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February 5, 2008

Mr. Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Site Conceptual Model and Feasibility Study/Corrective Action Plan**
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California
SAP Code 129449
Incident No. 97093397

Dear Mr. Wickham:

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba. Shell Oil Products U.S. (Shell) for the above referenced site. Preparation of this *Site Conceptual Model* (SCM) *and Feasibility Study/Corrective Action Plan* (FS/CAP) was requested in a December 5, 2007 Alameda County Health Care Services Agency (ACHCSA) letter to Shell. This document was written to comply with California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Storage Tank Regulations.

SITE DESCRIPTION AND BACKGROUND

The site is a former service station located on the northwest corner of Martin Luther King Jr. Way and 27th Street in a mixed commercial and residential area of Oakland, California (Figure 1). Currently, the site is occupied by Auto-Tech West and is utilized as an automotive repair shop.

A summary of previous work performed at the site and additional background information is contained in the SCM presented in Attachment A and discussed below.

SITE CONCEPTUAL MODEL

An SCM describes the relationship between the source area, transport pathways, and potential receptors. CRA developed the SCM for the subject site based on review of all available geological and analytical data. Supporting documents for the SCM include historical soil, groundwater, and soil vapor analytical tables, available boring and well logs for the site, cross sectional diagrams, sensitive receptor

information, and a list of environmental reports for the subject site. These documents along with the SCM are presented in Appendix A. Some key findings of the SCM are listed below.

- The constituents of concern (COCs) for the site are total petroleum hydrocarbons as gasoline (TPHg), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Fuel oxygenates are not considered to be COCs for the site.
- The highest gasoline constituent concentrations in soil, groundwater, and soil vapor have been detected near the former underground storage tanks (USTs), the adjacent former dispenser island, and along the western property boundary.
- Gasoline constituent concentrations in soil are defined vertically and laterally.
- Gasoline constituent concentrations in groundwater are defined vertically. Gasoline constituent concentrations in groundwater are defined horizontally except toward the northwest. Further investigation is planned. Overall BTEX concentrations have shown stable-to-decreasing trends
- BTEX concentrations in soil vapor in offsite probes are below applicable ESLs. Additional offsite soil vapor probe installations are planned.
- The site is underlain primarily by fine-grained soils. A coarser-grained lense is present at depths ranging from 10 to 25 feet below grade (fbg). Depth to groundwater has ranged from approximately 4 to 10 fbg. Groundwater flow direction ranges from west-northwest to southwest at a gradient of 0.01 to 0.02.
- Several shallow utility conduits have been identified beneath the site.
- Perched groundwater may be present in shallow utility conduits.
- No drinking water wells or surface water bodies are likely to be affected by site conditions.
- Based on the SCM analysis, there is no current link between sources-pathways-receptors for this site.

SITE GEOLOGY AND HYDROGEOLOGY

Soil Types: Cross sectional diagrams for the site are presented in the SCM in Attachment A. Soils encountered during previous subsurface investigations at the site have generally consisted of fine-grained soils (clays and silts). A coarser-grained lense may be present at approximately 10 to 25 feet below grade (fbg). The coarser-grained lense does not appear to extend beneath the site to the southeast (i.e. well boring MW-2) nor toward the southwest (i.e. borings CPT-6 and CPT-7), and it appears to thin northwest of the site (i.e. boring CPT-10). Additional non-continuous coarser-grained lenses are shown on cross sections for the site.

Groundwater Elevation and Gradient: Groundwater has been first encountered during drilling at the site at depths ranging from approximately 7 to 15 fbg. Depth to groundwater in site monitoring wells has

ranged historically from approximately 4 to 10 fbg. Based on this, groundwater may be semi-confined at the site.

Groundwater has also been encountered in shallow soil vapor probe screen intervals at the site even when no groundwater is encountered in deeper screen intervals in the same locations (i.e. SVP-3 during May 2007), and when groundwater in nearby monitoring wells is deeper. This may be indicative of perched water along preferential pathways beneath the site.

Between 2000 to 2006, groundwater flow direction varied from southwest to east. Since the installation of offsite wells MW-12 and MW-14, groundwater flow direction has varied from west-northwest to southwest at a gradient between 0.01 and 0.02.

DISTRIBUTION OF PETROLEUM HYDROCARBONS

Petroleum Hydrocarbon Distribution in Soil: Historical soil analytical data is included in the SCM in Attachment A, and total petroleum hydrocarbons as gasoline (TPHg) and benzene concentrations are shown on the cross sections presented in the SCM.

Most soil samples have been collected from below the typical static groundwater table at the site, and may be more indicative of groundwater conditions. TPHg and benzene concentrations have been highest in soil samples collected near the former USTs, the adjacent dispenser island, and along the western property boundary. TPHg and benzene are defined horizontally and vertically at the site.

Fuel oxygenates have not typically been detected in soil at the site.

Petroleum Hydrocarbon Distribution in Groundwater: Historical groundwater analytical data are included in the SCM in Attachment A, and TPHg and benzene concentrations are shown on the cross sections presented in the SCM.

Separate-phase hydrocarbons (SPH) were reported in soil borings B-1, B-5, B-6, and B-9 during the 1995 investigation. No SPH was reported during the 2000 investigation in soil boring B-19, located in the vicinity of B-6 and B-9, however.

Gasoline constituent concentrations are typically below detection limits in wells MW-1, MW-2, MW-3, and MW-12, defining these constituents northeast, southeast, south, and north, respectively, of the former USTs and dispensers. Petroleum hydrocarbon concentrations were also near or below detection limits in the grab groundwater sample collected from boring CPT-6, drilled southwest of the site during 2007.

Benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations are typically highest in onsite well MW-5. During the fourth quarter 2007, groundwater from well MW-5 contained 7,500 micrograms per liter (µg/L) benzene. Benzene concentrations in onsite wells MW-4, MW-6, MW-7, MW-8, and V-2, located near the former USTs and along the western property boundary, ranged from 850 µg/L to 4,800 µg/L during the fourth quarter 2007. Well V-1 is screened within the clean backfill of the former UST pit, and BTEX concentrations in this well have been low since 1997. Offsite well MW-14 contained 1,600 µg/L benzene during the fourth quarter 2007, and the shallow groundwater sample from boring CPT-10, drilled northwest of the site during 2007 containing 1,600 µg/L benzene, indicated BTEX is undefined northwest of the site. Further investigation is planned.

Deeper groundwater samples were collected from depths between 31 and 37 fbg from onsite borings CPT-1 through CPT-5, and offsite boring CPT-10. Groundwater analytical results indicate significant attenuation of contaminant concentrations with depth. Based on this, no further vertical assessment is warranted.

Methyl tertiary butyl ether (MTBE) has rarely been detected in site wells. Shell ceased operation of the fuel system at the site during 1979, prior to the addition of oxygenates in their fuel. The fuel oxygenates diisopropyl ether and tertiary butyl alcohol have been intermittently detected in groundwater at the site, and may be indicative of a secondary source not associated with Shell's operation of the site.

Petroleum Hydrocarbon Distribution in Soil Vapor: Historical soil vapor analytical data is included in the SCM in Attachment A.

Soil vapor samples were collected from soil borings GP-1 through GP-10 during the 2005 investigation. Several on- and offsite permanent soil vapor probes (VP-1 through VP-8) were subsequently installed during 2006 and 2007. Initial soil vapor sampling conducted during May and June 2007 from the soil probes indicated that petroleum hydrocarbon concentrations exceed applicable Environmental Screening Levels (ESLs) in soil vapor onsite. Offsite soil vapor concentrations did not exceed applicable ESLs. During October 2007, additional soil vapor samples were collected from the offsite soil vapor probes, and concentrations were lower than the initial sampling, and BTEX concentrations were still below applicable ESLs. The detection limits for TPHg in the soil vapor samples collected exceeds the November 2007 updated ESL for a residential scenario. The residential ESL for TPHg was updated to 10,000 micrograms per cubic meter (µg/m^3) from 26,000 µg/m^3. Quarterly monitoring of the offsite soil vapor probes is currently being conducted, and additional offsite soil vapor probe installations are planned.

TEIR I RBCA ANALYSIS

As a Tier 1 RBCA analysis, results of chemical analysis of soil, groundwater, and soil vapor samples were compared to published San Francisco Bay Regional Water Quality Control Board (RWQCB) ESLs for TPHg, and BTEX. The following tables present the maximum detected gasoline constituent concentrations in soil, and the most gasoline constituent concentrations in groundwater and soil vapor, and RWQCB ESLs (revised November 2007) for the COCs. While no drinking water wells have been identified in the vicinity of the site, ESLs were groundwater is a current or potential source of drinking water where used as a conservative comparison.

COC	Soil				Groundwater	
	Shallow Soil Concentration (a)	ESL (b)	Deep Soil Concentration (c)	ESL (d)	Groundwater Concentration (e)	ESL (b)
	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	µg/L
TPHg	**2,100**	83	**18,000**	83	**74,000**	100
Benzene	**1.8**	0.044	**100**	0.044	**7,500**	1.0
Toluene	**9.2**	2.9	**870**	2.9	**5,300**	40
Ethylbenzene	**91**	3.3	**370**	3.3	**3,000**	30
Xylenes	**230**	2.3	**2,000**	2.3	**20,400**	2.3

Notes:
(a) Concentrations in soil based on highest detections in shallow (less than 3 meters or 9.84 feet) soil samples.
(b) ESLs are *Table A Shallow Soil and Groundwater ESLs (Groundwater is a current or potential source of drinking water).*
(c) Concentrations in soil based on highest detections in deep (greater than 3 meters or 9.84 feet) soil samples.
(d) ESLs are *Table C Deep Soil and Groundwater ESLs (Groundwater is a current or potential source of drinking water).*
(e) Concentrations in groundwater based on highest detected during the fourth quarter 2007 sampling event.

Bold values exceed the ESL.

COC	Onsite Soil Vapor		Offsite Soil Vapor	
	Concentration (a)	ESLs (b)	Concentration (c)	ESLs (d)
	µg/m^3	µg/m^3	µg/m^3	µg/m^3
TPHg	**31,000,000**	29,000	**<24,000**	10,000
Benzene	**760**	280	<3.4	84
Toluene	690	180,000	34	63,000
Ethylbenzene	<690	580,000	<4.6	210,000
Xylenes	<2,090	58,000	<22.6	21,000

Notes:
(a) Soil vapor concentrations based on highest detections in onsite soil vapor probes during May 2007.
(b) ESLs are *Table E-2 Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (volatile chemicals only) – Commercial/Industrial Land Use.*
(c) Concentrations in soil vapor based on highest detections in offsite soil vapor probes during October 2007.
(d) ESLs are *Table E-2 Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (volatile chemicals only) – Residential Land Use.*

Bold values exceed the ESL.

Surface Soil: The highest COC concentrations detected in soil samples were found in samples collected in the vicinity of the former USTs, the adjacent former dispenser island, and along the western property boundary. TPHg, and BTEX concentrations were detected above the respective residential ESLs.

Groundwater: The highest concentrations from the fourth quarter 2007 sampling event were used for the Tier 1 RBCA analysis. TPHg and BTEX concentrations in groundwater are above the respective residential ESLs.

Soil Vapor: The highest onsite concentrations in soil vapor exceed the applicable commercial ESLs. The highest offsite concentrations in soil vapor do not exceed the applicable residential ESLs. The highest reporting limit for TPHg in offsite soil vapor samples does exceed the ESL, however.

CORRECTIVE ACTION PLAN (CAP)

Objectives

CAP cleanup objectives are based on one or more of the following criteria:

- ESLs established by the RWQCB's RBCA guidelines;
- Site Specific Target Levels established by conducting a Tier 2 RBCA evaluation;

- Current closure guidelines from the regulatory agencies, such as the California State Water Resources Control Board criteria for low-risk groundwater cases; or
- Application of Best Available Technology based on remediation system operation data that demonstrate asymptotic levels have been achieved for chemical concentrations in soil and/or groundwater.

Soil Clean-up Levels

For the purposes of this CAP, CRA assumes that the petroleum hydrocarbons detected in soil at the site may pose a risk to groundwater quality, human health, and/or the environment. Other than the Tier 1 RBCA evaluation, a detailed analysis of these potential risks has not yet been fully evaluated.

Although significant reductions in soil concentrations of COCs can be attained by various remedial alternatives, attainment of the approved soil cleanup levels may prove to be technically or economically infeasible. Thus, soil cleanup is limited to that which is technically or economically feasible.

To establish soil cleanup levels, CRA proposes using the RWQCB ESLs as the soil clean-up levels for this site. As described above, soil samples collected in the vicinity of the former USTs, the adjacent former dispenser island, and along the western property boundary exceed the respective ESLs for residential exposure.

Groundwater Clean-up Levels

According to the June 1999 *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report for Alameda and Contra Cost Counties, CA*, groundwater in the area is an existing or probable drinking water resource, and the basin has depths ranging from 500 to over 1,000 feet. As noted in the SCM, no drinking water wells have been identified in the vicinity of the site, and impacted groundwater beneath the site appears limited to the shallow water-bearing zone.

Per the Basin Plan, however, groundwater cleanup goals will be established based on the following:

- Background concentrations of individual pollutants;
- Applicable water-quality objectives maximum contaminant levels (MCLs) to protect designated beneficial uses of the water body for drinking water;
- Concentrations which do not pose a significant risk to human health or the environment; and
- Technologic and economic feasibility.

To establish groundwater cleanup levels, CRA proposes using the RWQCB ESLs as the clean-up levels for this site. As described above, petroleum hydrocarbon concentrations exceed applicable ESLs in groundwater beneath the site.

Remedial Alternatives Discussion and Approach

The proposed remediation objectives in this CAP are based on a combination of the above criteria. The CAP objectives are to implement the most cost-effective remedial approach to protect human health, groundwater quality and other sensitive receptors. Given the specific site conditions, the specific CAP objectives are to:

- Remove hydrocarbons from the identified source areas;
- Mitigate further hydrocarbon impact to groundwater;
- Reduce potential risks to current and future site occupants;
- Continue the groundwater monitoring program to monitor water quality; and
- Establish a contingency plan to expedite or enhance remediation if necessary.

Remediation alternatives reviewed in this CAP address these five objectives. Once hydrocarbons are substantially removed or hydrocarbon levels are reduced, natural attenuation processes may remediate any residual hydrocarbons and restore the impact area(s) to background concentrations.

CRA evaluated several remedial alternatives to achieve site remedial objectives. Remedial alternatives were selected to address the TPHg and BTEX components of fuel hydrocarbons. Past and recent subsurface investigation activities indicated that elevated levels of TPHg and BTEX are present in subsurface soils and groundwater. MTBE and oxygenate concentrations have been reported near or below laboratory detection limits. The remedial technologies selected for evaluation include monitored natural attenuation, groundwater extraction, in-situ chemical oxidation, dual-phase extraction, and excavation. Each of these alternatives are discussed below and evaluated on the basis of technical feasibility and cost effectiveness.

Remedial Alternatives

Monitored Natural Attenuation (MNA)

MNA consists of allowing hydrocarbons to biodegrade naturally and implementing a long-term groundwater monitoring plan. Decreasing concentration trends are the primary indicators of natural attenuation of hydrocarbons in groundwater. Secondary indicators such as dissolved oxygen (DO) concentrations, oxidation-reduction potential, alkalinity, and nitrate, sulfate, and ferrous iron concentrations are also used to evaluate the existence of and the potential for natural attenuation.

Feasibility and Cost-Effectiveness: MNA is typically a low-cost alternative if cleanup levels can be met within an acceptable timeframe. Given the current hydrocarbon concentrations in soil and groundwater, the timeframe to achieve cleanup levels by MNA is not reasonable.

Recommendation: CRA anticipates recommending MNA as a final remedial approach once active remediation is complete.

Groundwater Extraction (GWE)

Groundwater extraction (GWE) has historically been the most common remedial technology applied for groundwater restoration at service stations. Groundwater is extracted by down-well pumps and routed to a treatment system, such as activated carbon or an air stripper. The treatment system removes gasoline constituents from the extracted groundwater. The treated groundwater is typically discharged to the sanitary or storm sewer after treatment. GWE can also be used as an interim or temporary remediation measure. This approach can be cost effective when the majority of the source material has been removed and the extent of dissolved-phase groundwater impacts are limited. In this type of interim/temporary application, groundwater is pumped into a batch holding tank and periodically pumped into trucks for transportation to a treatment facility. Typically, 2 to 4 pore volumes are extracted to remove the remaining contaminant mass in groundwater.

In addition to dissolved-phase mass removal, GWE can provide hydraulic containment of the groundwater plume. Sufficient dewatering of the local formation can prevent contaminants from migrating with the natural groundwater flow. Source removal can only be achieved indirectly using GWE, as contaminants gradually desorb from soil (and/or residual NAPL) and enter the dissolved phase. The rate of desorption from soil is often the limiting factor for contaminant removal using GWE, especially as concentrations decline over time, and can compromise the cost-effectiveness of GWE before site cleanup goals are reached.

Feasibility and Cost-Effectiveness: Design and installation of a GWE system would cost approximately $150,000. This estimate is based on installation of 10 extraction wells, underground piping and utilities, a remediation compound, and treatment system. The annual GWE system operational cost is estimated at $50,000, which includes $10,000 for discharge of treated groundwater to the sanitary sewer. Assuming 15 years of GWE operation, the total operational cost would be $750,000.

Annual groundwater monitoring is estimated at $7,500. Assuming 15 years of groundwater monitoring during GWE system operation, and 3 years of groundwater monitoring following GWE to reach site cleanup goals, the total cost for groundwater monitoring is $180,000. System demolition would cost approximately $30,000, and the site closure request and well destructions would cost an estimated $40,000. The total estimated cost for this alternative is $1,150,000.

GWE would provide hydraulic control of dissolved-phase hydrocarbons, but would not directly or effectively remove source material. GWE would take a significantly long time to reach the remedial objectives, if at all.

Recommendation: Given that the primary constituents of concern are TPHg and BTEX, which are not effectively removed by GWE when source material is still present (and when mass is tied up in relatively low permeability soils), CRA does not recommend this remedial alternative.

In-Situ Chemical Oxidation (ISCO)

Injection of hydrogen peroxide can reduce hydrocarbon mass through in-situ chemical oxidation in two ways. In the presence of metals that are commonly found in the subsurface, the chemical reaction known as Fenton's Reagent produces a hydroxyl radical that is a strong oxidizer and ultimately oxidizes hydrocarbons to water and carbon dioxide. This reaction is strongly exothermic and results in increased soil and groundwater temperatures when used in-situ. Additionally, after introducing the solution into the subsurface, it also produces elevated dissolved oxygen concentrations in groundwater that can accelerate naturally occurring hydrocarbon biodegradation. The combination of chemical hydrocarbon oxidation within the treatment zone and enhanced biodegradation as dissolved oxygen migrates in groundwater away from the injection area can rapidly reduce hydrocarbon mass.

One method to apply hydrogen peroxide to a well would be to use a siphon pump and allow the hydrogen peroxide to infiltrate into the aquifer. Following the addition of the hydrogen peroxide, a slug of tap water would be added to the well to help facilitate hydrogen peroxide infiltration into the aquifer. The

amount of hydrogen peroxide and tap water added to each well would be based on the well diameter, depth to groundwater, water temperature, and soil permeability. Multiple applications are usually required. "Sentry" wells would be monitored for dissolved oxygen (DO) prior to initiating hydrogen peroxide injection to obtain background values. Once hydrogen peroxide injection is initiated, DO levels are monitored routinely in the treatment wells and sentry wells. Monitoring of bioparameters and petroleum constituent concentrations is conducted to determine the effectiveness of the hydrogen peroxide treatment.

Another method to apply hydrogen peroxide to the subsurface would be to install temporary, direct-push probes to the desired depth intervals instead of using permanent groundwater monitoring wells. The hydrogen peroxide can be injected into the probes using a pump to provide maximum infiltration of the solution into the subsurface.

Feasibility and Cost-Effectiveness: Implementation of hydrogen peroxide injection at the subject site using the direct push method would cost an estimated $60,000. This estimate is based upon installation of 30 injection points (15 foot center spacing) and 5 observation wells. The existing monitoring wells would also be used as observation points. Each injection point would be injected with 15 gallons of a catalyst and 200 gallons of 10% H_2O_2 per event. CRA estimates up to five injection events. Each injection event is estimated to cost $85,000. Five injection events is estimated to cost $425,000.

Groundwater monitoring is estimated to cost approximately $15,000 per year. Assuming 2.5 years of groundwater monitoring during hydrogen peroxide injection, and 2.5 years of groundwater monitoring following hydrogen peroxide injection to demonstrate that site cleanup goals will be met, the total cost for groundwater monitoring is $75,000. The site closure request and well destructions would cost an estimated $50,000. The total estimated cost for this alternative is $610,000.

The effectiveness of hydrogen peroxide injection has been demonstrated in bench-scale studies and at various sites, but the reliability and costs for field applications remain uncertain when compared to other technologies. Given the soil heterogeneities at this site, which include very low permeable soils, it not likely that hydrogen peroxide could be effectively dispersed in the subsurface (hence the estimated 30 injection points, which may be an underestimate). .

Recommendation: With the uncertainties regarding potential effectiveness and total overall cost, CRA does not recommend this remedial alternative.

Dual-Phase Extraction (DPE)

DPE is the process of applying high vacuum through an airtight well seal to simultaneously extract soil vapors from the vadose zone and groundwater from the saturated zone. The vacuum created by DPE can increase the groundwater yield from wells completed in low permeability formations. In addition, residual TPHg and BTEX in soil within the influence of the vacuum may be removed in the vapor phase. Groundwater extraction may provide hydraulic control of the hydrocarbon plume and reduce contaminant migration. Furthermore, extended dewatering of the saturated zone combined with vapor extraction can remediate residual hydrocarbons in the source area.

A positive displacement blower or liquid-ring pump may be used to create the higher vacuum needed to extract groundwater and soil vapors simultaneously. Alternatively, a submersible groundwater pump can be used to extract groundwater, while a blower or liquid-ring pump is used solely to extract soil vapors. The extraction device is supplemented with a soil vapor treatment (oxidizer or carbon adsorption) system. Extracted groundwater can be treated and discharged to the local sanitary sewer or storm drain with the appropriate authorization or off-hauled to a disposal facility.

Feasibility and Cost-Effectiveness: CRA conducted a DPE pilot test in date, which concluded that DPE is not technically feasible for the site conditions. Vacuum short-circuiting to the higher permeable soils occurred and the lower permeable soils did not yield sufficient air flow (<10 cubic feet per minute). Since DPE has been deemed infeasible, costing for implementation of DPE is not included.

Recommendation: DPE is not technically feasible for the site-specific hydrogeology; therefore, it is not recommended. DPE was included in this CAP to document the previous consideration of this remedial alternative.

Excavation

During excavation, contaminated soil is removed and transported to permitted off-site treatment and/or disposal facilities. In some cases, pre-treatment (via aeration, aboveground SVE, incineration, etc) of the contaminated media may be required in order to meet land disposal restrictions. Although excavation and off-site disposal alleviates the contaminant problem at the site, it does not treat the contaminant. The type of contaminant and its concentration level will impact off-site disposal requirements. The disposal of hazardous wastes is governed by the Resource Conservation and Recovery Act (RCRA) (40CFR Parts 261-265), and the U.S. Department of Transportation regulates the transport of hazardous materials (49 CFR Parts 172-179, 49 CFR Part 1387, and DOT-E 8876). Hazardous wastes must be treated to meet

either RCRA or non-RCRA treatment standards prior to land disposal. Transport and disposal of non-hazardous or special wastes are regulated by applicable California regulations.

Standard earth moving equipment (backhoes, bobcats, loaders, etc.) is typically utilized for excavation. Depending on available space, this range of equipment can excavate to a depth of approximately 20 feet. Larger earth moving equipment (excavators) can excavate slightly deeper. Entry into excavations deeper than 5 feet requires shoring per OSHA regulations. Deep excavations may require shoring to prevent collapse of the sidewalls and to prevent damage or undermining of neighboring structures, utilities, sidewalks, etc. Additionally, dewatering of the excavated area may be required depending on the groundwater elevation and recharge rates. The extent of excavation is typically estimated in advance using available soil boring data, but is ultimately directed by field personnel using field monitoring equipment such as a photo-ionization detector to screen soils by measurement of soil headspace vapor concentrations. Soil samples are collected for chemical analysis to confirm that the excavation limits are sufficient to meet soil cleanup levels.

Feasibility and Cost-Effectiveness: Implementation of excavation to a depth of 20 feet thoughout much of the western and west-central portion of the subject site is estimated to cost $447,500. This estimate is based upon a 4-week period to complete excavation and restoration of the target area. The impacted soil is assumed to be non-hazardous waste. The estimated limits of feasible excavation are depicted in Figure 2, which equates approximately to 2,000 cubic yards or 3,000 tons. This cost includes engineering, permitting, monitoring well destruction and replacement, shoring, excavating, dewatering, stockpiling, profiling the soil for disposal, confirmatory sampling and analyses, loading, off-hauling, disposal, backfilling and compaction, site restoration, and project management and reporting.

The auto repair service would have to be closed during excavation activities, and the estimated costs of lost business are not known. The cost estimate does include well destruction and replacement since groundwater monitoring is assumed to be necessary following excavation. Groundwater monitoring is estimated to cost approximately $7,500 per year, and would likely be necessary for 5 years at this site following excavation (mostly for off-site/downgradient groundwater monitoring). The closure request and well destructions are estimated to cost $20,000. The total cost for this alternative is estimated to be $505,000.

Recommendation: Through investigation and remediation activities to date, it has become apparent that there is remaining source material at this site that continues to leach into groundwater. Given the soil types and heterogeneities, excavation appears to be the only viable remedial alternative for reaching the site cleanup goals within a reasonable time. The table below presents a side-by-side comparison of the

remedial alternatives evaluated in this CAP. Excavation is the most cost-effective option. Therefore, CRA recommends implementing excavation at this site.

Remedial Alternative	**MNA**	**GWE**	**ISCO**	**DPE**	**Excavation**
Feasibility	Moderate	Moderate	Moderate	Poor	Good
Effectiveness	Poor	Poor	Unknown/ Poor	Poor	Good
Pilot Test Cost	NA	NA	NA	NA	NA
Design/Permit/Install Cost	NA	$150,000	$60,000	NA	$447,500
Operational Duration	NA	15 years	5 events	NA	NA
Average Annual/Event Operational Cost	NA	$50,000	$85,000	NA	NA
Total Operational Cost	NA	$750,000	$425,000	NA	NA
Annual Groundwater Monitoring Cost	$7,500	$10,000	$15,000	NA	$7,500
Post-Remediation Groundwater Monitoring Duration	NA	3 years	2.5 years	NA	5 years
Total Groundwater Monitoring Duration	>50 yrs	18 years	5 years	NA	5 years
Total Groundwater Monitoring Cost	$$$$$$$	$180,000	$75,000	NA	$37,500
System Demo	NA	$30,000	NA	NA	NA
Closure Request/Well Destructions	$30,000	$40,000	$50,000	NA	$20,000
Total Cost	>$405,000	$1,150,000	$610,000	NA	$505,000
Recommended Alternative					**X**

RECOMMENDATIONS

Based on the remedial objectives for this site, CRA recommends implementing excavation to protect future, potential receptors. Following excavation, CRA also recommends installation of a simple bio-sparge curtain to assist biodegradation of the downgradient dissolved-phase hydrocarbon plume. The

bio-sparge curtain would consist of a series on injection wells targeting the more permeable native soils at approximately 15 fbg, which is the most-likely migration pathway for dissolved-phase impacts. A standard air compressor would deliver air to these injection points. If ACHCSA agrees with this recommendation, then CRA will submit a Remedial Action Plan for the proposed work.

CLOSING

If you have any questions regarding the contents of this document, please call Jacquelyn L. England at (707) 933-2370.

Sincerely,
Conestoga-Rovers & Associates

Jacquelyn L. England
Project Manager

Daniel N. Lescure, P.E.

REGISTERED PROFESSIONAL ENGINEER
DANIEL N. LESCURE
C 70680
EXP. 6/30/09
CIVIL
STATE OF CALIFORNIA

Figures: 1 - Vicinity Map
2 - Proposed Excavation Limits

Attachment: A - Site Conceptual Model

cc: Denis Brown, Shell Oil Products US
Rodney & Janet Kwan, property owners of subject site
Monique Oates, property owner at 670 27th Street in Oakland
Scott Merillat, property owner at 664 27th Street in Oakland

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08/15/07

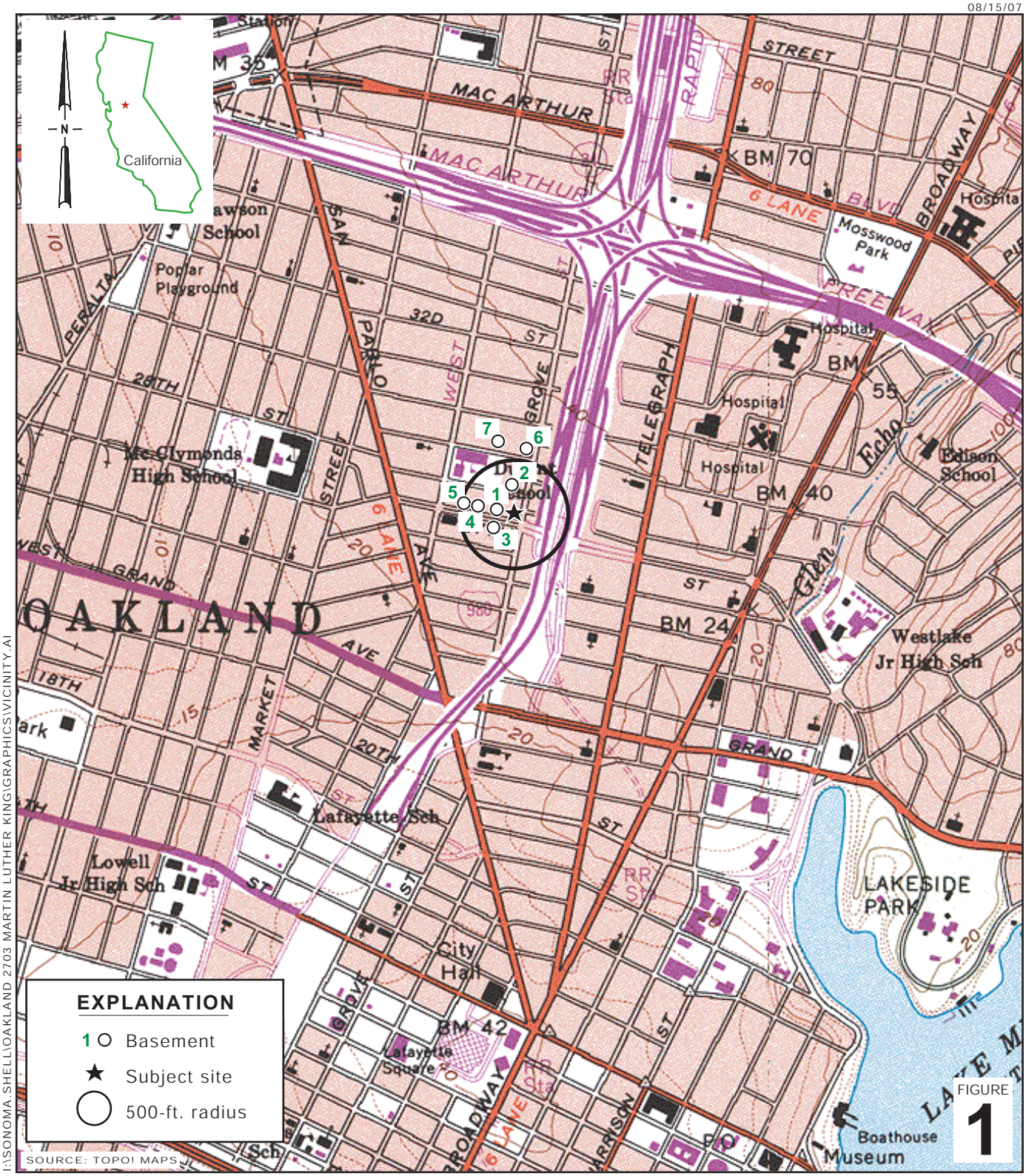

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FIGURE 1

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SCALE (MILES)

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

01/11/08

Vacant Lot
2727-29 Martin Luther King

MW-12
21.26
(ND)
(ND)

A.G. W/O
AST

MW-8
20.40
(42,000)
(4,900)

anode

former
vent
lines

BUILDING

MW-7
20.32
(26,000)
(3,000)

TRENCH

Wooden
Carport

MW-5
20.34
(61,000)
(7,500)

former USTs

V-1
20.42
(74,000)
(1,300)

MW-6
20.28
(7,000)
(850)

V-2
20.40
(2,000)
(19)

MW-4
20.30
(6,400)
(1,400)

MW-1
21.65
(NA)
(NA)

GATE

DRIVEWAY

former
dispensers

former
dispensers

MW-14
18.88
(32,000)
(1,600)

MW-2
19.90
(NA)
(NA)

MW-3
19.89
(NA)
(NA)

GATE

DRIVEWAY

DRIVEWAY

DRIVEWAY

MARTIN LUTHER KING JR. WAY

27TH STREET

EXPLANATION

MW-12	●	Monitoring well location (2/06)
MW-6	●	Monitoring well location (1/06)
MW-3	●	Monitoring well location (11/00)
MW-1	●	Monitoring well location (7/96)
V-1	◭	Soil vapor well location (7/96) (not used for contouring)

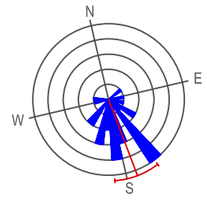
Proposed Excavation Limits
Depth = 20 fbg

-23.53 Groundwater elevation, in feet above msl

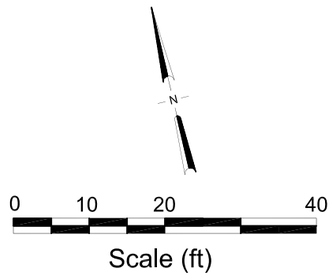
(ND) TPHg concentration in µg/L

(1,600) Benzene concentration in µg/L

Notes:
ND = Not detected
NS = Not sampled



Groundwater Flow Direction
(2Q00 through 1Q07)



Basemap from Virgil Chavez Land Surveying and Alameda County Assessors Parcel Map

Proposed Excavation Limits

January 11, 2008

CONESTOGA-ROVERS & ASSOCIATES

Former Shell Service Station
2703 Martin Luther King Jr Way
Oakland, California

FIGURE
2

I:\SONOMA.SHELL\OAKLAND 2703 MARTIN LUTHER KING JR WAY\REPORTS\CAP\FIGX EX LIMITS.DWG

Attachment A

Site Conceptual Model

SITE CONCEPTUAL MODEL
Prepared by: CRA
Date February 2008

Site Address:	2703 Martin Luther King Jr Way	**Incident Number:**	97093397
City, State:	Oakland, California	**Regulatory Agency:**	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
1	**Hydrocarbon Source**	
1.1	Identify/Describe Release Source and Volume (if known)	Unknown. Gasoline constituents were detected in soil samples collected following the removal of a 2,000-gallon underground storage tank (UST) during October 1994. Separate-phase hydrocarbons (SPH) were detected in soil borings B-1, B-5 ,B-6, and B-9, drilled during 1995.
1.2	Discuss Steps Taken to Stop Release	No direct repairs or action was taken to stop the release as there was no specifically identified equipment failure. The underground storage tanks (USTs) were removed during 1994, and the UST pit was overexcavated from 9 feet below grade (fbg) to approximately 11 fbg during 1996 prior to backfilling with clean, imported fill material.
2	**Site Characterization**	
2.1	Current Site Use/Status	The site is a former service station located on the northwest corner of Martin Luther King Jr. Way and 27th Street in a commercial and residential area of Oakland, California. A Shell service station operated on the property from approximately 1959 to 1979, with two dispenser islands, three gasoline USTs, and a waste oil UST. The fueling equipment was removed after Shell terminated operations at the site. In 1979, Acme West Ambulance Company purchased the site and installed a 2,000-gallon gasoline UST in the same approximate location of Shell's former USTs. The property was sold to Auto-Tech West (ATW) in 1986, and the site is currently used as an automotive repair shop. ATW reportedly never used the UST which was removed in 1994, although an active 150-gallon aboveground waste oil tank is currently in use in the northern-central portion of the property.
2.2	Soil Definition Status	Most soil samples have been collected from below the typical static groundwater table at the site, and may be more indicative of groundwater conditions. TPHg and benzene concentrations have been highest in soil samples collected near the former USTs, the adjacent dispenser island, and along the western property boundary. TPHg and benzene concentrations in soil are defined either by horizontal attenuation, non-detect concentrations, or non-detect PID measurements to the north by MW-12, to the northeast by MW-1 and B-8, to the southeast by B-4 and MW-2, to the south by MW-3, to the southwest by B-10 and GP-1, and to the northwest by VP-8. Fuel oxygenates have not typically been detected in soil at the site.
2.3	Separate-Phase Hydrocarbon (SPH) Definition Status	SPH was reported in soil borings B-1, B-5, B-6, and B-9 during the 1995 investigation. No SPH was reported during the 2000 investigation in soil boring B-19, located in the vicinity of B-6 and B-9.

Item	Evaluation Criteria	Comments/Discussion
2.4	Groundwater Definition Status (BTEX)	BTEX concentrations are typically below detection limits (DLs) in wells MW-1, MW-2, MW-3, and MW-12, defining these constituents northeast, southeast, south, and north, respectively, of the former USTs and dispensers. BTEX concentrations were also below DLs in the grab gw sample collected from CPT-6, drilled southwest of the site during 2007. BTEX concentrations are highest in onsite well MW-5. In the third quarter 2007, gw from well MW-5 contained 6,900 µg/L benzene. Benzene concentrations in onsite wells MW-4, MW-6, MW-7, MW-8, and V-2, located near the former USTs and along the western property boundary, ranged from 1,600 µg/L to 3,400 µg/L during the third quarter 2007. Well V-1 is screened within the clean backfill of the former UST pit, and BTEX concentration in this well have been low since 1997. Offsite well MW-14 contained 1,000 µg/L benzene during the third quarter 2007, and the shallow gw sample from boring CPT-10, drilled northwest of the site during 2007, contained 1,600 µg/L benzene, indicating BTEX is undefined northwest of the site. Further investigation is planned.
2.4a	Vertical Groundwater Definition Status (BTEX)	Deeper groundwater samples were collected from depths between 31 and 37 fbg from onsite borings CPT-1 through CPT-5 and offsite boring CPT-10. Groundwater analytical results indicate significant attenuation of contaminant concentrations with depth. Based on this, no further vertical assessment is warranted.
2.5	BTEX Plume Stability and Concentration Trends	BTEX concentrations in groundwater show a stable to slightly decreasing trend in onsite wells and in offsite well MW-14. BTEX concentrations have decreased several orders of magnitude in well V-1, installed within the clean backfill of the former UST pit.
2.6	Groundwater Definition Status (MTBE)	Shell ceased operation of the fuel system at the site during 1979, prior to the addition of oxygenates in their fuel, and MTBE has rarely been detected in site wells. The fuel oxygenates diisopropyl ether and tertiary butyl alcohol have been intermittently detected in groundwater at the site, and may be indicative of a secondary source not associated with Shell's operation of the site. Fuel oxygenates are not considered to be contaminants of concern at the site.
2.7	MTBE Plume Stability and Concentration Trends	Not applicable.
2.8	Groundwater Flow Direction, Depth Trends and Gradient Trends	Depth to groundwater in site monitoring wells has ranged historically from approximately 4 to 10 fbg. Groundwater has also been encountered in shallow soil vapor probe screen intervals at the site even when no groundwater is encountered in deeper screen intervals in the same locations (i.e. SVP-3 during May 2007), and when groundwater in nearby monitoring wells is deeper. This may be indicative of perched water along preferential pathways. Groundwater has been first encountered during drilling at depths ranging from approximately 7 to 15 fbg. Based on this, groundwater may be semi-confined at the site. Between 2000 to 2006, groundwater flow direction varied from southwest to east. Since the installation of offsite wells MW-12 and MW-14, groundwater flow direction has varied from west-northwest to southwest at a gradient between 0.01 and 0.02.

Item	Evaluation Criteria	Comments/Discussion
2.9	Stratigraphy and Hydrogeology	Cross sectional diagrams were prepared for the site during 2003 and addtional cross sectional diagrams were prepared during 2007. The site is generally underlain by fine-grained soils (clays and silts). A coarser-grained lense may be present at approximately 10 to 25 fbg. The coarser-grained lense does not appear to extend beneath the site to the southeast (see well boring log MW-2), nor to the southwest (see boring logs CPT-6 and CPT-7), and appears to thin northwest of the site (see boring log CPT-10). Additional non-continuous coarser-grained lenses are shown on cross sections for the site.
2.10	Preferential Pathways Analysis	Groundwater depth onsite has ranged historically from approximately 4 to 10 fbg. Based on this, the sanitary and storm sewer systems in the vicinity, buried at depths ranging from 3.5 to 9 fbg, may encounter groundwater. Additional utility lines were identified in the northwest corner of the property during a geophysical survey conducted during 2006, including a potential sewer line deeper than 4 fbg, an electrical line traced from the station building to the western property boundary, and an unidentified utility traced from the northwest corner of the building to the southwest near MW-5 and toward MW-6. These utility corridors affect ability to perform vapor extraction as found during pilot testing (January 2006).
2.11	Other Pertinent Issues - Soil Vapor Sampling	Several on- and offsite soil vapor probes have been installed. Initial sampling conducted during May and June 2007 indicate that gasoline constituent concentrations exceed applicable ESLs in soil vapor onsite. Soil vapor samples collected in offsite probes do not exceed applicable ESLs. During October 2007, additional soil vapor samples were collected from the offsite soil vapor probes, and concentrations were lower than the intial sampling event, and still below applicable ESLs. Quarterly monitoring of the offsite soil vapor probes is currently being conducted. Additional offsite soil vapor probe installations are planned.
2.12	Other Pertinent Issues - Natural Attenuation	Gasoline constituent concentrations in groundwater have been stable to slightly decreasing for several years, even though the primary sources (i.e. the fueling equipment and USTs) at the site have been removed. This may indicate that either natural biodegradation is not occurring at the site, or the rate of loading to groundwater from remaining impacted soil is equal or slightly less than the rate of natural attenuation. Additional indications of natural attenuation or biodegradation should be assessed at the site to determine which scenario is more likely.
3	**Remediation Status**	
3.1	Remedial Actions Taken	Oxygen releasing compounds (ORCs) were installed in wells V-1 and V-2 during the second quarter 2001 and removed during the fourth quarter 2001, and in wells MW-5 and V-2 during the first quarter 2003, and replaced semi-annually until removal during the first quarter 2005. Additionally, during January 2006, a five-day dual-phase extraction (DPE) test was conducted using wells V-1, V-2, MW-4, MW-5, MW-6, MW-7, and MW-8, and a constant vacuum DPT test was conducted using well MW-6.
3.2	Area Remediated	Wells V-1, V-2, MW-4, MW-5, MW-6, MW-7, and MW-8 have been used historically for remedial activities.

Item	Evaluation Criteria	Comments/Discussion
3.3	Remediation Effectiveness	The DPE testing indicated the following: Low gasoline constituent concentrations in vapor detected in well V-1 indicate a lack of residual source material in the former UST pit. High gasoline constituent concentrations in vapor were detected in wells V-2, MW-5, and MW-8. Extraction flow rates varied across the site, indicating heterogeneities in the soils or preferential pathways. The highest vapor concentration areas did not yield an effective vapor extraction flow rate, and the lowest vapor concentrations areas yielded an effective vapor extraction rate. Based on these relationships, DPE is not considered feasible for the target areas of the site.
4	**Well and Sensitive Receptor Survey**	
4.1	Designated Beneficial Water Use	According to the Basin Plan, the site is within the East Bay Plain basin. Existing beneficial uses of the East Bay Plain basin include municipal and domestic water supply, industrial service supply, industrial process supply, and agricultural water supply. The site falls within Zone A of the East Bay Plain basin, as defined in the June 1999 "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report for Alameda and Contra Costa Counties, CA." Groundwater in Zone A is noted as an existing or probable drinking water resource, with a deep basin ranging from 500 to over 1,000 feet. As noted above, gasoline constituents in soil and groundwater are sufficiently defined verically.
4.2	Shallow Groundwater Use	Cambria reviewed Department of Water Resources (DWR) records during 2003, and no wells were identified within a 1/2-mile radius of the site. Cambria also completed a door-to-door survey of properties within 500-feet of the site during 2003 and within 300-feet of the site during 2006, and no wells were identified. Based on this, shallow groundwater is not used in the site vicinity.
4.3	Deep Groundwater Use	No deep wells were identified within the 1/2-mile radius. Based on this, deep groundwater is not used in the site vicinity.
4.4	Well / Surface Water Survey Results	The nearest surface water body is Lake Merritt, located over 1/2-mile southeast of the site. No wells have been identified with a 1/2-mile radius of the site.
4.5	Likelihood of Impact to Wells	No wells have been identified with a 1/2-mile radius. Based on this, impact to wells is unlikely.
4.6	Likelihood of Impact to Surface Water	Based on the distance to the nearest surface water body and its crossgradient location, impact is unlikely.
5	**Risk Assessment**	
5.1	Site Conceptual Exposure Model (current and future uses)	The site is currently occupied by an automotive repair shop. The area surrounding the site is mixed commercial and residential. Future use of the parcel is assumed to be similar to current use. The automotive repair shop has open bays and threat of vapor intrusion is low.

Item	Evaluation Criteria	Comments/Discussion
5.2	Exposure Pathways	Potential exposure pathways include onsite commercial occupant inhalation of vapors from impacted soil and groundwater, dermal exposure, particle inhalation, and ingestion of impacted soil by onsite construction workers. As noted above, impact to drinking water wells and surface water bodies is considered unlikely, so direct exposure to groundwater is not considered a complete pathway. Potential vapor migration from impacted groundwater to offsite residential receptors is a complete pathway and is being monitored by vapor probes. To date, the concentrations in the offsite vapor probes are below residential ESLs for TPHg and BTEX. Monitoring and additional investigation are underway.
5.3	Human Health Risk Assessment Status	No formal risk assessment has been performed.
5.4	Ecological Risk Assessment Status	No ecological risk assessment has been performed.
5.5	Exceedances of Risk-Based Concentrations (Human Health)	Gasoline constituent concentrations in soil onsite exceed ESLs for TPHg, and BTEX. Groundwater concentrations in onsite wells MW-4, MW-5, MW-6, MW-7, MW-8, and V-2, and in offsite well MW-14 exceed ESLs for TPHg, and BTEX. Soil vapor concentrations in onsite probes VP-1, VP-2, VP-3, VP-4, and VP-6 exceed ESLs for indoor air for TPHg and benzene. None of these soil vapor probes are installed within the onsite building, however. Soil vapor concentrations in offsite probes VP-7 and VP-8 are below applicable ESLs.
5.6	Exceedances of Risk-Based Concentrations (Ecological)	No ecological risk assessment has been performed.
6	**Additional Recommended Data or Tasks**	
6.1	Task/Data	CRA has submitted a work plan (November 13, 2007) for additional offsite monitoring well and soil vapor probe installation to define gasoline constituents in groundwater and soil vapor offsite.
6.2	Task/Data	CRA recommends assessing the presence of biodegraders in soil-vapors and groundwater beneath the site.
6.3	Task/Data	CRA recommends using recently released ESL guidance document and site soil vapor data to identify appropriate target cleanup goals for this site, and preparing the agency-requested corrective action plan to meet those goals.

Attachments
1 - Site History
2 - Historical Soil Sampling Results and Locations
3 - Historical Groundwater Sampling Results
4 - Available Boring and Well Logs
5 - Cross Sectional Diagrams
6 - Utility Maps
7 - Historical Soil Vapor Sampling Results
8 - Sensitive Receptor Survey/Well Location Map
9 - List of Environmental Documents

ATTACHMENT 1

Site History

ATTACHMENT A
Site History
Former Shell Service Station
2703 Martin Luther King Jr. Drive
Oakland, CA

PREVIOUS WORK

1994 UST Removal: The 2,000-gallon UST was removed on October 11, 1994 by KTW & Associates on behalf of ATW. Two soil samples (TP-1-N and TP-2-S) were collected from beneath the tank. Chemical analysis of the soil samples identified the presence of total petroleum hydrocarbons as gasoline (TPHg) at concentrations ranging from 870 milligrams per kilogram (mg/kg) to 18,000 mg/kg. Benzene concentrations in these samples ranged from 2.9 to 100 mg/kg. The tank pit remained open until March 19, 1996 when the excavation was back-filled subsequent to over-excavation by a Shell contractor.

1995 Phase I Environmental Site Assessment (ESA): In August and September 1995, Enviros Inc. (Enviros) performed a Phase I ESA for this site. Available information collected during this ESA indicates that the subject property was occupied by residential housing prior to approximately 1959. A building permit to erect a building was obtained for Shell Oil Company in February 1959. A building permit to "close lube bays with sheet metal panels" was secured for Shell Oil Company in July 1976.

In 1979, several building permits were secured for Acme to modify existing site structures. Two building permits were secured in 1979 related to the installation of a fuel pump at the site.

During a site survey in conjunction with the Phase I ESA, an excavation was observed near the southwest corner of the service building. The excavation was covered by a blue tarp. This excavation's location is consistent with that of the 2,000-gallon UST removed in 1994 by ATW, and with a large concrete slab observed in aerial photographs taken in 1971 and 1973, and a smaller concrete slab observed in aerial photographs taken in 1981 and 1985. The larger concrete slab observed in the aerial photographs was likely covering the USTs operated by Shell, and the smaller slab was likely covering the UST operated by Acme, confirming that the same location was used for both UST complexes.

1995 Subsurface Investigation: A site assessment was performed by ACC Environmental Consultants on May 23, 1995. This included drilling nine soil borings (B-1 through B-9) using a pneumatic sampling tool in the vicinity of the excavation (which formerly housed both Shell's and Acme's USTs) and the product dispenser islands, and collecting soil and groundwater samples for chemical analysis. TPHg concentrations in soil samples ranged from <20.0 to 830 mg/kg. Benzene concentrations ranged from <1.0 to 1.8 mg/kg. Separate phase

hydrocarbons (SPH) were identified in water samples collected from four of the soil borings (B-1, B-5, B-6, and B-9). TPHg concentrations in the non-SPH grab groundwater samples submitted for chemical analysis ranged from <50 to 89,000 micrograms per liter (µg/l). Benzene concentrations in the grab groundwater samples ranged from <0.5 to 21,000 µg/l.

1996 Over-Excavation: Over-excavation and back-filling of Acme's former UST excavation were performed on March 19, 1996. The excavation, originally left open to 9 fbg, was over-excavated to approximately 11 fbg. Two soil samples (TP-3-W and TP-4-E) were collected from the bottom of the over-excavated former UST area. Soil sample TP-3-W, collected from the western end of the excavation, contained 560 mg/kg TPHg, and 3.1 mg/kg benzene. Soil sample TP-4-E, collected from the eastern end of the excavation, contained 2,700 mg/kg TPHg and <3.0 mg/kg benzene. The excavation was back-filled with clean imported fill material. Soil sampling and back-filling activities are documented in Enviros' May 10, 1996 correspondence.

1996 Subsurface Investigation: In July 1996, Enviros performed additional site assessment activities. Six exploratory borings (B-10, B-11, B-12, B-13, V-1, and V-2) were drilled and sampled on July 17 and 19, 1996 using a hollow-stem auger drill rig. Borings B-11 and B-12 were completed as groundwater monitoring wells MW-1 and MW-2, and borings V-1 and V-2 were completed as soil vapor extraction wells V-1 and V-2, respectively. Soil sampling was not performed in boring V-1 due to the fact that it was installed into the back-fill material within the former UST excavation. A soil sample from below the saturated zone in boring V-2 was submitted for physical parameter analyses (porosity, permeability, fractional organic carbon content, and dry bulk density).

TPHg and benzene were not detected in soil samples collected from MW-1 (B-11), MW-2 (B-12), and B-13. TPHg was detected in soil samples collected from B-10 and V-2 at concentrations of 1.7 and 110 mg/kg, respectively. Benzene concentrations in soil samples from B-10 and V-2 were <0.0050 and 0.29 mg/kg, respectively.

Grab groundwater samples were collected from borings B-10, B-12 (MW-2), and B-13 at the depth of first encountered groundwater (approximately 8 to 11 fbg) for chemical analysis. Boring B-11 (MW-1) did not yield sufficient groundwater for grab groundwater sample collection. Monitoring wells MW-1 and MW-2 were developed and sampled on August 2, 1999 by Blaine Tech Services (Blaine) of San Jose, CA. TPHg concentrations in the groundwater samples ranged from <50 to 290,000 µg/l. Benzene concentrations ranged from <0.50 to 34,000 µg/l.

ATTACHMENT A
Site History
Former Shell Service Station
2703 Martin Luther King Jr. Drive
Oakland, CA

1997 Modified Phase I ESA: In February 1997, Enviros performed a modified Phase I ESA for the subject facility. A review of aerial photographs (1952 to 1994), city directories (1967 to 1993) and Sanborn maps (1912 to 1970) did not reveal evidence of an off-site source of petroleum hydrocarbons which would have impacted groundwater onsite. The properties located north and west of the subject facility appear to have been occupied by residential houses from at least 1912 to the present. The nearest gasoline stations identified in the vicinity of the subject facility were a former Chevron station (740 27th Street at West) approximately 450 feet to the west, a former station (26th Street and Martin Luther King, Jr. Way) approximately 300 feet to the south, and a former Mobil station (554 27th Street) approximately 950 feet to the east.

2000 Sensitive Receptor Survey: In late 2000, Cambria performed a sensitive receptor survey (SRS) which attempted to identify wells and underground utility conduits. Cambria obtained utility conduit maps from the City of Oakland Engineering Department to locate and map underground utility conduits which may act as preferential pathways for contaminant migration from the site. These conduit trenches are typically back-filled with materials which are more permeable than the surrounding native soils, therefore providing a path of least resistance for petroleum hydrocarbon migration within the local groundwater. Using these maps, Cambria identified the sanitary and storm sewer systems as the only utility conduits in the site vicinity which may act as preferential pathways. All other utilities are typically buried at depths which are shallower than those of the sewer systems. Conduits identified in the area are located at depths of approximately 3.5 to 9 fbg. Therefore, the potential does exist for groundwater to flow within these conduit trenches. Groundwater depth onsite historically ranges from approximately 4.5 to 10 fbg. However, since the typical groundwater flow direction onsite has generally been to the south, it is likely that any contaminant migration within the utility conduits would be limited, since the utility conduits located to the south of the site are the shallowest of all the conduits identified adjacent to the site at depths of 3.5 to 5.5 fbg. Cambria obtained well installation and destruction records from the California Department of Water Resources (DWR) in order to identify any active water producing wells in the vicinity of the site which may be at risk to petroleum hydrocarbon impact due to contaminant migration from the subsurface of the site. DWR records did not identify any existing wells within a ½-mile radius of the site.

2000 Subsurface Investigation: In November 2000, Cambria installed three soil borings (B-17, B-18 and B-19) and three groundwater monitoring wells (MW-3, MW-4 and MW-5). Up to 2,100 mg/kg TPHg and 3.3 mg/kg benzene were reported in soil samples collected. No TPHg or benzene was detected in soil samples collected from well MW-3. Except for 0.0070 mg/kg

detected in soil sample B-18-7.0, no methyl tertiary butyl ether (MTBE) was detected in any of the analyzed soil samples. Tertiary butyl alcohol (TBA) was detected in soil samples MW-4-5.0 and B-19-5.0 at concentrations of 0.0079 and 0.0059 mg/kg, respectively.

Grab groundwater samples were collected from borings B-17 through B-19 at first encountered groundwater for analyses during the investigation. TPHg concentrations in grab water samples collected from the borings ranged from 58,000 to 190,000 µg/l. Benzene concentrations ranged from 4,400 to 13,000 µg/l. MTBE was detected in groundwater at concentrations of 16 and 300 µg/l from B-19 and B-17, respectively, and TBA was detected at 240 µg/l in B-19 only. No SPH was observed during the investigation.

2001 Oxygen Releasing Compound (ORC) Installation: As approved by the (ACHCSA), Blaine installed ORCs in wells V-1 and V-2 during the second quarter monitoring event on May 2, 2001. ORCs were removed during the fourth quarter 2001 monitoring event. MTBE has not been detected in these two wells since the ORCs were installed.

2002 Site Investigation: In April 2002, Cambria installed borings B-20 through B-22. Groundwater was first encountered in the borings between 8.0 fbg (B-20) and 8.8 fbg (B-21 and B-22). The maximum TPHg and benzene concentrations detected in soil were 380 and 0.17 mg/kg, respectively, in the soil sample collected from 8.0 fbg in boring B-22, located behind the station building. No TPHg was detected in soil samples collected from boring B-21. No MTBE was detected in any of the analyzed soil samples collected from borings B-20, B-21, or B-22. Up to 160,000 µg/l TPHg and 18,000 µg/l benzene were reported in grab groundwater samples collected from borings B-20, B-21, and B-22. No MTBE was detected in grab groundwater samples collected from the borings. The complete report of findings was included in Cambria's June 21, 2002 *Site Investigation Report*. This document included recommendations for additional activities; however, a response from ACHCSA was never received.

2003 Door-to-Door Survey and Cross Sectional Diagram Preparation: During 2003, Cambria conducted a door-to-door survey of properties within 500 feet of the site. No wells were identified, but seven structures with basements were identified and mapped. Additionally, two cross sectional diagrams were prepared for the site. The complete report of findings is included in Cambria's December 16, 2003 *Sensitive Receptor Survey, Geologic Cross Sections, and Fourth Quarter 2003 Groundwater Monitoring Report.*

ATTACHMENT A
Site History
Former Shell Service Station
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Oakland, CA

2003 - 2005 Oxygen Releasing Compound (ORC) Installation: Although agency approval was not received, Shell proactively installed ORC in wells MW-5 and V-2 during first quarter of 2003. The ORCs were replaced on a semi-annual basis. The use of ORC was discontinued during the first quarter 2005, at Shell's request.

May 2005 Agency Meeting: Since no agency response was received to the June 2002 *Site Investigation Report* that contained recommendations for additional investigation, and since monitoring continued to indicate elevated concentrations of volatile constituents in groundwater, Shell authorized Cambria to prepare a work plan to investigate subsurface soil, groundwater, and soil vapor conditions along the property boundaries and at select locations on site. A new case worker was assigned to this project in early 2005, and following a meeting with the new case worker, technical comments and work plan approval were received in ACEH correspondence dated June 6, 2005. On August 15, 2005, Cambria submitted correspondence providing responses to the technical comments, notification of field work, and a request for extension for the report of findings. In correspondence dated August 19, 2005, ACEH granted the extension.

2005 Soil Vapor Investigation: From August 28 through 31, 2005, Cambria installed ten soil borings (GP-1 through GP-10). In soil, TPHg was detected from borings GP-1 at 10.0 fbg, GP-2 at 4.5 fbg, GP-3 at 5.0 and 8.5 fbg, GP-6 at 9.5 fbg, and GP-7 at 9.5 fbg at concentrations ranging from 1.5 to 3,300 mg/kg and benzene was detected from borings GP-2 at 4.5 fbg, and GP-3 at 5.0 and 8.5 fbg at concentrations ranging from 0.027 to 15 mg/kg. In groundwater, TPHg was detected in all four borings (GP-1, GP-3, GP-6, and GP-7) at concentrations ranging from 9,100 to 140,000 µg/l and benzene was also detected in all four groundwater samples at concentrations ranging from 320 to 17,000 µg/l. Soil vapor samples were collected from each boring and TPHg was detected in GP-1 through GP-10 at concentrations ranging from 350 to 71,000,000 micrograms per cubic meter (ug/m^3). Benzene was detected in soil samples collected from borings GP-1 through GP-3 and GP-5 through GP-10 at concentrations ranging from <4.1 to 170,000 ug/m^3. A complete discussion and presentation of these activities and findings is included in Cambria's November 15, 2005 *Site Investigation Report*. This report also included recommendations for performing a door-to-door survey within 300 feet of the site to confirm basement locations, building construction, and potential sources; preparing work plans for pilot testing and plume delineation. Cambria submitted the November 22, 2005 *Feasibility Study Work Plan* and the December 16, 2005 *Plume Delineation Work Plan*, which Alameda County Environmental Health (ACEH) staff approved in their December 29, 2005 correspondence.

ATTACHMENT A
Site History
Former Shell Service Station
2703 Martin Luther King Jr. Drive
Oakland, CA

December 2005 – Door-to-Door Survey: Cambria conducted a door-to-door survey within 300-feet of the subject site for wells, basements, and foundation type to identify building construction and potential vapor receptors. Questionnaires were sent to 110 properties and responses for 25 properties were received as of January 13, 2006. Tabulated data and a list of properties included in the survey, and which completed surveys were received was included in our *Door to Door Survey Report, Access Agreement Update, and Status/Schedule Update* submittal dated January 15, 2006. Of the 25 responses received, none of the properties had basements. Three properties were denoted as vacant; nine properties contained buildings constructed with slab-on-grade foundations; three contained buildings constructed with perimeter foundations. Responses for the other 10 properties were either left blank, marked as unknown, or the response was contradictory or unclear. Regarding underground storage tanks, 17 responses were negative, four responses were marked as "unknown", and four responses were left blank. With the exception of the monitoring wells at the subject site, no wells were identified through the survey activities.

January 2006 – Subsurface Investigation: On January 3 and 4, 2006, Cambria advanced three monitoring wells (MW-6 through MW-8), one soil boring (B-23), and six soil vapor probes (VP-1 through VP-6). In soil, TPHg was detected from borings MW-6 at 10.0 and 15.5 fbg, MW-7 at 11.5 and 16.5 fbg, MW-8 at 10.5 and 19 fbg, and B-23 at 10, 15.5, and 19.5 fbg at concentrations ranging from 7.1 to 3,800 mg/kg. Benzene was detected from borings MW-6 at 19.5 fbg, MW-8 at 19.5 fbg, and B-23 at 15.5 and 19.5 fbg at concentrations ranging from 0.0090 to 33 mg/kg. The vapor probes were not installed due to saturated soil conditions. A complete discussion and presentation of these activities and findings is included in Cambria's April 14, 2006 *Site Investigation Report, and First Quarter 2006 – Groundwater Monitoring Report.*

January 2006 – DPE Pilot Test: Cambria conducted a five-day dual-phase extraction pilot test the week of January 16, 2006. The details and results were presented in Cambria's *Pilot Test Report* dated March 14, 2006. DPE was performed on wells V-1, V-2, MW-6, MW-7, MW-4, MW-5, and MW-8. On January 20, 2006, a constant vacuum DPE test was conducted on well MW-6. The report concluded **1)** the absence of vapor phase concentrations (and groundwater concentrations) from well V-1 indicates that the former UST excavation does not contain residual source material; **2)** high sustained and increasing vapor concentrations suggest source material is present in the vicinity of wells V-2, MW-5, and MW-8; **3)** variability in extraction flow rates across the site may reflect heterogeneities in subsurface soils or may suggest preferential pathways; and **4)** the extremely high effective radius of influence calculated for wells MW-5 and MW-8 during

DPE testing on well MW-7 supports the presence of a preferential pathway in the vicinity of these wells. The data from the DPE pilot test suggests that DPE is feasible at this site. The groundwater table was effectively drawn down by DPE and moderate vapor extraction flow rates were yielded from some of the extraction points. Although DPE is deemed feasible, Cambria did not recommend implementing DPE at this site. The extraction points that yielded the highest vapor concentrations did not yield an effective vapor extraction flow rate. Conversely, low vapor concentrations were yielded from the extraction point that did yield an effective vapor extraction flow rate. Therefore, DPE is not considered feasible in the target areas at this site.

February 2006 – Install Offsite Wells MW-12 and MW-14: The December 20, 2005 *Plume Delineation Work Plan* proposed offsite activities including the installation of seven offsite monitoring wells and eight soil vapor probes. Based on responses from only two of the offsite property owners, Cambria completed a portion of the scope of work recommended. Monitoring wells MW-12 and MW-14 were installed at two offsite properties to 20 and 14.5 fbg, respectively. Groundwater was first encountered during drilling activities in borings MW-12 and MW-14 at 14.0 and 11.0 fbg, respectively. None of the soil samples from well MW-12 indicated the presence of any TPHg or BTEX. The 5-fbg sample from MW-14 also did not contain any reportable concentrations. TPHg was reported in the 10- and 14-fbg samples from MW-14 at concentrations of 32 and 970 mg/kg, respectively. Benzene was reported in the same two samples at concentrations of 0.0083 and 2.3 mg/kg, respectively. Fuel oxygenates were requested on the 10-fbg and 14-fbg soil samples from MW-14, and none were reported above the detection limits. These activities are documented in Cambria's May 25, 2006 *Subsurface Investigation Report.*

April 2006 – Survey and Site Visit: In addition to surveying the new wells, Cambria identified historical boring locations from patches on the ground surface, historical excavation edges, trenches, and other site features, and requested that they be included in the survey. Report figures since May 2006 have included the new survey data. Also, during the site visit, an inspection inside the building identified two bathrooms. A floor drain was observed in the northern-most bathroom. Standing liquid was present in the floor drain and automotive parts and cleaners were stored in this area. Thus, a sample from the floor drain was collected and submitted for analyses of volatile organic compounds (VOCs) by EPA Method 8260 and semi-volatile organic compounds (SVOCs) by EPA Method 8270. The floor drain sample was analyzed for VOCs and SVOCs. The results indicated the presence of carbon disulfide (3.69 µg/l), ethylbenzene (0.610

µg/l) and toluene (0.770 µg/l). This information was reported in Cambria's May 25, 2006 *Subsurface Investigation Report.*

May 2006 – Geophysical Survey: As recommended in Cambria's May 25, 2006 *Subsurface Investigation Report*, a geophysical study was performed on May 22, 2006. The objectives of this effort were to determine whether or not a waste oil UST was in the ground in the northwest portion of the property, and to evaluate the presence of subsurface utilities in this area that may act as preferential pathways, including the mapping of the sewer line from the floor drain found inside the northwest corner of the building during the April 19, 2006 site inspection. The results did not identify the presence of a UST on the northwest corner of the site, but did find another vent line located behind the northeast corner of the station building. A subsurface electric line was traced from the station building to the western property boundary, and an unidentified subsurface utility was traced from the northwest corner of the station building to the southwest, near MW-5 and toward MW-6. The presence of the unknown utility line in the northwest corner confirms the observations of a possible preferential pathway in this area based on the dual-phase extraction pilot test performed in January 2006. NORCAL was unable to run a line down the floor drain inside of the building due to the trap in the line, so the sewer cleanout was found on the exterior of the building. Accessing the cleanout would have resulted in damage to the cap, and the property owner would not grant permission for Cambria to open the cleanout and repair any damage. Thus, the location, direction, and depth of the sewer line in this area are still unknown. However, based on the GPR survey that was performed to try to locate a non-metallic sewer line, NORCAL concludes that the sewer line may be more than 4 feet below grade, since the GPR was unable to identify the line. This information was presented in Cambria's July 25, 2006 *Status Update, Report of Geophysical Survey, and Request for Agency Meeting.*

August 2006 – Agency Meeting: On August 2, 2006, a meeting between Shell and the ACEH was held to discuss results of recent activities, the status of pending activities, and an agreed upon course for proposed additional activities. During that meeting, the parties agreed to a scope of work, which was presented in Cambria's August 31, 2006 *Subsurface Investigation Work Plan.* The objectives detailed in that work plan were to:

- Obtain detailed lithologic information onsite and offsite by continuous sampling using electronic logging by cone penetration testing (CPT) technique in five onsite and five offsite borings labeled CPT-1 through CPT-10;
- Collect shallow soil gas samples from approximately 5 feet below grade (fbg) near offsite monitoring well MW-14 (CPT-8);

- Obtain groundwater samples from first encountered groundwater from areas where wells have not been installed (CPT-5 through CPT-7, CPT-9, and CPT-10);
- Collect groundwater from deeper within the first aquifer at all locations from approximately 20-25 fbg, depending on the CPT log results;
- Collect groundwater samples from a deeper interval at select locations for vertical groundwater profiling (CPT-4, CPT-6, CPT-8, and CPT-9);
- Install the onsite vapor probes to allow for the future collection of soil gas samples near the western property boundary;
- Collect ambient air samples from the above-ground basement area at 664 27th Street for chemical analysis.

This scope of work was approved by the ACEH in correspondence dated September 5, 2006.

October 2006 – CPT-1 through CPT-5 and VP-1 through VP-6: Cambria installed CPT-1 through CPT-5 and VP-1 through VP-6 on the subject site. Offsite borings were not successful due to concerns about property damage (CPT-8 and CPT-9), and utility conflicts (CPT-6 and CPT-7), and lack of access agreement (CPT-10). There was a lack of adequate groundwater recharge for many of the groundwater samples attempted between 15 and 29 fbg. Groundwater sample results from between 31-37 fbg confirm significant attenuation of contaminants of at least one order of magnitude from the interval monitored by the site wells (5-20 fbg), thus nor further vertical delineation is warranted. Comparison of data from 1995, 2000, and 2006 in similar location (B-6 & B-9, B-19, and CPT-5, respectively) demonstrates attenuation of contaminant concentrations over time is occurring. The six onsite vapor probes could not be sampled due to the presence of water in some of the probes. A site inspection at the neighboring property was performed and revealed that due to significant ventilation and air exchange with outdoor ambient air, vapor sampling within the above-ground basement was no longer warranted. These activities are documented in Cambria's January 31, 2007 *CPT Investigation and Vapor Probe Installation Report*.

May and June 2007 CPT-6, CPT-7, and CPT-10 and VP-7 and VP-8: CRA drilled offsite borings CPT-6, CPT-7, and CPT-10 and installed offsite vapor probe pairs VP-7 and VP-8. No TPHg or benzene were detected in soil samples collected from VP-7 and VP-8, or from boring CPT-6. There was a lack of adequate groundwater recharge in the shallow groundwater sampling interval in boring CPT-6, and in both the shallow and deeper attempted intervals in boring CPT-7. Grab groundwater samples from boring CPT-10 contained 38,000 µg/L TPHg and 1,600 µg/L benzene at 13-17 fbg, and 640 µg/L TPHg and 3.8 µg/L benzene at 20-23 fbg. Soil vapor

samples collected from both sampling intervals (approximately 2.5 and 4.5 fbg) in probes VP-7 and VP-8 did not contain TPHg or benzene concentrations above the residential ESLs. These activities are documented in CRA's August 27, 2007 *Plume Delineation and Soil Vapor Sampling Report.*

1996 to Present – Ongoing Groundwater Monitoring: Quarterly groundwater monitoring has been ongoing at the site since August 1996 and currently includes onsite monitoring wells MW-1 through MW-8, VP-1, and VP-2, and offsite monitoring wells MW-12 and MW-14. Fuel oxygenates are not a significant component of the groundwater plumes, although some detections of di-isopropyl ether and tertiary butyl alcohol have been observed. Overall, the groundwater flow direction is primarily to the west, with some radial components on site to the northwest and southwest. Historically, monitoring wells MW-1, MW-2, MW-3, and MW-12 have shown little or no impact from petroleum hydrocarbons. Maximum historical concentrations of TPHg and benzene have been observed in onsite monitoring well MW-5. The Third Quarter 2007 sample event (August) reported maximum concentrations of TPHg and benzene at 110,000 and 6,900 µg/l, respectively in well MW-5. Downgradient monitoring well MW-14 reported TPHg and benzene at 45,000 and 1,000 µg/l, respectively, for this same event.

ATTACHMENT 2

Historical Soil Sampling Results and Locations

08/17/07

Site Plan

EXPLANATION

VP-7	Vapor probe location (5-6/07)
CPT-6	CPT boring location (5-6/07)
CPT-8	Attempted CPT boring location (5-6/07)
CPT-1	CPT boring location (10/06)
VP-1	Vapor probe location (1/06)
V-1	Soil vapor well location (7/96)
MW-1	Monitoring well location (7/96-2/06)
B-23	Soil boring location (1/06)
GP-1	Soil boring location (8/05)
B-20	Soil boring location (4/02)
B-17	Soil boring location (11/00)
B-10	Soil boring location (7/96)
TP3-W	UST excavation samples (3/96)
B-1	Soil boring location (5/95)
*	Not surveyed
TP1-N	UST excavation samples (10/94)

28TH STREET

MARTIN LUTHER KING JR. WAY

27TH STREET

Residential 679 28th St.
Residential 673 28th St.
Residential 669 28th St.
Residential 663 28th St.
Vacant Lot 2727-29 Martin Luther King
Residential 665 28th St.
Residential 2719-23 Martin Luther King
Former Shell Station 2703 Martin Luther King
Residential 670 27th St.
Residential 688 27th St.
Residential 664 27th St.
carport
BUILDING
Former USTs
Former Dispensers
Wooden Carport
DRIVEWAY
median

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 MW-8 MW-12 MW-14
VP-1 VP-2 VP-3 VP-4 VP-5 VP-6 VP-7 VP-8
CPT-1 CPT-2 CPT-3 CPT-4 CPT-5 CPT-6 CPT-7 CPT-8 CPT-9 CPT-10
V-1 V-2
GP-1 GP-2 GP-3 GP-4 GP-5 GP-6 GP-7 GP-8 GP-9 GP-10
B-1 B-2 B-3 B-4 B-5 B-5* B-6* B-7* B-8* B-9* B-10 B-13 B-17 B-18 B-19 B-23
TP1-N TP2-S TP3-W TP4-E
A.G. WO AST

N

0 20 40 80

Scale (ft)

FIGURE

2

Former Shell Service Station
2703 Martin Luther King Jr Way
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Basemap from Virgil Chavez Land Surveying and Alameda County Assessors Parcel Map

I:\SONOMA.SHELL\OAKLAND 2703 MARTIN LUTHER KING JR WAY\GRAPHICS\EXT SITE PLAN.DWG

Table 1. Soil Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Boring ID	Depth (feet)	Date Sampled	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)
CPT-6-17	17	17-May-07	<0.50	0.0020 a	0.0032 a	<0.0050	0.0019 a
VP-7-4.5	4.5	06-Jun-07	<0.50	<0.0050	<0.0050	<0.0050	<0.010
VP-8-4.5	4.5	29-May-07	<0.50	0.00096 a	0.00084 a	0.00084 a	0.0015 a

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline, analyzed by EPA Method 8015B (M)

BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B

mg/kg = Milligrams per kilogram = parts per million

<x = Not detected at reporting limit x

a = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

Table 2. Soil Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Lead (mg/kg)
Soil Analytical Data sampled by 8260B, 02-28-06										
MW-12-5	5	28-Feb-06	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
MW-12-10	10	28-Feb-06	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
MW-12-15	15	28-Feb-06	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
MW-12-19.5	19.5	28-Feb-06	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
MW-14-5	5	28-Feb-06	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
MW-14-10	10	28-Feb-06	**32**	**0.0083**	<0.0050	**0.028**	**0.0055**	<0.0050	<0.025	NA
MW-14-14	14	28-Feb-06	**970**	**2.3**	**0.18**	**19**	**27**	<0.15	<0.70	NA
Soil Analytical Data sampled by 8015M/8021 or 8260B as indicated, 01-03-06 to 01-04-06										
MW-6 *(8260)*	5 [a, b]	04-Jan-06	<4.9	<0.025	<0.025	**0.025**	**0.044**	NA	NA	**17**
MW-6 *(8015)*	10 [a]	04-Jan-06	**290**	<1.2	<1.2	**3.1**	**3.2**	NA	NA	**14**
MW-6 *(8015)*	15.5	04-Jan-06	**36**	<0.62	<0.62	**0.65**	**2.1**	NA	NA	NA
MW-6 *(8260)*	19.5 [b]	04-Jan-06	<1.0	**0.0090**	<0.0050	**0.010**	**0.022**	NA	NA	NA
MW-7 *(8260)*	5.5 [b]	4-Jan-06	<1.0	<0.0050	<0.0050	<0.0050	**0.013**	NA	NA	**11**
MW-7 *(8260)*	11.5 [a, b, c]	4-Jan-06	**7.1**	<0.025	<0.025	**0.19**	**5.2** [d]	NA	NA	**8.5**
MW-7 *(8015)*	16.5 [a]	4-Jan-06	**340**	<1.2	<1.2	**7.2**	<1.2	NA	NA	NA
MW-7 *(8260)*	19.5 [b]	4-Jan-06	<1.0	<0.0050	<0.0050	<0.0050	**0.010**	NA	NA	NA
MW-8 *(8260)*	6.5 [b]	3-Jan-06	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	**310**
MW-8 *(8015)*	10.5 [a, e]	3-Jan-06	**880**	<6.2	<6.2	**15**	**72**	NA	NA	**5.3**
MW-8 *(8015)*	19.5 [e]	3-Jan-06	**19**	**0.63**	<0.62	<0.62	**0.80**	NA	NA	NA
B-23 *(8260)*	5 [b]	3-Jan-06	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	**9.1**
B-23 *(8015)*	10 [a, e]	3-Jan-06	**520**	<6.2	<6.2	**12**	**62**	NA	NA	**5.4**
B-23 *(8015)*	15.5 [a, e]	3-Jan-06	**3,800**	**33**	**50**	**98**	**480**	NA	NA	NA
B-23 *(8015)*	19.5 [a, e]	3-Jan-06	**350**	**1.6**	**1.9**	**15**	**35**	NA	NA	NA

Table 2. Soil Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Lead (mg/kg)
Soil Analytical Data by 8260, sampled 08-29-05 to 08-31-05										
GP-1-5.0'	5.0	29-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
GP-1-10.0'	10.0	29-Aug-05	**190***	<0.50	<0.50	<0.50	<0.50	NA	NA	NA
GP-2-4.5'	4.5	29-Aug-05	**1.5**	**0.035**	<0.0050	**0.0063**	<0.0050	NA	NA	NA
GP-3-5.0'	5.0	29-Aug-05	**7.5**	**0.027**	<0.0050	**0.085**	**0.11**	NA	NA	NA
GP-3-8.5'	8.5	29-Aug-05	**3,300**	**15**	**2.7**	**91**	**230**	NA	NA	NA
GP-4-4.5'	4.5	31-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
GP-5-4.5'	4.5	30-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
GP-6-5.0'	5.0	29-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
GP-6-9.5'	9.5	29-Aug-05	**260**	<0.50	<0.50	**2.1**	**6.8**	NA	NA	NA
GP-7-5.0'	5.0	30-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
GP-7-9.5'	9.5	30-Aug-05	**440**	<0.50	**1.8**	**10**	**59**	NA	NA	NA
GP-8-4.5'	4.5	30-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
GP-9-4.5'	4.5	31-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
GP-10-4.5'	4.5	31-Aug-05	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
Soil Analytical Data by 2860, sampled 4-11-02										
B-20-4.5	4.5	04-11-02	**1.1**	**0.0075**	<0.005	<0.005	<0.005	<0.5	NA	NA
B-20-7.5	7.5	04-11-02	**22**	<0.005	<0.005	**0.14**	**0.027**	<0.5	NA	NA

Table 2. Soil Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Lead (mg/kg)
B-21-3.0	3.0	04-11-02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	NA	NA
B-21-8.0	8.0	04-11-02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	NA	NA
B-22-3.0	3.0	04-11-02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	NA	NA
B-22-8.0	3.0	04-11-02	**380**	**0.17**	**0.27**	**6.1**	**31**	<0.5	NA	NA
Soil Analytical Data by 8260, sampled 11-22-00										
MW-3-5.0	5.0	11-22-00	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA
MW-3-10.5	10.5	11-22-00	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA
MW-4-5.0	5.0	11-21-00	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA
MW-4-10.5	10.5	11-21-00	**860**	**1.1**	<0.20	**18**	**66**	<0.20	<2.0	NA
MW-5-5.0	5.0	11-21-00	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA
MW-5-10.5	10.5	11-21-00	**1,300**	**3.3**	**13**	**26**	**140**	<0.20	<2.0	NA
B-17-5.0	5.0	11-22-00	**1.3**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA
B-17-7.0	7.0	11-22-00	**2,100**	**0.31**	**0.64**	**18**	**140**	<0.050	<0.050	NA
B-18-5.0	5.0	11-22-00	**1.2**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA
B-18-7.0	7.0	11-22-00	**42**	<0.0050	<0.0050	**0.094**	<0.0050	**0.0070**	<0.050	NA
B-19-5.0	5.0	11-22-00	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA
B-19-7.0	7.0	11-22-00	**2.4**	**0.02**	<0.0050	**0.025**	**0.023**	<0.0050	<0.020	NA
Soil Analytical Data by 8015/8021 sampled 07-17-96										
TP-3-W	11.0	07-17-96	**560**	**3.1**	**4.1**	**11**	**41**	NA	NA	NA
TP-4-E	11.0	07-17-96	**2,700**	**<3.00**	**44.0**	**36**	**210**	NA	NA	NA

Table 2. Soil Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Lead (mg/kg)
Soil Analytical Data by 8015/8021 sampled 05-23-95										
B-1-5	5.0	05-23-95	**63**	<0.1	<0.1	**0.4**	**0.1**	NA	NA	NA
B-2-5	5.0	05-23-95	**260**	**0.6**	<0.1	**4.7**	**10**	NA	NA	NA
B-3-6	6.0	05-23-95	**150**	<0.1	<0.1	**0.9**	**0.4**	NA	NA	NA
B-4-6	6.0	05-23-95	**55**	<0.1	<0.1	**0.4**	**0.2**	NA	NA	NA
B-5-8	8.0	05-23-95	**830**	**1.8**	**9.2**	**12.0**	**33**	NA	NA	NA
B-6-5	5.0	05-23-95	**130**	<0.1	<0.1	**1.0**	**1.1**	NA	NA	NA
B-6-10	10.0	05-23-95	**390**	**0.3**	<0.1	**7.3**	**27**	NA	NA	NA
B-7-5	5.0	05-23-95	<20	<0.1	<0.1	**1.0**	**1.1**	NA	NA	NA
B-7-10	10.0	05-23-95	**53**	<0.1	<0.1	**0.2**	**0.3**	NA	NA	NA
B-8-10	10.0	05-23-95	<20	<0.1	<0.1	**0.1**	<0.1	NA	NA	NA
Soil Analytical Data by 8015/8021 sampled 10-11-94										
TP-1-N		10-11-94	**18000** [f, g]	**100**	**870**	**370**	**2,000.0**	NA	NA	NA
TP-2-S		10-11-94	**870** [f, g]	**2.9**	**2.1**	**19**	**21**	NA	NA	NA

Table 2. Soil Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Lead (mg/kg)

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline

BTEX = Benzene, toluene, ethylbenzene, and xylenes

MTBE = Methyl tertiary butyl ether

TBA = Tertiary butyl alcohol

Lead analyzed by EPA Method 3050B

fbg = Feet below grade

<x = Not detected at reporting limit x

NA = Not analyzed

a = Reporting limit raised due to high level of analyte present in sample.

b = Extracted out of hold time.

c = Internal standard out of range.

d = Estimated value. The concentration exceeded the calibration of analysis.

e = Initial analysis within holding time, but required dilution.

f = Heavier gasoline range compounds are significant (aged gasoline?).

g = Gasoline range compounds are significant; no recognizable pattern.

ATTACHMENT 3

Historical Groundwater Sampling Results

Table 2. Grab Groundwater Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Boring ID	Depth (feet)	Date Sampled	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
CPT-6	13-17	17-May-07	Attempted sample - No groundwater recovery				
CPT-6-23-W	21-25	17-May-07	86	<0.50	2.4	0.38 a	1.44 a
CPT-7	10-14	17-May-07	Attempted sample - No groundwater recovery				
CPT-7	18-22	17-May-07	Attempted sample - No groundwater recovery				
CPT-10A	13-17	08-Jun-07	38,000	1,600	1,100	2,600	7,700
CPT-10B	20-23	08-Jun-07	640	3.8	4.9	23	110

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline, analyzed by EPA Method 8015B (M)

BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B

µg/l = micrograms per liter = parts per billion

<x = Not detected at reporting limit x

a = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

Table 1. Grab Groundwater Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)
CPT groundwater samples by 8260B, sampled October 18 and 20, 2006									
CPT-1-35-W	35	18-Oct-06	<50	4.3	<0.50	6.1	3.0	NA	NA
CPT-2-35-W	35	20-Oct-06	2,600	180	69	55	290	NA	NA
CPT-3-35-W	35	20-Oct-06	880	45	15	45	310	NA	NA
CPT-4-37-W	37	18-Oct-06	3,200	33	150	140	570	NA	NA
CPT-5-20-W	20	18-Oct-06	25,000	1,100	200	5,300	4,100	NA	NA
CPT-5-35-W	35	18-Oct-06	220	4.0	2.6	11	44	NA	NA
Groundwater samples by 8015M/8020, sampled January 3 and 4, 2006									
MW-6-W[a]	NA	04-Jan-06	59,000	6,400[b]	890[b]	2,200[b]	8,100[b]	NA	NA
MW-7-W[a]	NA	04-Jan-06	83,000	4,400[b]	930[b]	3,200[b]	16,000[b]	NA	NA
MW-8-W[a]	NA	03-Jan-06	49,000	1,100[b]	92[b]	480[b]	2,700[b]	NA	NA
B-23-W[a]	NA	03-Jan-06	230,000	26,000[b]	700[b]	920[b]	110,000[b,c]	NA	NA
Groundwater samples by 8260B, sampled August 29 and 30, 2005									
GP-1-10.5'W	10.5	29-Aug-05	47,000	330	<50	680	140	NA	NA
GP-3-10'W	10.0	29-Aug-05	79,000	5,200	13,000	1,400	7,800	NA	NA
GP-6-20'W	20.0	29-Aug-05	9,100	320	34	380	750	NA	NA
GP-7-10'W	10.0	30-Aug-05	140,000	17,000	4,600	7,600	45,000	NA	NA

Table 1. Grab Groundwater Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)
Groundwater samples by 8260B, sampled April 11, 2002									
B-20	NA	11-Apr-02	**58,000**	**5,000**	**200**	**3,800**	**4,500**	<200	NA
B-21	NA	11-Apr-02	**160,000**	**18,000**	**9,200**	**5,500**	**29,000**	<500	NA
B-22	NA	11-Apr-02	**110,000**	**6,700**	**1,200**	**4,700**	**23,000**	<250	NA
Groundwater samples by 8260B, sampled November 22, 2000									
B-17	NA	22-Nov-00	**190,000**	**13,000**	**24,000**	**5,500**	**30,000**	**300**	<2,000
B-18	NA	22-Nov-00	**90,000**	**3,500**	**370**	**5,000**	**18,000**	<20	<200
B-19	NA	22-Nov-00	**58,000**	**4,400**	**740**	**2,200**	**7,300**	**16**	**240**
Groundwater samples by 8015/8021, sampled May 23, 1995									
B-1	NA	23-May-95	Approximately 0.5-0.75 inches of Non-aqueous phase product						
B-2	NA	23-May-95	**6,600**	**340**	**24**	**160**	**27**	NA	NA
B-5	NA	23-May-95	Approximately 0.25-0.50 inches of Non-aqueous phase product: Results from fingerprint characterization indicate product is leaded gasoline manufactured prior to 1984						
B-6	NA	23-May-95	Approximately 1 -2 inches of Non-aqueous phase product						
B-7	NA	23-May-95	**89,000**	**21,000**	**11,000**	**3,800**	**16,000**	NA	NA
B-8	NA	23-May-95	**<250**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	NA	NA
B-9	NA	23-May-95	Approximately 0.5-1.0 inches of Non-aqueous phase product						

Table 1. Grab Groundwater Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample	Depth (fbg)	Date Sampled	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline

BTEX = Benzene, toluene, ethylbenzene, and xylenes

MTBE = Methyl tertiary butyl ether

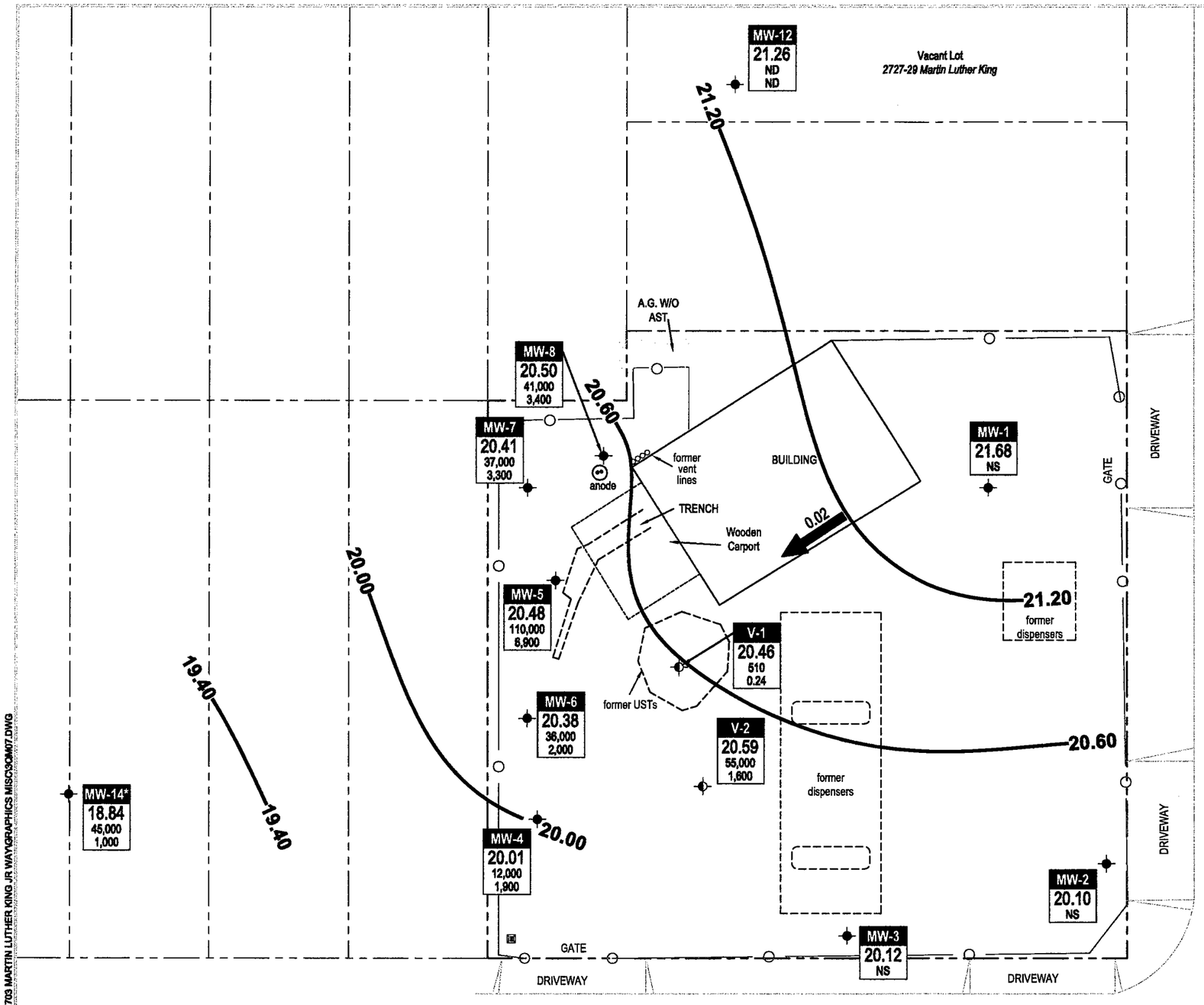
TBA = Tertiary butyl alcohol

a- Reporting limits were raised due to high level of analyte present in the sample

b - Analyzed outside of holding time

c - Estimated value; the concentraion exceeded the calibration of analysis.

09/27/07



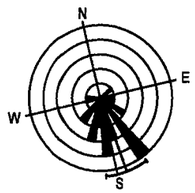
EXPLANATION

- MW-12 — Monitoring well location (2/06)
- MW-6 — Monitoring well location (1/06)
- MW-3 — Monitoring well location (11/00)
- MW-1 — Monitoring well location (7/96)
- V-1 — Soil vapor well location (7/96) (not used for contouring)
- 0.02 — Groundwater flow direction and gradient
- XX.XX — Groundwater elevation contour, in feet above mean sea level (msl)
- Well / ELEV / TPHg / Benzene — Well designation; Groundwater elevation, in feet above msl; TPHg and benzene concentrations are in micrograms per liter

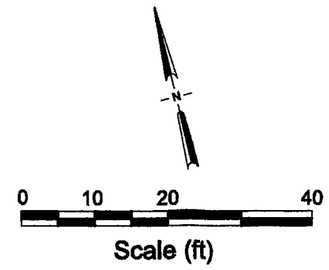
Notes:
ND = Not detected
NS = Not sampled

* Monitoring well sampled on August 29, 2007

MARTIN LUTHER KING JR. WAY



Groundwater Flow Direction
(2Q00 through 1Q07)



Basemap from Virgil Chavez Land Surveying and Alameda County Assessors Parcel Map

Groundwater Contour and Chemical Concentration Map

August 27, 2007

CONESTOGA-ROVERS & ASSOCIATES

Former Shell Service Station
2703 Martin Luther King Jr Way
Oakland, California

FIGURE
2

I:\SONOMA\SHELL\OAKLAND 2703 MARTIN LUTHER KING JR WAY\GRAPHICS MISC\3QM07.DWG

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1 (B-11)	08/02/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.53	NA	NA	NA
MW-1 (B-11)	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	8.76	14.77	NA
MW-1 (B-11) (D)	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	NA	NA	NA
MW-1 (B-11)	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	9.88	13.65	NA
MW-1 (B-11)	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	6.82	16.71	NA
MW-1 (B-11)	04/07/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	7.89	15.64	NA
MW-1 (B-11)	07/02/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	8.71	14.82	NA
MW-1 (B-11)	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	9.26	14.27	NA
MW-1 (B-11)	01/09/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	7.94	15.59	NA
MW-1 (B-11)	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	7.21	16.32	NA
MW-1 (B-11)	07/14/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	7.78	15.75	NA
MW-1 (B-11)	10/01/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	8.39	15.14	NA
MW-1 (B-11)	01/18/1999	<50.0	<0.500	0.785	<0.500	<0.500	2.36	NA	NA	NA	NA	NA	23.53	8.28	15.25	NA
MW-1 (B-11)	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.53	8.41	15.12	NA
MW-1 (B-11)	08/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.53	8.17	15.36	NA
MW-1 (B-11)	10/06/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	23.53	9.37	14.16	NA
MW-1 (B-11)	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.53	7.52	16.01	NA
MW-1 (B-11)	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.53	7.66	15.87	NA
MW-1 (B-11)	07/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.53	7.81	15.72	NA
MW-1 (B-11)	10/24/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.53	8.33	15.20	NA
MW-1 (B-11)	01/04/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.53	8.33	15.20	NA
MW-1 (B-11)	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.53	7.83	15.70	NA
MW-1 (B-11)	07/09/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.53	8.60	14.93	NA
MW-1	10/18/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.53	9.01	14.52	0.2
MW-1	01/24/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.53	7.68	15.85	2.1
MW-1	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.53	7.38	16.15	1.1

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.53	7.75	15.78	2.2
MW-1	10/21/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	29.53	8.10	21.43	1.6
MW-1	01/21/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	29.53	7.82	21.71	0.6
MW-1	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	NA	NA	NA	NA	29.53	7.76	21.77	1.7
MW-1	07/22/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	29.53	7.87	21.66	1.5
MW-1	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	29.53	8.67	20.86	0.8
MW-1	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	29.53	8.28	21.25	NA
MW-1	01/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	8.50	21.03	1.1
MW-1	04/01/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	7.98	21.55	NA
MW-1	07/13/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	8.30	21.23	NA
MW-1	10/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	8.27	21.26	NA
MW-1	01/13/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	6.92	22.61	NA
MW-1	04/28/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	7.18	22.35	NA
MW-1	08/01/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	7.43	22.10	NA
MW-1	10/05/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.53	7.55	21.98	NA
MW-1	01/11/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.54	5.35	24.19	NA
MW-1	05/26/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	29.54	6.81	22.73	0.78
MW-1	08/30/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.54	7.77	21.77	NA
MW-1	11/08/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.54	8.39	21.15	NA
MW-1	02/22/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.54	7.11	22.43	NA
MW-1	05/29/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.54	7.20	22.34	NA
MW-1	**08/27/2007**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**29.54**	**7.86**	**21.68**	**NA**
MW-2 (B-12)*	07/17/1996	<50	<0.50	0.69	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	NA	NA	NA
MW-2 (B-12)*	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	8.35	14.12	NA
MW-2 (B-12)*	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	9.32	13.15	NA

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-2 (B-12) (D)*	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	NA	NA	NA
MW-2 (B-12)*	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	6.80	15.67	NA
MW-2 (B-12) (D)*	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	NA	NA	NA
MW-2 (B-12)*	04/07/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	7.81	14.66	NA
MW-2 (B-12)*	07/02/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	8.27	14.20	NA
MW-2 (B-12)*	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	9.12	13.35	NA
MW-2 (B-12)*	01/09/1998	<50	<0.50	<0.50	<0.50	<0.50	6.3	NA	NA	NA	NA	NA	22.47	7.41	15.06	NA
MW-2 (B-12)*	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	6.59	15.88	NA
MW-2 (B-12)*	07/14/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	7.49	14.98	NA
MW-2 (B-12)*	10/01/1998	<50	<0.50	<0.50	<0.50	0.59	<2.5	NA	NA	NA	NA	NA	22.47	8.58	13.89	NA
MW-2 (B-12)*	01/18/1999	<50.0	<0.500	0.971	<0.500	<0.500	2.47	NA	NA	NA	NA	NA	22.47	8.68	13.79	NA
MW-2 (B-12)*	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	22.47	8.62	13.85	NA
MW-2 (B-12)*	08/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	22.47	7.43	15.04	NA
MW-2 (B-12)*	10/06/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	22.47	9.00	13.47	NA
MW-2 (B-12)*	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	22.47	8.15	14.32	NA
MW-2 (B-12)*	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	22.47	7.04	15.43	NA
MW-2 (B-12)*	07/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	22.47	7.13	15.34	NA
MW-2 (B-12)*	10/24/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	22.47	8.78	13.69	NA
MW-2 (B-12)*	01/04/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	22.47	8.33	14.14	NA
MW-2 (B-12)*	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.47	7.24	15.23	NA
MW-2 (B-12)*	07/09/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.47	8.55	13.92	NA
MW-2	10/18/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.47	9.42	13.05	NA
MW-2	01/24/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.47	7.23	15.24	NA
MW-2	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.47	6.90	15.57	NA
MW-2	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.47	7.97	14.50	NA
MW-2	10/21/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	28.47	8.62	19.85	NA

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-2	01/21/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	28.47	7.08	21.39	NA
MW-2	04/17/2003	<50	<0.50	<0.50	0.98	2.5	NA	<5.0	NA	NA	NA	NA	28.47	6.94	21.53	NA
MW-2	07/22/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	28.47	8.10	20.37	NA
MW-2	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	28.47	9.09	19.38	NA
MW-2	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	28.47	7.28	21.19	NA
MW-2	01/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	8.99	19.48	2.8
MW-2	04/01/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	6.88	21.59	NA
MW-2	07/13/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	8.28	20.19	NA
MW-2	10/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	8.43	20.04	NA
MW-2	01/13/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	6.52	21.95	NA
MW-2	04/28/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	6.38	22.09	NA
MW-2	08/01/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	7.73	20.74	NA
MW-2	10/05/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.47	8.47	20.00	NA
MW-2	01/11/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.48	6.30	22.18	NA
MW-2	05/26/2006	59.9	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	28.48	6.84	21.64	3.02
MW-2	08/30/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.48	8.11	20.37	NA
MW-2	11/08/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.48	8.61	19.87	NA
MW-2	02/22/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.48	6.92	21.56	NA
MW-2	05/29/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.48	7.32	21.16	NA
MW-2	**08/27/2007**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**28.48**	**8.38**	**20.10**	**NA**
MW-3	04/25/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.30	7.16	15.14	NA
MW-3	05/03/2001	<100	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.30	7.28	15.02	NA
MW-3	07/09/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.30	8.45	13.85	NA
MW-3	10/18/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.30	9.44	12.86	NA
MW-3	01/24/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.30	5.88	16.42	NA

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-3	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.30	6.68	15.62	NA
MW-3	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	22.30	7.63	14.67	NA
MW-3	10/21/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	28.30	8.56	19.74	NA
MW-3	01/21/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	28.30	6.95	21.35	NA
MW-3	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	NA	NA	NA	NA	28.30	6.77	21.53	NA
MW-3	07/22/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	28.30	7.92	20.38	NA
MW-3	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	28.30	9.12	19.18	NA
MW-3	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	28.30	7.21	21.09	NA
MW-3	01/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	9.00	19.30	0.6
MW-3	04/01/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	6.65	21.65	NA
MW-3	07/13/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	8.24	20.06	NA
MW-3	10/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	8.50	19.80	NA
MW-3	01/13/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	6.32	21.98	NA
MW-3	04/28/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	6.05	22.25	NA
MW-3	08/01/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	7.65	20.65	NA
MW-3	10/05/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	8.31	19.99	NA
MW-3	01/11/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	6.10	22.20	NA
MW-3	05/26/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	<0.500	2.87	<0.500	<0.500	<10.0	28.30	6.72	21.58	1.46
MW-3	08/30/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	8.12	20.18	NA
MW-3	11/08/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	8.71	19.59	NA
MW-3	02/22/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	6.78	21.52	NA
MW-3	05/29/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.30	7.20	21.10	NA
MW-3	**08/27/2007**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**28.30**	**8.18**	**20.12**	**NA**
MW-4	04/25/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.51	7.05	15.46	NA
MW-4	05/03/2001	8,000	3,500	24	37	350	NA	<200	NA	NA	NA	NA	22.51	6.66	15.85	NA

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-4	07/09/2001	16,000	4,100	32	890	790	NA	<200	NA	NA	NA	NA	22.51	8.28	14.23	NA
MW-4	10/18/2001	12,000	3,300	<20	430	220	NA	<200	NA	NA	NA	NA	22.51	9.40	13.11	NA
MW-4	01/24/2002	5,500	1,200	<5.0	280	240	NA	<50	NA	NA	NA	NA	22.51	5.73	16.78	NA
MW-4	04/04/2002	2,000	350	1.4	13	7.8	NA	<10	NA	NA	NA	NA	22.51	5.62	16.89	NA
MW-4	07/18/2002	3,400	440	1.3	200	98	NA	<5.0	NA	NA	NA	NA	22.51	6.94	15.57	NA
MW-4	10/21/2002	16,000	3,100	11	1,200	970	NA	<5.0	NA	NA	NA	NA	28.51	8.04	20.47	NA
MW-4	01/21/2003	3,600	720	3.9	110	58	NA	<25	NA	NA	NA	NA	28.51	6.10	22.41	NA
MW-4	04/17/2003	3,700	810	<5.0	140	17	NA	<50	NA	NA	NA	NA	28.51	5.97	22.54	NA
MW-4	07/22/2003	3,700	450	<2.5	110	7.9	NA	<2.5	NA	NA	NA	NA	28.51	6.37	22.14	NA
MW-4	10/20/2003	11,000 c	2,500	<20	550	95	NA	<20	NA	NA	NA	NA	28.51	8.99	19.52	NA
MW-4	01/13/2004	6,600	1,500	<10	41	37	NA	<10	NA	NA	NA	NA	28.51	6.67	21.84	NA
MW-4	01/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.51	8.80	19.71	0.3
MW-4	04/01/2004	9,500	2,100	12	170	30	NA	NA	NA	NA	NA	NA	28.51	6.28	22.23	0.1
MW-4	07/13/2004	12,000	3,600	39	160	58	NA	<25	<100	<100	<100	<250	28.51	8.20	20.31	0.1
MW-4	10/26/2004	11,000	2,800	<25	100	<50	NA	NA	NA	NA	NA	NA	28.51	8.00	20.51	0.6
MW-4	01/13/2005	12,000	2,200	14	110	43	NA	NA	NA	NA	NA	NA	28.51	6.03	22.48	0.1
MW-4	04/28/2005	8,600	2,300	27	200	49	NA	NA	NA	NA	NA	NA	28.51	5.93	22.58	3.71
MW-4	08/01/2005	11,000	3,900	57	180	47	NA	<10	<40	<40	<40	<100	28.51	6.20	22.31	NA d
MW-4	10/05/2005	9,400	3,300	45	88	33	NA	NA	NA	NA	NA	NA	28.51	8.22	20.29	2.76
MW-4	01/11/2006	3,900 f	1,700 f	14	95	78	NA	<0.50	7.4	<0.50	<0.50	32	28.51	4.25	24.26	0.6
MW-4	05/26/2006	6,730	455	1.90	56.7	44.8	NA	<0.500	4.36	<0.500	<0.500	<10.0	28.51	5.90	22.61	0.54
MW-4	08/30/2006	29,600	2,740	30.0	448	237	NA	<0.500	<0.500	<0.500	<0.500	<10.0	28.51	7.98	20.53	0.44/0.46
MW-4	11/08/2006	6,300	1,500	13	130	67	NA	NA	NA	NA	NA	NA	28.51	8.52	19.99	0.05/0.22
MW-4	02/22/2007	11,000	2,200	18	620	310	NA	NA	NA	NA	NA	NA	28.51	5.63	22.88	2.96/2.98
MW-4	05/29/2007	14,000 i,j	3,200	27	640	249.0	NA	NA	NA	NA	NA	NA	28.51	6.60	21.91	0.19/0.11
MW-4	**08/27/2007**	**12,000 i**	**1,900**	**19 k**	**250**	**80.9 k**	**NA**	**<25**	**<50**	**<50**	**<50**	**<250**	**28.51**	**8.50**	**20.01**	**0.85/1.71**

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-5	04/25/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.54	7.36	16.18	NA
MW-5	05/03/2001	160,000	12,000	20,000	3,600	23,000	NA	<500	NA	NA	NA	NA	23.54	7.77	15.77	NA
MW-5	07/09/2001	130,000	11,000	19,000	4,500	22,000	NA	<500	NA	NA	NA	NA	23.54	9.32	14.22	NA
MW-5	10/18/2001	120,000	12,000	23,000	4,200	21,000	NA	<500	NA	NA	NA	NA	23.54	9.39	14.15	0.5
MW-5	01/24/2002	34,000	3,300	3,300	960	6,000	NA	<100	NA	NA	NA	NA	23.54	7.05	16.49	4.0
MW-5	04/04/2002	32,000	2,100	2,800	730	6,400	NA	<200	NA	NA	NA	NA	23.54	6.89	16.65	1.0
MW-5	07/18/2002	75,000	7,500	4,700	2,700	15,000	NA	<500	NA	NA	NA	NA	23.54	8.48	15.06	1.2
MW-5	10/21/2002	140,000	13,000	18,000	4,000	26,000	NA	<500	NA	NA	NA	NA	29.54	9.21	20.33	1.1
MW-5	01/21/2003	47,000	6,400	3,500	370	8,300	NA	<500	NA	NA	NA	NA	29.54	7.23	22.31	0.8
MW-5	04/17/2003	93,000	9,700	16,000	3,200	20,000	NA	<500	NA	NA	NA	NA	29.54	6.61	22.93	0.8
MW-5	07/22/2003	110,000	9,500	15,000	560	23,000	NA	<50	NA	NA	NA	NA	29.54	8.68	20.86	1.2
MW-5	10/20/2003	88,000	6,600	12,000	1,900	16,000	NA	<50	NA	NA	NA	NA	29.54	9.71	19.83	0.1
MW-5	01/13/2004	4,600	460	140	<10	930	NA	<10	NA	NA	NA	NA	29.54	7.30	22.24	NA
MW-5	01/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.54	9.51	20.03	0.3
MW-5	04/01/2004	70,000	7,900	11,000	2,100	17,000	NA	NA	NA	NA	NA	NA	29.54	6.80	22.74	0.1
MW-5	07/13/2004	66,000	5,900	10,000	1,900	16,000	NA	<50	<200	<200	<200	<500	29.54	9.28	20.26	0.1
MW-5	10/26/2004	6,600	670	110	7.4	2,000	NA	NA	NA	NA	NA	NA	29.54	8.75	20.79	0.8
MW-5	01/13/2005	9,500	1,300	950	360	1,900	NA	NA	NA	NA	NA	NA	29.54	5.87	23.67	6.3
MW-5	04/28/2005	17,000	2,400	1,200	320	3,400	NA	NA	NA	NA	NA	NA	29.54	6.32	23.22	3.54
MW-5	08/01/2005	70,000	6,600	11,000	3,400	17,000	NA	<50	<200	<200	<200	<500	29.54	8.27	21.27	NA d
MW-5	10/05/2005	93,000	8,600	15,000	4,500	23,000	NA	NA	NA	NA	NA	NA	29.54	9.12	20.42	1.43
MW-5	01/11/2006	12,000	1,900	550	2,400	3,800	NA	<25	<25	<25	<25	<250	29.61	5.52	24.09	0.6
MW-5	05/26/2006	112,000	6,600	11,100	3,870	19,900 g	NA	<0.500	5.37	<0.500	<0.500	<10.0	29.61	7.02	22.59	0.45
MW-5	08/30/2006	281,000	8,050	15,400	4,770	26,800	NA	<0.500	<0.500	<0.500	60.6	<10.0	29.61	8.93	20.68	0.55/0.51
MW-5	11/08/2006	83,000	7,000	7,400	3,200	16,000	NA	NA	NA	NA	NA	NA	29.61	9.40	20.21	0.08/0.05

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-5	02/22/2007	35,000	9,500	13,000	5,300	23,000	NA	NA	NA	NA	NA	NA	29.61	6.87	22.74	1.17/3.17
MW-5	05/29/2007	94,000 i	6,400	9,900	4,300	22,000	NA	NA	NA	NA	NA	NA	29.61	7.85	21.76	0.08/0.19
MW-5	**08/27/2007**	**110,000 i**	**6,900**	**11,000**	**4,300**	**22,000**	**NA**	**<100**	**<200**	**<200**	**<200**	**<1000**	**29.61**	**9.13**	**20.48**	**0.08/0.22**
MW-6	01/09/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.60	4.18	24.42	NA
MW-6	01/11/2006	150,000	9,300	1,600	5,100	24,000	NA	<2.5 f	17 f	<2.5 f	<2.5 f	51 f	28.60	4.50	24.10	3.6
MW-6	05/26/2006	67,300	6,930	870	2,440	7,590 g	NA	<5.00	10.1	<5.00	<5.00	<100	28.60	6.10	22.50	0.49
MW-6	08/30/2006	7,060	6,090	1,180	2,040	7,200	NA	<0.500	<0.500	<0.500	<0.500	<10.0	28.60	8.05	20.55	0.39/0.56
MW-6	11/08/2006	8,200	1,900	200	350	890	NA	NA	NA	NA	NA	NA	28.60	8.53	20.07	0.12/0.95
MW-6	02/22/2007	49,000	7,300	2,300	3,600	9,500	NA	NA	NA	NA	NA	NA	28.60	5.94	22.66	1.54/2.03
MW-6	05/29/2007	30,000 i,j	4,100	1,000	1,600	4,900	NA	NA	NA	NA	NA	NA	28.60	6.87	21.73	0.11/0.51
MW-6	**08/27/2007**	**36,000 i**	**2,000**	**440**	**1,000**	**3,400**	**NA**	**<25**	**15 k**	**<50**	**<50**	**<250**	**28.60**	**8.22**	**20.38**	**0.08/0.15**
MW-7	01/09/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.71	5.50	24.21	NA
MW-7	01/11/2006	79,000	9,800	1,800	1,900	20,000	NA	<5.0 f	28 f	<5.0 f	<5.0 f	64 f	29.71	5.70	24.01	1.0
MW-7	05/26/2006	98,200	9,620	1,150	3,490	13,400 g	NA	<5.00	30.8	<5.00	<5.00	885	29.71	7.24	22.47	0.30
MW-7	08/30/2006	146,000	8,740	980	3,440	15,400	NA	<0.500	22.7	<0.500	<0.500	<10.0	29.71	9.03	20.68	0.51/0.46
MW-7	11/08/2006	61,000	6,600	880	2,800	12,000	NA	NA	NA	NA	NA	NA	29.71	9.49	20.22	0.02/0.13
MW-7	02/22/2007	50,000	3,400	910	2,200	13,000	NA	NA	NA	NA	NA	NA	29.71	7.00	22.71	0.96/2.57
MW-7	05/29/2007	26,000 i,j	2,700	320	850	3,590	NA	NA	NA	NA	NA	NA	29.71	8.01	21.70	0.09/0.15
MW-7	**08/27/2007**	**37,000 i**	**3,300**	**240**	**1,300**	**4,060**	**NA**	**<25**	**20 k**	**<50**	**<50**	**<250**	**29.71**	**9.30**	**20.41**	**1.23/1.64**
MW-8	01/09/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.54	5.56	23.98	NA
MW-8	01/11/2006	32,000	2,400	180	66	5,500	NA	<0.50 f	15 f	<0.50 f	<0.50 f	35 f	29.54	5.53	24.01	0.8
MW-8	05/26/2006	24,800	423	73.0	166	2,820 g	NA	<0.500	2.18	<0.500	<0.500	<10.0	29.54	7.02	22.52	0.35
MW-8	08/30/2006	72,100	1,770	114	324	3,140	NA	<0.500	23.3	<0.500	<0.500	<10.0	29.54	8.81	20.73	0.51/0.50

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-8	11/08/2006	24,000	2,000	90	190	3,400	NA	NA	NA	NA	NA	NA	29.54	9.25	20.29	0.11/0.40
MW-8	02/22/2007	26,000	2,100	110	180	4,400	NA	NA	NA	NA	NA	NA	29.54	7.08	22.46	1.37/1.71
MW-8	05/29/2007	31,000 i	2,600	99	250	3,140	NA	NA	NA	NA	NA	NA	29.54	7.81	21.73	0.05/0.49
MW-8	**08/27/2007**	**41,000 i**	**3,400**	**110**	**260**	**3,880**	**NA**	**<20**	**32 k**	**<40**	**<40**	**<200**	**29.54**	**9.04**	**20.50**	**0.07/0.27**
MW-12	05/19/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.16	8.42	22.74	NA
MW-12	05/26/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	31.16	8.44	22.72	3.88
MW-12	08/30/2006	746	<0.500	<0.500	<0.500	<0.500	NA	NA	NA	NA	NA	NA	31.16	9.54	21.62	1.75/1.81
MW-12	11/08/2006	<50	<0.50	<0.50	<0.50	<1.0	NA	NA	NA	NA	NA	NA	31.16	8.67	22.49	2.26/3.60
MW-12	02/22/2007	<50	<0.50	<1.0	<0.50	<1.0	NA	NA	NA	NA	NA	NA	31.16	7.72	23.44	1.60/2.91
MW-12	05/29/2007	<50 i	0.49 k	<1.0	0.14 k	0.48 k	NA	NA	NA	NA	NA	NA	31.16	9.00	22.16	0.60/0.61
MW-12	**08/27/2007**	**<50 i**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**31.16**	**9.90**	**21.26**	**0.47/0.24**
MW-14	05/19/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.09	6.95	21.14	NA
MW-14	05/26/2006	103,000	5,280	76.7	3,930	4,800 g	NA	<5.00	49.7	<5.00	<5.00	895	28.09	7.05	21.04	3.60
MW-14	08/30/2006	10,200	1,260	12.5	1,310	1,330	NA	<0.500	<0.500	<0.500	<0.500	<10.0	28.09	9.19	18.90	3.33/3.49
MW-14	11/08/2006	29,000	4,400 h	34	2,000	1,600	NA	NA	NA	NA	NA	NA	28.09	9.80	18.29	1.16/1.40
MW-14	02/22/2007	31,000	2,600	42	2,200	1,600	NA	NA	NA	NA	NA	NA	28.09	6.70	21.39	0.59/1.11
MW-14	05/29/2007	35,000 i	1,100	14	1,800	767	NA	NA	NA	NA	NA	NA	28.09	7.89	20.20	0.08/0.08
MW-14	08/27/2007	Unable to access well			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-14	**08/29/2007**	**45,000 i**	**1,000**	**11**	**870**	**367.8 k**	**NA**	**<10**	**20**	**<20**	**<20**	**<100**	**28.09**	**9.25**	**18.84**	**0.09/0.16**
B-10 *	07/17/1996	20,000	400	<100	<100	870	<500	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-13*	07/17/1996	290,000	34,000	21,000	9,900	47,000	<2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

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V-1	08/02/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.26	NA	NA	NA
V-1	08/05/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.26	8.58	14.68	NA
V-1	10/17/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.26	10.02	13.24	NA
V-1	01/16/1997	9,500	1,200	250	280	880	<50	NA	NA	NA	NA	NA	23.26	5.55	17.71	NA
V-1	04/07/1997	2,200	42	<5.0	130	15	<25	NA	NA	NA	NA	NA	23.26	7.40	15.86	NA
V-1	07/02/1997	2,600	340	5.8	49	12	74	<4.0	NA	NA	NA	NA	23.26	8.94	14.32	NA
V-1	10/24/1997	57,000	5,200	2,300	3,600	16,000	1,900	<200	NA	NA	NA	NA	23.26	9.43	13.83	NA
V-1	01/09/1998	23,000	2,400	1,700	1,300	2,300	310	NA	NA	NA	NA	NA	23.26	6.81	16.45	NA
V-1 (D)	01/09/1998	24,000	2,500	1,800	1,400	2,400	450	NA	NA	NA	NA	NA	23.26	NA	NA	NA
V-1	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.26	4.58	18.68	NA
V-1 (D)	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.26	NA	NA	NA
V-1	07/14/1998	160	1.9	<0.50	4.2	<0.50	6.1	NA	NA	NA	NA	NA	23.26	7.51	15.75	NA
V-1	10/01/1998	440	18	<0.50	11	0.80	7.9	NA	NA	NA	NA	NA	23.26	8.49	14.77	NA
V-1	01/18/1999	697	55.7	0.839	28.2	<0.500	9.35	NA	NA	NA	NA	NA	23.26	8.59	14.67	NA
V-1	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	23.26	8.69	14.57	NA
V-1	08/23/1999	457	33.4	3.59	16.3	<0.500	13.9	NA	NA	NA	NA	NA	23.26	8.99	14.27	NA
V-1	10/06/1999	714	53.7	0.740	8.69	<0.500	9.83	NA	NA	NA	NA	NA	23.26	9.55	13.71	NA
V-1	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.26	7.19	16.07	NA
V-1	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	23.26	7.67	15.59	NA
V-1	07/19/2000	255	21.7	<0.500	10.2	<0.500	7.33	<1.00 a	NA	NA	NA	NA	23.26	7.53	15.73	NA
V-1	10/24/2000	200	4.05	0.566	<0.500	<0.500	7.82	NA	NA	NA	NA	NA	23.26	7.38	15.88	NA
V-1	01/04/2001	128	1.77	<0.500	<0.500	<0.500	6.40	<10.0 b	NA	NA	NA	NA	23.26	8.41	14.85	NA
V-1	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.26	7.20	16.06	NA
V-1	07/09/2001	110	4.4	<0.50	0.88	1.7	NA	<5.0	NA	NA	NA	NA	23.26	9.22	14.04	NA
V-1	10/18/2001	1,500	180	12	43	46	NA	<5.0	NA	NA	NA	NA	23.26	10.08	13.18	0.8
V-1	01/24/2002	210	7.1	15	4.6	32	NA	<5.0	NA	NA	NA	NA	23.26	6.44	16.82	3.5

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
V-1	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	23.26	6.18	17.08	1.0
V-1	07/18/2002	100	1.6	1.2	1.2	6.1	NA	<5.0	NA	NA	NA	NA	23.26	8.08	15.18	1.7
V-1	10/21/2002	210	1.4	<0.50	1.0	1.3	NA	<5.0	NA	NA	NA	NA	29.26	8.94	20.32	1.2
V-1	01/21/2003	61	5.2	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	29.26	6.62	22.64	0.6
V-1	04/17/2003	<50	<0.50	<0.50	<0.50	1.2	NA	<5.0	NA	NA	NA	NA	29.26	6.00	23.26	1.3
V-1	07/22/2003	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	29.26	NA	NA	NA
V-1	10/20/2003	540	11	1.6	6.0	8.9	NA	<0.50	NA	NA	NA	NA	29.26	9.53	19.73	0.1
V-1	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	29.26	6.62	22.64	NA
V-1	01/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.26	9.08	20.18	0.1
V-1	04/01/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	NA	NA	NA	NA	NA	29.26	6.24	23.02	0.1
V-1	07/13/2004	120	1.8	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	29.26	8.78	20.48	0.1
V-1	10/26/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	NA	NA	NA	NA	NA	29.26	8.09	21.17	0.6
V-1	01/13/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	NA	NA	NA	NA	NA	29.26	4.30	24.96	0.1
V-1	04/28/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	NA	NA	NA	NA	NA	29.26	5.27	23.99	3.34
V-1	08/01/2005	54	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	29.26	7.77	21.49	NA d
V-1	10/05/2005	120 e	<0.50	<0.50	<0.50	<1.0	NA	NA	NA	NA	NA	NA	29.26	8.72	20.54	1.67
V-1	01/11/2006	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<5.0	29.24	4.78	24.46	0.3
V-1	05/26/2006	<50.0	<0.500	<0.500	<0.500	1.02 g	NA	<0.500	<0.500	<0.500	<0.500	<10.0	29.24	6.61	22.63	1.94
V-1	08/30/2006	5,660	6.81	1.39	27.3	21.0	NA	<0.500	<0.500	<0.500	<0.500	<10.0	29.24	8.46	20.78	0.33/0.33
V-1	11/08/2006	1,300	3.7	1.5	5.1	6.9	NA	NA	NA	NA	NA	NA	29.24	8.95	20.29	0.05/0.11
V-1	02/22/2007	<50	<0.50	<1.0	<0.50	<1.0	NA	NA	NA	NA	NA	NA	29.24	6.17	23.07	0.76/0.99
V-1	05/29/2007	650 i	0.64	<1.0	1.2	0.95 k	NA	NA	NA	NA	NA	NA	29.24	7.21	22.03	0.69/0.74
V-1	**08/27/2007**	**510 i, j**	**0.24**	**<1.0**	**<1.0**	**<1.0**	**NA**	**<1.0**	**<2.0**	**<2.0**	**<2.0**	**<10**	**29.24**	**8.78**	**20.46**	**0.12/0.57**
V-2	08/02/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.80	NA	NA	NA
V-2	08/05/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.80	7.94	14.86	NA

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
V-2	10/17/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.80	9.30	13.50	NA
V-2	01/08/1997	69,000	4,800	2,800	2,700	13,000	750	NA	NA	NA	NA	NA	22.80	5.82	16.98	NA
V-2	04/07/1997	90,000	4,400	1,900	3,300	14,000	<500	NA	NA	NA	NA	NA	22.80	7.10	15.70	NA
V-2 (D)	04/07/1997	77,000	4,400	2,000	3,200	14,000	<250	NA	NA	NA	NA	NA	22.80	NA	NA	NA
V-2	07/02/1997	82,000	5,500	2,700	3,500	16,000	530	<100	NA	NA	NA	NA	22.80	8.35	14.45	NA
V-2 (D)	07/02/1997	85,000	5,600	2,800	3,600	17,000	520	<100	NA	NA	NA	NA	22.80	NA	NA	NA
V-2	10/24/1997	7,300	1,100	97	230	180	91	<12	NA	NA	NA	NA	22.80	10.03	12.77	NA
V-2 (D)	10/24/1997	12,000	1,700	340	650	630	120	<20	NA	NA	NA	NA	22.80	NA	NA	NA
V-2	01/09/1998	40,000	4,100	1,500	2,500	9,000	280	NA	NA	NA	NA	NA	22.80	6.94	15.86	NA
V-2	04/02/1998	62,000	6,800	2,400	3,400	14,000	<250	NA	NA	NA	NA	NA	22.80	5.35	17.45	NA
V-2	07/14/1998	43,000	4,700	1,100	2,500	6,600	<250	NA	NA	NA	NA	NA	22.80	6.48	16.32	NA
V-2 (D)	07/14/1998	48,000	5,100	1,300	2,600	8,100	<250	NA	NA	NA	NA	NA	22.80	NA	NA	NA
V-2	10/01/1998	53,000	5,200	1,800	3,200	10,000	83	NA	NA	NA	NA	NA	22.80	8.41	14.39	NA
V-2 (D)	10/01/1998	55,000	5,300	1,900	3,300	11,000	65	NA	NA	NA	NA	NA	22.80	NA	NA	NA
V-2	01/18/1999	47,100	5,800	1,960	3,450	10,200	<100	NA	NA	NA	NA	NA	22.80	8.29	14.51	NA
V-2	04/29/1999	65,000	6,100	2,800	3,200	12,000	540	NA	NA	NA	NA	NA	22.80	8.19	14.61	NA
V-2	08/23/1999	59,600	6,240	2,190	3,900	14,700	390	NA	NA	NA	NA	NA	22.80	8.44	14.36	NA
V-2	10/06/1999	63,800	4,820	1,860	2,840	11,100	<1000	NA	NA	NA	NA	NA	22.80	8.96	13.84	NA
V-2	01/27/2000	59,600	10,200	2,840	3,450	12,100	<500	NA	NA	NA	NA	NA	22.80	7.57	15.23	NA
V-2	04/18/2000	45,000	6,050	2,700	3,340	12,200	<250	NA	NA	NA	NA	NA	22.80	8.14	14.66	NA
V-2	07/19/2000	31,800	4,440	1,270	2,390	6,820	<500	NA	NA	NA	NA	NA	22.80	8.21	14.59	NA
V-2	10/24/2000	40,100	4,810	1,730	2,960	8,650	734	<10.0	NA	NA	NA	NA	22.80	8.53	14.27	NA
V-2	01/04/2001	37,500	4,510	1,390	2,710	6,880	375	NA	NA	NA	NA	NA	22.80	8.03	14.77	NA
V-2	05/03/2001	51,000	4,000	1,900	2,800	8,200	NA	<200	NA	NA	NA	NA	22.80	6.63	16.17	NA
V-2	07/09/2001	9,600	710	190	180	1,400	NA	<25	NA	NA	NA	NA	22.80	8.75	14.05	NA
V-2	10/18/2001	20,000	2,000	540	560	6,000	NA	<50	NA	NA	NA	NA	22.80	9.60	13.20	0.4

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
V-2	01/24/2002	36,000	2,900	870	1,700	5,900	NA	<100	NA	NA	NA	NA	22.80	5.93	16.87	4.0
V-2	04/04/2002	49,000	3,900	1,500	2,900	9,300	NA	<200	NA	NA	NA	NA	22.80	5.78	17.02	0.9
V-2	07/18/2002	50,000	3,600	1,300	2,800	9,300	NA	<200	NA	NA	NA	NA	22.80	7.58	15.22	1.3
V-2	10/21/2002	86,000	6,000	1,900	4,200	20,000	NA	<250	NA	NA	NA	NA	28.80	8.40	20.40	1.3
V-2	01/21/2003	13,000	630	200	300	2,400	NA	<25	NA	NA	NA	NA	28.80	6.52	22.28	1.2
V-2	04/17/2003	26,000	2,000	570	750	6,000	NA	<100	NA	NA	NA	NA	28.80	5.93	22.87	1.1
V-2	07/22/2003	6,800	130	34	150	440	NA	<2.5	NA	NA	NA	NA	28.80	7.96	20.84	1.4
V-2	10/20/2003	14,000	660	160	260	2,400	NA	<10	NA	NA	NA	NA	28.80	9.21	19.59	0.7
V-2	01/13/2004	20,000	1,400	410	700	4,200	NA	<13	NA	NA	NA	NA	28.80	6.90	21.90	NA
V-2	01/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.80	8.50	20.30	0.1
V-2	04/01/2004	28,000	2,000	520	650	8,700	NA	NA	NA	NA	NA	NA	28.80	6.84	21.96	0.2
V-2	07/13/2004	21,000	1,900	460	1,000	4,300	NA	NA	NA	NA	NA	NA	28.80	8.28	20.52	0.1
V-2	10/26/2004	43,000	2,700	880	2,300	12,000	NA	NA	NA	NA	NA	NA	28.80	8.43	20.37	0.8
V-2	01/13/2005	23,000	1,400	330	1,800	5,800	NA	NA	NA	NA	NA	NA	28.80	6.67	22.13	0.6
V-2	04/28/2005	16,000	970	230	620	3,800	NA	NA	NA	NA	NA	NA	28.80	5.69	23.11	4.55
V-2	08/01/2005	14,000	610	190	450	3,600	NA	NA	NA	NA	NA	NA	28.80	5.25	23.55	NA d
V-2	10/05/2005	37,000	2,200	680	2,300	8,500	NA	NA	NA	NA	NA	NA	28.80	8.24	20.56	0.75
V-2	01/11/2006 f	45,000	1,900	720	3,000	13,000	NA	<25	<25	<25	<25	<250	28.81	6.60	22.21	0.4
V-2	05/26/2006	66,600	1,300	400	2,950	9,700 g	NA	<0.500	<0.500	<0.500	<0.500	<10.0	28.81	6.28	22.53	0.28
V-2	08/30/2006	7,290	2,390	750	4,680	17,000	NA	NA	NA	NA	NA	NA	28.81	8.03	20.78	0.37/0.31
V-2	11/08/2006	68,000	1,700	580	3,900	13,000	NA	NA	NA	NA	NA	NA	28.81	8.60	20.21	0.05/0.14
V-2	02/22/2007	57,000	1,300	600	4,000	15,000	NA	NA	NA	NA	NA	NA	28.81	5.88	22.93	1.23/2.50
V-2	05/29/2007	48,000 i,j	2,000	650	3,300	10,000	NA	NA	NA	NA	NA	NA	28.81	6.82	21.99	0.07/0.12
V-2	**08/27/2007**	**55,000 i**	**1,600**	**520**	**2,900**	**8,000**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**28.81**	**8.22**	**20.59**	**0.22/0.48**

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to May 3, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to May 3, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether, analyzed by EPA Method 8260B
ETBE = Ethyl tertiary butyl ether, analyzed by EPA Method 8260B
TAME = Tertiary amyl methyl ether, analyzed by EPA Method 8260B
TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B
TOC = Top of Casing Elevation
SPH = Separate-Phase Hydrocarbons
GW = Groundwater
DO = Dissolved Oxygen reading
n/n = Pre-purge/Post-purge DO reading
ug/L = Parts per billion
ppm = Parts per million
MSL = Mean sea level
ft. = Feet
<n = Below detection limit
(D) = Duplicate sample
NA = Not applicable

WELL CONCENTRATIONS
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)

Notes:

a = This sample analyzed outside of EPA recommended holding time.

b = Due to error of Sequoia Analytical laboratories, well V-1 confirmed for MTBE by EPA Method 8260 instead of V-2.

c = Hydrocarbon does not match pattern of laboratory's standard.

d = Dissolved oxygen reading not taken due to meter malfunction.

e = Quantity of unknown hydrocarbon(s) in sample based on gasoline.

f = Sample was originally analyzed within the EPA recommended hold time. Re-analysis for dilution was performed past the recommended hold time.

g = Analyte was detected in the associated Method Blank.

h = Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past holding time.

i = Analyzed by EPA Method 8015B (M).

j = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

k = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

* = Water sample from Boring.

Site surveyed June 14, 2001 by Virgil Chavez Land Surveying of Vallejo, CA.

Site surveyed August 13, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.

Wells MW-1 through MW-8, V-1, and V-2 surveyed on February 14, 2006 by Virgil Chavez Land Surveying of Vallejo, CA..

Wells MW-12 and MW-14 surveyed on April 19, 2006 by Virgil Chavez Land Surveying of Vallejo, CA..

ATTACHMENT 4

Available Boring and Well Logs

Field Exploratory Boring Log V-1

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt 0 to 3".
			Cement 0.5 to 2 ft.			Clayey Sand (SC-Fill)
			Bentonite 2 to 2.5 ft.			Dark yellowish brown (10YR 4/6), moist, 70% fine to coarse sand, 30% clay.
NA	5 5 5		Lonestar #3 Sand	5		@ 4.5': As above, moist, medium dense.
35.4	3 3 4	V-1-10.5	2-in. Sch. 40 PVC - 0.02-in. Slot 3 to 13 ft.	10		@ 10.5': As above, wet, loose, color change to very dark gray (5Y 3/1), 80% fine sand, 20% clay.
			2-in. Sch. 40 PVC	15		Bottom of boring = 13 feet.
				20		
				25		
				30		

BORING
V-1

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	17-Jul-96

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Field Exploratory Boring Log V-2

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt & Base rock: 0 to 0.5'.
			Cement 0.5 to 2 ft.			Clay (CL)
			Bentonite 2 to 2.5 ft.			Dark olive gray (5Y 3/2), moist, low plasticity, 60% clay, 25% silt, 15% fine sand.
	7		2-in. Sch. 40 PVC			
96.4	13	V-2-5.5	Lonestar #3 Sand	5		@ 4.5': As above, moist, dense.
	18		2-in. Sch. 40 PVC - 0.02-in. Slot 3 to 13 ft.			
	10					Silty Sand (SM)
474.4	16	V-2-10.5		10		Dark olive gray (5Y 3/2), moist to wet, dense, 70% fine sand, 30% silt.
	20					
	20					Clayey Sand (SC)
11.8	16					Olive (5Y 4/3), wet, medium dense, 65% clay, 15% silt, 20% fine sand.
	12			15		
						Bottom of boring = 13 feet.
				20		
				25		
				30		

BORING
V-2

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	19-Jul-96
Date Completed:	19-Jul-96

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Field Exploratory Boring Log MW-1 (B-11)

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt & Base rock: 0 to 0.5'.
			Cement 0.5 to 4 ft.			Clayey Sand (SC)
						Dark yellowish brown (10YR 4/4), moist, dense, 70% fine to coarse sand, 30% clay.
			Bentonite 5 to 4 ft.			
0.0	14 16 16	B11-5	2-in. Sch. 40 PVC	5		@ 4.5': As above, moist, very stiff.
0.0	7 10 10	B11-10.5	Lonestar #3 Sand 2-in. Sch. 40 PVC - 0.02-in. Slot 6 to 21 ft.	10		@ 9.5': As above, moist.
0.0	6 9 11	B11-15.5		15		Clay (CL) Dark yellowish brown (10YR 4/4), moist, medium plasticity, very stiff, 90% clay, 10% fine sand.
0.0	8 9 13	B11-20		20		@ 19.5': As above, wet, 60% clay, 10% silt, 30% fine sand.
						Bottom of boring at 21 feet.
				25		
				30		

BORING
(B-11)
MW-1

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

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Field Exploratory Boring Log MW-2 (B-12)

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt & Base rock: 0 to 0.5'.
			Cement 0.5 to 4 ft.			Clayey Sand (SC)
						Dark yellowish brown (10YR 4/4), moist, 70% fine to coarse sand, 30% clay.
			Bentonite 5 to 4 ft.			
0.0	12 12 20	B12-5.5	2-in. Sch. 40 PVC	5		@ 4.5': As above, moist, medium dense.
						Clay (CL)
0.0	5 7 8	B12-11		10		Light olive brown (2.5Y 3/5), moist, medium dense, medium plasticity, 70% clay, 10% silt, 20% fine to coarse sand.
			Lonestar #3 Sand			
0.0	12 35 37	B12-15.5	2-in. Sch. 40 PVC - 0.02-in. Slot 6 to 21 ft.	15		@ 14.5': As above, wet, hard.
0.0	15 30 40	B12-20.5		20		@ 19.5': As above, wet, hard.
				25		
				30		Bottom of boring = 21 feet.

BORING
(B-12)
MW-2

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-3
JOB/SITE NAME	oakl2703	**DRILLING STARTED**	22-Nov-00
LOCATION	2703 Martin Luther King, Oakland	**DRILLING COMPLETED**	22-Nov-00
PROJECT NUMBER	242-0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20 ft bgs
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	15.0 ft (22-Nov-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'. Located approx. 57' east of the southern corner.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.2	Portland Type I/II Cement
							Clayey SILT (ML); yellow brown; damp; 35% clay, 60% silt, 3% sand, 2% gravel; high plasticity. @ 1' bgs- wood fragments; 40% clay, 60% silt. @ 2.5' bgs- black	3.0	Bentonite Seal
					ML		**Sandy SILT** (ML); dark grey; damp; 55 clay, 70% silt, 25% fine grained sand; low plasticity.	5.0	Monterey Sand #2/12
		MW3-5.0		5	ML		**Gravelly SILT** (ML); yellow brown; dense; damp; 10% clay, 55% silt, 10% fine grained sand, 25% fine angular grained gravel; low plasticity.	5.8	
					ML		**SILT** (ML); yellow brown; damp to wet; 5% clay, 90% silt, 5% fine grained sand; medium plasticity.	6.3	
					ML		**Clayey SILT** (ML); yellow brown; very stiff; wet; 30% clay, 70% silt; high plasticity.	10.0	
		MW3-10.5		10	SM		**Silty SAND** (SM); yellow brown; dense; wet; 8% clay, 30% silt, 50% fine grained sand, 12% fine grained gravel; slight plasticity.	11.3	4"-diam., 0.010" Slotted Schedule 40 PVC
					ML		**Clayey SILT** (ML); yellow brown; stiff; wet; 20% clay, 75% silt, 2% sand, 3% gravel; mottling; organics; medium plasticity. ▽		
				15				15.7	
					SM		**Silty SAND** (SM); yellow brown; dense; saturated; 8% clay, 35% silt, 45% fine to medium grained sand; fine angular to sub angular gravel; low plasticity.	19.2	
				20	ML		**Clayey SILT** (ML); light olive brown; saturated; 20% clay, 80% silt; low plasticity.	20.0	Bottom of Boring @ 20 ft

WELL LOG (TPH-G) G:\OAB\CAE-1\GINT\OAKL2703.GPJ DEFAULT.GDT 3/8/01

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-4
JOB/SITE NAME	oakl2703	**DRILLING STARTED**	21-Nov-00
LOCATION	2703 Martin Luther King, Oakland	**DRILLING COMPLETED**	21-Nov-00
PROJECT NUMBER	242-0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20 ft bgs
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5'. Located approx. 23' north of the southern corner.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					GC		**ASPHALT**	0.1	
							Clayey GRAVEL(GC); dark yellowish brown; moist-damp; 15% clay, 10% silt, 5% sand, 70% gravel; no plasticity.	1.0	Portland Type I/II Cement
							Silty CLAY(CL); black; moist-damp; 60% clay, 40% silt; high plasticity. @ 3.5' fbg- dark greenish gray.		Bentonite Seal
		MW4-5.0		5	CL		@ 5' bgs- mottled; 60% clay, 25% silt, 15% fine grained sand.		Monterey Sand #2/12
		MW4-10.5		10	SP		**Clayey SAND** (SP); olive gray/dark yellow brown; moist-wet; 25% clay, 10% silt, 65% fine grained sand; mottled; medium to high plasticity.	10.0	4"-diam., 0.010" Slotted Schedule 40 PVC
				15			@ 15' bgs- 25% clay, 10% silt, 55% sand, 10% gravel.		
					ML		**Gravelly SILT**(ML); olive brown; saturated; 10% clay, 60% silt, 5% sand, 25% gravel; low plasticity.	18.5	
				20				20.0	Bottom of Boring @ 20 ft

WELL LOG (TPH-G) G:\OABCAE-1\GINT\OAKL2703.GPJ DEFAULT.GDT 3/8/01

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-5
JOB/SITE NAME	oakl2703	**DRILLING STARTED**	21-Nov-00
LOCATION	2703 Martin Luther King, Oakland	**DRILLING COMPLETED**	21-Nov-00
PROJECT NUMBER	242-0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20 ft bgs
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	10.0 ft (22-Nov-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'. Located approx. 10' east of the car port.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.2	Portland Type I/II Cement
					ML		**FILL** brown; dense; dry; 40% silt, 10% sand, 50% gravel; low plasticity.	1.2	
							Clayey SILT (ML) very dark brown; very stiff; dry; 40% clay, 60% silt; medium plasticity.	3.0	Bentonite Seal
					SM		**Silty SAND** (SM); very dark brown; dense; damp; 10% clay, 35% silt, 53% fine grained sand, 2% gravel; low plasticity.		Monterey Sand #2/12
		MW5-5.0		5			**Clayey SILT** (ML); olive brown; very stiff; dry to moist; 25% clay, 50% silt, 23% sand, 2% gravel; low plasticity.	5.0	
					ML				
		MW5-10.5		10			@ 10' bgs- saturated; 40% clay, 60% silt; medium to high plasticity. ▽	11.3	
					SC		**Clayey SAND**(SC); dark greenish grey; very stiff; saturated; 15% clay, 13% silt, 70% fine grained sand, 2% fine subangular grained gravel; low plasticity.		4"-diam., 0.010" Slotted Schedule 40 PVC
				15				15.0	
					ML		**Gravelly SILT** (ML); olive brown; saturated; 10% clay, 70% silt, 5% fine grained sand, 2% fine subangulare grained gravel; low plasticity.		
							@ 18.5' bgs- interbedded silt and gravelly silt; yellowish brown; saturated; 5% clay, 90% silt, 5% gravel; low plasticity.	20.0	Bottom of Boring @ 20 ft
				20					

WELL LOG (TPH-G) G:\OABCAE~1\GINT\OAKL2703.GPJ DEFAULT.GDT 3/8/01

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-6
JOB/SITE NAME	2703 Martin Luther King Jr. Way	**DRILLING STARTED**	04-Jan-06
LOCATION	Oakland, California	**DRILLING COMPLETED**	04-Jan-06
PROJECT NUMBER	247-0781-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	29.24 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	28.60 ft above msl
BORING DIAMETER	8"	**SCREENED INTERVALS**	5 to 20 fbg
LOGGED BY	B. DeBoer	**DEPTH TO WATER (First Encountered)**	13.5 fbg (04-Jan-06) ▽
REVIEWED BY	A. Friel, PG	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand Augered to 5 feet below grade.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
					GP		**ASPHALT**	0.2
							GRAVEl with Silt (FILL)(GP); pale brown; moist; 40% silt, 10% fine sand, 50% medium gravel; low plasticity.	1.0
							SILT with Sand and Gravel(ML); dark greenish gray; moist; 15% clay, 55% silt, 15% fine sand, 15% medium gravel.	
9		MW-6- 5		5	ML			
29		MW-6- 10		10				
								11.5
					SM		**Silty SAND**(SM); dark greenish brown; moist; 10% clay, 25% silt, 65% fine to medium sand; low plasticity.	
							▽	13.5
							Silty SAND(SM); greenish brown; wet; 20% silt, 65% medium sand, 15% medium gravel.	14.5
					GM		**Silty GRAVEL with Sand**(GM); gray brown; wet; 30% silt, 30% medium sand, 40% medium angular gravel.	15.0
554		MW-6- 15.5		15	SM		**Silty SAND**(SM); greenish brown; wet; 20% silt, 65% medium sand, 15% medium gravel.	
								17.0
					ML		**SILT** (ML); medium brown; moist; 10% clay, 90% silt; medium plasticity.	
15		MW-6- 19.5		20				20.0

WELL DIAGRAM

- Portland Type I/II Cement
- Bentonite Seal
- Monterey Sand #2/12
- 4"-diam., 0.020" Slotted Schedule 40 PVC
- Bottom of Boring @ 20 fbg

WELL LOG (PID) G:\OAKLAND 2703 MARTIN LUTHER KING JR\FIGURES\GINT\OAKL2703.GPJ DEFAULT.GDT 2/24/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-7
JOB/SITE NAME	2703 Martin Luther King Jr. Way	**DRILLING STARTED**	04-Jan-06
LOCATION	Oakland, California	**DRILLING COMPLETED**	04-Jan-06
PROJECT NUMBER	247-0781-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	30.10 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	29.71 ft above msl
BORING DIAMETER	8"	**SCREENED INTERVALS**	5 to 20 fbg
LOGGED BY	B. DeBoer	**DEPTH TO WATER (First Encountered)**	12.5 fbg (04-Jan-06)
REVIEWED BY	A. Friel, PG	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand Augered to 5 feet below grade.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
					GP		**ASPHALT**	0.2
							GRAVEL with Silt (FILL)(GP); pale brown; moist; 40% silt, 10% fine sand, 50% medium gravel; low plasticity.	1.0
							SILT (ML); dark brown to black; moist; 25% clay, 75% silt; medium plasticity.	
				5				
10		MW-7-5.5			ML			
				10				
								11.5
11		MW-7-11.5			SM		**Silty SAND with Gravel**(SM); light brown; moist to wet; 15% silt, 60% medium sand, 25% medium gravel. ▽	13.0
					GM		**Silty GRAVEL with Sand**(GM); light brown; wet; 15% silt, 25% medium sand, 65% medium gravel.	13.5
				15	ML		**SILT with Gravel**(ML); light brown; moist; 20% clay, 70% silt, 10% medium gravel; medium plasticity.	
								16.0
360		MW-7-16.5			SM		**Silty SAND with Gravel**(SM); light brown with green; wet; 15% silt, 65% fine sand, 20% medium gravel.	
								19.0
59		MW-7-19.5		20	ML		**Sandy SILT**(ML); medium brown; moist; 70% silt, 30% fine to medium sand; medium plasticity.	20.0

WELL DIAGRAM

- Portland Type I/II Cement
- Bentonite Seal
- Monterey Sand #2/12
- 4"-diam., 0.020" Slotted Schedule 40 PVC
- Bottom of Boring @ 20 fbg

WELL LOG (PID) G:\OAKLAND 2703 MARTIN LUTHER KING JR\FIGURES\GINTOAKL2703.GPJ DEFAULT.GDT 2/24/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-8
JOB/SITE NAME	2703 Martin Luther King Jr. Way	**DRILLING STARTED**	03-Jan-06
LOCATION	Oakland, California	**DRILLING COMPLETED**	03-Jan-06
PROJECT NUMBER	247-0781-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	30.10 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	29.54 ft above msl
BORING DIAMETER	8"	**SCREENED INTERVALS**	5 to 20 fbg
LOGGED BY	B. DeBoer	**DEPTH TO WATER (First Encountered)**	12.0 fbg (03-Jan-06)
REVIEWED BY	A. Friel, PG	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand Augered to 5 feet below grade.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					GP		**ASPHALT**	0.2	Portland Type I/II Cement
							GRAVEl with Silt (FILL)(GP); pale brown; moist; 40% silt, 10% fine sand, 50% medium gravel; low plasticity.	1.0	Bentonite Seal
							SILT (ML); greenish gray; moist; 20% clay, 70% silt, 10% fine sand; medium plasticity.		Monterey Sand #2/12
				5	ML				
0.2		MW-8- 6.5							
				10				10.0	
37		MW-8- 10.5			GP		**Silty GRAVEL with Sand**(GP); 15% silt, 15% fine sand, 60% medium gravel. ▽		4"-diam., 0.020" Slotted Schedule 40 PVC
							GRAVEL with Silt and Sand(GP); medium brown with green; wet; 10% silt, 30% fine sand, 60% medium gravel.	13.5	
				15	SP		**SAND with Gravel**(SP); medium brown; wet; 80% coarse sand, 20% medium gravel.	14.5	
								19.0	
116		MW-8- 19.5		20	ML		**SILT with Sand**(ML); light brown; moist; 15% clay, 70% silt, 15% medium sand; medium plasticity.	20.0	Bottom of Boring @ 20 fbg

WELL LOG (PID) G:\OAKLAND 2703 MARTIN LUTHER KING JR\FIGURES\GINT\OAKL2703.GPJ DEFAULT.GDT 2/24/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	MW-12
JOB/SITE NAME	2703 Martin Luther King Jr. Way	DRILLING STARTED	28-Feb-06
LOCATION	Oakland, California	DRILLING COMPLETED	28-Feb-06
PROJECT NUMBER	247-0781-010	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	31.60 ft above msl
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	31.16 ft above msl
BORING DIAMETER	8"	SCREENED INTERVALS	5 to 20 fbg
LOGGED BY	B. DeBoer	DEPTH TO WATER (First Encountered)	14.0 fbg (28-Feb-06)
REVIEWED BY	A. Friel, PG	DEPTH TO WATER (Static)	NA
REMARKS	Hand Augered to 5 feet below grade.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							SILT with Sand(ML); black 10YR 2/1; moist; 10% clay, 75% silt, 15% very fine sand; moderate plasticity.		Portland Type I/II Cement
					ML		SILT (ML); black 10YR 2/1; moist; 40% clay, 60% silt; high plasticity.	2.5	Bentonite Seal
0		MW-12-5		5			SILT (ML); dark grayish brown 10YR 4/2; moist; 30% clay, 60% silt, 10% very fine sand; moderate plasticity.	5.0	Monterey Sand #2/12
					GM		Silty GRAVEL with thin roots (GM); very dark grayish brown 10YR 3/2; wet; 40% silt, 10% fine sand, 50% fine angular gravel.	6.0	
							SILT with sand(ML); brown 10YR 4/3 with green mottling; moist; 15% clay, 70% silt, 15% fine to medium sand; high plasticity.	6.8	
0		MW-12-10		10	ML				
							Sandy SILT(ML); yellowish brown 10YR 5/4; moist; 15% clay, 50% silt, 30% fine sand, 5% fine rounded gravel; low plasticity.	12.0	2"-diam., 0.020" Slotted Schedule 40 PVC
					GM		Silty GRAVEL with sand (GM); dark yellowish brown 10YR 4/4; wet; 20% silt, 30% coarse sand; 50% coarse angular gravel.	13.0	
0		MW-12-15		15			SILT with sand(ML); yellowish brown 10YR 5/4 with green mottling; moist; 15% clay, 70% silt, 15% medium sand; moderate plasticity.	15.0	
					ML				
0		MW-12-19.5		20				20.0	Bottom of Boring @ 20 fbg

WELL LOG (PID) G:\OAA292--1\FIGURES\GINTOAKL2703.GPJ DEFAULT.GDT 5/23/06

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-14
JOB/SITE NAME	2703 Martin Luther King Jr. Way	**DRILLING STARTED**	28-Feb-06
LOCATION	Oakland, California	**DRILLING COMPLETED**	28-Feb-06
PROJECT NUMBER	247-0781-010	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	28.33 ft above msl
DRILLING METHOD	Hand-auger	**TOP OF CASING ELEVATION**	28.09 ft above msl
BORING DIAMETER	4"	**SCREENED INTERVALS**	5 to 14.5 fbg
LOGGED BY	B. DeBoer	**DEPTH TO WATER (First Encountered)**	11.0 fbg (28-Feb-06) ▽
REVIEWED BY	A. Friel, PG	**DEPTH TO WATER (Static)**	NA ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
							CONCRETE	0.2
							SILT (ML); black 10YR 2/1; moist; 25% clay, 75% silt; high plasticity.	2.0
							SILT (ML); dark brown 10YR 3/3; dry; 40% clay, 60% silt; high plasticity.	
0		MW-14 -5		5	ML		**SILT with sand**(ML); dark yellowish brown 10YR 4/4; dry; 25% clay, 60% silt, 15% coarse sand; high plasticity.	5.0
							SILT (ML); dark grayish brown 10YR 4/2; dry; 40% clay, 60% silt; high plasticity.	8.0
268		MW-14 -10		10			**SILT** (ML); greenish gray GLEY1 5/5GY; moist; 15% clay, 85% silt; moderate plasticity.	9.5
							SILT with Gravel(ML); greenish gray GLEY1 5/5GY; wet; 15% clay, 60% silt, 15% fine gravel; moderate plasticity. ▽	11.0
					GM		**Silty GRAVEL** (GM); dark greenish gray GLEY1 4/10GY; wet; 40% silt, 10% fine sand; 50% fine and coarse gravel.	13.0
1000+		MW-14 -14						14.5

WELL DIAGRAM

- Portland Type I/II Cement
- Bentonite Seal
- Monterey Sand #2/12
- 1"-diam., 0.020" Slotted Schedule 40 PVC
- Bottom of Boring @ 14.5 fbg

WELL LOG (PID) G:\OAA292~1\FIGURES\GINT\OAKL2703.GPJ DEFAULT.GDT 5/23/06

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
				0	Asphalt Pavement/Baserock: gravel.
Munsell Color Scale				2	Sandy Clay (CL), dark greenish gray, medium plasticity, medium stiff, moist (moderate hydrocarbon odor).
(10YR - 3/2)	30	B1-5		4	Sandy Clay (CL), as above
				6	
(5Y - 3/2)	60	No Sample		8	Approx. 0.5 to 0.75" non-aqueous product on water. Refusal at 9', possible tank hold-down slab.
				10	BOTTOM OF BORING @ 9 feet (Refusal encountered)
				12	
				14	
				16	
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-1 2703 Martin Luther King Jr. Way Oakland, California

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
Munsell Color Scale				0	Asphalt Pavement/Baserock: gravel.
				2	Clayey Sand (SC), Olive green mottled mottled dark green with 5-10% fines, medium dense, moist (slight hydrocarbon odor).
(10YR - 3/2)	10	B2-5		4	
(5Y - 3/2)	40	B2-7		6 ▽	Clayey Sand (SC) brown mottled greyish green with 45 to 50% fine grain sand, dense, slightly plastic, saturated, hydrocarbon odor.
				8	BOTTOM OF BORING @ 7 feet (Refusal encountered)
				10	
				12	
				14	
				16	
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-2 2703 Martin Luther King Jr. Way Oakland, California

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
				0	Asphalt Pavement/Baserock: gravel.
Munsell Color Scale				2	
(10YR - 3/2)	10	B3-4		4	Sandy Clay (CL), Brown mottled grey with 35% fine grain sand, stiff, very plastic, moist.
(5Y - 3/2)	40	B3-6		6	Sandy Clay (CL) dark olive green with 25% fine grain sand, plastic, stiff, moist, hydrocarbon odor.
				8	
				10	
		No Sample		12	Sandy Clay (CL), as above, no water encountered, refusal at 12 feet.
					BOTTOM OF BORING @ 12 feet
				14	
				16	
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-3 2703 Martin Luther King Jr. Way Oakland, California

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
Munsell Color Scale				0	Asphalt Pavement/Baserock: gravel.
				2	Sandy Clay (CL), Greyish brown mottled reddish brown with 35% fine grain sand, stiff, plastic, moist with few roots.
(10YR - 3/2)	10	B4-4		4	
(5Y - 3/2)	50	B4-6		6	Sandy Clay (CL) greyish green mottled grey and brown with 40% fine grain sand, plastic, stiff, moist, strong hydrocarbon odor.
				8	
				10	
		No Sample		12	Sandy Clay (CL), as above, saturated refusal at 12 feet.
				14	BOTTOM OF BORING @ 12 feet No water encountered
				16	
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-4 2703 Martin Luther King Jr. Way Oakland, California

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
Munsell Color Scale				0	Asphalt Pavement/Baserock: gravel.
				2	Sandy Clay (CL), dark greenish grey mottled brown with 15% fine grain sand, stiff, very plastic, moist, slight hydrocarbon odor.
(10YR - 3/2)	10	B5-5		4	
(5Y - 3/2)	50	B5-7		6	Sandy Clay (CL) brown mottled dark olive grey with 25% very fine grain sand, slightly plastic, stiff, moist, hydrocarbon odor.
				8	
				10	
				12	Approximately 0.25-0.5" non-aqueous product on water.
		No Sample		14	Sandy Clay (CL), as above, saturated.
				16	BOTTOM OF BORING @ 15 feet
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-5 2703 Martin Luther King Jr. Way Oakland, California

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
				0	Asphalt Pavement/Baserock: gravel.
Munsell Color Scale				2	Clayey Sand (SC), olive grey mottled reddish brown with 65% fine grain sand, dense, moist, strong hydrocarbon odor.
(10YR - 3/2)	100	B6-5		4	
				6	
				8	Clayey Sand (SC) brown mottled dark grey with 70% fine grain sand, dense, very moist, strong hydrocarbon odor.
(5Y - 3/2)	500	B6-10		10 ▽	
				12	Approximately 1-2" non-aqueous product on water.
		No Sample		14	Clayey Sand (SC), Brown mottled grey with 80% fine grain sand, dense, wet, strong hydrocarbon odor
				16	BOTTOM OF BORING @ 15 feet
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-6 2703 Martin Luther King Jr. Way Oakland, California

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
Munsell Color Scale				0	Asphalt Pavement/Baserock: gravel.
				2	
(10YR - 3/2)	0	B7-5		4	Sand (SP) with clay, dark greyish green (5-10% fines), dense, moist.
				6	
				8	
(5Y - 3/2)	20	B7-10		10	Sand (SP) brown mottled grey with 10% fines, dense, moist to wet.
				12	
		No Sample		14	Sand (SP), Brown mottled grey with 5% fines, dense, wet.
				16	BOTTOM OF BORING @ 15 feet
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-7 2703 Martin Luther King Jr. Way Oakland, California

Environmental Control Associates, Inc. Pneumatic Sampler.	HNu (ppm)	SAMPLE #	Sample Interval	Depth (feet)	EQUIPMENT: Pneumatic Sampler (1" O.D.) LOGGED BY: M. Kaltreider PROJECT: 2703 Martin Luther King Jr. Wy START DATE: 5/23/95
Munsell Color Scale				0	Asphalt Pavement/Baserock: gravel.
				2	
				4	Sand (SP) with clay, brown mottled reddish brown, (5-10% fines), dense, moist (interperted at fill).
(10YR - 3/2)	0	B8-5		6	
				8	
				10	Clayey Sand (SC) brown mottled black with 35% fines, dense, moist to wet.
(5Y - 3/2)	0	B8-10		12	
				▽	
				14	Sand (SP), Brown mottled grey with 5% fines, dense, wet.
		No Sample			
				16	BOTTOM OF BORING @ 15 feet
				18	
				20	
				22	
				24	
				26	
				28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6254-1.0 DATE: 6/24/95	LOG OF BORING B-8 2703 Martin Luther King Jr. Way Oakland, California

Field Exploratory Boring Log B-10

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
0.0	6 16 18	B10-6		5		Asphalt & Base rock: 0 to 0.5'. Clay (CL) Olive gray (5Y 4/2), moist, low plasticity, hard, 60% clay, 30% silt, 10% fine sand. @ 4.5': As above, moist.
				10		Bottom of boring = 9.5 feet.
				15		
				20		
				25		
				30		

BORING
B-10

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

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Field Exploratory Boring Log B-13

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
						Asphalt & Base rock: 0 to 0.5'.
						Clay (CL)
						Dark olive gray (5Y 3/2), moist, very stiff, low plasticity, 80% clay, 20% fine sand, faint iron staining noted.
684	6 8 15	B13-5.5		5		@ 4.5': As above, moist, very stiff.
						Silt (ML)
1224	5 10 15	B13-10		10		Dark olive gray (5Y 3/2), moist, very stiff, 60% silt, 40% fine sand.
						Silty Sand (ML)
267.4	9 17 22	B13-15.5		15		Dark olive gray (5Y 3/2), wet, dense, 65% fine to coarse sand, 10% clay, 25% silt.
				20		Bottom of boring = 16 feet.
				25		
				30		

BORING
B-13

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	B-17
JOB/SITE NAME	oakl2703	**DRILLING STARTED**	22-Nov-00
LOCATION	2703 Martin Luther King, Oakland	**DRILLING COMPLETED**	22-Nov-00
PROJECT NUMBER	242-0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	7"	**SCREENED INTERVAL**	NA
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	13.0 ft (22-Nov-00)
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5'. Located approx. 28' north of B-18.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
				0	ML		**ASPHALT** **Clayey SILT** (ML); very dark brown; stiff; damp; 40% clay, 60% silt; medium plasticity.	0.2	
		B17-5.0		5	SM		**Silty SAND** (SM); black; damp; 5% clay, 25% silt, 70% fine grained sand; low plasticity.	5.0	Portland Type I/II Cement
		B17-7.0		10					
				15				15.0	Bottom of Boring @ 15 ft

WELL LOG (TPH-G) G:\OABGAE~1\GINT\OAKL2703.GPJ DEFAULT.GDT 3/8/01

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	B-18
JOB/SITE NAME	oakl2703	**DRILLING STARTED**	22-Nov-00
LOCATION	2703 Martin Luther King, Oakland	**DRILLING COMPLETED**	22-Nov-00
PROJECT NUMBER	242-0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	7"	**SCREENED INTERVAL**	NA
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	14.6 ft (22-Nov-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'. Located approx. 30' south of the car port.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					ML		**ASPHALT** **Clayey SILT** (ML); black; very stiff; 40% clay, 60% silt; high plasticity.	0.2	
								3.0	
		B18-5.0		5	ML		**Sandy SILT** (ML); dark grey; 5% clay, 70% silt, 25% fine grained sand; low plasticity.		
		B18-7.0					@7' bgs- dark olive grey		Portland Type I/II Cement
				10	SM		**Silty SAND** (SM); yellow brown; wet; 8% clay, 30% silt, 50% fine grained sand, 12% fine grained gravel.	10.0	
				15			▽	15.0	Bottom of Boring @ 15 ft

WELL LOG (TPH-G) G:\OAB\CAE-1\GINT\OAKL2703.GPJ DEFAULT.GDT 3/8/01

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	B-19
JOB/SITE NAME	oakl2703	**DRILLING STARTED**	22-Nov-00
LOCATION	2703 Martin Luther King, Oakland	**DRILLING COMPLETED**	22-Nov-00
PROJECT NUMBER	242-0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	7"	**SCREENED INTERVAL**	NA
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	15.0 ft (22-Nov-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'. Located approx. 50' north of MW-3.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	DEPTH (ft bgs)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					ASPHALT	0.2	
				ML	**Clayey SILT** (ML); black; very stiff; 40% clay, 60% silt; high plasticity.	3.0	
		B19-5.0	5	ML	**Sandy SILT** (ML); dark brey; 5% clay, 70% silt, 25% fine grained sand; low plasticity.	7.0	
		B19-7.0		ML	**Clayey SILT** (ML); brown; very stiff; moist; 40% clay, 60% silt; high plasticity.	10.0	Portland Type I/II Cement
			10				
			15	SM	**Silty SAND** (SM); yellow brown; stiff; wet; 8% clay, 30% silt, 50% fine grained sand, 12% fine grained gravel; low plasticity. ▽		
			20			20.0	Bottom of Boring @ 20 ft

WELL LOG (TPH-G) G:\OABCAE~1\GINT\OAKL2703.GPJ DEFAULT.GDT 3/8/01

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	B-23
JOB/SITE NAME	2703 Martin Luther King Jr. Way	**DRILLING STARTED**	03-Jan-06
LOCATION	Oakland, California	**DRILLING COMPLETED**	03-Jan-06
PROJECT NUMBER	247-0781-007	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	8"	**SCREENED INTERVALS**	NA
LOGGED BY	B. DeBoer	**DEPTH TO WATER (First Encountered)**	13.5 fbg (03-Jan-06)
REVIEWED BY	A. Friel, PG	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand Augered to 5 feet below grade.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					GP		**ASPHALT**	0.2	
							GRAVEL with Silt (FILL)(GP); pale brown; moist; 40% silt, 10% fine sand, 50% medium gravel; low plasticity.	1.0	
							Clayey SILT(ML); dark greenish gray; moist; 35% clay, 65% silt; moderate plasticity.		
0		B-23- 5		5	ML				
90		B-23- 10		10			**Sandy SILT with Gravel**(ML); brown; moist; 65% silt, 20% fine sand, 15% medium gravel; moderate plasticity.	10.0	Portland Type I/II
					SM		**Silty SAND**(SM); light greenish brown; moist; 20% silt, 80% medium sand.	11.5	
					GP		**GRAVEL with Sand** (GP); light brown; wet; 30% coarse sand, 70% coarse angular gravel.	13.5 14.0	
					ML		**Sandy SILT with Gravel**(ML); brown; moist; 65% silt, 20% fine sand, 15% medium gravel; moderate plasticity.	15.0	
135		B-23- 15.5		15	SP		**SAND** (SP); light brown; wet; 90% medium sand, 10% medium gravel.	16.0	
					ML		**Sandy SILT with Gravel**(SM); greenish gray and brown; moist; 65% silt, 20% fine sand, 15% medium gravel; moderate plasticity.		
112		B-2-1 9.5		20				20.0	Bottom of Boring @ 20 fbg

WELL LOG (PID) G:\OAKLAND 2703 MARTIN LUTHER KING JR\FIGURES\GINT\OAKL2703.GPJ DEFAULT.GDT 2/24/06

Cambria Environmental Technology, Inc.
270 Perkins Street
Sonoma, CA 95476
Telephone: 707-935-4850
Fax: 707-935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-1
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	29-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	29-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	10.5 ft (29-Aug-05) ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**ASPHALT**	0.2	
							Silty SAND with Gravel (SM); brown (10YR 5/2); moist; 5% clay, 15% silt, 35% fine to coarse sand, 45% fine gravel.	0.8	
							SILT (ML) ; very dark grayish brown (10YR 3/2); moist; 30% clay, 65% silt, 5% fine to medium sand; medium plasticity.		
		GP-1-4.0'V					@ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.		
6.4		GP-1-5.0		5	ML		@ 5' - dark greenish gray (5GY 4/1).		Portland Type I/II
				10					
10.0		GP-1-10.0					▽	10.5	
					SM		**Silty SAND (SM)**; brown (10YR 4/3); wet; 30% silt, 70% fine to coarse sand.	12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/27/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-2
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	29-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	29-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hand auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	3"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**ASPHALT**	0.2	Portland Type I/II
							Silty SAND with Gravel (SM); strong brown (7.5Y 4/6); moist; 25% silt, 50% fine to coarse sand, 25% fine to coarse sand.	0.8	
					ML		**SILT (ML)** ; dark greenish gray (10Y 3/1); moist; 30% clay, 65% silt, 5% fine to medium sand; medium plasticity.		
14.0		GP-2-4.0'V GP-2-4.5'					@ 2' - greenish black (10Y 2.5/1).		
							@ 3' - mottled with greenish gray (5G 5/1).	4.5	Bottom of Boring @ 4.5 ft
							@ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.		

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

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Fax: 707-935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-3
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	29-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	29-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	9.0 ft (29-Aug-05) ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	DEPTH (ftbg)	U.S.C.S.	SOIL DESCRIPTION	CONTACT DEPTH (ftbg)
				SM	**ASPHALT**	0.2
				ML	**Silty SAND with Gravel (SM)**; yellowish brown (10YR 5/4); moist; 25% silt, 60% fine to coarse sand, 15% fine to coarse gravel.	1.0
				SM	**SILT with Sand and Gravel (ML)**; dark greenish gray (10Y 3/1); moist; 30% clay, 40% silt, 15% fine to coarse sand, 15% fine gravel; low to medium plasticity.	3.0
		GP-3-4.0'V				
678		GP-3-5.0'	5		**Silty SAND (SM)**; dark greenish gray (10Y 3/1); moist; 20% silt, 80% fine to medium sand. @ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.	5.0
				ML	**SILT (ML)**; dark greenish gray (10Y 3/1); moist; 30% clay, 55% silt, 10% fine to medium sand, 5% fine gravel; low to medium plasticity.	
942		GP-3-8.5'			▽	9.0
				SM	**Silty SAND (SM)**; dark greenish gray (10Y 3/1); wet; 30% silt, 70% fine to medium sand.	10.0
		GP-3-10'W	10		A hydropunch sample was collected from 10 to 12 feet below grade.	

WELL DIAGRAM: Portland Type I/II; Bottom of Boring @ 12 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-4
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	31-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	31-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hand auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	3"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**ASPHALT**	0.2	
							Silty SAND with Gravel (SM); pale brown (10YR 6/3); moist; 15% silt, 60% fine to coarse sand, 25% fine to coarse gravel.	1.0	
					ML		**SILT (ML)** ; dark greenish gray (10Y 3/1); moist; 30% clay, 65% silt, 5% fine to medium sand; medium plasticity.		
6.4		GP-4-4.0'V GP-4-4.5'					@ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.	4.5	Portland Type I/II Bottom of Boring @ 4.5 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-5
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	30-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	30-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hand auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	3"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.0		GP-5-4.0'V GP-5-4.5'			SM		**ASPHALT**	0.2	Portland Type I/II
							Silty SAND with Gravel (SM); yellowish brown (10YR 5/4); moist; 15% silt, 60% fine to coarse sand, 25% fine gravel.	1.0	
					ML		**SILT (ML)** ; very dark grayish brown (10YR 3/2); moist; 30% clay, 65% silt, 5% fine to medium sand, medium plasticity.		
							@ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.	4.5	Bottom of Boring @ 4.5 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-6
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	29-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	30-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	20.0 ft (30-Aug-05) ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**ASPHALT**	0.2	
							Silty SAND with Gravel (SM); pale brown (10YR 6/3); moist; 20% silt, 50% fine to coarse sand, 30% fine gravel.	1.0	
							SILT (ML) ; dark grayish brown (10YR 4/2); moist; 30% clay, 65% silt, 5% fine to medium sand; medium plasticity.		
		GP-6-4.0'V					@ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.		
0.0		GP-6-5.0'		5	ML		@ 5' - dark greenish gray (10Y 3/1).		
0.0		GP-6-9.5		10				10.0	Portland Type I/II
							A hydropunch sample was collected from 10 to 20 feet below grade.		
				15					
		GP-6-20'W		20			▽		Bottom of Boring @ 20 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

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Fax: 707-935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-7
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	30-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	30-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hand auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	3"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	10.0 ft (30-Aug-05) ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**ASPHALT** **Silty SAND with Gravel (SM)**; pale brown (10YR 6/3); dry to moist; 25% silt, 50% fine to coarse sand, 25% fine gravel.	0.2 1.5	
0.0		GP-7-4.0'V					**SILT (ML)** ; very dark grayish brown (10YR 3/2); moist 30% clay, 65% silt, 5% fine to medium sand; medium plasticity.		
3,000		GP-7-5.0'		5	ML		@ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.		◄ Portland Type I/II
5,200		GP-7-9.5'		10			@ 6' - dark greenish gray (10Y 3/1). ▽	10.0	Bottom of Boring @ 10 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-8
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	30-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	30-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hand auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**ASPHALT** **Silty SAND with Gravel (SM)**; pale brown (10YR 6/3); moist; 25% silt, 60% fine to coarse sand, 15% fine gravel.	0.2 1.5	
1.7		GP-8-4.0'V GP-8-4.5'			ML		**SILT (ML)** ; very dark grayish brown (10YR 3/2); moist; 30% clay, 65% silt, 5% fine to medium sand; medium plasticity. @ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.	4.5	Portland Type I/II Bottom of Boring @ 4.5 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/28/05

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Sonoma, CA 95476
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Fax: 707-935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-9
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	31-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	31-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hand auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.4	Portland Type I/II
0.0		GP-9-4.0'V GP-9-4.5'			SM		**Silty SAND with Gravel (SM)**; yellowish brown (10YR 5/4); moist; 15% silt, 60% fine to coarse sand, 25% fine gravel. @ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.	4.5	Bottom of Boring @ 4.5 ft

WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

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BORING/WELL LOG

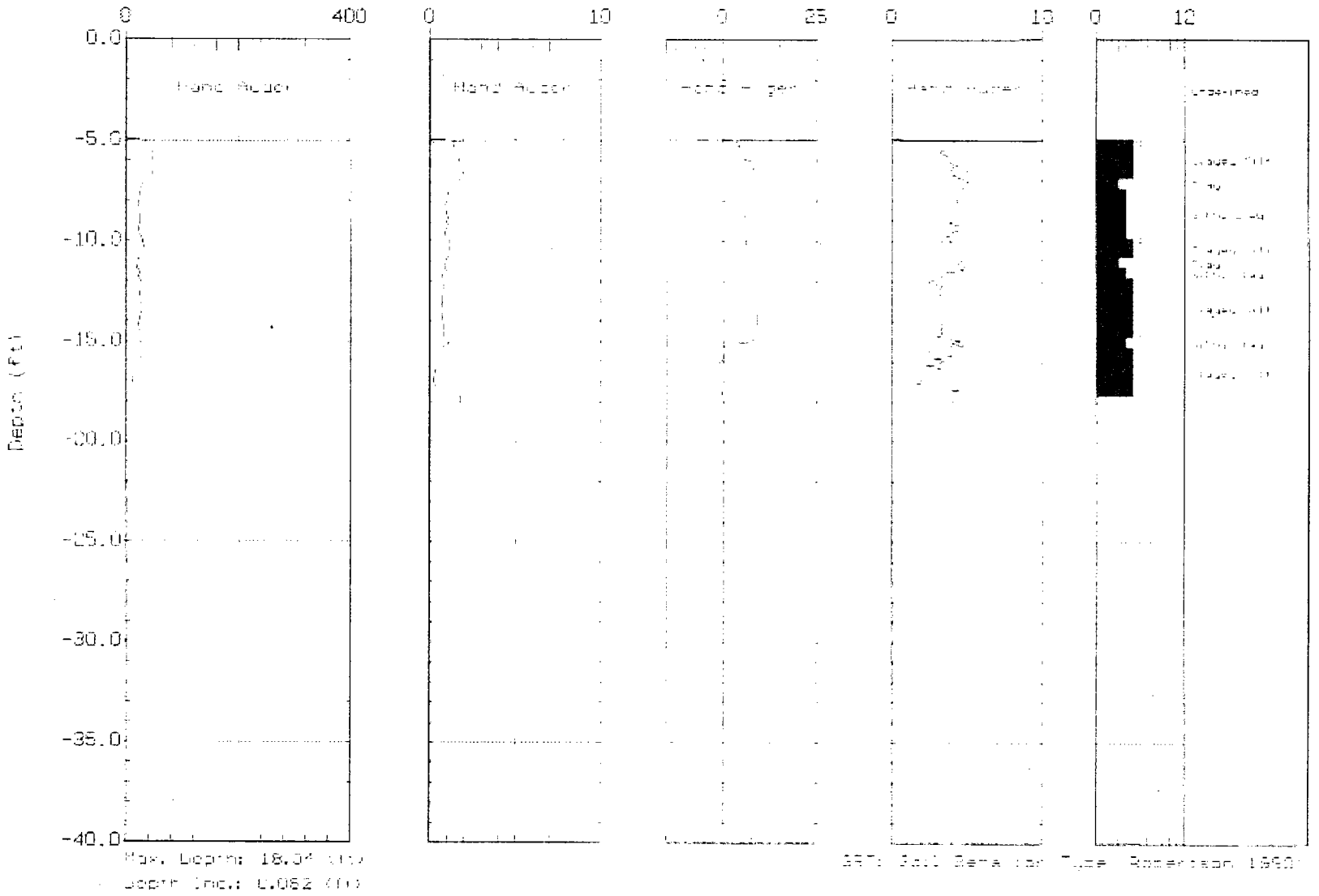
CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	GP-10
JOB/SITE NAME	Former Shell Station	**DRILLING STARTED**	31-Aug-05
LOCATION	2703 Martin Luther King Jr. Way, Oakland, CA	**DRILLING COMPLETED**	31-Aug-05
PROJECT NUMBER	0781	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hand auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	3"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	NA
REMARKS			

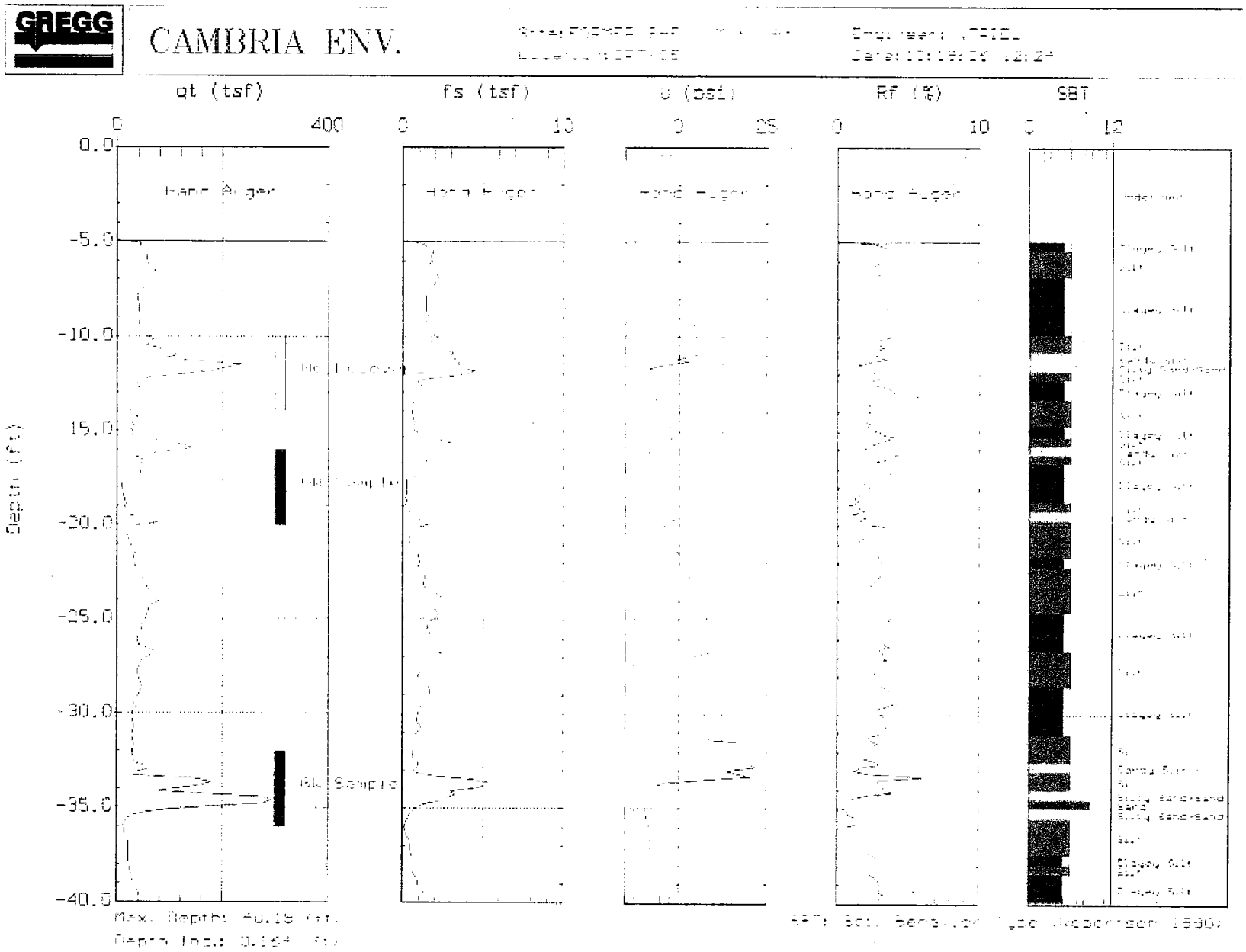
PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.0		GP-10-4.0'V GP-10-4.5'			SM		**ASPHALT**	0.2	Portland Type I/II
							Silty SAND with Gravel (SM); yellowish brown (10YR 5/4) moist; 15% silt, 60% fine to coarse sand, 25% fine gravel.	1.0	
					ML		**SILT (ML)** ; dark greenish gray (10Y 3/1); moist; 30% clay, 65% silt, 56% fine sand; medium plasticity. @ 3.5' - A vapor sample was collected from 3.5 to 4 feet below grade.	4.5	Bottom of Boring @ 4.5 ft

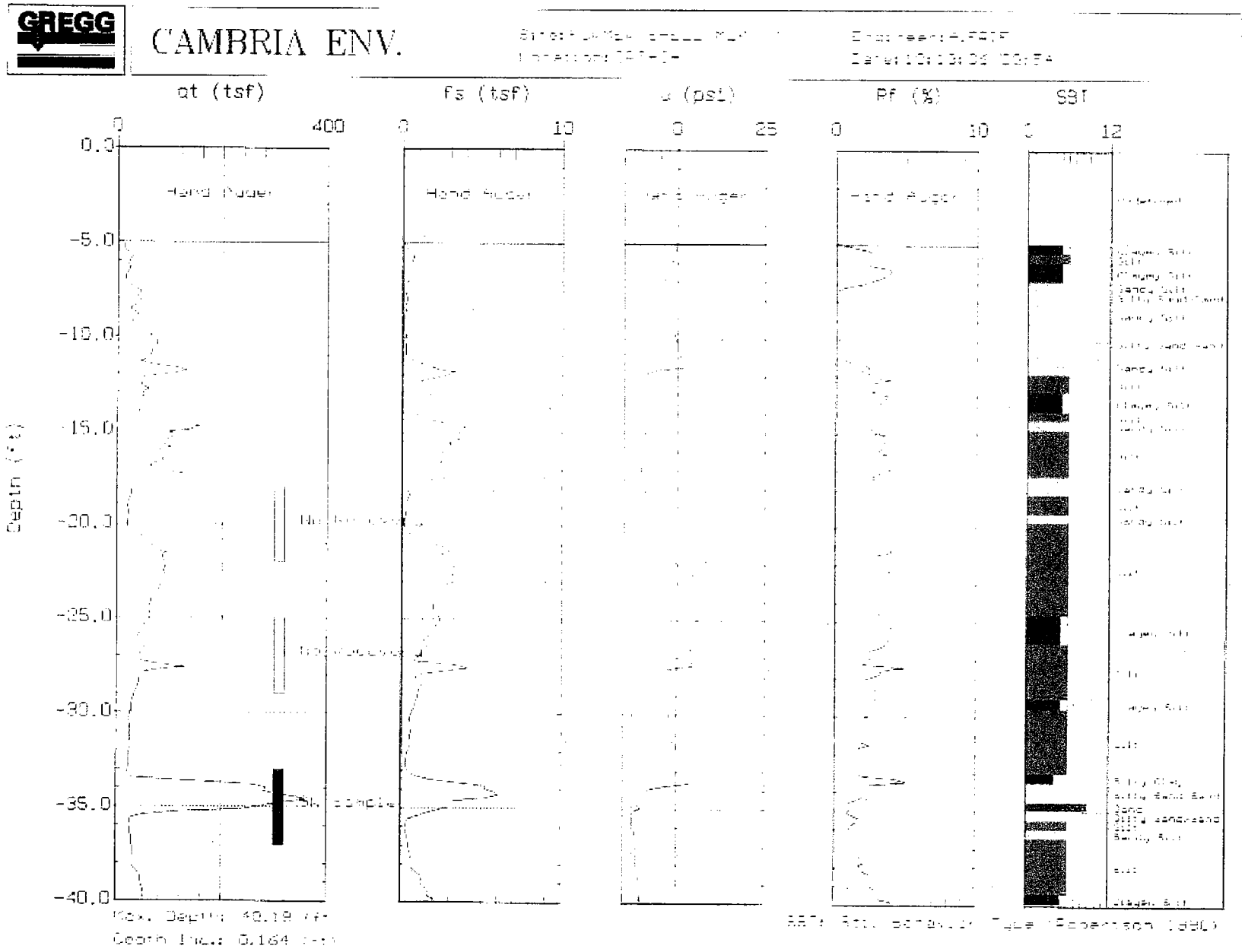
WELL LOG (PID) I:\OAKLAN~1\GINT\0781.GPJ DEFAULT.GDT 10/26/05

GREGG

CAMBRIA ENV.

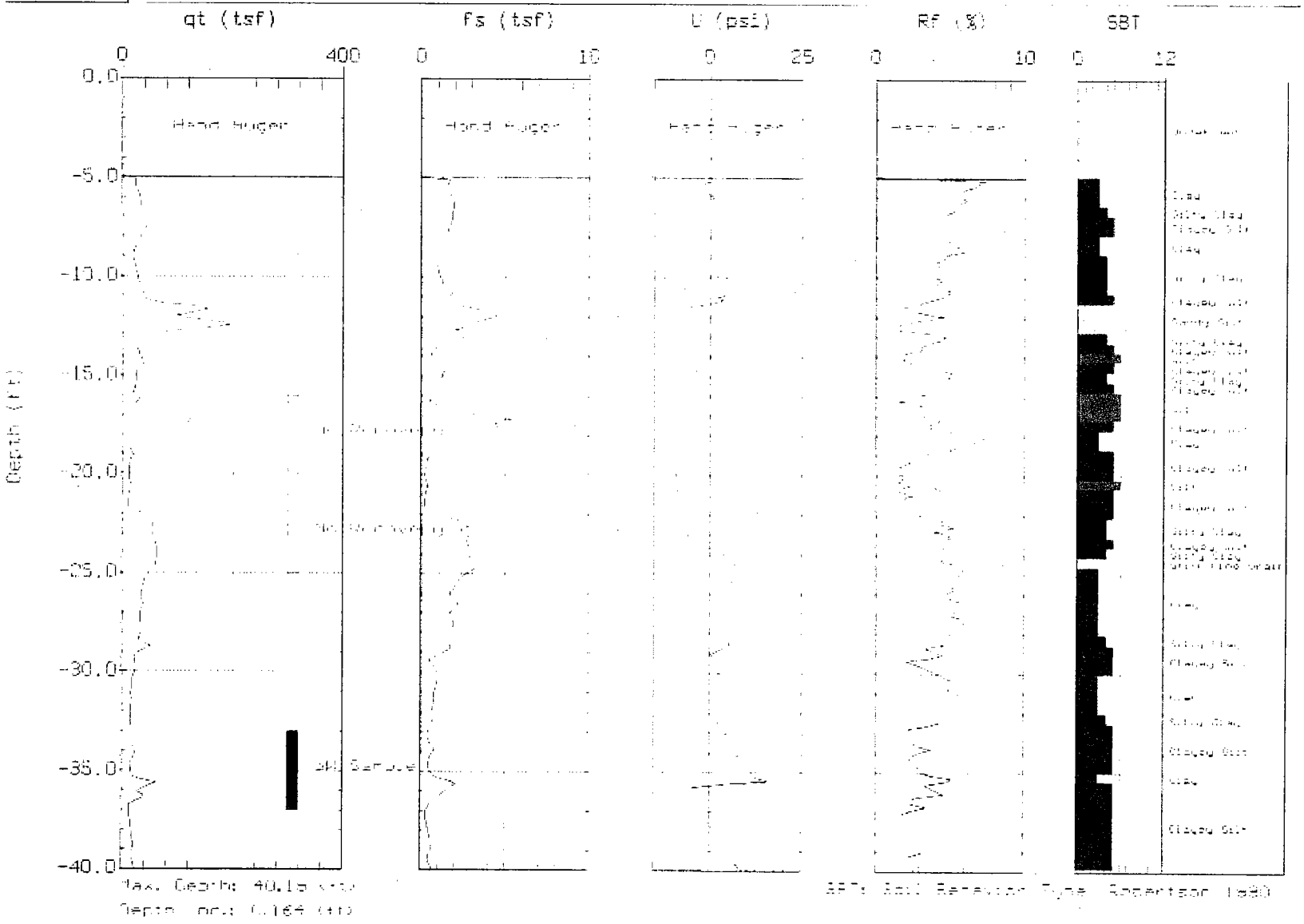



GREGG
CAMBRIA ENV.
qt (tsf)
fs (tsf)
u (psi)
Rf (%)
SBT
0
400
10
25
12
Hand Auger
Depth (Ft)
0.0
-5.0
-10.0
-15.0
-20.0
-25.0
-30.0
-35.0
-40.0
Max. Depth: 40.19 Ft.
Depth Inc.: 0.164 Ft.


GREGG
CAMBRIA ENV.
qt (tsf)
Fs (tsf)
u (psi)
Pf (%)
SBT
0
400
10
25
12
0.0
-5.0
-10.0
-15.0
-20.0
-25.0
-30.0
-35.0
-40.0
Depth (ft)
Hand Auger
Max. Depth: 40.19 ft
Depth Inc.: 0.164 ft

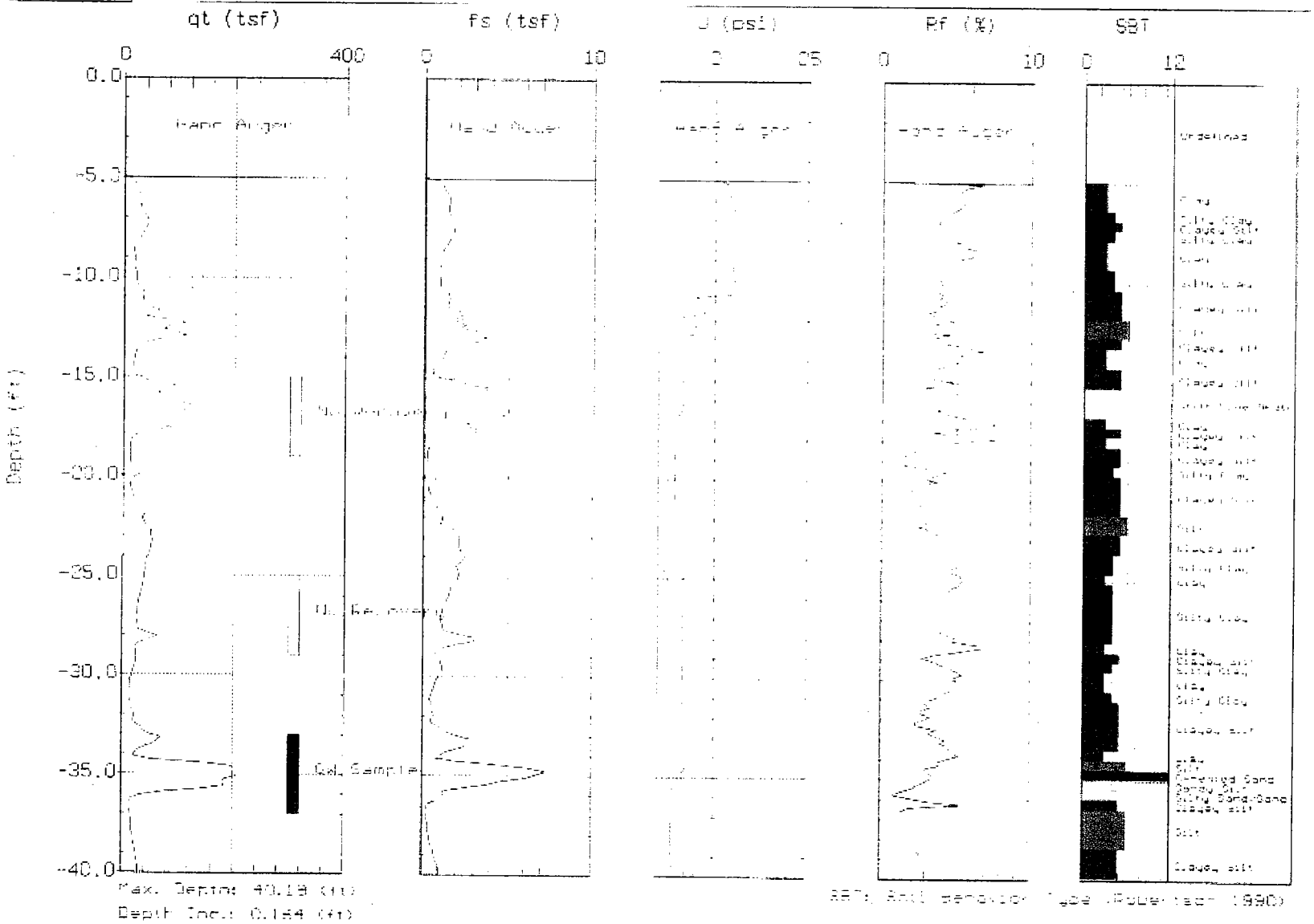
GREGG

CAMBRIA ENV.



GREGG

CAMBRIA ENV.

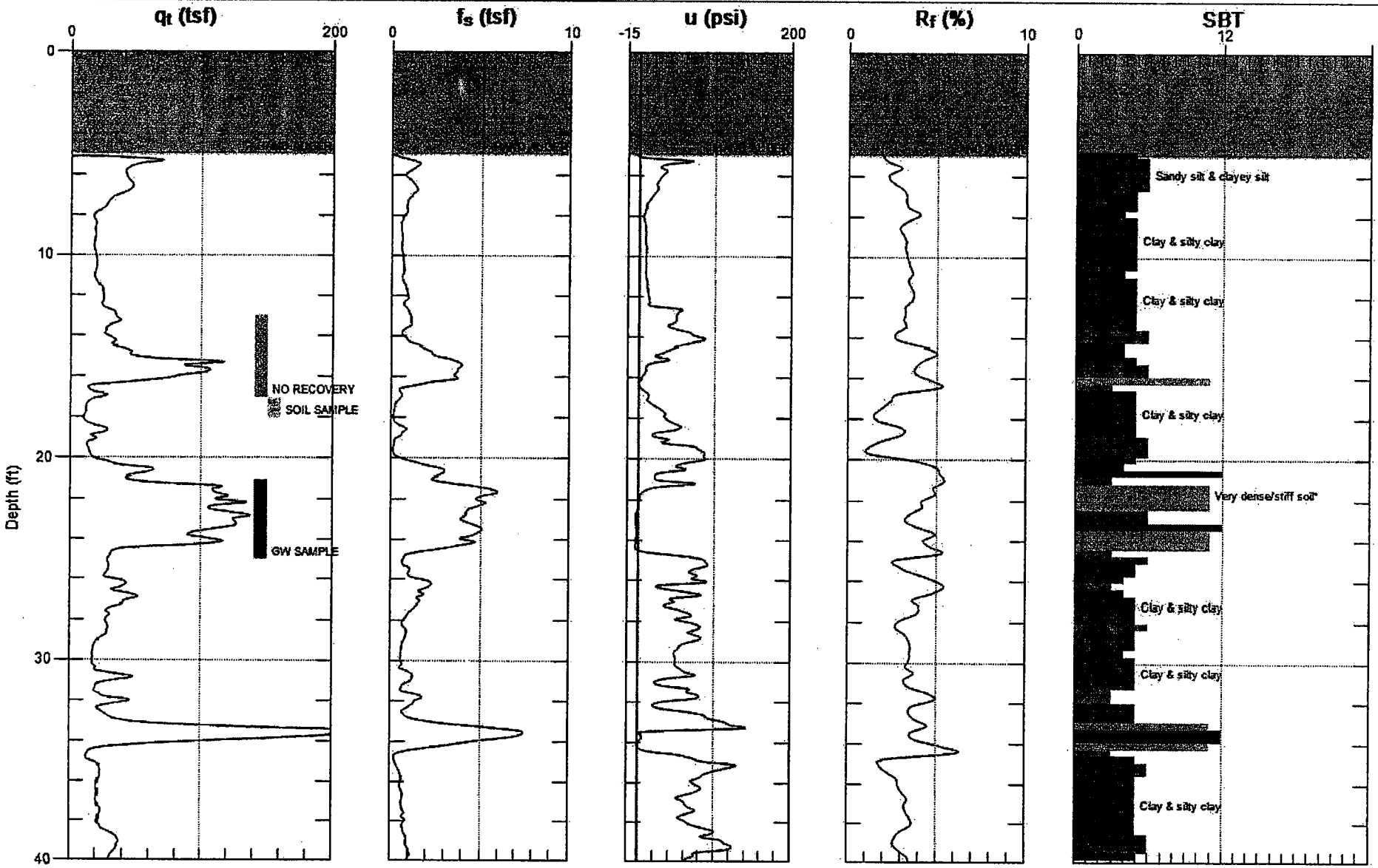


GREGG

CONESTOGA-ROVERS

Site: FMR. SHELL STATION
Sounding: CPT-06

Engineer: A.FRIEL
Date: 5/17/2007 12:23



Max. Depth: 40.190 (ft)
Avg. Interval: 0.328 (ft)

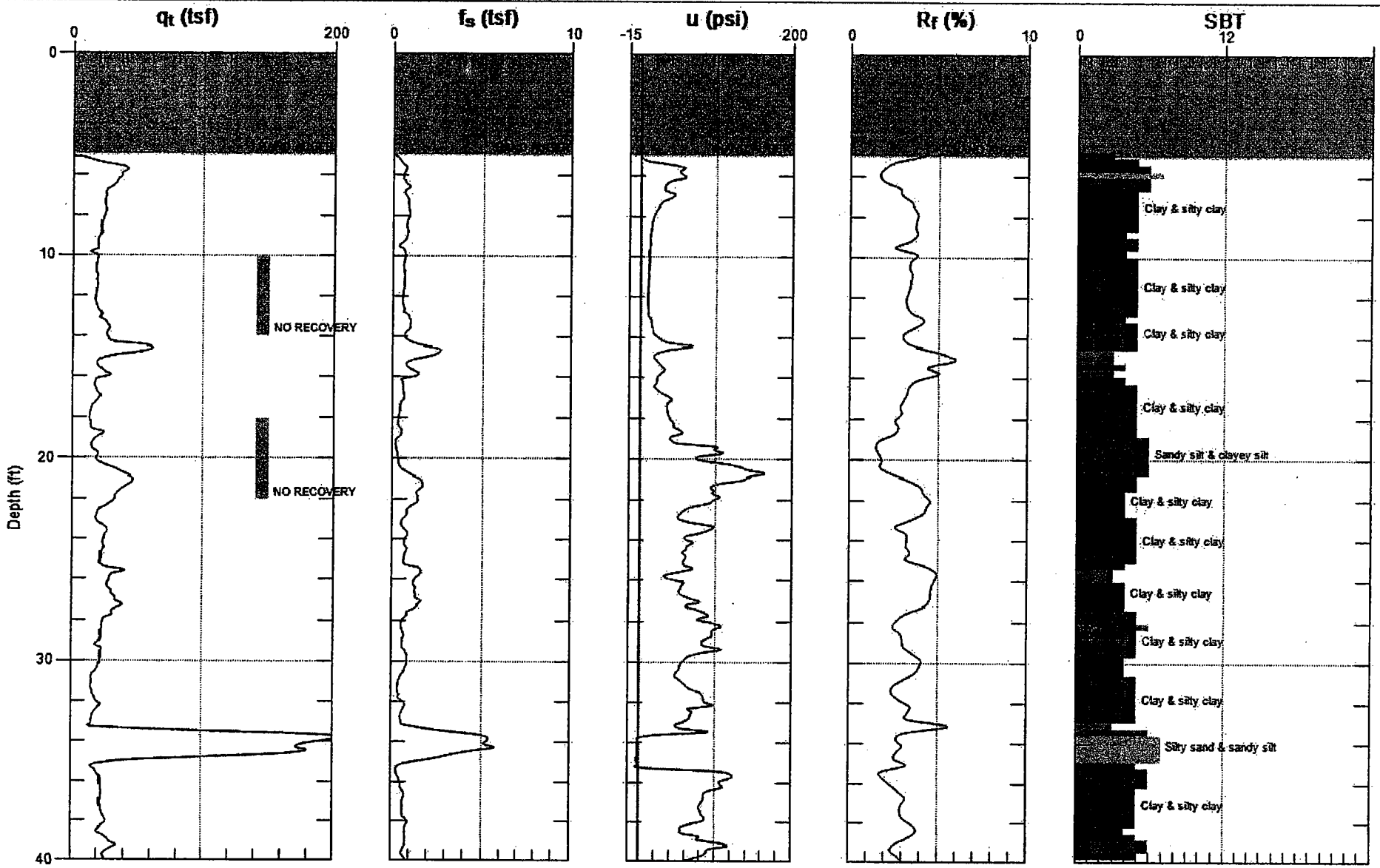
SBT: Soil Behavior Type (Robertson 1990)

GREGG

CONESTOGA-ROVERS

Site: FMR. SHELL STATION
Sounding: CPT-07

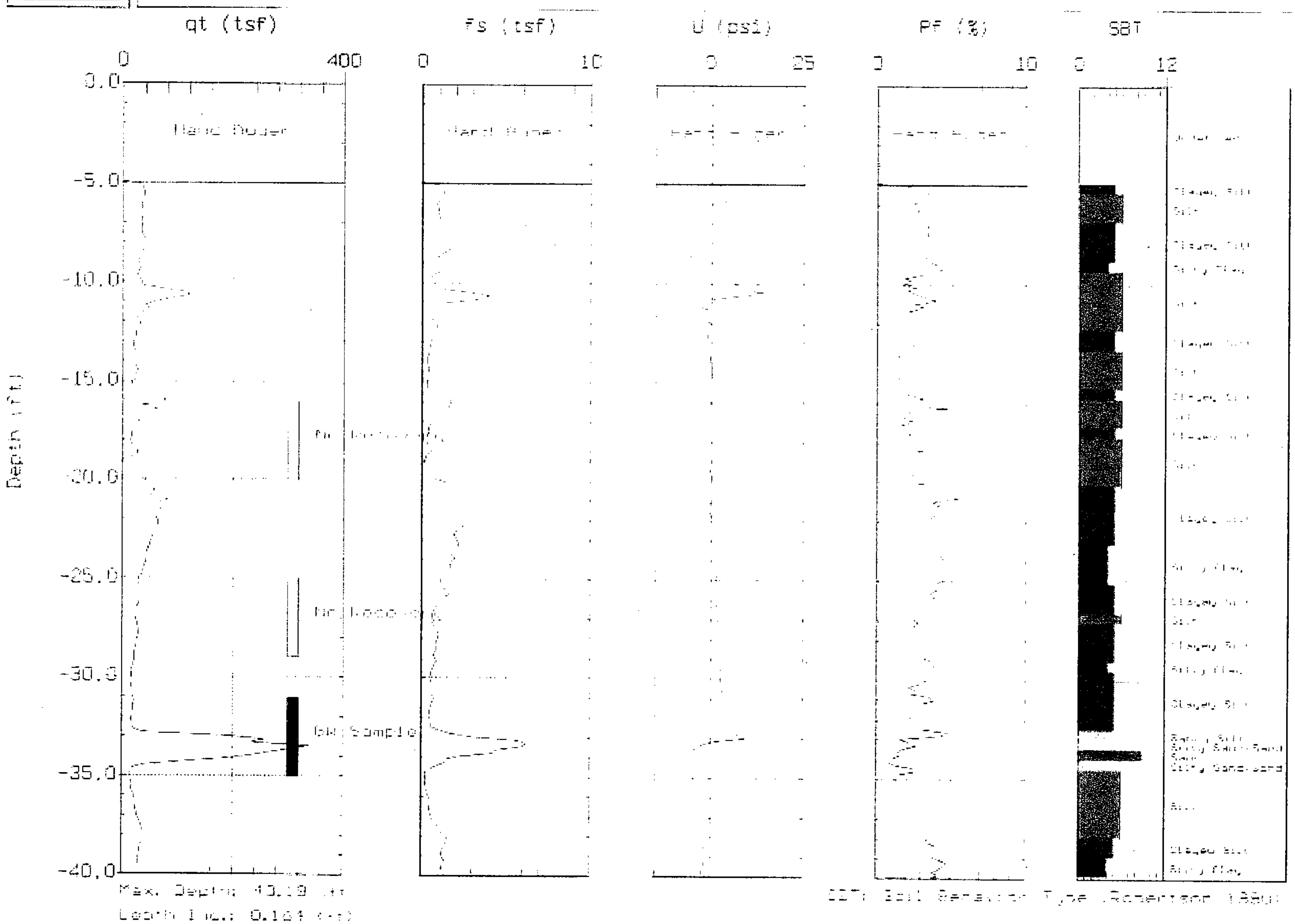
Engineer: A.FRIEL
Date: 5/17/2007 09:12



Max. Depth: 40.190 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

CAMBRIA ENV.



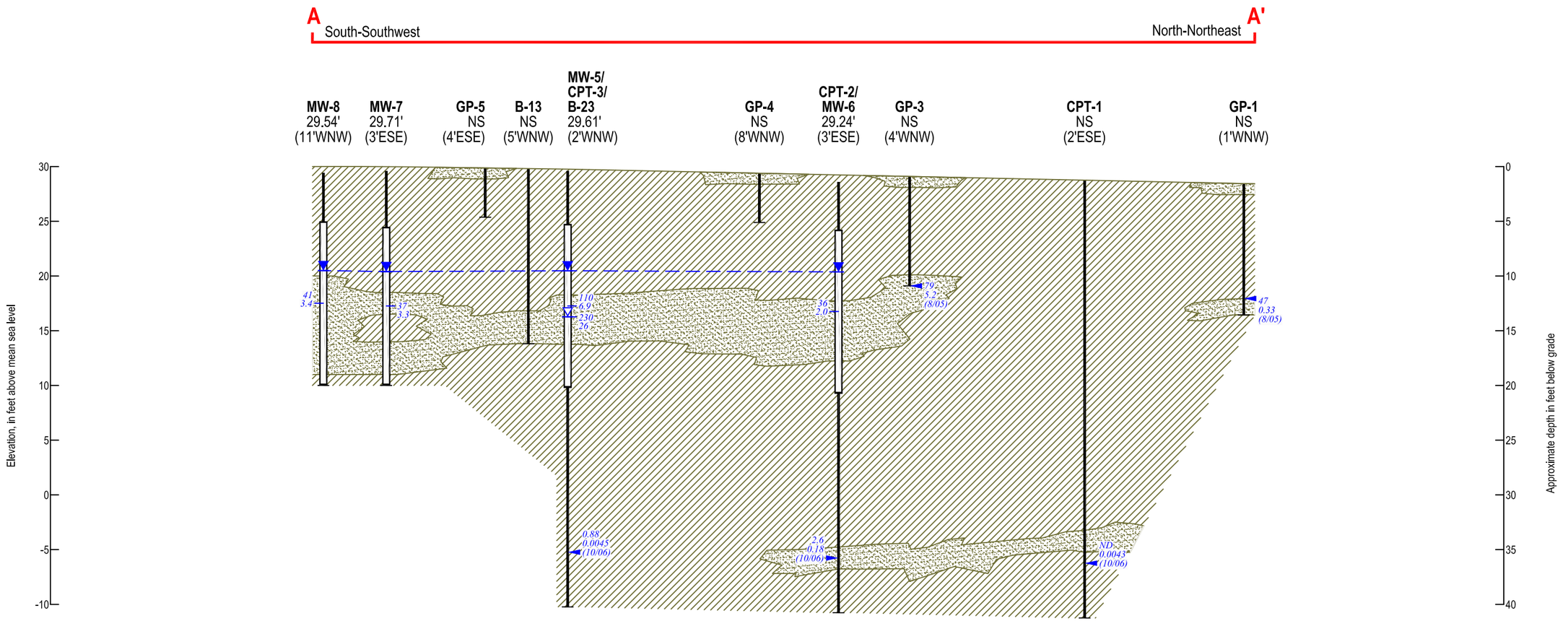
GREGG
qt (tsf)
0
400
fs (tsf)
0
10
U (psi)
0
25
Rf (%)
0
10
SBT
0
12
0.0
-5.0
-10.0
-15.0
-20.0
-25.0
-30.0
-35.0
-40.0
Depth (ft)
Hand Auger
GW Sample
Max. Depth: 40.19 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson 1990)

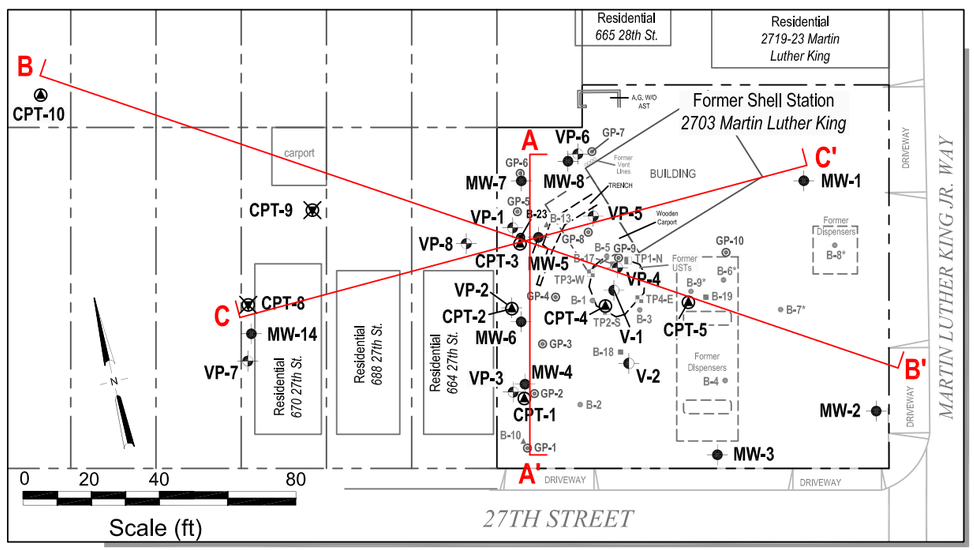
ATTACHMENT 5

Cross Sectional Diagrams

12/18/07

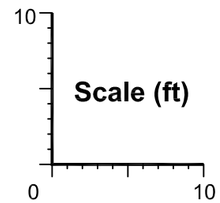
Geologic Cross Section A-A'
- Grab and QM Groundwater Results





EXPLANATION

- = Fine-Grained Soils
- = Coarse-Grained Soils
- TPHg / Benzene — Concentrations in Groundwater, in ppm (08/27/07)
- Depth of Groundwater (08/27/07)
- Inferred Groundwater Depth
- TPHg / Benzene / (DATE) — Grab Groundwater Sample Depth
- Well ID — Well Designation
- Elev. — TOC Elevation, in feet above msl (NS = Not Surveyed)
- (offset) — Offset distance and direction to cross-section line
- Groundwater Monitoring Well or Soil Boring
- Well Screen Interval
- Bottom of boring



FIGURE

3A

Former Shell Service Station

2703 Martin Luther King Jr. Way

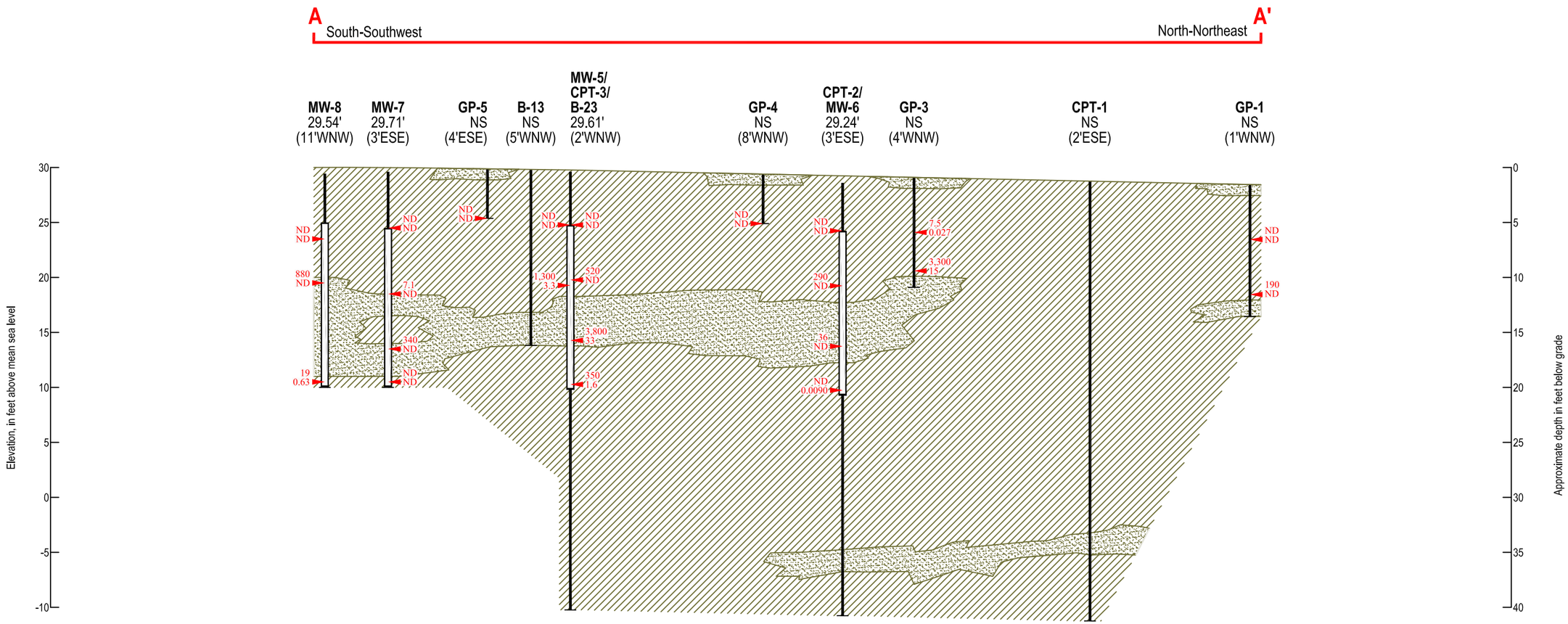
Oakland, California

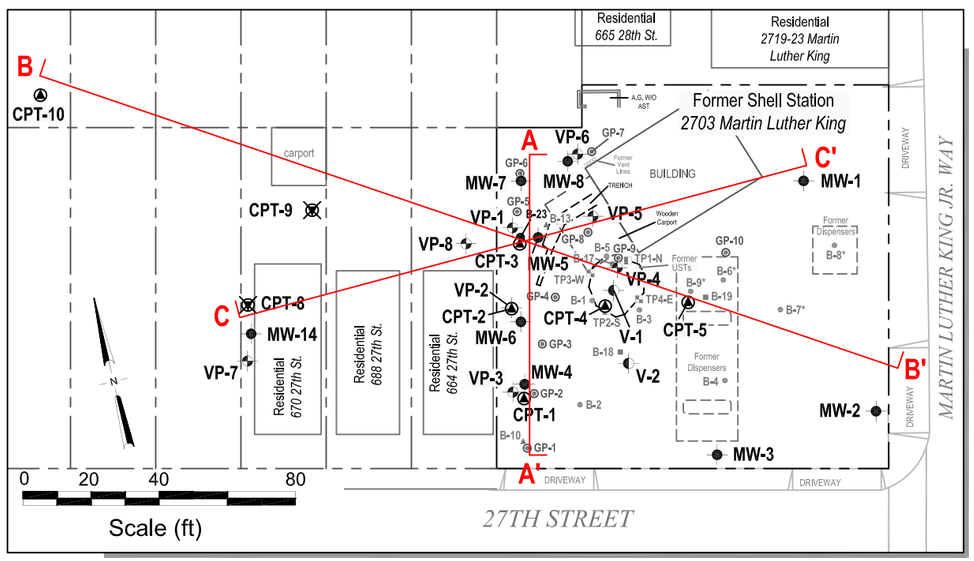
CONESTOGA-ROVERS & ASSOCIATES

I:\SONOMA.SHELL\OAKLAND 2703 MLK JR WAY\FIGURES\X-SECT A-A'.DWG

12/18/07

Geologic Cross Section A-A'
- Soil Results





EXPLANATION

- = Fine-Grained Soils
- = Coarse-Grained Soils
- Approximate Soil Sample Location
- NA — Not Analyzed
- ND — Not Detected
- TPHg / Benzene — Concentrations in Soil, in mg/kg; (MTBE analyzed by EPA Method 8020 in parentheses, all others by EPA Method 8260 or NA)

Well ID _ Well Designation
Elev. — TOC Elevation, in feet above msl (NS = Not Surveyed)
(offset) — Offset distance and direction to cross-section line
— Groundwater Monitoring Well or Soil Boring
— Well Screen Interval
— Bottom of boring

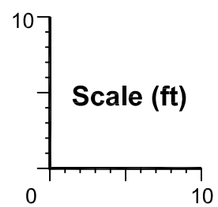


FIGURE
3B

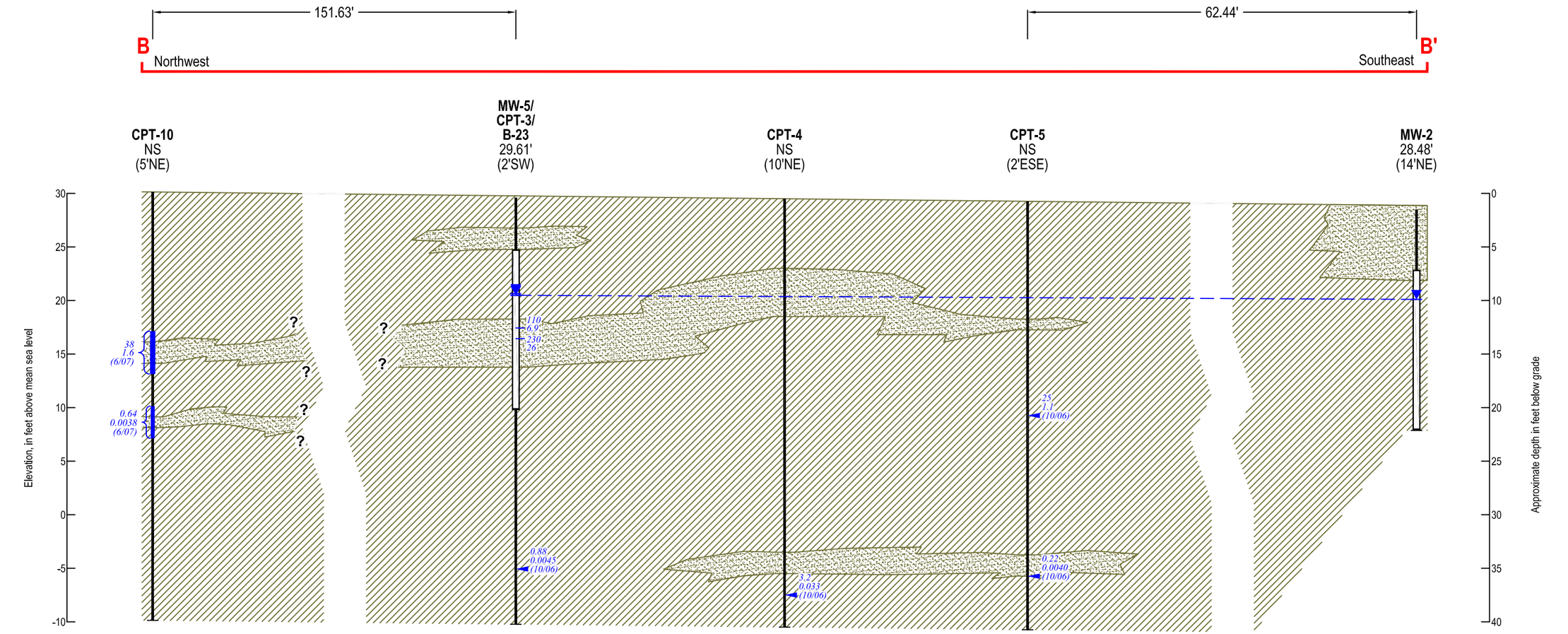
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

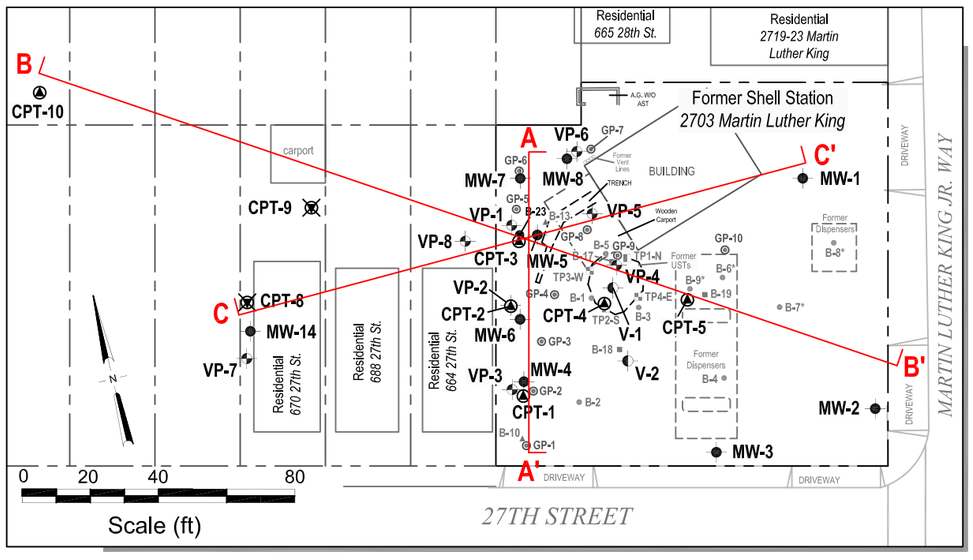
CONESTOGA-ROVERS & ASSOCIATES

I:\SONOMA.SHELL\OAKLAND 2703 MLK JR WAY\FIGURES\X-SECT A-A'.DWG

12/18/07

Geologic Cross Section B-B'
- Grab and QM Groundwater Results





EXPLANATION

- = Fine-Grained Soils
- = Coarse-Grained Soils
- TPHg / Benzene — Concentrations in Groundwater, in ppm (08/27/07)
- Depth of Groundwater (08/27/07)
- Inferred Groundwater Depth
- TPHg / Benzene (DATE) — Grab Groundwater Sample Depth
- TPHg / Benzene (DATE) — CPT Groundwater Sampling Interval and Concentrations, in ppm (DATE)

Well ID _ Well Designation
Elev. — TOC Elevation, in feet above msl (NS = Not Surveyed)
(offset) — Offset distance and direction to cross-section line
— Groundwater Monitoring Well or Soil Boring
— Well Screen Interval
— Bottom of boring

10
Scale (ft)
0
10

FIGURE

4A

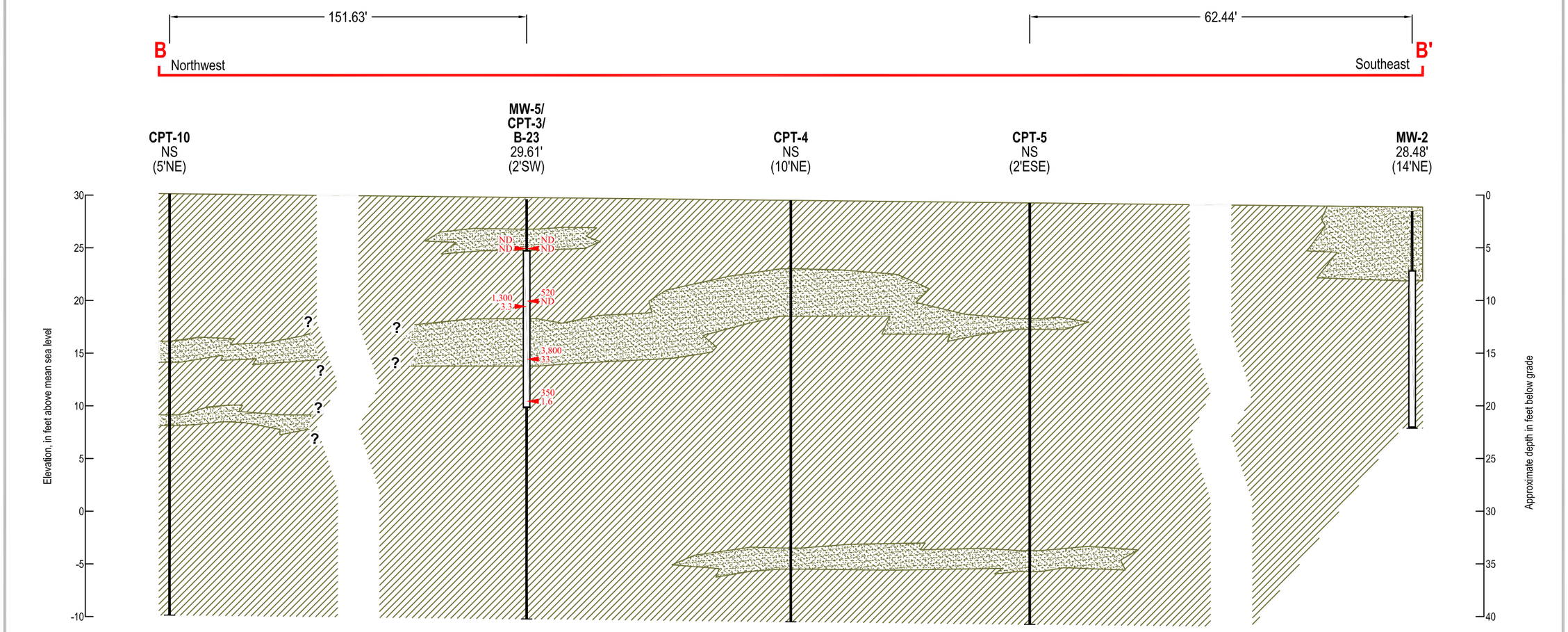
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

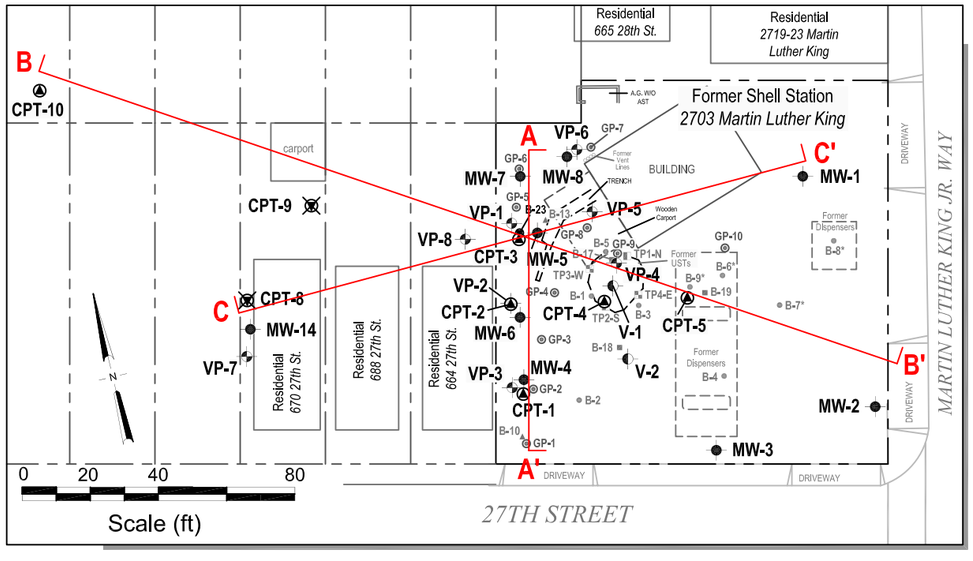
CONESTOGA-ROVERS & ASSOCIATES

I:\SONOMA.SHELL\OAKLAND 2703 MLK JR WAY\FIGURES\X-SECT B-B'.DWG

12/18/07

Geologic Cross Section B-B'
- Soil Results





EXPLANATION

= Fine-Grained Soils

= Coarse-Grained Soils

Approximate Soil Sample Location

NA Not Analyzed

ND Not Detected

TPHg / Benzene — Concentrations in Soil, in mg/kg; (MTBE analyzed by EPA Method 8020 in parentheses, all others by EPA Method 8260 or NA)

Well ID — Well Designation

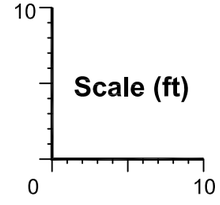
Elev. — TOC Elevation, in feet above msl (NS = Not Surveyed)

(offset) — Offset distance and direction to cross-section line

Groundwater Monitoring Well or Soil Boring

Well Screen Interval

Bottom of boring



FIGURE

4B

Former Shell Service Station

2703 Martin Luther King Jr. Way

Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

I:\SONOMA.SHELL\OAKLAND 2703 MLK JR WAY\FIGURES\X-SECT B-B'.DWG

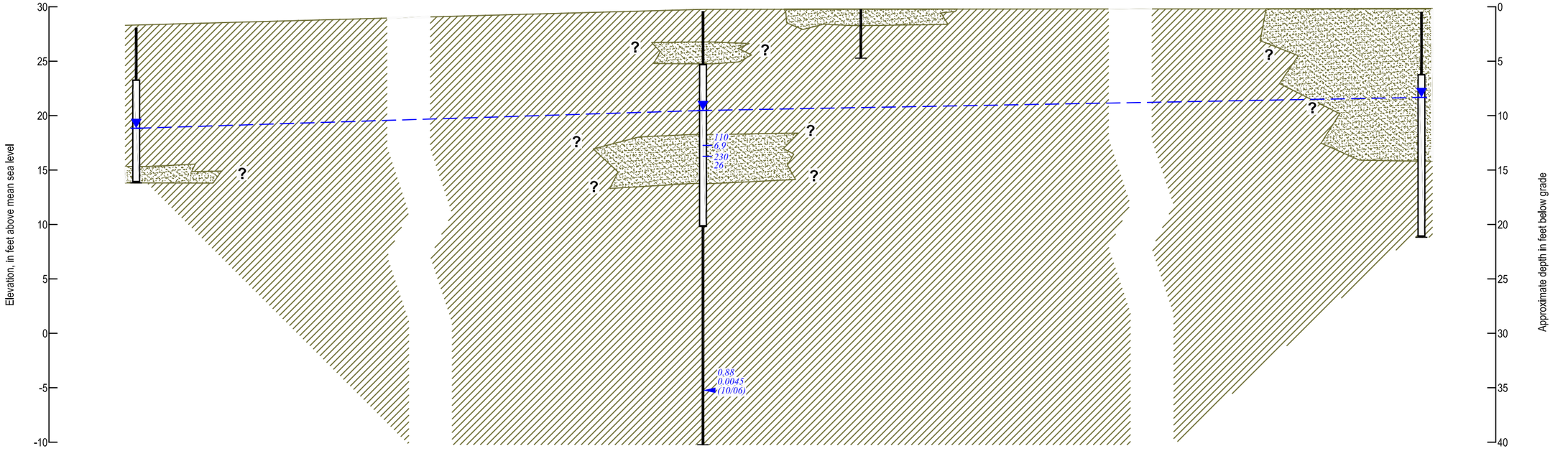
12/19/07

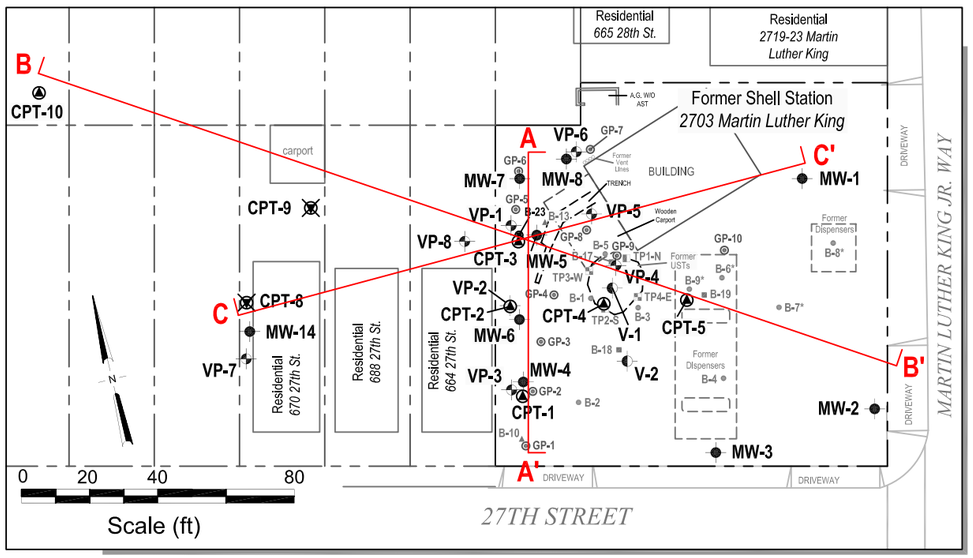
Geologic Cross Section C-C'
- Grab and QM Groundwater Results

88.62' | 64.98'

C West — C' East

MW-14 28.09' (5'N) | MW-5/ CPT-3/ B-23 29.61' | GP-8 NS (2'N) | MW-1 29.54' (4'N)





EXPLANATION

= Fine-Grained Soils

= Coarse-Grained Soils

TPHg / Benzene — Concentrations in Groundwater, in ppm (08/27/07)

Depth of Groundwater (08/27/07)

Inferred Groundwater Depth

TPHg / Benzene / (DATE) — Grab Groundwater Sample Depth

Well ID / Elev. — Well Designation; TOC Elevation, in feet above msl (NS = Not Surveyed)

(offset) — Offset distance and direction to cross-section line

Groundwater Monitoring Well or Soil Boring

Well Screen Interval

Bottom of boring

10 — Scale (ft) — 0 10

FIGURE

5A

Former Shell Service Station

2703 Martin Luther King Jr. Way

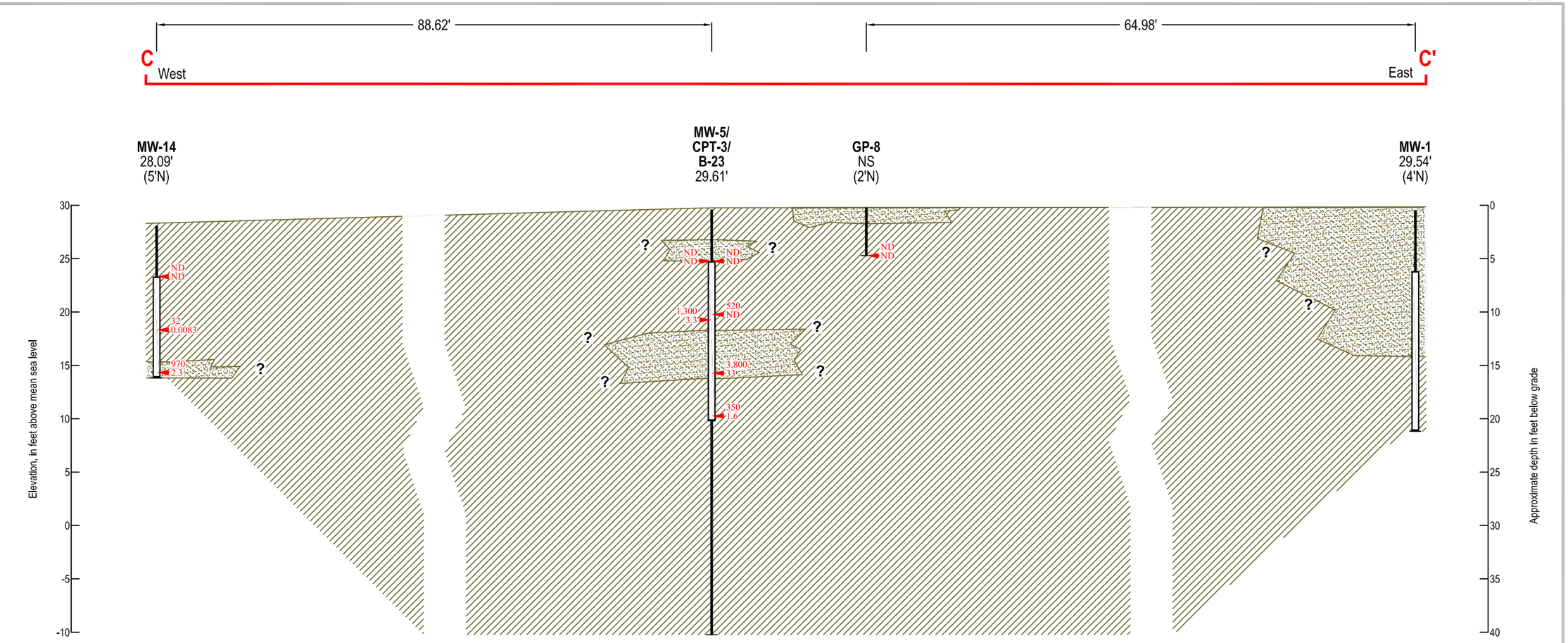
Oakland, California

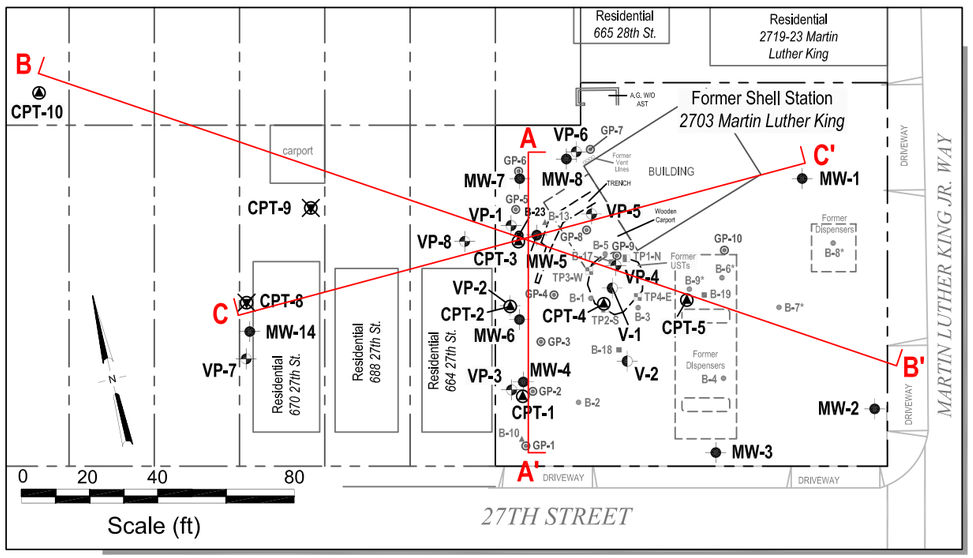
CONESTOGA-ROVERS & ASSOCIATES

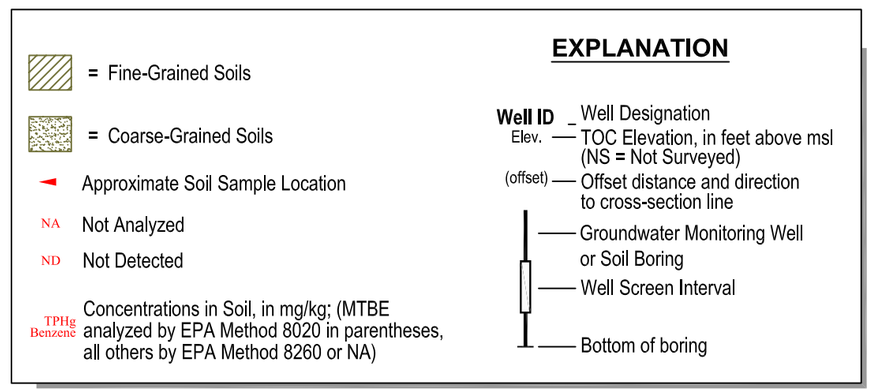
I:\SONOMA.SHELL\OAKLAND 2703 MLK JR WAY\FIGURES\X-SECT C-C'.DWG

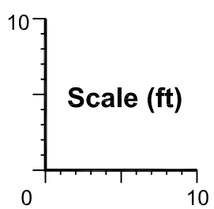
12/19/07

Geologic Cross Section C-C'
- Grab and QM Groundwater Results









FIGURE

5B

Former Shell Service Station

2703 Martin Luther King Jr. Way

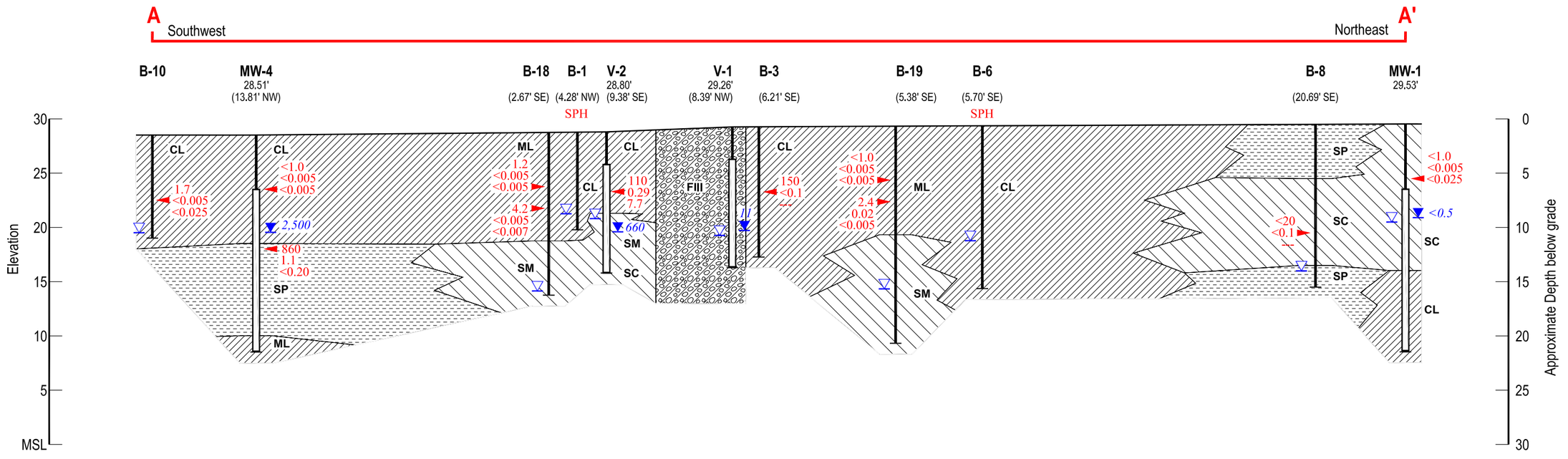
Oakland, California

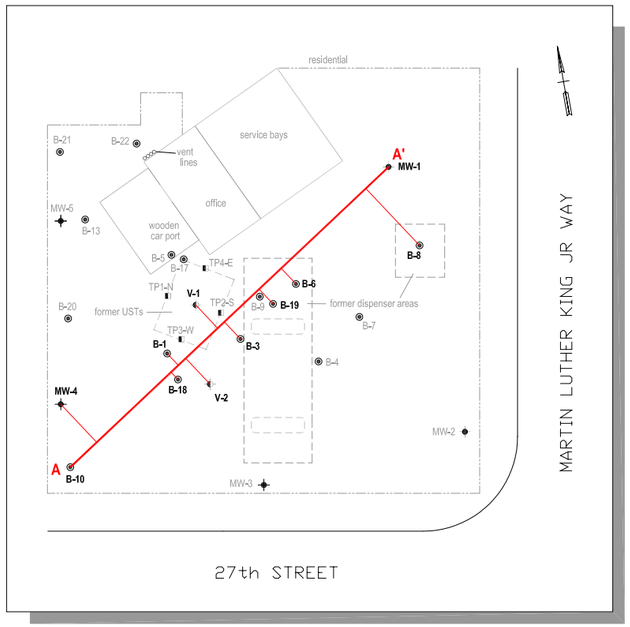
CONESTOGA-ROVERS & ASSOCIATES

I:\SONOMA.SHELL\OAKLAND 2703 MLK JR WAY\FIGURES\X-SECT C-C'.DWG

12/12/03

Geologic Cross Section A - A'





EXPLANATION

= Low Estimated Permeability Soils
CL, ML

= Moderate Estimated Permeability Soils
SC, SM

= High Estimated Permeability Soils
SP

= Fill (Tank Pit)

CL = Clay
ML = Clayey Silt
SC = Clayey Sand
SM = Silty Sand
SP = Poorly Graded Sand

Groundwater Elevation on 10/20/03

Initial Groundwater level

Well ID
ELEV
(projection)
Well Designation
GW Elevation
Projected distance from A-A'

Groundwater Monitoring Well

Well Screen Interval

Bottom of boring

TPHg
Benzene
MTBE
Hydrocarbon concentrations in soil, in mg/kg (ppm)

SPH
Seperate Phase Hydrocarbons detected during installation

Benzene
Benzene concentrations in groundwater in micrograms per liter (ppb)
Sample taken on 10/20/03

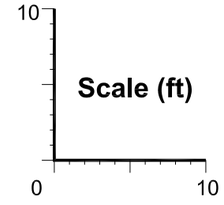


FIGURE
3

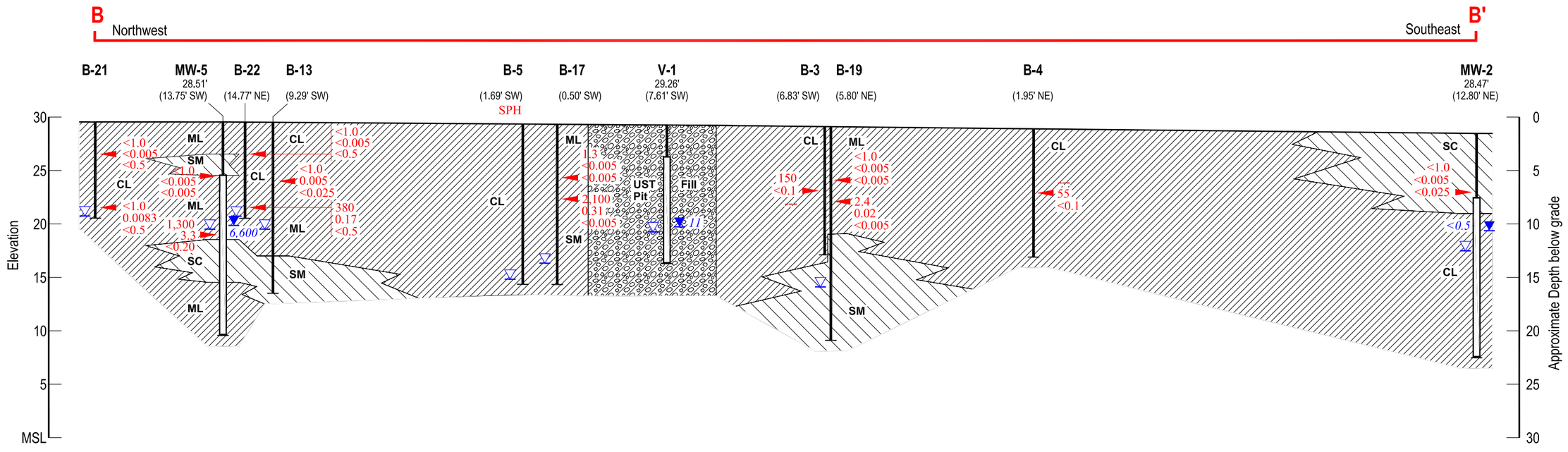
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

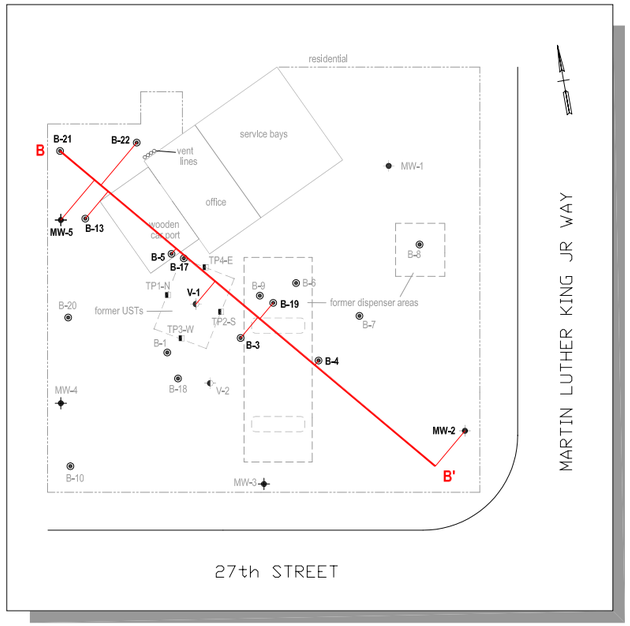
CAMBRIA

G:\OAKLAND 2703 MLK\FIGURES\X-SECTION-A.DWG

12/12/03

Geologic Cross Section B - B'





EXPLANATION

- = Low Estimated Permeability Soils **CL, ML**
- = Moderate Estimated Permeability Soils **SC, SM**
- = Fill (Tank Pit)

CL = Clay
SC = Clayey Sand
SM = Silty Sand
ML = Clayey Silt

▼ Depth of Groundwater on 10/20/03
▽ Initial Groundwater level

Well ID Well Designation
ELEV GW Elevation
(projection) Projected distance from A-A'

Groundwater Monitoring Well

Well Screen Interval

Bottom of boring

TPHg
Benzene
MTBE
Hydrocarbon concentrations in soil, in mg/kg (ppm)

SPH Seperate Phase Hydrocarbons detected during installation

Benzene Benzene concentrations in groundwater in micrograms per liter (ppb) Sample taken on 10/20/03

10
Scale (ft)
0 10

FIGURE
4

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

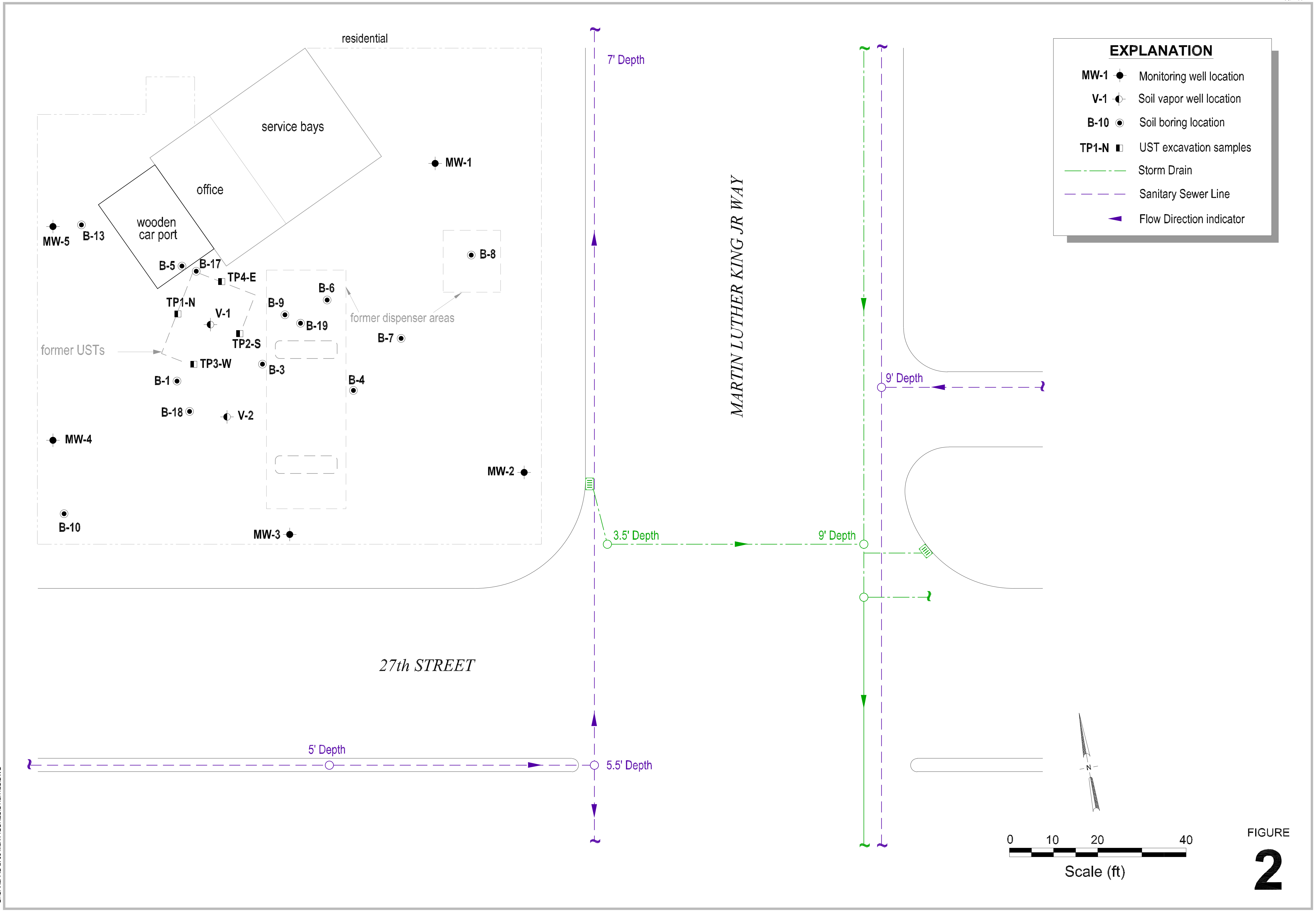
CAMBRIA

G:\OAKLAND 2703 MLK\FIGURES\X-SECTION-B.DWG

ATTACHMENT 6

Utility Maps

05/14/01



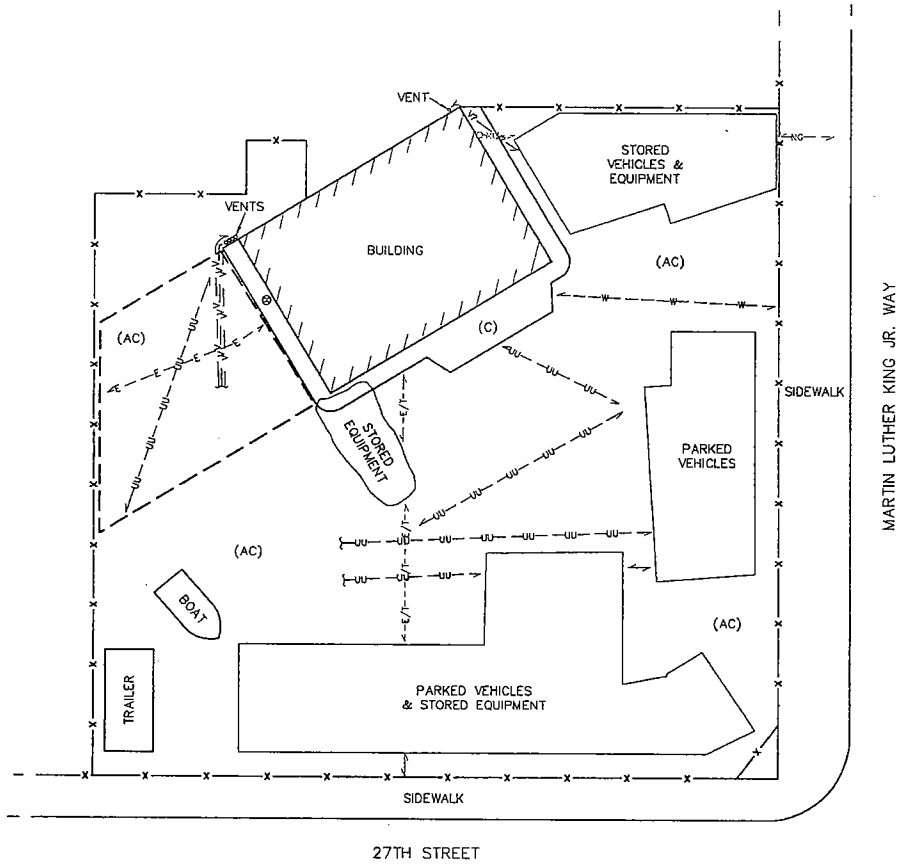
FIGURE

2

Monitoring Well and Underground Utility Location Map

C A M B R I A

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California
Incident #97093397



SCALE

0 10 20 40

(1 inch = 20 feet)

LEGEND

— — —	LIMITS OF GPR/METAL DETECTOR SURVEY FOR POSSIBLE USTs
—E—	ELECTRIC LINE
—E/T—	ELECTRIC & TELECOMMUNICATIONS LINE
—NG—	NATURAL GAS LINE
—UU—	UNDIFFERENTIATED UTILITY LINE
— V —	VENT LINE
— V? — V? —	SUSPECTED VENT LINE
—W—	WATER LINE
—X—	CHAIN-LINK FENCE
⊛	SANITARY SEWER CLEANOUT
(AC)	ASPHALT
(C)	CONCRETE

NORCAL

GEOPHYSICAL SURVEY MAP
2703 MARTIN LUTHER KING JR. WAY

LOCATION: OAKLAND, CALIFORNIA

CLIENT: CAMBRIA

JOB #: 06-462.29

NORCAL GEOPHYSICAL CONSULTANTS INC.

DATE: MAY 2006

DRAWN BY: G.RANDALL

APPROVED BY: DJK

PLATE 1

ATTACHMENT 7

Historical Soil Vapor Sampling Results

Table 1. Soil Vapor Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample ID	Sample Depth (fbg)	Date Sampled	TPHg ($\mu g/m^3$)	B ($\mu g/m^3$)	T ($\mu g/m^3$)	E ($\mu g/m^3$)	X ($\mu g/m^3$)	Isobutane ($\mu g/m^3$)	Butane ($\mu g/m^3$)	Propane ($\mu g/m^3$)
VP-1-3	3	30-May-07	**5,500,000**	**<510**	690	<690	<2,090	--	--	--
VP-1-5				Unable to sample; water in probe						
VP-2-3				Unable to sample; water in probe						
VP-2-5				Unable to sample; water in probe						
VP-3-3				Unable to sample; water in probe						
VP-3-5	5	30-May-07	**31,000,000**	**760**	<75	<86	<256	--	--	--
VP-4-3	3	30-May-07	**800,000**	<79	240	<110	<320	--	--	--
VP-4-5	5	30-May-07	**680,000**	<66	170	<90	<270	--	--	--
VP-5-3				Unable to sample; water in probe						
VP-5-5				Unable to sample; water in probe						
VP-6-3	3	30-May-07	**3,500,000**	110	320	<55	160	--	--	--
VP-6-5	5	30-May-07	**1,900,000**	<100	410	<140	<420	--	--	--
Ambient (at site)		30-May-07	<19,000	16	16	<3.1	<9.2	--	--	--
VP-7-3	3	12-Jun-07	**<21,000**	23	7,000	110	241	--	--	--
VP-7-3	**3**	**30-Oct-07**	**<19,000**	<2.7	9.6	<3.6	<17.6	657.3	16.6	ND
VP-7-5	5	12-Jun-07	**<21,000**	23	2,100	110	230	--	--	--
VP-7-5	**5**	**30-Oct-07**	**<18,000**	<2.5	15	<3.4	<16.4	402.4	ND	ND
VP-8-3	3	12-Jun-07	**<23,000**	20	9,300	120	267	--	--	--
VP-8-3	**3**	**30-Oct-07**	**<24,000**	<3.4	34	<4.6	<22.6	395.1	7.8	ND
VP-8-3-DUP	**3**	**30-Oct-07**	**<18,000**	<2.6	6.5	<3.5	<17.5	366.6	ND	ND
VP-8-5	5	12-Jun-07	**<22,000**	33	11,000	120	278	--	--	--
VP-8-5	**5**	**30-Oct-07**	**<19,000**	<2.6	8.5	<3.6	<17.6	468.3	5.9	ND
Environmental Screening Levels SFBRWQCB, November 2007	**Commercial**	**29,000**	**280**	**180,000**	**580,000**	**58,000**	**--**	**--**	**--**	
	Residential	**10,000**	**84**	**63,000**	**210,000**	**21,000**	**--**	**--**	**--**	

Table 1. Soil Vapor Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Abbreviations and Notes:

Results in **bold** exceed Environmental Screening Level

fbg = Feet below grade

$\mu g/m^3$ = micrograms per cubic meter

<x = Not detected at reporting limit x

ND = Not detected

TPHg = Total petroleum hydrocarbons as gasoline by Modified EPA Method TO-3 GC/FID

BTEX = Benzene, tolunene, ethylbenzene, and xylenes by Modified EPA Method TO-15

Isobutane, butane, and propane by TPA Method TO-15

Table 4. Soil Vapor Analytical Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Sample ID	Sample Depth (fbg)	Date Sampled	TPHg (µg/L)	TPHg (µg/m^3)	B (µg/m^3)	T (µg/m^3)	E (µg/m^3)	X (µg/m^3)
GP-1-4.0	4.0	29-Aug-05	1.2	1,200	12	5.1	<5.5	9.8
GP-2-4.0	4.0	29-Aug-05	180	**180,000**	**2,900**	<22	<26	<26
GP-3-4.0	4.0	29-Aug-05	**71,000**	**71,000,000**	**170,000**	<2,100	<2,400	<2,400
GP-4-4.0	4.0	31-Aug-05	0.35	350	<4.1	8.9	<5.6	6.2
GP-5-4.0	4.0	30-Aug-05	3.1	3,100	5.4	5.4	<5.6	8.4
GP-6-4.0	4.0	29-Aug-05	**340**	**340,000**	**780**	<22	<25	<25
GP-7-4.0	4.0	30-Aug-05	**37**	**37,000**	**340**	1,100	200	452
GP-8-4.0	4.0	30-Aug-05	1.6	1,600	8.4	5.0	<5.6	<5.6
GP-9-4.0	4.0	31-Aug-05	3.7	3,700	4.6	5.6	<6.0	6.9
GP-10-4.0	4.0	31-Aug-05	99	**99,000**	32	22	6.4	22
Environmental Screening Levels		**Commercial**	**72**	**72,000**	**290**	**180,000**	**1,200,000**	**410,000**
SFBRWQCB, February 2005		**Residential**	**26**	**26,000**	**85**	**63,000**	**420,000**	**150,000**

Abbreviations and Notes:

Results in **bold** exceed Environmental Screening Level

fbg = Feet below grade

µg/L = micrograms per liter

µg/m^3 = micrograms per cubic meter

<x = Not detected at reporting limit x

TPHg = Total petroleum hydrocarbons as gasoline by Modified EPA Method TO-3 GC/FID

BTEX = Benzene, toluene, ethylbenzene, and xylenes by Modified EPA Method TO-14A

ATTACHMENT 8

Sensitive Receptor Survey/Well Location Map

Table 1. Door-to-Door Survey Results - Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

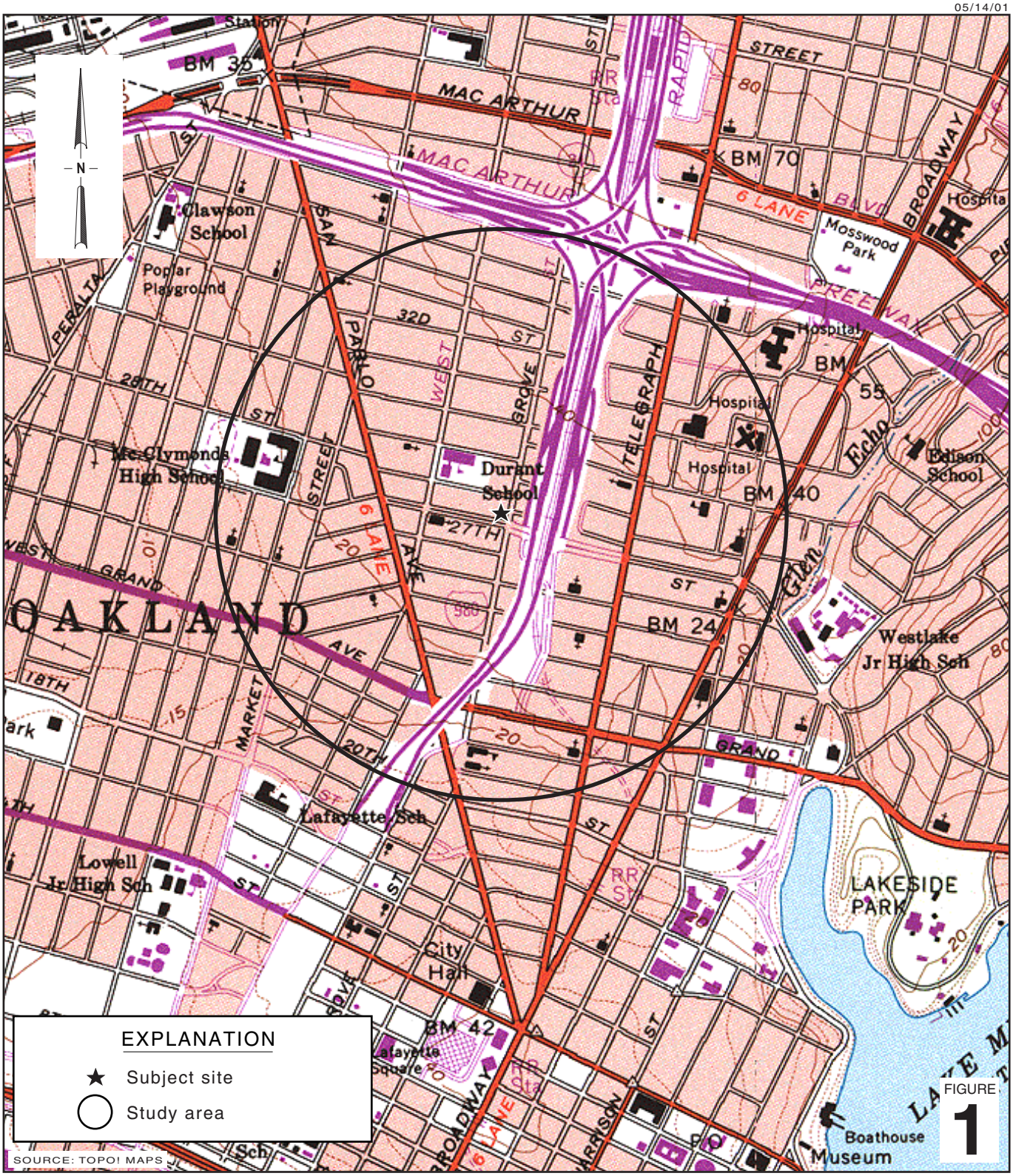
Property Address	Basement	Basement Conditions	Foundation Type	UST's	Existing On-Site Wells	Vicinity Wells	Former On-Site Wells	Notes
2576 MLK Jr. Way	No	N/A	Slab on Grade	No	No	No	No	
2592 MLK Jr. Way	No	N/A	BLANK	No	No	Unknown	No	
2618 MLK Jr. Way	No	N/A	Unknown	No	No	Unknown	Unknown	
2624 MLK Jr. Way	No	N/A	Unknown	No	No	Unknown	Unknown	
2703 MLK Jr. Way	No	N/A	Slab on Grade	No	No	Unknown	No	Subject Site - monitoring wells exist on-site
2727 MLK Jr. Way	No	N/A	N/A	Unknown	Unknown	Unknown	Unknown	Empty lot
2760 MLK Jr. Way	No	N/A	N/A	Unknown	Unknown	Unknown	Unknown	Empty lot
2764 MLK Jr. Way	No	N/A	N/A	Unknown	Unknown	Unknown	Unknown	Empty lot
2766 MLK Jr. Way	No	N/A	Slab on Grade	No	Unknown	Unknown	Unknown	
2768 MLK Jr. Way	No	N/A	Slab on Grade	BLANK	Unknown	Unknown	Unknown	
2772 MLK Jr. Way	No	N/A	Slab on Grade	BLANK	Unknown	Unknown	Unknown	
2786 MLK Jr. Way	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	Returned Blank Questionnaire
2827 MLK Jr. Way	No	N/A	Unknown	No	No	No	No	Answered "yes" to slab or perimeter
2831 MLK Jr. Way	No	N/A	Perimeter	No	No	Unknown	No	
553 27th Street	No	N/A	Unknown	No	No	No	No	
661 27th Street	No	N/A	Slab on Grade	No	No	Unknown	Unknown	A Phase 1 indicated a former laundry (non dry-cleaners) with no UST's
681 27th Street	No	N/A	Slab on Grade	No	No	Unknown	Unknown	A Phase 1 indicated a former laundry (non dry-cleaners) with no UST's
687 27th Street	No	N/A	BLANK	No	No	No	No	
690 27th Street	No	N/A	Perimeter	No	No	No	No	
709 27th Street	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	Returned Blank Questionnaire
627 28th Street	No	N/A	Unknown	Unknown	Unknown	Unknown	Unknown	
628 Sycamore Street	No	N/A	Slab on Grade	No	No	No	No	
662 Sycamore Sreet	No	N/A	Perimeter	No	No	Unknown	Unknown	
740 26th Street	No	N/A	Slab on Grade	No	No	Unknown	Unknown	
2700 West St.	No	N/A	Unknown	No	No	Unknown	No	

Notes and Abbreviations:

N/A - Not Applicable

BLANK - No Response

05/14/01



G:\OAKLAND 2703 MLK\FIGURES\WELL-SURVEY.AI

FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California
Incident #97093397

CAMBRIA

Area Well Survey

(1/2 - Mile Radius)

Table 1. Door-to-Door Survey Results, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Address	Resident Present?	Rec'd Response to Flyer?	Well at Address?	Basement at Address?	UST at Address?	Comments
721 26th Street	No	No	Unknown	Unknown	Unknown	
717 26th Street	No	No	Unknown	Unknown	Unknown	
713 26th Street	Yes	-	No	No	No	
709 26th Street	No	No	Unknown	Unknown	Unknown	
701 26th Street	No	No	Unknown	Unknown	Unknown	
699 26th Street	No	No	Unknown	Unknown	Unknown	
691 26th Street	No	No	Unknown	Unknown	Unknown	
683 26th Street	No	No	Unknown	Unknown	Unknown	
679 26th Street	Yes	-	No	No	No	
669 26th Street	No	No	Unknown	Unknown	Unknown	
2565 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
650 Sycamore Street	Yes	-	No	No	No	
658 Sycamore Street	No	No	Unknown	Unknown	Unknown	
662 Sycamore Street	No	No	Unknown	Unknown	Unknown	
670 Sycamore Street	No	No	Unknown	Unknown	Unknown	
676 Sycamore Street	No	No	Unknown	Unknown	Unknown	
678 Sycamore Street	No	No	Unknown	Unknown	Unknown	
682 Sycamore Street	No	No	Unknown	Unknown	Unknown	
686 Sycamore Street	Yes	-	No	No	No	
690 Sycamore Street	No	No	Unknown	Unknown	Unknown	
700 Sycamore Street	No	No	Unknown	Unknown	Unknown	
2627 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2619 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2611 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2601 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
662 26th Street	No	No	Unknown	Unknown	Unknown	
672 26th Street	No	No	Unknown	Unknown	Unknown	
678 26th Street	No	No	Unknown	Unknown	Unknown	
686 26th Street	No	No	Unknown	Unknown	Unknown	
706 26th Street	No	Yes	No	No	Unknown	
710 26th Street	No	Yes	No	No	Unknown	
714 26th Street	No	No	Unknown	Unknown	Unknown	
724 26th Street	No	No	Unknown	Unknown	Unknown	
728 26th Street	No	No	Unknown	Unknown	Unknown	
732 26th Street	No	No	Unknown	Unknown	Unknown	
736 26th Street	Yes	Yes	No	No	Unknown	
740 26th Street	No	Yes	No	No	Unknown	
733 27th Street	No	No	Unknown	Unknown	Unknown	
729 27th Street	No	No	Unknown	Unknown	Unknown	
725 27th Street	No	No	Unknown	Unknown	Unknown	
723 27th Street	No	No	Unknown	Unknown	Unknown	
719 27th Street	No	No	Unknown	Unknown	Unknown	
715 27th Street	No	No	Unknown	Unknown	Unknown	
709 27th Street	Yes	-	No	No	No	
709B 27th Street	Yes	-	No	No	No	
705 27th Street	No	No	Unknown	Unknown	Unknown	
697 27th Street	No	No	Unknown	Unknown	Unknown	
691 27th Street	No	No	Unknown	Unknown	Unknown	
687 27th Street	No	No	Unknown	Unknown	Unknown	
683 27th Street	Yes	Yes	No	Yes	Unknown	
681 27th Street	No	No	Unknown	Unknown	Unknown	
661 27th Street	No	No	Unknown	Unknown	Unknown	
624 Sycamore Street	No	No	Unknown	Unknown	Unknown	

Table 1. Door-to-Door Survey Results, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Address	Resident Present?	Rec'd Response to Flyer?	Well at Address?	Basement at Address?	UST at Address?	Comments
628 Sycamore Street	No	No	Unknown	Unknown	Unknown	
2576 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2592 Martin Luther King Jr Way	No	Yes	No	No	Unknown	Vacant businesses; 2582-2592 MLK
2606 Martin Luther King Jr Way	Yes	-	Unknown	No	No	2600-2606 MLK
2610 Martin Luther King Jr Way	Yes	-	No	No	No	2608/2610 MLK
2618 Martin Luther King Jr Way	No	Yes	No	No	Unknown	
2624 Martin Luther King Jr Way	No	Yes	No	No	Unknown	
2718 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2750 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2756 Martin Luther King Jr Way	Yes	-	No	No	No	
2760 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2764 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2766 Martin Luther King Jr Way	No	Yes	No	No	Unknown	
2768 Martin Luther King Jr Way	No	Yes	No	No	Unknown	
2772 Martin Luther King Jr Way	No	Yes	No	No	Unknown	
2786 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
627 28th Street	No	No	Unknown	Unknown	Unknown	
663 28th Street	No	No	Unknown	Unknown	Unknown	
2727 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2721 Martin Luther King Jr Way	No	Yes	No	No	Unknown	
664 27th Street	No	No	Unknown	Unknown	Unknown	
668 27th Street	No	No	Unknown	Unknown	Unknown	
670 27th Street	No	No	Unknown	Unknown	Unknown	
672 27th Street	No	No	Unknown	Unknown	Unknown	
676 27th Street	No	Yes	No	Yes	Unknown	
680 27th Street	No	Yes	No	No	Unknown	
682 27th Street	Yes	-	No	No	No	682/684 27th
688 27th Street	No	No	Unknown	Unknown	Unknown	
690 27th Street	No	No	Unknown	Unknown	Unknown	
696 27th Street	Yes	-	No	Yes	No	
700 27th Street	No	Yes	No	Yes	Unknown	
708 27th Street	Yes	-	No	No	No	
714 27th Street	No	No	Unknown	Unknown	Unknown	
2700 West Street	No	Yes	No	No	Unknown	
2212 West Street	No	No	Unknown	Unknown	Unknown	
685 28th Street	No	No	Unknown	Unknown	Unknown	
683 28th Street	No	No	Unknown	Unknown	Unknown	
679 28th Street	No	No	Unknown	Unknown	Unknown	
673 28th Street	No	No	Unknown	Unknown	Unknown	
669 28th Street	No	No	Unknown	Unknown	Unknown	
2837 Martin Luther King Jr Way	Yes	-	No	No	No	
2833 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2831 Martin Luther King Jr Way	Yes	-	No	No	No	
2827 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2823 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2821 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
668 28th Street	No	No	Unknown	Unknown	Unknown	
674 28th Street	Yes	-	No	Yes	No	
682 28th Street	No	No	Unknown	Unknown	Unknown	
686 28th Street	No	No	Unknown	Unknown	Unknown	
675 29th Street	No	No	Unknown	Unknown	Unknown	
665 29th Street	No	No	Unknown	Unknown	Unknown	
2850 West Street	Yes	-	No	No	No	

Table 1. Door-to-Door Survey Results, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Address	Resident Present?	Rec'd Response to Flyer?	Well at Address?	Basement at Address?	UST at Address?	Comments
2903 Martin Luther King Jr Way	Yes	-	No	Yes	No	
670 29th Street	No	No	Unknown	Unknown	Unknown	
678 29th Street	No	Yes	No	No	Unknown	
682 29th Street	No	No	Unknown	Unknown	Unknown	
686 29th Street	No	No	Unknown	Unknown	Unknown	
696 29th Street	Yes	-	No	Yes	No	
700 29th Street	No	No	Unknown	Unknown	Unknown	
630 28th Street	No	No	Unknown	Unknown	Unknown	
638 28th Street	No	No	Unknown	Unknown	Unknown	
644 28th Street	No	No	Unknown	Unknown	Unknown	
2818 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	Vacant home
2822 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	
2836 Martin Luther King Jr Way	No	No	Unknown	Unknown	Unknown	

Table 2. Basement Data, Former Shell Service Station, 2703 Martin Luther King Jr. Way, Oakland, California

Map Number	Address	Basement Floor Material	Sump Pump?	Approximate Distance from Site (feet)	Direction of Basement from Site
1	676 27th Street	Concrete	Unknown	180	W
2	674 28th Street	Earth	Unknown	240	N
3	683 27th Street	Concrete	Yes	260	SW
4	696 27th Street	Unknown	No	370	W
5	700 27th Street	Earth	Unknown	450	W
6	2903 Martin Luther King Jr Way	Earth	Unknown	580	N
7	696 29th Street	Concrete/Earth	Yes	620	N

Notes:

Map number corresponds to Site Vicinity/Receptor Survey Map (Figure 1)

12/11/03

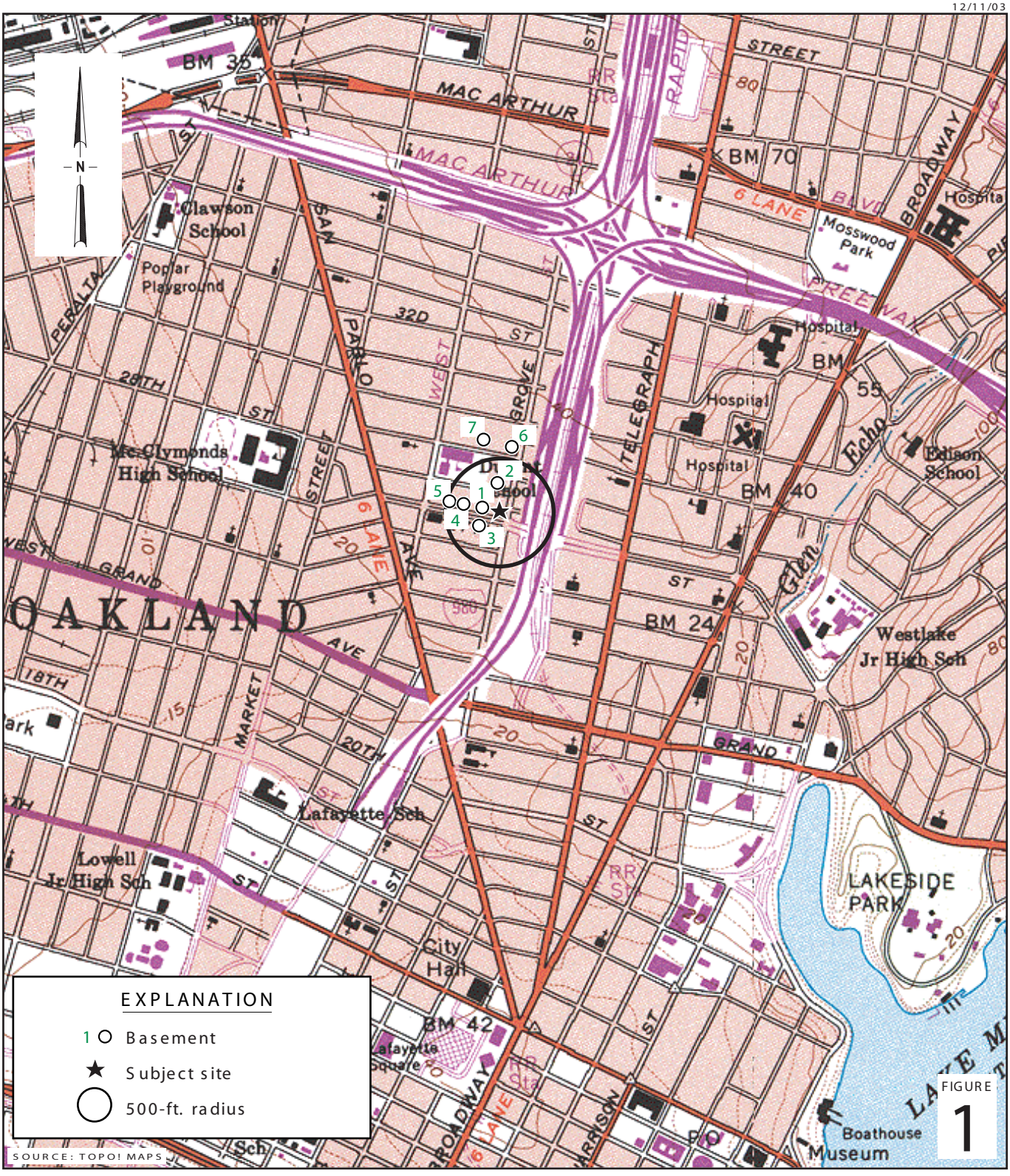


FIGURE 1

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

CAMBRIA

Site Vicinity/Receptor Survey Map

ATTACHMENT 9

List of Environmental Documents

2703 Martin Luther King Jr. Way, Oakland, California - List of Known Environmental Documents		
Date	**Title/Subject**	**Company**
26-Oct-94	Closure Report	KTW
1-Jun-95	Phase II Envoronmental Site Investigation	ACC Env. Consultants
2-Jan-96	Site Investigation Work Plan	Enviros
10-May-96	Over-excavation & Sampling	Enviros
30-Oct-96	Soil Boring Well Installation Report	Enviros
16-May-01	Site Investigation Report	Cambria
16-May-01	Subsurface Investigation Report	Cambria
19-Dec-01	Subsurface Investigation Work Plan	Cambria
21-Jun-02	Site Investigation Report	Cambria
16-Dec-03	Sensitive Receptor Survey, Geologic Cross Sections and Fourth Quarter 2003 Groundwater Monitoring Report	Cambria
12-Aug-05	Response to Technical Comments, Notification of Field Work, and Request for Extension	Cambria
15-Aug-05	Revised Response to Technical Comments, Notification of Field Work, and Request for Extension	Cambria
15-Nov-05	Site Investigation Report	Cambria
22-Nov-05	Feasibility Study Work Plan	Cambria
20-Dec-05	Plume Delineation Work Plan	Cambria
20-Jan-06	Door to Door Survey Report, Access Agreement Update, and Status/Schedule Update	Cambria
14-Mar-06	Pilot Test Report	Cambria
14-Apr-06	Site Investigation Report, and First Quarter 2006 - Groundwater Monitoring Report	Cambria
25-May-06	Subsurface Investigation Report	Cambria
25-Jul-06	Status Update, Report of Geophysical Survey, and Request for Agency Meeting	Cambria
31-Jan-07	CPT Investigation and Vapor Probe Installation Report	Cambria
27-Aug-07	Plume Delineation and Soil Vapor Sampling Report	CRA
13-Nov-07	Monitoring Well and Vapor Point Installation Work Plan	CRA
Various	Groundwater Monitoring Reports - First Quarter 1997 through current	Cambria/CRA