans Traffic Manual, Chapter 5 – "Traffic Controls for Construction and Maintenance Work Zone," or as directed by the Engineer.

All trenches and excavations in any public street or roadway shall be back filled and opened to traffic, or covered with suitable steel plates securely placed and opened to traffic at all times except during actual construction operations unless otherwise permitted by the Engineer.

Each section of work shall be completed or temporarily paved and open to traffic in not more than 5 days after commencing work unless otherwise permitted in writing by the Engineer.

Where construction encroaches into the sidewalk area, a minimum of 5 ½ feet of unobstructed sidewalk shall be maintained at all times for pedestrian use. Pedestrian barricades, shelter, and detour signs per Caltrans standards may be required.

The contractor shall conduct its operation in such a manner as to leave the following traffic lanes unobstructed and in a condition satisfactory for vehicular travel during the Obstruction Period. At all times traffic lanes will be restricted and reopened to travel. Emergency access shall be provided at all times.

Street Name Limits	Obstruction Period	North Bound	South Bound	East Bound	West Bound
Thornhill Drive between Grisborne and Grisborne Avenue	Mon. – Fri. 7am – 4pm	N/A	N/A	1-12' lane open minimum	

The Contractor Shall Also include all check item:

1. Design a construction traffic control plan and submit (2) copies to the Engineer for approval prior to starting any work.
2. Replace all signs, pavement markings, and traffic detector loops damaged or removed due to construction within 3 days of completion of work or the final pavement lift.
3. Provide advance notice to Oakland Police at (510) 777-3333 (24-hrs) and Oakland Fire at (510) 238-3331 (2-rhs) when a single lane of traffic or less is provided on any street.
4. Provide 72-hour advance notice to AC Transit at (510) 891-4909 when affecting a bus stop.
5. For Caltrans roadways, ramps, or maintained facilities, the Contractor shall obtain appropriate permits and notify the Traffic Management Center 24 hours in advance of any work.
6. Flagger control is required. Certified Flagger is required.
7. Pedestrian walkway by K-rail, Canopy or Plywood is required. (See detour plan)
8. Pedestrian traffic shall be maintained and guided through the project at all times.
9. Provide advance notice to Business and Residence within 72-hours.
10. Allow all traffic movement at intersection.

Nothing specified herein shall prohibit emergency work and/or repair necessary to ensure public health and safety.

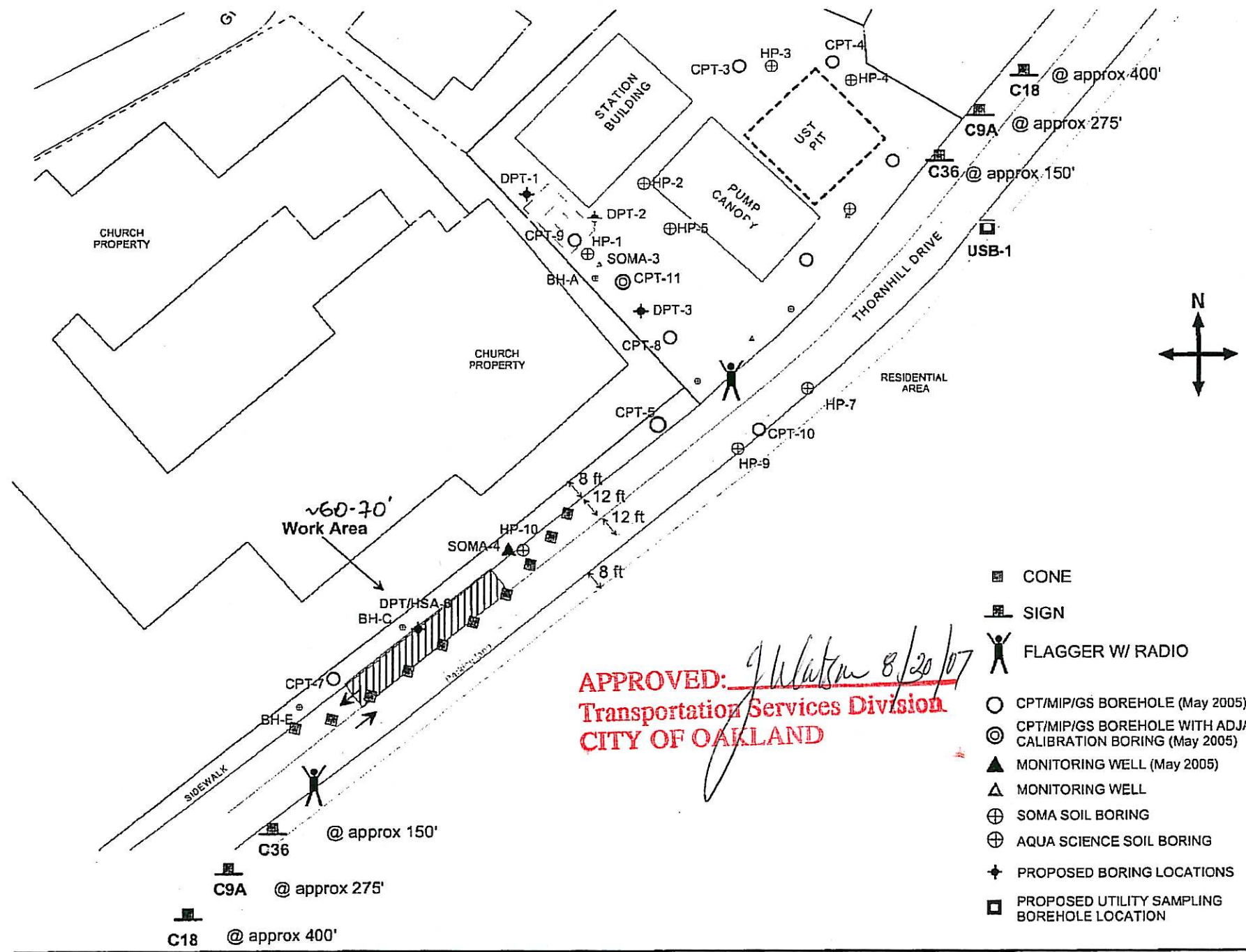
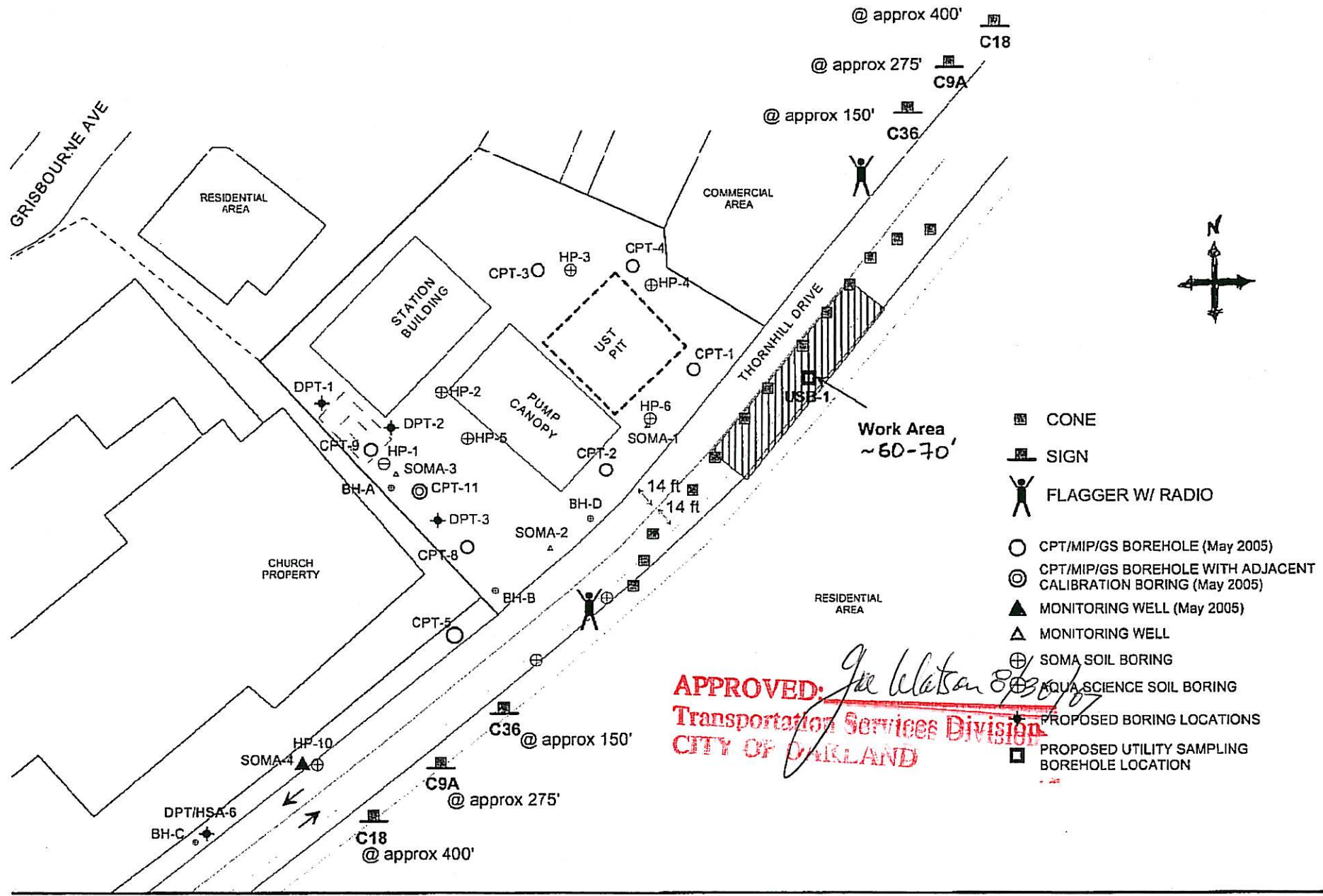


Figure: Traffic control plan





APPROVED: *Joe Watson* 8/15/07
 Transportation Services Division
 CITY OF OAKLAND

Figure: Traffic control plan



Message Number: 0345631 Received by USAN at 13:46 on 09/17/07 by JMM

Work Begins: 09/21/07 at 07:00 Notice: 033 hrs Priority: 2

Expires: 10/15/07 at 17:00 Update By: 10/11/07 at 16:59

Caller: CORA PISCIOTTO
Company: GREGG DRILLING & TESTING
Address: 950 HOWE RD
City: MARTINEZ State: CA Zip: 94553
Business Tel: 925-313-5800 Fax: 925-313-0302
Email Address: CPISCIOTTO@GREGGDRILLING.COM

Nature of Work: VERTICAL BORING FOR WELL INST
Done for: SOMA Explosives: N
Foreman: ELENA
Field Tel: Cell Tel: 510-381-3457
Area Premarked: Y Premark Method: WHITE PAINT
Permit Type: NO
Vac / Pwr Equip Use In The Approx Location Of Member Facilities
Requested: N
Excavation Enters Into Street Or Sidewalk Area: Y

Location:
Street Address: 5725 THORNHILL DR
Cross Street: GRISBORN AVE
FR FRT/O/ADDR GO 70`S ON N/SI/O THORNHILL DR 2) FR FRT/O/ADDR GO
100`N ON S/SI/O THORNHILL DR

Place: OAKLAND County: ALAMEDA State: CA

Long/Lat Long: -122.215904 Lat: 37.831657 Long: -122.210091 Lat: 37.837608

Sent to:
COALAM = COUNTY ALAMEDA COMOAK = COMCAST-OAKLAND
CTYOAK = CITY OAKLAND CONST DEPT EBWOK3 = EAST BAY WATER OAKLAND 3
PBTHAY = PACIFIC BELL HAYWARD PGEOAK = PGE DISTR OAKLAND
SPRINT = SPRINT

Table with 3 columns: Service Area, Day Phone, Emergency Phone. Rows include COALAM, COMOAK, CTYOAK, EBWOK3, PBTHAY, PGEOAK, and SPRINT.

Handwritten notes: To: Elena, Fr: Cora

Handwritten note: SOMA USA: 347841

**Minor Encroachment Permit ENMI Application:
Site: 5725 Thornhill Drive, Oakland, CA**

List of Attachments:

- 1) Cover Letter (including site maps and well diagram)
- 2) Encroachment permit application (including excavation permit as well as the overtime plan check request)
 - Letter from the property owner requesting an encroachment
 - Letter from the contractor (Gregg Drilling & Testing) authorizing SOMA Engineering to sign any permit related applications and forms
 - Site Plan
 - Fees (\$947.23)
 - A certificate of insurance
 - A copy of recorded Grant Deed
- 3) City Business License
- 4) Boring and well Installation permits (W2007-0891 to W2007-0892)

Please note: The traffic control application has been submitted to the Transportation Services Division.



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

August 27, 2007

City Of Oakland
Director of Building Services
(City Engineer)
250 Frank H. Ogawa Plaza, Suite 2340
Oakland, CA 94612

***Re: Encroachment Permit Request for the property located at 5725
Thornhill Drive, Oakland, CA (Field work scheduled for September 1, 2007)***

(September 21, 2007)

To Whom It May Concern:

SOMA Environmental Engineering Inc. would like to request encroachment, traffic, and other permits necessary to complete a well installation and utility trench sampling for an environmental site investigation, as requested by the Alameda County Environmental Health Department (ACEHD) in its letter dated July 5, 2007. The subject site is an active gasoline station, which is bordered on the northwest by residential property, on the northeast by commercial property, on the southeast by Thornhill Drive, and on the southwest by church property. Please see attached Figure 1, Figure 1a, and Zoning and General Plan.

Type of Work:

Gregg Drilling & Testing, Inc. (C-57 license 485165) will advance:

- One Direct Push/ Hollow Stem Auger (DPT/HAS) borehole; on the same day, the borehole will be converted to a monitoring well (SOMA-5).
- One Utility Sampling Borehole (USB-1), utilizing "air knife" technology.

Request and Justification to Install the Monitoring Well in the Sidewalk Area:

SOMA requests the aforementioned well (SOMA-5) to be completed in the sidewalk area adjacent to Thornhill Drive (northbound) in the same manner as the well SOMA-4, the location of which was approved by the City of Oakland in 2005. The following describes the reasoning for installing the well in the sidewalk area:

- 1) Thornhill drive is a busy, narrow, two-lane, two-way street without a parking or a bike lane; therefore, if installed in the street area, the well will need to be installed in a traffic lane.

- 2) Per request from the ACEHD, SOMA-5 will be monitored quarterly as part of the groundwater monitoring program at the subject site; therefore, if installed in a traffic lane encroachment and traffic control plans will have to be submitted each quarter. This will result in unnecessary time and cost investment as well as continuous traffic disruptions.

Accordingly, SOMA requests authorization to install monitoring well SOMA-5 in the sidewalk area.

Scope of Field Activities:

The boring and monitoring well location in the northbound sidewalk of Thornhill Drive (DPT-6/SOMA-5) will require an 8-inch round core in the existing pavement to gain access to the subsurface. Similarly, the location of USB-1 in the southbound sidewalk of Thornhill Drive (upgradient of the subject site) will require an 8-inch core in the existing pavement to gain access to the subsurface.

Monitoring well SOMA-5 will be completed to grade; the attached drawing illustrates the well completion diagram. Upon completion, boring USB-1 will be backfilled with neat cement grout to existing subgrade, and completed to existing grade with material as directed by the City of Oakland.

If you have any questions or comments, please do not hesitate to call me at (925) 734-6400.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

Enclosures: Site Maps (Figure 1, Figure 1a, and Zoning and General Plan)
Well Construction Diagram

cc: Mr. Mo Mashhoon, Property Owner



EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

416⁵⁵

PAGE 2 of 2

Permit valid for 90 days from date of issuance.

PERMIT NUMBER X 0 7 0		SITE ADDRESS/LOCATION * 5725 Thornhill Drive, Oakland, CA	
APPROX. START DATE Aug 30, 2007	APPROX. END DATE Aug 31, 2007	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) (925)734-6400	
CONTRACTOR'S LICENSE # AND CLASS C-57(# 485165) Gregg Drilling		CITY BUSINESS TAX # 585033	
<p>ATTENTION:</p> <ol style="list-style-type: none"> 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) # _____ 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection. 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill). 			
<p>OWNER/BUILDER</p> <p>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):</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> I am exempt under Sec. _____, B&PC for this reason _____.</p>			
<p>WORKER'S COMPENSATION</p> <p><input type="checkbox"/> 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).</p> <p>Policy # _____ Company Name _____</p> <p><input type="checkbox"/> 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).</p>			
<p>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.</p>			
<p>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.</p>			
<p>X <u>Elena Manzo</u> <i>[Signature]</i></p> <p>Signature of Permittee</p>		<p><u>August 2, 2007</u></p> <p>Date</p>	
<p><input checked="" type="checkbox"/> Agent for <input type="checkbox"/> Contractor <input type="checkbox"/> Owner</p>		<p>DATE STREET LAST RESURFACED</p>	
<p>SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO</p>		<p>HOLIDAY RESTRICTION? (NOV. 1 - JAN. 1) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>ISSUED BY</p>		<p>LIMITED OPERATION AREA? (7AM-9AM & 3PM-6PM) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>DATE ISSUED</p>		<p>DATE ISSUED</p>	

3 hours or less.



250 Frank H. Ogawa Plaza
Second Floor, Suite 2114
Oakland, CA 94612
(510) 238-6993
Fax (510) 238-2263

REQUEST FOR OVERTIME PLAN CHECK

I hereby request plan check services **OUTSIDE OF NORMAL WORK HOURS**. I understand that the plan check I am requesting can involve staff of multiple departments including: Building Services, Planning & Zoning, and Fire. I further understand that staff will perform plan check and permit processing work that involves review of survey, grading, plot plan and structural plans for compliance with the Fire Code, Building Code and Planning Code.

I agree to pay the overtime rates listed below. I understand that I will be charged a one-hour minimum by each department I select. I understand that the plan reviewer may determine that review by other departments is required. The plan reviewer will make a reasonable effort to notify me if referral to another department is deemed necessary.

I understand that the City of Oakland will not guarantee immediate availability of staff that can perform work outside of normal work hours, but will make reasonable effort to provide expedited service.

Applicant's Signature
Mansour Sepehr, Ph.D, P.E
Print Name
emanzo@somaenv.com
Email Address

August 22, 2007
Date
(925) 734-6400
Phone No.
(925) 734-6401
Fax No.

COMPLETE THE FOLLOWING INFORMATION:

Permit Application #: _____

Zoning/Design Review Application #: _____

Project Address: 5725 Thornhill Drive, Oakland

Type of Project/Work: Well Installation, Utility trench sampling

- REQUEST BUILDING (plan review & processing) REQUEST FIRE REQUEST ZONING

No specific plan checker may be requested. Overtime work is assigned based on plan checker's availability for fastest turnaround.

OFFICE USE ONLY

Plan Checker Assigned: _____ Hours @ \$173.00/hr + \$25.52/hr: _____

Process Coordinator Assigned: _____ Hours @ \$173.00/hr + \$25.52/hr: _____

Approved By: _____ Date: _____ Amount Due: \$ _____

Planner Assigned: _____ Hours @ \$155.00/hr + \$22.86/hr: _____

Approved By: _____ Date: _____ Amount Due: \$ _____

Fire Prevention Engineer Assigned: _____ Hours @ \$ /hr.: _____

Approved By: _____ Date: _____ Amount Due: \$ _____

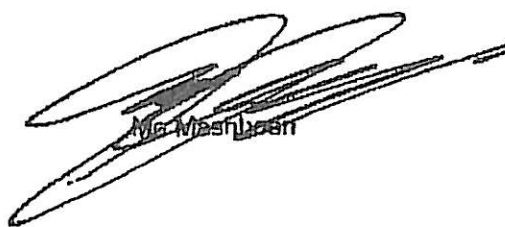
August 7, 2007

City Of Oakland
Director of Building Services
(City Engineer)
250 Frank H. Ogawa Plaza, Suite 2340
Oakland, CA 94612

To Whom It May Concern:

Please be notified that I, Mo Mashhoon, the legal owner of the property located at 5725 Thornhill Drive, Oakland, CA, would like to request encroachment, traffic, and other permits necessary to complete a well installation and utility trench sampling for an environmental site investigation, as requested by the Alameda County Environmental Health Department in its letter dated July 5, 2007, and hereby grant to SOMA Environmental Engineering, Inc. the right to obtain all the requisite permits from the City of Oakland, in order to complete said process.

Sincerely,

 8/24/07
Mo Mashhoon

**GREGG DRILLING & TESTING, INC.**

SPECIALIZING IN ENVIRONMENTAL, GEOTECHNICAL AND IN-SITU TESTING

August 7, 2007

City of Oakland
5725 Thornhill Drive
Oakland, CA 94612

To Whom It May Concern:

Please allow Mr. Mansour Sepéhr of Soma Environmental Engineering, Inc., to sign the permits for the drilling services to be performed in the City of Oakland. For your reference our C-57 license # is 485165 and our City of Oakland business license # is 585033

If you have any questions or need any other information regarding this please contact me at (925) 313-5800.

Sincerely,
GREGG DRILLING & TESTING, INC.

A handwritten signature in cursive script that reads "Christopher Pruner".

Christopher Pruner
Operations Manager

ACORD CERTIFICATE OF LIABILITY INSURANCE

OP ID KN
SOMAE-2

DATE (MM/DD/YYYY)
07/27/07

PRODUCER
Lawson-Hawks Insurance Assoc.
Lic. #0401806
1091 N.Shoreline Blvd, POBox 39
Mountain View CA 94042
Phone: 800-964-8121 Fax: 650-964-0816

INSURED

Soma Envir. Engineering Inc
Joyce Bobek
6620 Owens Dr., Ste A
Pleasanton CA 94588

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: USF Insurance Company	
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L TR	INSRE	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	X	GENERAL LIABILITY	LGBGL29884R3	07/07/07	07/07/08	EACH OCCURRENCE	\$ 1,000,000
		<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 100,000
		<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person)	\$ 5,000
		GEN'L AGGREGATE LIMIT APPLIES PER:				PERSONAL & ADV INJURY	\$ 1,000,000
		<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				GENERAL AGGREGATE	\$ 2,000,000
		AUTOMOBILE LIABILITY				PRODUCTS - COMP/OP AGG	\$ 1,000,000
		<input type="checkbox"/> ANY AUTO				COMBINED SINGLE LIMIT (Ea accident)	\$
		<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per person)	\$
		<input type="checkbox"/> SCHEDULED AUTOS				BODILY INJURY (Per accident)	\$
		<input type="checkbox"/> HIRED AUTOS				PROPERTY DAMAGE (Per accident)	\$
		<input type="checkbox"/> NON-OWNED AUTOS				AUTO ONLY - EA ACCIDENT	\$
		GARAGE LIABILITY				OTHER THAN AUTO ONLY: EA ACC	\$
		<input type="checkbox"/> ANY AUTO				AGG	\$
		EXCESS/UMBRELLA LIABILITY				EACH OCCURRENCE	\$
		<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE	\$
		<input type="checkbox"/> DEDUCTIBLE					\$
		RETENTION \$					\$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				WC STATU-TORY LIMITS	OTH-ER
		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?				E.L. EACH ACCIDENT	\$
		If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE	\$
		OTHER				E.L. DISEASE - POLICY LIMIT	\$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

City of Oakland, Community & Economic Development Agency is named as additional insured per form CG 20 10 11 85.
RE: 5725 Thornhill Drive, Oakland, CA
*Except 10 Days Notice of Cancellation for Non-Payment of Premium

CERTIFICATE HOLDER

City of Oakland, Community & Economic Development Agency
City Engineer
250 Frank H. Ogawa Plaza #2340
Oakland CA 94612

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL *30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

NOTE PAD:

INSURED(S) NAME: Soma Invtor. Engineering Ltd

SOMAF-2
OFFICER

PAGE 2
DATE 07/27/07

Notwithstanding any other provisions in this policy, the insurance afforded hereunder to the City of Oakland shall be primary as to any other insurance or reinsurance covering or available to the City of Oakland, and such other insurance or reinsurance shall not be required to contribute to any liability of loss until and unless the appropriate limit of liability afforded hereunder is exhausted

Appendix C

Boring Logs

PROJECT: 2832

DATE DRILLED: 9/21/2007

SITE LOCATION: 5725 Thornhill Drive
Oakland, CA

CASING ELEVATION: NA

DRILLER: Gregg Drilling

DEPTH TO GW: 9 feet

DRILLING METHOD: Hollow Stem Auger (HSA)

T.O.C. TO SCREEN: 10 feet

BORING DIAMETER: 8 inches

SCREEN LENGTH: 5 feet

LOGGED BY: E. Hightower

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
				8" Asphalt					
	5		GP	SANDY GRAVEL (GP): Reddish Brown; soft; moist; fine- to medium-grained sand; medium- to large-grained gravel; no PHC odor.					
			GM	PEA GRAVEL (GM): Dark Brown; soft; wet; fine- to large-grained gravel intermixed with silt; no PHC odor.					
	10		GC	GRAVELLY CLAY (GC): Dark Brown; soft; saturated; medium-grained gravel; no PHC odor.			Soil sample @ 9:20 am		
	15								
	20								
	25								

COMMENTS:

PROJECT: 2832

DATE DRILLED: 9/21/07

SITE LOCATION: 2725 Thornhill Dr.
Oakland

CASING ELEVATION: 572.23 ft

DRILLER: Gregg Drilling

DEPTH TO GW: 12 ft.

DRILLING METHOD: Hollow Stem Avger

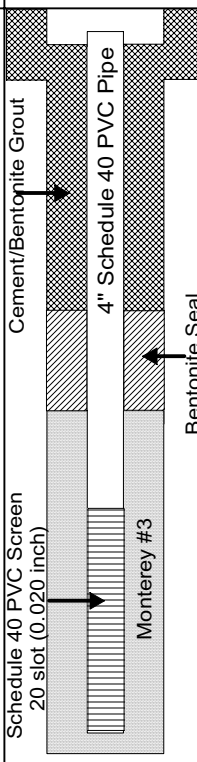
T.O.C. TO SCREEN: 10 feet

BORING DIAMETER: 8"

SCREEN LENGTH: 5 ft.

LOGGED BY: E. Hightower

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

PID, ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPLIT SPOON CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
				5" Concrete				
	5		GW	GRAVELLY SAND (GW): dark brown, soft, moist, no PHC fine- to med-grained sand, med- to large-grained	Sampled at 1230 pm			
			GW	GRAVELLY SAND (GW): dark brown, soft, moist, slight PHC odor	1.7 ppm			
	10		GC	CLAYEY GRAVEL (GC): dark brown, soft, saturated, strong PHC odor, med-grained and small-grained gravel	5.5 ppm Sampled at 1235 pm			
	15		SM	SILTY SAND (SM): dark brown, soft, moist, PHC odor, greenish mottling throughout	Sampled at 1240 pm			
					4.0 ppm			
	20							
	25							

COMMENTS:

Appendix D

Well Development Data Sheet



Well No.: SOMA-5
 Casing Diameter: 2 inches
 Depth of Well: 15.00 feet
 Top of Casing Elevation: 572.23 feet
 Depth to Groundwater: 3.14 feet
 Groundwater Elevation: 564.09 feet
 Water Column Height: 6.86 feet
 Purged Volume: 26.00 gallons

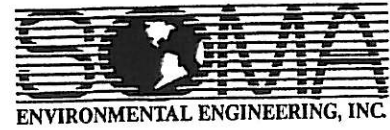
Project No.: 2832
 Address:
 Date: 10/03/2007
 Sampler: Lizzie Hightower

Purging Method: Bailer Pump
 Sampling Method: Bailer Pump Not sampled

Color: No Yes Describe: _____
 Sheen: No Yes Describe: _____
 Odor: No Yes Describe: _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µS/cm)	D.O. (mg/L)	Turbidity (NTU)	ORP (mV)	Fe ⁺² (mg/L)	NO ₃ ⁻¹ (mg/L)	SO ₄ ⁻² (mg/L)
1214 pm	Started	developing	well							
103 pm	6	8.07	25.00	825	1.15		-59.9			
119 pm	9	7.68	32.30	585	1.20		-54.4			
138 pm	12	7.62	44.49	466	1.13		-65.2			
155 pm	15	7.40	26.77	320	1.57		-75.7			
209 pm	18	7.42	37.18	315	1.18		-80.2			
225 pm	21	7.53	41.17	445	0.95		-87.3			
235 pm	23	7.43	36.90	444	1.17		-79.1			
247 pm	26	7.48	36.83	443	1.16		-80.1			



FIELD REPORT

Site Address: 5725 Thornhill Dr., Oakland Proj. No: 2832

Job Performing: Well Development Date: 10/3/07

Arrival Time: 11:53 am Departure Time: 4:10 pm

Travel Time to Site & Back: _____

Field Technician Signature: G. [Signature]

Time: 945 AM Loaded up truck

1000 AM Left office

1110 AM Arrived at EI

1153 AM Arrived on site

Time: 1214 PM Started Developing well.

330 PM Finished Developing well.

410 PM Left Site

Time: _____

555 PM Arrived at EI

545 PM Arrived at office

Time: 550 PM Unloaded truck into shed.

Time: _____

Time: _____

Appendix F

Non-Hazardous Waste Manifest

Further Site Investigation for Updating SCM and Site Closure Request

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number EXEMPT	2. Page 1 of 1	3. Emergency Response Phone NRCS: 610-749-1390	4. Waste Tracking Number 31077-03
5. Generator's Name and Mailing Address MASH PETROLEUM, INC. 1721 JEFFERSON STREET OAKLAND, CA 94612			Generator's Site Address (if different than mailing address) MASH PETROLEUM, INC. 5725 THORNHILL DR OAKLAND, CA 94611		
Generator's Phone: 510-891-9988					
6. Transporter 1 Company Name NRC ENVIRONMENTAL SERVICES INC.			U.S. EPA ID Number CA R 000030114		
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address Crosby & Overton, Inc. 1630 W. 17th Street Long Beach, CA 90813			U.S. EPA ID Number		
Facility's Phone: 562-432-5445			CA D 028409018		
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit WL/Vol.
		No.	Type		
1. NON-HAZARDOUS WASTE LIQUID (PURGE WATER WITH HYDROCARBONS) (PROFILE# 61645) <i>8 x 55</i>		<i>1</i>	<i>DM</i>	<i>150</i>	<i>G</i>
2. NON-HAZARDOUS WASTE SOLID (SOIL WITH HYDROCARBONS) (PROFILE# 61644) <i>2 x 55</i>		<i>2</i>	<i>DM</i>	<i>110</i>	<i>P</i>
3.					
4.					
13. Special Handling Instructions and Additional Information WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT JOB#/PO#: 31077 CONSULTANT: SOMA ENVIRONMENTAL 6620 OWENS DRIVE SUITE A PLEASANTON, CA					
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Generator's/Officer's Printed/Typed Name <i>David Dell'Osso on behalf of</i>			Signature <i>[Signature]</i>		Month Day Year <i>10 20 07</i>
15. International Shipments <input type="checkbox"/> Import to U.S. <input checked="" type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:					
16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name <i>Roman Murillo</i>			Signature <i>[Signature]</i>		Month Day Year <i>10 10 07</i>
Transporter 2 Printed/Typed Name			Signature		Month Day Year
17. Discrepancy					
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
17b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number					
Facility's Phone:					
17c. Signature of Alternate Facility (or Generator) Month Day Year					
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a					
Printed/Typed Name			Signature		Month Day Year

Appendix E

Survey Data

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

INSTRUMENT LEICA TCA 1100L

SOMA ENVIRONMENTAL, PROJECT # 2831
 5725 THORNHILL DRIVE, OAKLAND

WELL ID #	NORTHING (FT.) / LATITUDE (D.M.S.) / LATITUDE (D.D.)	EASTING (FT.) / LONGITUDE (D.M.S.) / LONGITUDE (D.D.)	ELEVATION (FT.)	DESCRIPTION
SOMA-5	2130693.310	6067027.659	572.23	TOP PIPE, BLACK MARK ON N. SIDE (FELT TIP)
	N 37°50'02.66001"	W 122°12'46.38426"	572.70	RIM
	N 37.834072225°	W 122.212884517°	571.93	CONC.

LOCAL CONTROL

SOMA-2	2130764.55	6067114.08	575.50	TOP PIPE, BLACK MARK ON N. SIDE (FELT TIP)
	N 37°50'03.37985"	W 122°12'45.32339"		
SOMA-3	2130785.85	6067071.01	575.92	TOP PIPE, BLACK MARK ON N. SIDE (FELT TIP)
	N 37°50'03.58261"	W 122°12'45.86506"		

NOTE

THE VALUES FOR SOMA-5 ARE DERIVED FROM A LOCAL CONTROL BASED UPON CONTROL VALUES USED FROM A PREVIOUS SITE SURVEY AS PROVIDED BY KIER AND WRIGHT

VERTICAL CONTROL:

BENCH MARK: NGS Bench mark No.PID# HT2487

DESCRIPTION FROM NGS DATA SHEET:

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

Elevation =37. FEET NAVD88 Datum

BY VERTCON

HORIZONTAL CONTROL:

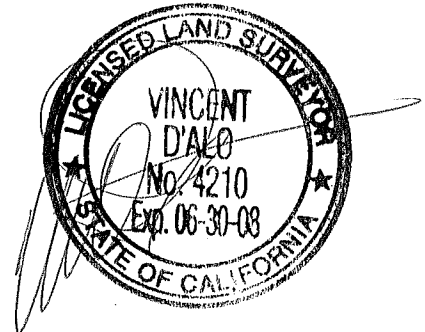
PID - AA5496

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

PID - HT2541

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

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



ALIQUOT ASSOCIATES
 1390 South Main Street, Suite 310
 Walnut Creek, CA 94596
 (925) 476-2300 / FAX (925) 476-2350

Appendix G
Certified Analytical Reports and Chain-Of-Custody
Documentation

09 October 2007

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

RE: 5725 Thornhill Dr., Oakland

Work Order Number: 7090007

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

Sincerely,



Maiid Akhavan
Laboratory Director



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

Project: 5725 Thornhill Dr., Oakland
Project Number: 2832
Project Manager: Mansour Sepehr

Reported:
09-Oct-07 18:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
USB-1	7090007-01	Water	21-Sep-07 09:32	24-Sep-07 13:15
SOMA-5	7090007-02	Water	23-Sep-07 09:15	24-Sep-07 13:15



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

Project: 5725 Thornhill Dr., Oakland
 Project Number: 2832
 Project Manager: Mansour Sepehr

Reported:
 09-Oct-07 18:54

Extractable Petroleum Hydrocarbons by 8015 DRO
Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
USB-1 (7090007-01) Water Sampled: 21-Sep-07 09:32 Received: 24-Sep-07 13:15									
Diesel (C10-C24)	75.4	50.0	ug/l	1	B172601	27-Sep-07	27-Sep-07	EPA 8015M	
Motor Oil (C24-C36)	ND	250	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		85.8 %	50.4-137		"	"	"	"	
SOMA-5 (7090007-02) Water Sampled: 23-Sep-07 09:15 Received: 24-Sep-07 13:15									
Diesel (C10-C24)	111	50.0	ug/l	1	B172601	27-Sep-07	28-Sep-07	EPA 8015M	D-06, D-30
Motor Oil (C24-C36)	ND	250	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		113 %	50.4-137		"	"	"	"	



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

Project: 5725 Thornhill Dr., Oakland
Project Number: 2832
Project Manager: Mansour Sepehr

Reported:
09-Oct-07 18:54

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
USB-1 (7090007-01) Water Sampled: 21-Sep-07 09:32 Received: 24-Sep-07 13:15									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BI72702	27-Sep-07	27-Sep-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	4.31	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	2.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.6 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		103 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		97.2 %		70-130	"	"	"	"	
SOMA-5 (7090007-02) Water Sampled: 23-Sep-07 09:15 Received: 24-Sep-07 13:15									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BI72702	27-Sep-07	27-Sep-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	2.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	54.9	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	203	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		103 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		99.6 %		70-130	"	"	"	"	

Pacific Analytical Laboratory

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



SOMA Environmental Engineering Inc. 6620 Owens Drive, Suite A Pleasanton CA, 94588	Project: 5725 Thornhill Dr., Oakland Project Number: 2832 Project Manager: Mansour Sepehr	Reported: 09-Oct-07 18:54
--	---	-------------------------------------

Extractable Petroleum Hydrocarbons by 8015 DRO - Quality Control
Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch BI72601 - EPA 3510B

Blank (BI72601-BLK1)

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	53.2		ug/l	50.0		106	50.4-137			
Diesel (C10-C24)	ND	50.0	"							
Motor Oil (C24-C36)	ND	250	"							

LCS (BI72601-BS1)

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	51.3		ug/l	50.0		103	50.4-137			
Diesel (C10-C24)	838	50.0	"	1000		83.8	70-130			

LCS Dup (BI72601-BSD1)

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	61.2		ug/l	50.0		122	50.4-137			
Diesel (C10-C24)	831	50.0	"	1000		83.1	70-130	0.839	40	



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

Project: 5725 Thornhill Dr., Oakland
Project Number: 2832
Project Manager: Mansour Sepehr

Reported:
09-Oct-07 18:54

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
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Batch BI72702 - EPA 5030 Water MS

Blank (BI72702-BLK1)

Prepared & Analyzed: 27-Sep-07

Surrogate: 4-Bromofluorobenzene	48.7		ug/l	50.0		97.4	70-130			
Surrogate: Dibromofluoromethane	52.5		"	50.0		105	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	2.00	"							
Gasoline (C6-C12)	ND	50.0	"							
1,2-dichloroethane	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
Ethanol	ND	1000	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
m&p-Xylene	ND	2.00	"							
o-xylene	ND	0.500	"							
Toluene	ND	2.00	"							

LCS (BI72702-BS1)

Prepared & Analyzed: 27-Sep-07

Surrogate: 4-Bromofluorobenzene	61.4		ug/l	50.0		123	70-130			
Surrogate: Dibromofluoromethane	48.7		"	50.0		97.4	70-130			
Surrogate: Perdeuterotoluene	54.2		"	50.0		108	70-130			
MTBE	100	0.500	"	100		100	70-130			
ETBE	97.3	0.500	"	100		97.3	70-130			
TAME	99.1	2.00	"	100		99.1	70-130			
TBA	532	2.00	"	500		106	70-130			
Gasoline (C6-C12)	2050	50.0	"	2000		102	70-130			
Benzene	97.2	0.500	"	100		97.2	70-130			
Toluene	98.8	2.00	"	100		98.8	70-130			



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

Project: 5725 Thornhill Dr., Oakland
 Project Number: 2832
 Project Manager: Mansour Sepehr

Reported:
 09-Oct-07 18:54

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 BI72702 - EPA 5030 Water MS

LCS Dup (BI72702-BSD1)

Prepared & Analyzed: 27-Sep-07

Surrogate: 4-Bromofluorobenzene	63.0		ug/l	50.0		126	70-130			
Surrogate: Dibromofluoromethane	51.5		"	50.0		103	70-130			
Surrogate: Perdeuterotoluene	54.8		"	50.0		110	70-130			
MTBE	117	0.500	"	100		117	70-130	15.7	20	
ETBE	109	0.500	"	100		109	70-130	11.3	20	
TAME	112	2.00	"	100		112	70-130	12.2	20	
Gasoline (C6-C12)	2130	50.0	"	2000		106	70-130	3.83	20	
TBA	549	2.00	"	500		110	70-130	3.15	20	
Benzene	116	0.500	"	100		116	70-130	17.6	20	
Toluene	120	2.00	"	100		120	70-130	19.4	20	



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

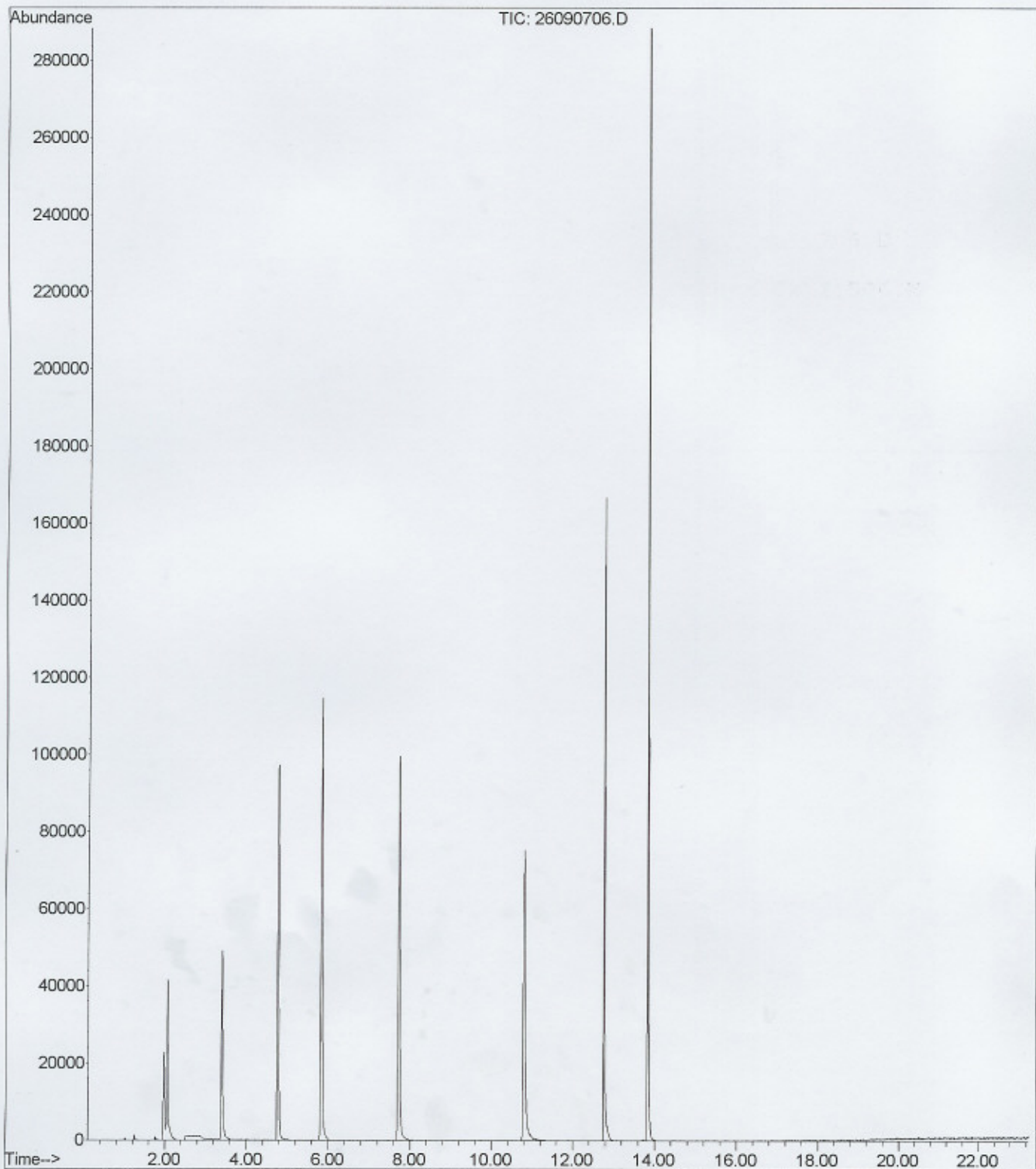
Project: 5725 Thornhill Dr., Oakland
Project Number: 2832
Project Manager: Mansour Sepehr

Reported:
09-Oct-07 18:54

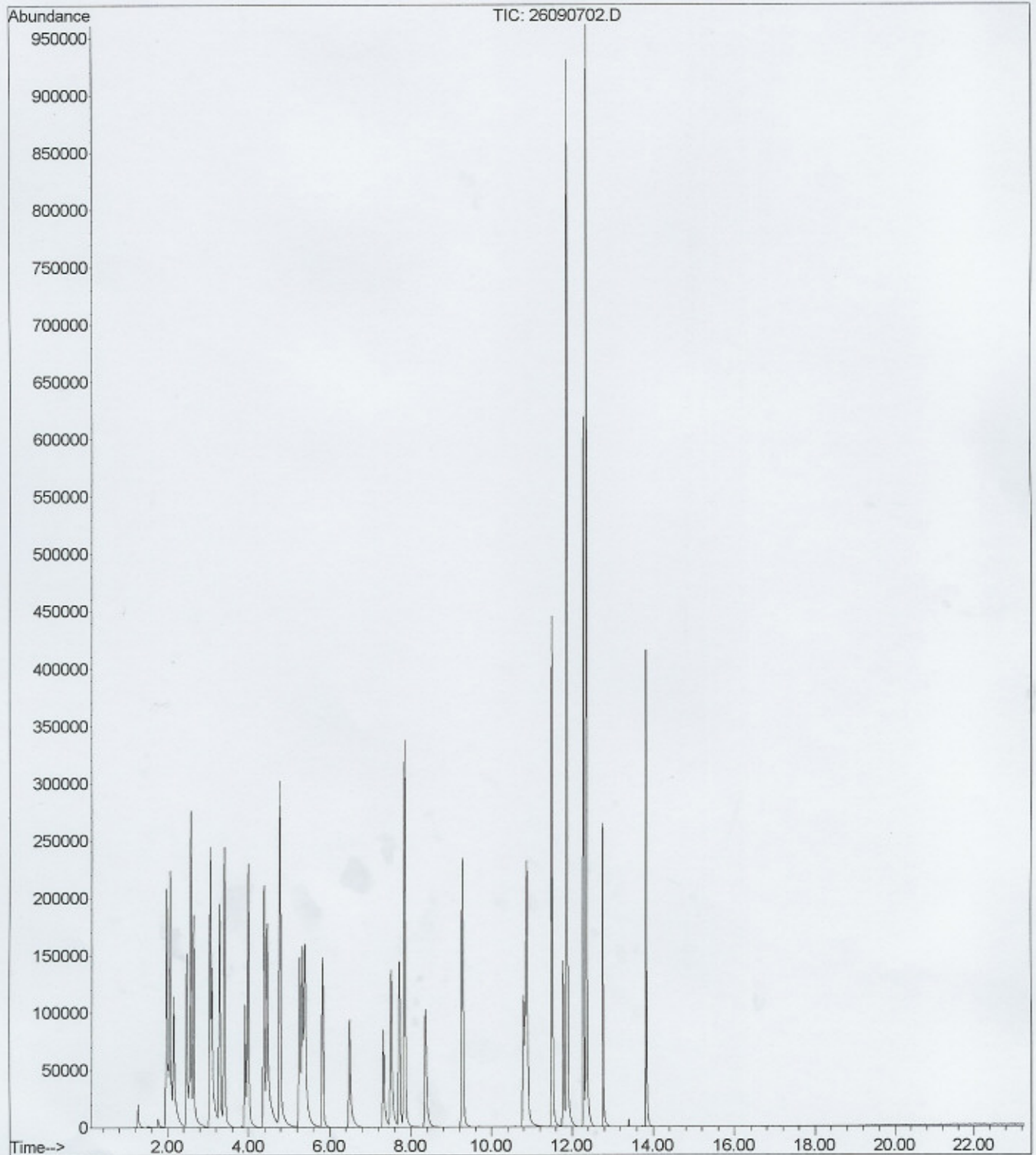
Notes and Definitions

- D-30 Unidentified hydrocarbons C9-C16.
- D-06 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- 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

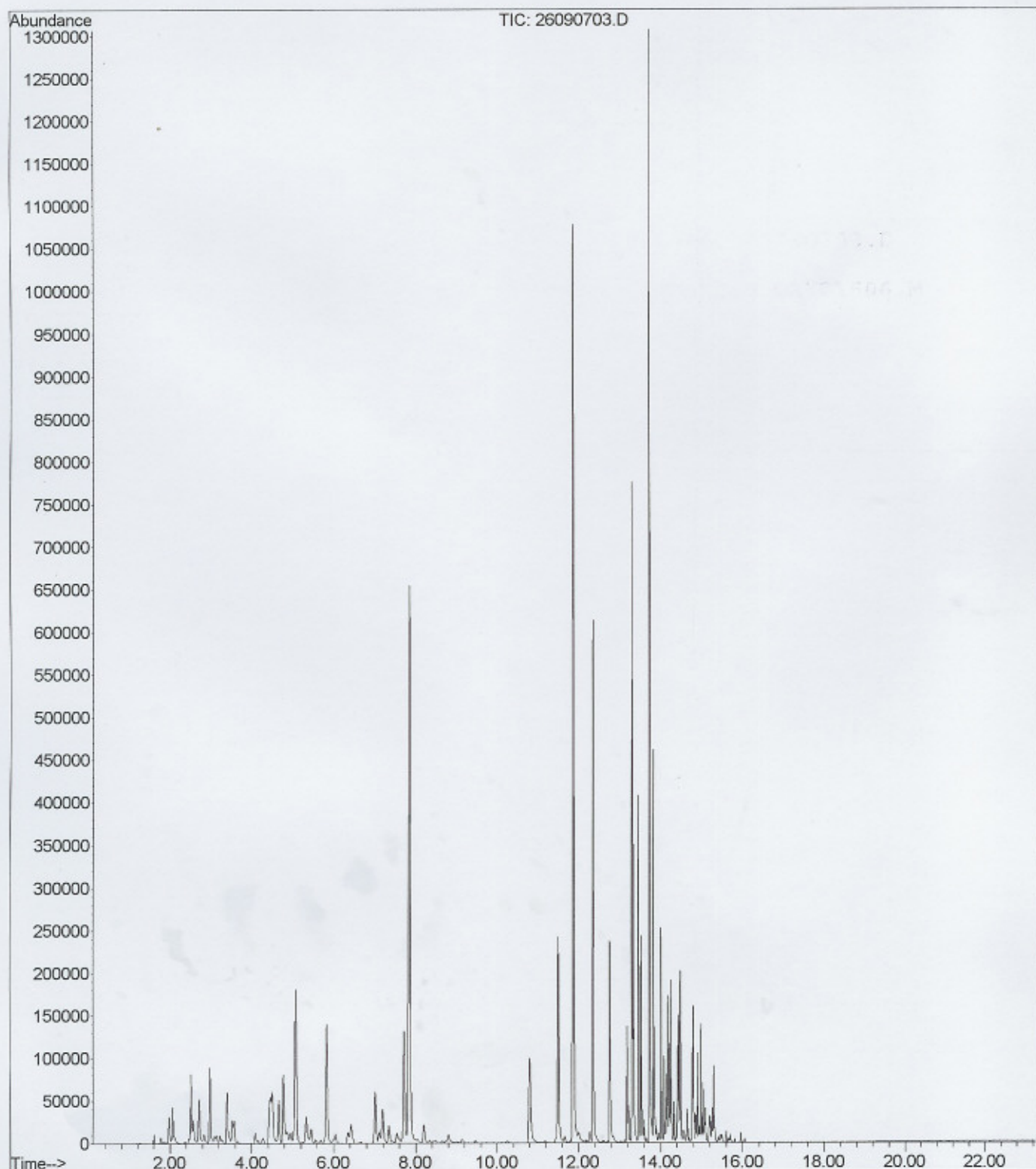
File : C:\MSDChem\1\DATA\2007-Sep-26-1753.b\26090706.D
Operator :
Acquired : 26 Sep 2007 8:47 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BI72702-BLK1
Misc Info :
Vial Number: 6



File : C:\MSDChem\1\DATA\2007-Sep-26-1753.b\26090702.D
Operator :
Acquired : 26 Sep 2007 6:39 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BI72702-BS1@voc
Misc Info :
Vial Number: 2



File :C:\MSDCHEM\1\DATA\2007-Sep-26-1753.b\26090703.D
Operator :
Acquired : 26 Sep 2007 7:11 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BI72702-BS1@gas
Misc Info :
Vial Number: 3



09 October 2007

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

RE: 5725 Thornhill Dr., Oakland

Work Order Number: 7090008

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

Sincerely,



Maiid Akhavan
Laboratory Director



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

Project: 5725 Thornhill Dr., Oakland
Project Number: 2832
Project Manager: Mansour Sepehr

Reported:
09-Oct-07 19:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
USB-1	7090008-01	Soil	21-Sep-07 09:20	24-Sep-07 13:32
SOMA-5A	7090008-02	Soil	21-Sep-07 12:30	24-Sep-07 13:32
SOMA-5B	7090008-03	Soil	21-Sep-07 12:35	24-Sep-07 13:32
SOMA-5C	7090008-04	Soil	21-Sep-07 12:40	24-Sep-07 13:32



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

Project: 5725 Thornhill Dr., Oakland
 Project Number: 2832
 Project Manager: Mansour Sepehr

Reported:
 09-Oct-07 19:08

Extractable Petroleum Hydrocarbons by 8015 DRO
Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
USB-1 (7090008-01) Soil Sampled: 21-Sep-07 09:20 Received: 24-Sep-07 13:32									
Diesel (C10-C24)	ND	50.0	mg/kg	1	BI72701	28-Sep-07	28-Sep-07	EPA 8015M	
Motor Oil (C24-C36)	ND	250	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		165 %	50.4-137		"	"	"	"	A-01
SOMA-5A (7090008-02) Soil Sampled: 21-Sep-07 12:30 Received: 24-Sep-07 13:32									
Diesel (C10-C24)	ND	50.0	mg/kg	1	BI72701	28-Sep-07	28-Sep-07	EPA 8015M	
Motor Oil (C24-C36)	ND	250	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		113 %	50.4-137		"	"	"	"	
SOMA-5B (7090008-03) Soil Sampled: 21-Sep-07 12:35 Received: 24-Sep-07 13:32									
Diesel (C10-C24)	ND	50.0	mg/kg	1	BI72701	28-Sep-07	28-Sep-07	EPA 8015M	
Motor Oil (C24-C36)	ND	250	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		159 %	50.4-137		"	"	"	"	A-01
SOMA-5C (7090008-04) Soil Sampled: 21-Sep-07 12:40 Received: 24-Sep-07 13:32									
Diesel (C10-C24)	ND	50.0	mg/kg	1	BI72701	28-Sep-07	28-Sep-07	EPA 8015M	
Motor Oil (C24-C36)	ND	250	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		102 %	50.4-137		"	"	"	"	



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Reported:
09-Oct-07 19:08

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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USB-1 (7090008-01) Soil Sampled: 21-Sep-07 09:20 Received: 24-Sep-07 13:32

Gasoline (C6-C12)	ND	50.00	ug/kg	1	BJ70201	28-Sep-07	28-Sep-07	EPA 8260B	
Benzene	ND	0.5000	"	"	"	"	"	"	
Ethylbenzene	ND	0.5000	"	"	"	"	"	"	
m&p-Xylene	ND	2.000	"	"	"	"	"	"	
o-xylene	ND	0.5000	"	"	"	"	"	"	
Toluene	ND	2.000	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	950	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.2 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		101 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		98.2 %		70-130	"	"	"	"	

SOMA-5A (7090008-02) Soil Sampled: 21-Sep-07 12:30 Received: 24-Sep-07 13:32

Gasoline (C6-C12)	ND	50.00	ug/kg	1	BJ70201	28-Sep-07	28-Sep-07	EPA 8260B	
Benzene	ND	0.5000	"	"	"	"	"	"	
Ethylbenzene	ND	0.5000	"	"	"	"	"	"	
m&p-Xylene	ND	2.000	"	"	"	"	"	"	
o-xylene	ND	0.5000	"	"	"	"	"	"	
Toluene	ND	2.000	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	950	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.4 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		98.4 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		95.2 %		70-130	"	"	"	"	

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Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SOMA-5B (7090008-03) Soil Sampled: 21-Sep-07 12:35 Received: 24-Sep-07 13:32									
Gasoline (C6-C12)	ND	50.00	ug/kg	1	BJ70201	28-Sep-07	28-Sep-07	EPA 8260B	
Benzene	ND	0.5000	"	"	"	"	"	"	
Ethylbenzene	ND	0.5000	"	"	"	"	"	"	
m&p-Xylene	ND	2.000	"	"	"	"	"	"	
o-xylene	ND	0.5000	"	"	"	"	"	"	
Toluene	ND	2.000	"	"	"	"	"	"	
MTBE	0.680	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	5.33	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	950	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		95.6 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		103 %		70-130	"	"	"	"	
SOMA-5C (7090008-04) Soil Sampled: 21-Sep-07 12:40 Received: 24-Sep-07 13:32									
Gasoline (C6-C12)	354.0	50.00	ug/kg	1	BJ70201	28-Sep-07	28-Sep-07	EPA 8260B	
Benzene	ND	0.5000	"	"	"	"	"	"	
Ethylbenzene	4.520	0.5000	"	"	"	"	"	"	
m&p-Xylene	ND	2.000	"	"	"	"	"	"	
o-xylene	2.510	0.5000	"	"	"	"	"	"	
Toluene	ND	2.000	"	"	"	"	"	"	
MTBE	0.860	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	20.9	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	950	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %		70-130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		94.4 %		70-130	"	"	"	"	
<i>Surrogate: Perdeuterotoluene</i>		104 %		70-130	"	"	"	"	



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Reported:
09-Oct-07 19:08

Extractable Petroleum Hydrocarbons by 8015 DRO - Quality Control
Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch BI72701 - EPA 3550A

Blank (BI72701-BLK1)

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	52.9		mg/kg	50.0		106	50.4-137			
Diesel (C10-C24)	ND	50.0	"							
Motor Oil (C24-C36)	ND	250	"							

LCS (BI72701-BS1)

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	50.2		mg/kg	50.0		100	50.4-137			
Diesel (C10-C24)	870	50.0	"	1000		87.0	70-130			

LCS Dup (BI72701-BSD1)

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	47.6		mg/kg	50.0		95.2	50.4-137			
Diesel (C10-C24)	884	50.0	"	1000		88.4	70-130	1.60	40	

Matrix Spike (BI72701-MS1)

Source: 7090008-01

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	62.1		mg/kg	50.0		124	50.4-137			
Diesel (C10-C24)	997	50.0	"	1000	38.7	95.8	0-200			

Matrix Spike Dup (BI72701-MSD1)

Source: 7090008-01

Prepared & Analyzed: 02-Oct-07

Surrogate: Pentacosane	63.1		mg/kg	50.0		126	50.4-137			
Diesel (C10-C24)	1020	50.0	"	1000	38.7	98.1	0-200	2.28	200	



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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
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Batch BJ70201 - EPA 5030 Soil MS

Blank (BJ70201-BLK1)

Prepared & Analyzed: 02-Oct-07

Surrogate: 4-Bromofluorobenzene	44.6		ug/kg	50.0		89.2	70-130			
Surrogate: Dibromofluoromethane	48.9		"	50.0		97.8	70-130			
Surrogate: Perdeuterotoluene	47.3		"	50.0		94.6	70-130			
MTBE	ND	0.500	"							
DIPE	ND	0.500	"							
ETBE	ND	0.500	"							
TAME	ND	2.00	"							
TBA	ND	2.00	"							
Gasoline (C6-C12)	ND	50.00	"							
1,2-dichloroethane	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
Ethanol	ND	950	"							
Benzene	ND	0.5000	"							
Ethylbenzene	ND	0.5000	"							
m&p-Xylene	ND	2.000	"							
o-xylene	ND	0.5000	"							
Toluene	ND	2.000	"							

LCS (BJ70201-BS1)

Prepared & Analyzed: 02-Oct-07

Surrogate: 4-Bromofluorobenzene	50.9		ug/kg	50.0		102	70-130			
Surrogate: Dibromofluoromethane	41.4		"	50.0		82.8	70-130			
Surrogate: Perdeuterotoluene	50.5		"	50.0		101	70-130			
MTBE	87.5	0.500	"	100		87.5	70-130			
ETBE	110	0.500	"	100		110	70-130			
TAME	93.4	2.00	"	100		93.4	70-130			
TBA	508	2.00	"	500		102	70-130			
Gasoline (C6-C12)	1680	50.00	"	2000		84.0	70-130			
Benzene	116	0.5000	"	100		116	70-130			
Toluene	114	2.000	"	100		114	70-130			



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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
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Batch BJ70201 - EPA 5030 Soil MS

LCS Dup (BJ70201-BSD1)

Prepared & Analyzed: 02-Oct-07

Surrogate: 4-Bromofluorobenzene	68.2		ug/kg	50.0		136	70-130			S-GC
Surrogate: Dibromofluoromethane	45.1		"	50.0		90.2	70-130			
Surrogate: Perdeuterotoluene	56.9		"	50.0		114	70-130			
MTBE	77.8	0.500	"	100		77.8	70-130	11.7	20	
ETBE	79.9	0.500	"	100		79.9	70-130	31.7	20	QR-02
TAME	80.0	2.00	"	100		80.0	70-130	15.5	20	
TBA	350	2.00	"	500		70.0	70-130	36.8	20	QR-02
Gasoline (C6-C12)	1670	50.00	"	2000		83.5	70-130	0.597	20	
Benzene	79.8	0.5000	"	100		79.8	70-130	37.0	20	QR-02
Toluene	78.2	2.000	"	100		78.2	70-130	37.3	20	QR-02

Matrix Spike (BJ70201-MS1)

Source: 7090008-01

Prepared & Analyzed: 02-Oct-07

Surrogate: 4-Bromofluorobenzene	54.5		ug/kg	50.0		109	70-130			
Surrogate: Dibromofluoromethane	45.4		"	50.0		90.8	70-130			
Surrogate: Perdeuterotoluene	52.2		"	50.0		104	70-130			
MTBE	103	0.500	"	100	ND	103	70-130			
DIPE	154	0.500	"	100	ND	154	70-130			QM-05
ETBE	124	0.500	"	100	ND	124	70-130			
TAME	102	2.00	"	100	0.940	101	70-130			
TBA	435	2.00	"	500	ND	87.0	70-130			
Benzene	131	0.5000	"	100	ND	131	70-130			QM-05
Ethylbenzene	106	0.5000	"	100	ND	106	70-130			
m&p-Xylene	131	2.000	"	100	ND	131	70-130			QM-05
o-xylene	103	0.5000	"	100	ND	103	70-130			
Toluene	121	2.000	"	100	ND	121	70-130			

Matrix Spike Dup (BJ70201-MSD1)

Source: 7090008-01

Prepared & Analyzed: 02-Oct-07

Surrogate: 4-Bromofluorobenzene	53.0		ug/kg	50.0		106	70-130			
Surrogate: Dibromofluoromethane	46.4		"	50.0		92.8	70-130			
Surrogate: Perdeuterotoluene	50.9		"	50.0		102	70-130			
MTBE	88.1	0.500	"	100	ND	88.1	70-130	15.6	20	
DIPE	133	0.500	"	100	ND	133	70-130	14.6	20	QM-05
ETBE	110	0.500	"	100	ND	110	70-130	12.0	20	
TAME	92.5	2.00	"	100	0.940	91.6	70-130	9.77	20	
TBA	468	2.00	"	500	ND	93.6	70-130	7.31	20	
Benzene	113	0.5000	"	100	ND	113	70-130	14.8	20	

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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
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Batch BJ70201 - EPA 5030 Soil MS

Matrix Spike Dup (BJ70201-MSD1)

Source: 7090008-01

Prepared & Analyzed: 02-Oct-07

Ethylbenzene	104	0.5000	ug/kg	100	ND	104	70-130	1.90	20	
m&p-Xylene	129	2.000	"	100	ND	129	70-130	1.54	20	
o-xylene	109	0.5000	"	100	ND	109	70-130	5.66	20	
Toluene	106	2.000	"	100	ND	106	70-130	13.2	20	



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Notes and Definitions

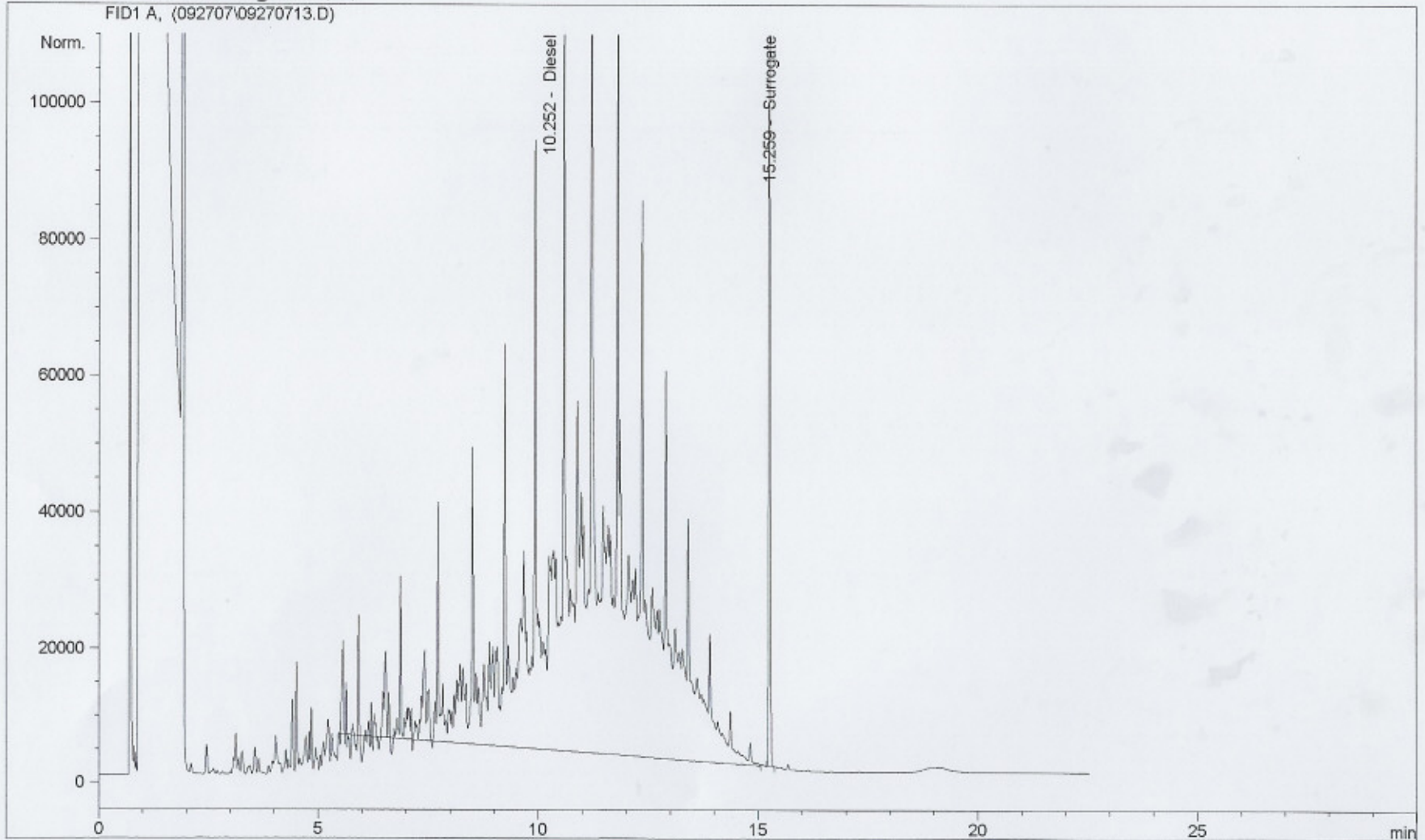
- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- A-01 Sample double-spiked.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference


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Injection Date   : 9/28/07 1:35:09 AM           Seq. Line   : 11
Sample Name     : BI72701-BS1                   Vial        : 11
Acq. Operator   : jz                             Inj         : 1
                                                    Inj Volume  : 2 ul

Acq. Method     : C:\HPCHEM\1\METHODS\GC071707.M
Last changed    : 9/25/07 5:50:29 PM by jz
Analysis Method : C:\HPCHEM\1\METHODS\GC071707.M
Last changed    : 10/9/07 6:24:11 PM by jz
                  (modified after loading)
    
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Current Chromatogram(s)

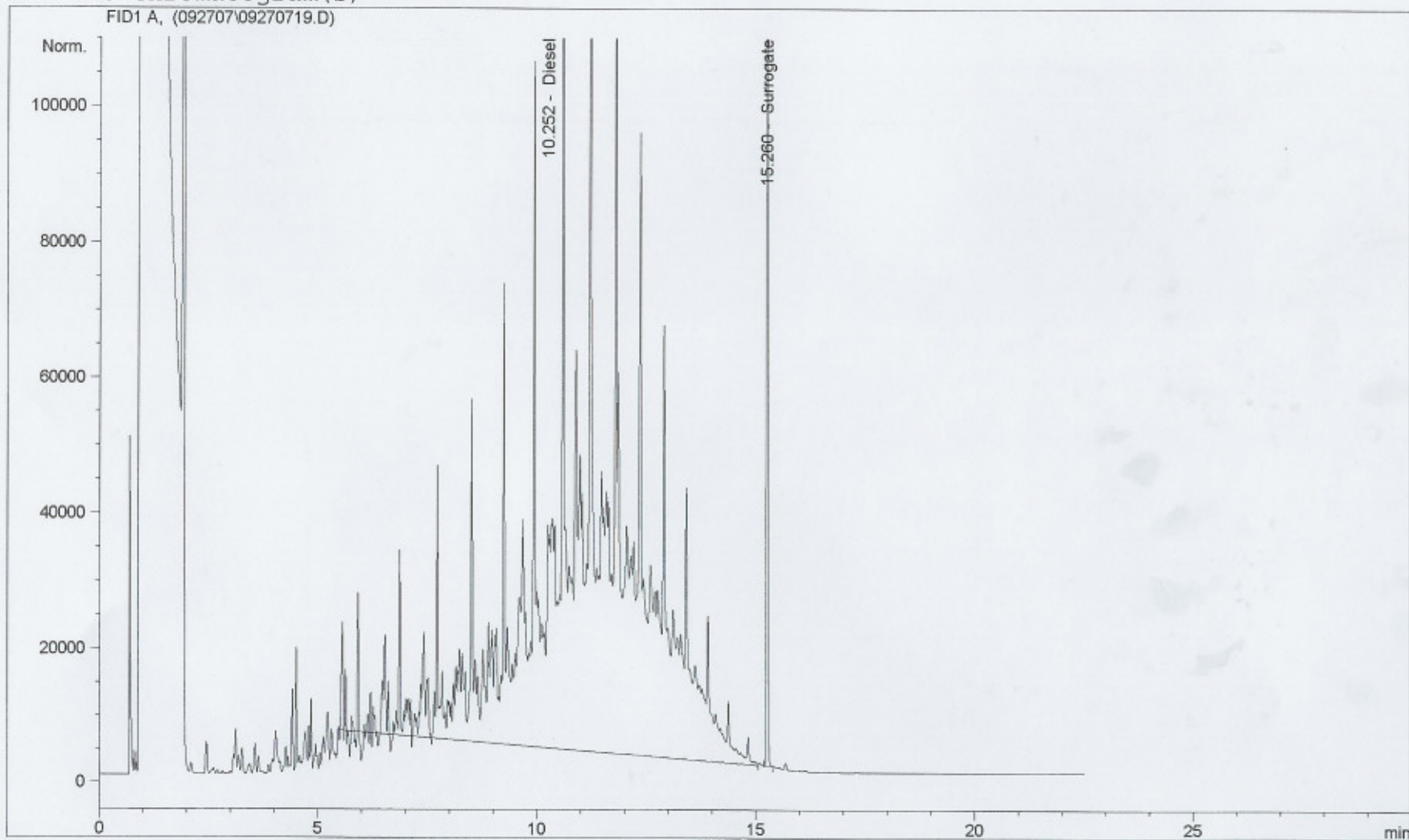


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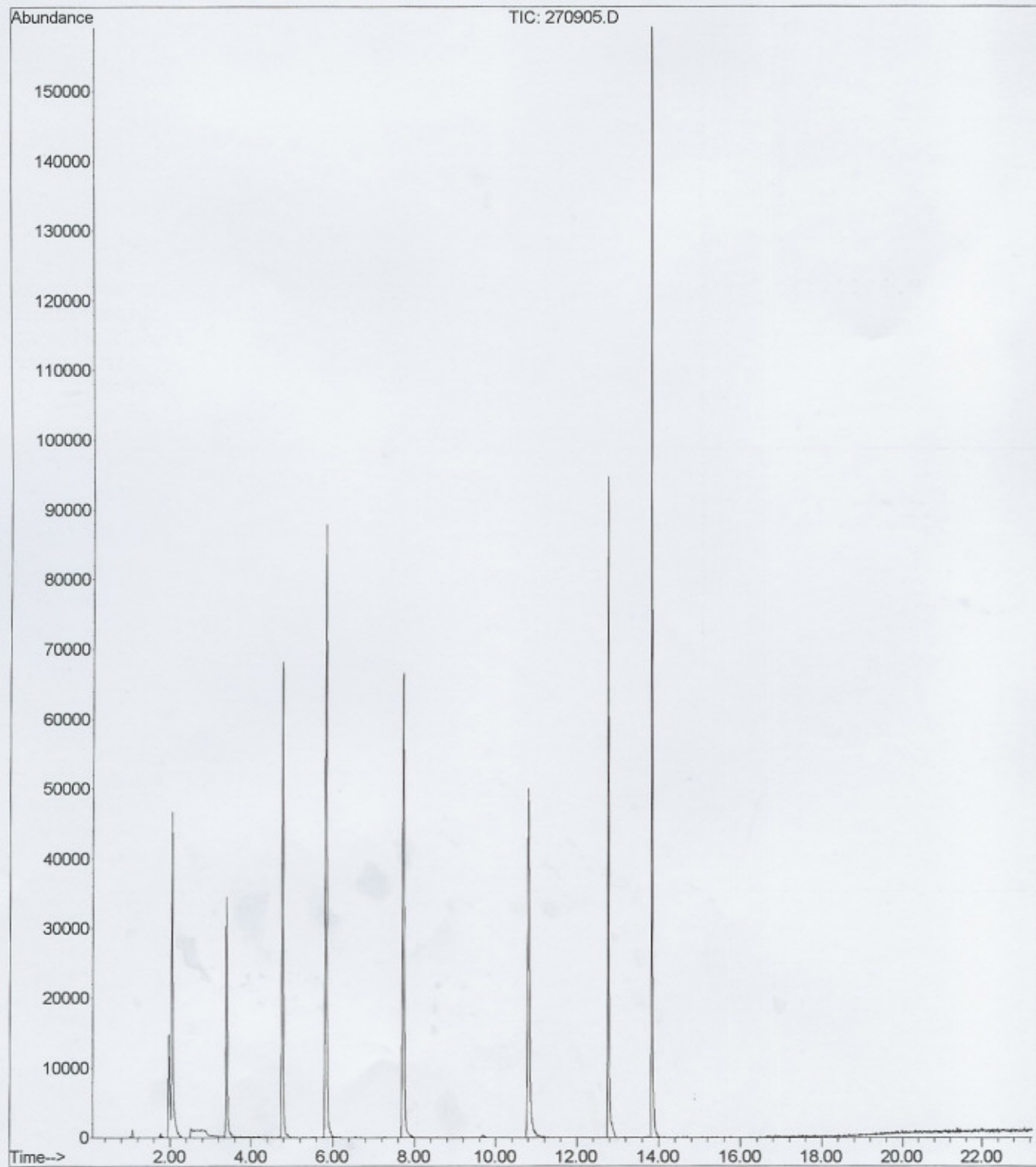
Injection Date	: 9/28/07 4:48:29 AM	Seq. Line	: 17
Sample Name	: BI72701-MS1	Vial	: 17
Acq. Operator	: jz	Inj	: 1
		Inj Volume	: 2 ul

Acq. Method : C:\HPCHEM\1\METHODS\GC071707.M
Last changed : 9/25/07 5:50:29 PM by jz
Analysis Method : C:\HPCHEM\1\METHODS\GC071707.M
Last changed : 10/9/07 6:24:11 PM by jz
(modified after loading)

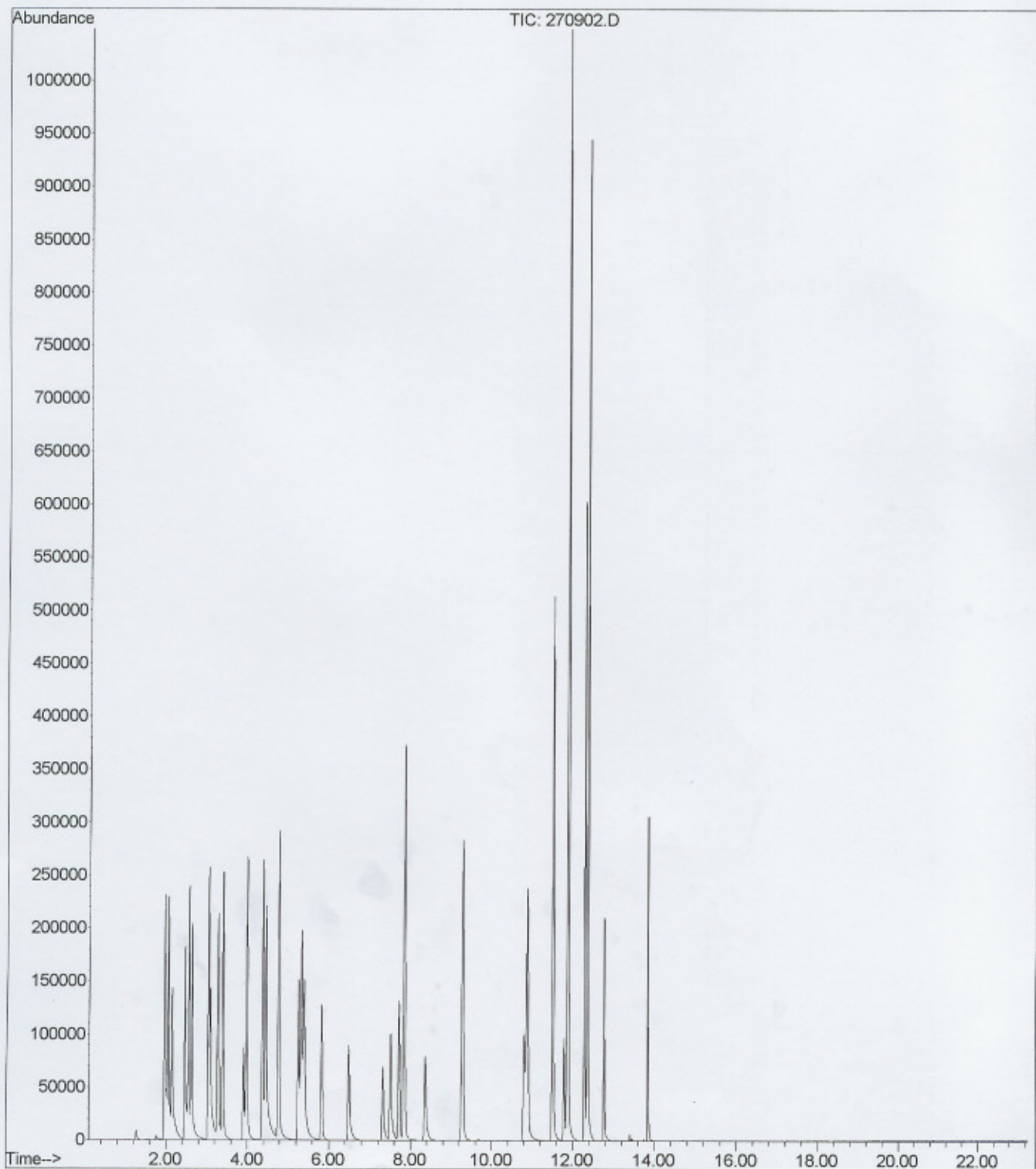
Current Chromatogram(s)



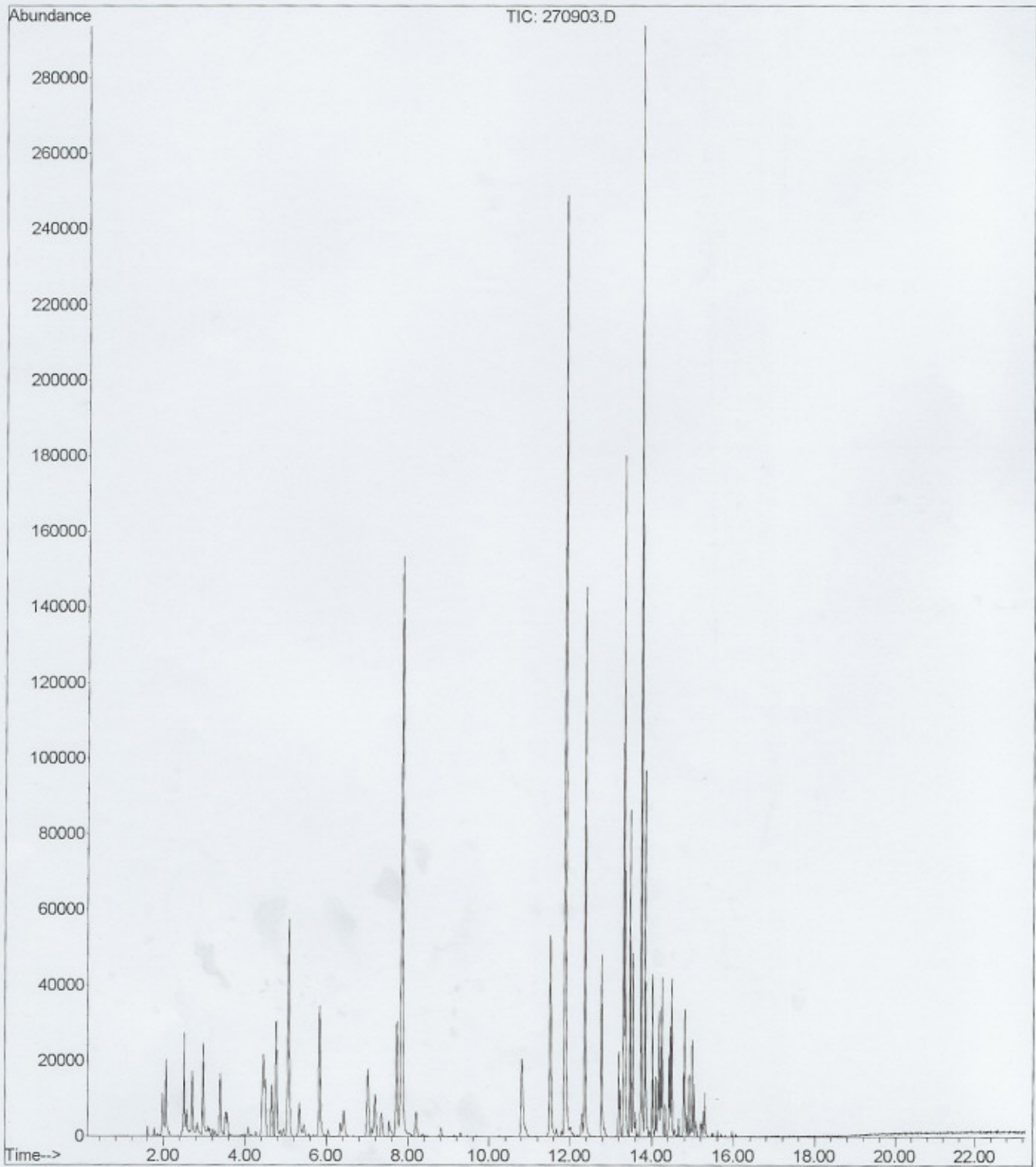
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Operator :
Acquired : 27 Sep 2007 9:58 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BJ70201-BLK1
Misc Info :
Vial Number: 5



File :C:\MSDCHEM\1\DATA\2007-Sep-27-1757.b\270902.D
Operator :
Acquired : 27 Sep 2007 8:24 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BJ70201-BS1@voc
Misc Info :
Vial Number: 2



File : C:\MSDCHEM\1\DATA\2007-Sep-27-1757.b\270903.D
Operator :
Acquired : 27 Sep 2007 8:55 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BJ70201-BS1@gas
Misc Info :
Vial Number: 3



File :C:\MSDChem\1\DATA\2007-Sep-27-1757.b\270910.D
Operator :
Acquired : 28 Sep 2007 12:37 am using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BJ70201-MS1
Misc Info :
Vial Number: 10

