Denis L. Brown

Shell Oil Products US
HSE – Environmental Services
20945 S. Wilmington Ave.
Carson, CA 90810-1039
Tel (707) 865 0251
Fax (707) 865 2542
Email denis.l.brown@shell.com

May 17, 2006

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

Re: Risk Evaluation and Work Plan
Shell-branded Service Station
1601 Webster Street
Alameda, California
SAP Code 135032
Incident No. 97564701
ACHCSA No. 13-503

Dear Mr. Wickham:

Attached for your review and comment is a copy of the *Risk Evaluation and Work Plan* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

Denis L. Brown
Project Manager

CAMBRIA

May 17, 2006

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

Re: **Risk Evaluation and Work Plan**
Shell-branded Service Station
1601 Webster Street
Alameda, California
SAP Code 135032
Incident No. 97564701
ACHCSA Fuel Case No. RO0002745

Dear Mr. Wickham:

Cambria Environmental Technology, Inc. (Cambria) prepared this submittal on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to present the results of a risk evaluation and an appropriate work plan for the next phase of investigation based on the results of the risk evaluation. These activities were recommended in Cambria's January 31, 2006 *Soil and Groundwater Investigation Report,* and were approved by Alameda County Health Care Services Agency (ACHCSA) in correspondence dated February 22, 2006. The work will be performed in accordance with ACHCSA and Regional Water Quality Control Board (RWQCB) guidelines.

SITE LOCATION AND DESCRIPTION

The subject property is an operating Shell-branded service station located on the northwest corner of Webster Street and Lincoln Avenue in Alameda, California (Figure 1). The station layout includes three underground storage tanks (USTs), a former waste oil UST, two current dispensers and two former dispenser islands, a station building, and a kiosk (Figure 2). The local topography is flat with a site elevation at approximately 13 feet above mean sea level. The site is surrounded by a mix of commercial and residential development.

Subsurface Geology: Boring logs from this site and the nearby former 76 service station site indicate that the site is underlain by predominantly sand and silty sands to 40 feet below grade (fbg), with lenses of silts, clays, clayey silts, and cemented sands occurring below 12 to 15 fbg. Prior reports identified the predominant sediments as the Merritt Sand, an unconsolidated Pleistocene beach and near shore deposit. A review of the boring logs shows consistent poorly sorted sand to silty sand in the water-bearing zone to the explored depth of 15 fbg.

Cambria Environmental Technology, Inc.

270 Perkins Street
Sonoma, CA 95476
Tel (707) 935-4850
Fax (707) 935-6649

Groundwater Depth and Flow Direction: Based on previous groundwater monitoring data at the site and the adjacent former 76 site, the depth to groundwater at the site has historical ranged from approximately 4.5 to 10.5 fbg, and the groundwater typically flows northerly to northeasterly.

SITE BACKGROUND AND PROJECT HISTORY

A detailed discussion of the site conditions, project background, previous site investigations and remedial activities at this site were presented in Cambria's above-referenced February 18, 2005 *Soil and Groundwater Investigation Report.* For brevity in this document, **Appendix A** contains the detailed historical information, including the discussion of the August 2004 product release and subsequent emergency response and remedial efforts. An environmental investigation associated with a previous release at this site was granted case closure, as documented in ACHCSA's March 15, 1999 *Remedial Action Completion Certificate and Fuel Leak Site Case Closure* letter. The case closure letter also documented that up to 100 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) and 0.026 mg/kg benzene remained in the site soils, and up to 3,800 micrograms per liter (μg/l) TPHg and 190 μg/l benzene remained in the site groundwater upon closure.

In August 2004 during station upgrades, a large release of gasoline occurred and emergency response activities were initiated. Following the completion of the Fall 2004 emergency response activities, a soil and groundwater investigation was required. A summary of these activities and the ongoing investigation and remediation is discussed below.

2004 Soil and Groundwater Investigation: To investigate the impact from the August 2004 product release, Cambria installed eight soil borings (SB-1 through SB-8) at the site between November 30 and December 3, 2004, for the collection of soil and groundwater samples (Figure 2). The borings were augered to approximately 15 fbg. Soil samples were collected from each boring at 5 fbg and at 6.5 fbg (capillary fringe). Grab groundwater samples were collected from shallow groundwater from each boring at approximately 6.5 to 8.0 fbg. Discrete (hydropunch-type) groundwater samples were also collected from the deeper groundwater as follows: From 10 fbg in boring SB-1 and from 15 fbg in all borings except SB-3 because it did not provide recharge for sampling at that interval.

The maximum concentrations in soil were 740 mg/kg TPHg in SB-8-6.5', 1.5 mg/kg of methyl tertiary butyl ether (MTBE) in SB-4-6.5', and 53 mg/kg of ethanol in SB-8-6.5'. All of the other constituents were below the laboratory detection limits in soil. The maximum concentrations in the grab groundwater samples were 17,000 μg/l of TPHg and 250 μg/l of benzene in SB-8-W,

9,000 µg/l of MTBE in SB-3-W, and 1,100 µg/l of tertiary butyl alcohol (TBA) in SB-4-W. None of the other constituents were reported from the grab groundwater samples. The maximum concentrations in the discrete groundwater samples were 920 µg/l of TPHg in SB-7W-15', 5.3 µg/l of benzene in SB-8W-15', 300 µg/l of MTBE in SB-1W-10', 2,000 µg/l TBA in SB-4W-15', and 4.0 µg/l tertiary amyl methyl ether (TAME) in SB-4W-15'. None of the other fuel oxygenates or ethanol were detected in any of the discrete groundwater samples from 10 or 15 fbg. These results were reported in Cambria's February 18, 2005 *Soil and Groundwater Investigation Report* along with specific recommendations for additional investigation.

2005 Soil and Groundwater Investigations: Between October 31, 2005 through November 3, 2005 Cambria oversaw the installation of wells S-2 through S-7 and six CPT borings (SB-9 through SB-14). Proposed borings SB-15 and SB-16 were not installed on the adjacent offsite property because the site was under construction of a commercial development. The only hydrocarbon constituent detected in the soil samples was 0.0080 mg/kg of total xylenes in boring SB-13 at 5 fbg. No TPHg, benzene, MTBE, TBA, DIPE, ETBE, or TAME was detected in any of the soil samples. A total of 24 groundwater samples were analyzed from the six CPT borings (SB-9 through SB-14) collected from four different intervals in each boring. The analytical data tables are included in Appendix B, for reference. The maximum concentrations detected in the samples from 6-11 fbg were TPHg at 3 µg/l, MTBE at 4,800 µg/l, TBA at 1,300 µg/l, and TAME at 3.7 µg/l. No BTEX, DIPE, or ETBE were reported in samples from the first encountered groundwater. The maximum concentrations detected from 14-18 fbg were TPHg at 500 µg/l, MTBE at 9,200 µg/l, and TBA at 2,200 µg/l. No BTEX, DIPE, ETBE, or TAME were reported in samples from this interval. The maximum concentration in samples collected from 24-28 fbg was MTBE at 7,800 µg/l. No TPHg, BTEX, TBA, DIPE, ETBE, or TAME were reported in water samples from 24-28 fbg. And, the maximum concentrations from the deepest interval from 35-39 fbg contained TPHg at 70 µg/l, MTBE at 87 µg/l, and TBA at 68 µg/l. No BTEX, DIPE, ETBE, or TAME were reported in water samples from 35-39 fbg. The results from this investigation were reported in Cambria's January 31, 2006 *Soil and Groundwater Investigation Report.*

August 2004 – February 2006 - Groundwater Remediation: Periodic groundwater extraction (GWE) and sampling from TBW-N has been performed since August 2004. These events were performed daily through mid-September 2004, then weekly through November 2004, bi-monthly in December, and then monthly from January 2005 through February 2006. Through these efforts, an estimated volume of 1,982.1 gallons of SPH were recovered as separate-phase liquid. As of the final event on February 7, 2006, an estimated mass of 137.5 pounds (an equivalent volume of 22.1 gallons) of dissolved TPHg was recovered in water. The product release which

occurred in August 2004 has not resulted in significant impact to groundwater based on the absence of SPH in any borings or wells and the TPHg concentrations in the perimeter wells. Thus, the remedial efforts completed to date have been effective in mitigating the product removal. Further, no SPH has been observed in the backfill well since August 29, 2004, shortly following the release. An estimated volume of product loss was 2,084 gallons and an estimated volume of product recovered as SPH plus dissolved phase is 2,004.2 gallons, which is about 96% recovery of product.

Groundwater Monitoring – November 2004 - Ongoing: Tank backfill well north (TBW-N) has been monitored regularly since October 2004, including weekly during December 2004, and monthly ever since. Since the release of product from the UST system (August 2004), the maximum concentrations of TPHg, benzene, and MTBE in TBW-N were 160,000 µg/l TPHg and 31,000 µg/l benzene on December 1, 2004, and 3,300 µg/l of MTBE on December 15, 2004. Concentrations have been declining through the remedial efforts described above and as of the February 2006 monitoring event, TPHg, benzene, and MTBE concentrations in TBW-N are at 60,000, 15, and 270 µg/l, respectively. At this time, only two monitoring events have been performed on monitoring wells S-2 through S-7. All of the constituents in all of the wells demonstrated decreases in concentrations between the November 2005 monitoring event and the February 2006 monitoring event.

Evaluation of Laboratory TPHg Data – February 2006: A continuous decline in benzene and MTBE concentrations has been observed in TBW-N, although fluctuations in TPHg concentrations have recently occurred. Based on a review of the data, it appears that the fluctuations in TPHg concentrations are primarily a function of different analytical laboratories performing the work. As was noted in a previous submittal, the groundwater samples from the November 2005 monitoring event were analyzed by a new Shell contract laboratory (TestAmerica [TA]) whereas the groundwater samples from the borings and previous investigation in 2004 and 2005 were analyzed by Shell contract laboratory STL. It has been brought to Cambria's attention that these laboratories differ in the quantification of TPHg data which can result in higher concentrations reported by TestAmerica than by STL. Thus, the increase in TPHg concentration at TBW-N from 56,000 µg/l to 105,000 µg/l between third and fourth quarters 2005 may represent a seasonal fluctuation or it may reflect a change in the laboratory. Further, the change in laboratory could be the reason for the higher TPHg concentrations observed in the initial samples from wells S-3 (3,900 µg/l) and S-4 (4,470 µg/l) than in corresponding grab samples from nearby borings SB-10 (500 µg/l) and SB-9 (<2,500 µg/l), respectively, particularly since hydropunch or grab samples typically show higher concentrations than samples from a monitoring well.

To help further assess the apparent discrepancies, duplicate samples from the February 2006 events were to be split between STL and TA; however, STL changed their analytical methods by this time, and split samples to these locations would not have been beneficial. Thus, Cambria submitted the samples to KIFF Analytical and requested for two of the samples that analyses for TPHg report carbon ranges C4 - C12 as well as C6 – C12. KIFF performed both quantifications on samples TBW-N and S-7. Basically, the two TPHg results from KIFF were effectively the same with the narrower carbon range reporting slightly higher concentrations than the broader carbon range. Further, the data from KIFF on all of the site wells were more similar to the results reported from STL. Thus, it does not appear that the difference in carbon range reported by TA versus STL is the cause of the higher TPHg results from TA. While Shell and Cambria continue to research possible differences in methodologies at the laboratories, additional monitoring is necessary to establish TPHg trends and seasonal variations at this site.

RISK EVALUATION

In order to evaluate potential risks to human health and environment by the residual soil and groundwater impacts at the site, and direct the next phase of investigative activities, Cambria compared the maximum concentrations of chemicals of concern (COCs) in soil and groundwater samples (since 1994) to the Environmental Screening Levels (ESLs) published in San Francisco Bay RWQCB's *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater* (Interim Final – February 2005).

No drinking water wells were identified during a well survey conducted during 2004, and the nearest surface water body is the San Francisco Bay, located approximately ½ mile south of the site. The site and the surrounding area are currently in mixed commercial and residential use, and it is very unlikely that the property use, or local land use, will change in the foreseeable future. Although groundwater in this area cannot be precluded from being a potential future source of drinking water, it is not currently a source of drinking water, and given the nature of the local land use and the proximity to San Francisco Bay, it is unlikely that the first water-bearing zone would be used as a source of drinking water in the foreseeable future. Further, in accordance with the June 1999 California Regional Water Quality Control Board, San Francisco Bay Region Groundwater Committee "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report for Alameda and Contra Costa Counties, CA", the City of Alameda (among other cities) does not have plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity. Thus, the drinking water ELS's do not apply at this site.

Evaluation of Risk from Impacted Soils

Petroleum impacted soil needs to be evaluated in relation to its potential for risk to onsite receptors (commercial workers at the gasoline station and the occasional construction worker). Table A below, presents the maximum concentrations of COCs in the vadose zone (unsaturated) soils, the ESLs for protection of commercial workers to migration of vapors from soil to indoor air, and the ESLs for protection of the occasional construction worker coming in contact with impacted soil at this site.

TABLE A

Constituents of Concern	Maximum Concentrations in Vadose Zone Soils [Sample ID/Date] Units in mg/kg	ESLs for Protection of Onsite Commercial Worker/Indoor Air (Table E-1b) Units in mg/kg	ESLs for Protection of Construction Worker (Table K-3) Units in mg/kg
TPHg	1,300 [P-3-3', 8/04]	Not Available Use soil gas	6,000
Benzene	**<1.0** [SB-8-6.5', 12/04]	0.51	16
Toluene	5.9 [SB-8-6.5', 12/04]	310	650
Ethylbenzene	17 [SB-8-6.5', 12/04]	390	400
Xylenes	83 [SB-8-6.5', 12/04]	420	420
MTBE	1.5 [SB-4-6.5', 12/04]	5.6	2,500
TBA	<5.0 [SB-8-6.5', 12/04]	Not Available Use soil gas	3,700

Based on the above data, **the residual impacted soils do not appear to pose a threat to onsite receptors**, for those constituents where ESLs are provided. For TPHg and TBA, there are currently no ESLs established for protection of indoor air, and the use of specific soil gas samples is recommended for some cases. In samples collected since the 2004 upgrades, TPHg has been detected in only three soil samples (P-3-3', SB-7-6.5', and SB-8-6.5'). Of these samples, two (SB-7-6.5' and SB-8-6.5') were collected in the capillary fringe zone. Shallower soil samples collected at the same locations (SB-7-5' and SB-8-5') did not contain TPHg. Based on this, these detections may be more indicative of groundwater conditions. Thus, TPHg does not appear to be a COC in the vadose zone, based on the soil data.

All of the soil sample results for benzene were below the method detection limits; however, one sample (SB-8-6.5') reported none detected an elevated detection limit of 1.0 mg/kg, which is above the ESL of 0.51 mg/kg. Since all benzene results were below the detection limits, Cambria asserts that this one sample does not pose a potential vapor threat to onsite commercial workers.

MTBE has been detected in only three soil samples (SB-2-6.5', SB-4-6.5', SB-6-6.5'), and TBA has not been detected in any soil samples collected at the site since 2004. Thus, given the limited extent of soil impact and the ambient concentrations of petroleum constituents from onsite fueling operations, **Cambria concludes that the potential impact to indoor commercial air from subsurface soils is very low and does not warrant soil gas sampling.** Further, none of the soil data exceed the ESLs for protection of onsite construction workers. Based on this evaluation, no further investigation of soil conditions appears to be warranted.

Evaluation of Risk to Onsite/Offsite Commercial Workers from Impacted Groundwater

Similar to the above evaluation of risk to onsite commercial workers from migration of vapors from impacted soils, the potential migration of vapors to indoor air from impacted groundwater needs to be evaluated both onsite (near the kiosk and the station building) and for nearby offsite commercial workers (downgradient of S-2, S-3, S-4, SB-13, and SB-14).

Table B presents the most current, maximum groundwater concentrations at this site. The data is from the first quarter 2006 sample event, with the maximum concentrations being in wells S-6 and S-7, near the onsite kiosk. The perimeter wells (onsite) and the grab groundwater samples collected offsite within Webster Street all exhibited lower concentrations than those listed in Table B. The ESLs for protection of indoor commercial air where soils are of high permeability (since site soils are known to be primarily sands and silty sands) are also shown on Table B. While these ESLs are based on a depth to groundwater of 3 meters (approximately 9.8 feet), the depth to water at the site has ranged from 4.08 to 8.47 feet below the top of casing. Since top of well casings are typically 0.5 feet below grade, the depth to water has ranged from 4.58 to 8.97 fbg.

TABLE B

Constituents of Concern	Maximum Concentrations in Site Groundwater [S-6 and S-7, 2/06] Units in µg/l	ESLs for Protection of Onsite Commercial Worker/Indoor Air High Permeability Soils (Table E-1a) Units in µg/l
TPHg	22,000	Not Available/Use soil gas
Benzene	1,700	1,800
Toluene	1,200	530,000
Ethylbenzene	1,200	170,000
Xylenes	2,800	160,000
MTBE	<2.5	80,000
TBA	58	Not Available/Use soil gas

Based on the above data, **the impacted groundwater does not appear to pose a threat to onsite receptors based on migration of vapors to indoor commercial air**, for those constituents where ESLs are provided. For TPHg and TBA, there are currently no ESLs established for protection of indoor air, and the use of specific soil gas samples is recommended for some cases. While elevated benzene near its' ESL is present in groundwater that is shallower than the 3 meters assumed for calculation of the ESLs, monitoring data suggests a declining trend in groundwater concentrations near the kiosk, thus, Cambria **does not propose soil gas sampling at this time**. If continued monitoring shows continued declining trends, then it is unlikely that the groundwater concentrations pose a vapor threat at this active gas station. If, however, continued monitoring shows an increase in benzene concentrations that are consistently above the ESL, then soil gas sampling would be prudent to determine whether vapors from groundwater pose any threat to onsite commercial workers in the vicinity of the kiosk. With respect to the offsite commercial businesses, the TPHg and benzene concentrations are much lower in the downgradient wells and offsite borings (listed above) and wells below the ESLs for vapor intrusion concerns. Thus, Cambria asserts that **the migration of vapors from groundwater at the property boundaries, and offsite does not pose a threat to offsite commercial workers.**

Evaluation of Risk to Surface Water Body from Impacted Groundwater

As presented previously in this document, the nearest receptor downgradient of this site appears to be San Francisco Bay, located approximately ½ mile north/northeast of the site. Given this significant distance from the site, it is very unlikely that constituents from this site would reach any surface water receptors and evaluation of this pathway is not necessary. However, to be conservative, since migration of constituents via utility conduits is feasible and may occur seasonally, an evaluation of the potential risk to marine surface water bodies from the migration of impacted groundwater was conducted. Table C below presents the maximum concentrations in shallow groundwater northeast of the site within Webster Street during the November 2005 investigation activities and a comparison to the ESLs for protection of a marine surface water body. These data points were selected because they represent the concentrations in groundwater nearest the underground utilities.

TABLE C

Constituents of Concern	Maximum Concentrations in Groundwater Downgradient of Site [SB-12, SB-13, SB-14, 11/05] Units in µg/l	ESLs for Protection of Surface Water Bodies – Marine Habitat (Table F-2b) Units in µg/l
TPHg	<2,500	3,700
Benzene	<25	350
Toluene	<25	2,500
Ethylbenzene	<25	290
Xylenes	<50	100
MTBE	5,900	8,000
TBA	<250	18,000

Based on the data in Table C, the maximum concentrations reported in grab groundwater samples offsite and downgradient **do not exceed any of the ESLs for protection of a marine habitat surface water body.**

Risk Evaluation Conclusions

The site use is likely to remain a gasoline station and the area is likely to remain in mixed commercial/residential use. Given the concentrations contaminants in site soil and groundwater in relation to the ESLs presented above, Cambria concludes that the residual impacts at this site pose very little risk to human health or the environment currently, or in the foreseeable future.

MTBE has been delineated vertically to <100 ppb by the CPT borings which showed that MTBE attenuates two orders of magnitude between the 24-28 fbg interval and the 35-39 fbg interval. Data from the CPT borings installed within Webster Street show that the southeastern edge of the contaminant plume from this site is located between SB-12 and SB-13. Additional data points east of SB-13 and SB-14, and north of SB-14 were previously suggested in order to determine whether the MTBE plume is migrating preferentially along the utilities or crossing to the downgradient (eastern) side of the utilities. At this time, since the groundwater concentrations detected in samples from SB-13 and SB-14 do not pose a threat to offsite commercial businesses or surface water bodies (Table C, above), and the groundwater monitoring data suggests that attenuation of MTBE in groundwater is occurring, and since no other receptors have been identified in the vicinity, further delineation of groundwater (either vertically onsite or laterally in the downgradient direction) does not appear to be warranted, based on the risk evaluation. If

monitoring shows significant increasing trends in any of the perimeter site wells such that offsite receptors could be at risk, then offsite investigation would be prudent at that time.

TECHNICAL RATIONALE FOR PROPOSED SCOPE OF WORK

- The lateral extent of shallow groundwater impact to the south and west of S-7 has not been assessed; thus Cambria recommends the installation of two shallow groundwater monitoring wells (S-8 and S-9).
- To confirm the MTBE concentrations in the deeper groundwater in the vicinity of boring SB-9 and monitor the trends therein, one deeper screened well is proposed in the northeast corner of the site (S-4B). Because both SB-9 and SB-14 reported maximum MTBE concentrations from a silty sand lens within the 14-18 fbg sample interval (suggesting a possible preferential pathway for MTBE migration), and because this depth corresponds more closely to the bottom of the UST pit where the August 2004 release occurred (approximately 16 fbg), Cambria proposes that this well be screened from 15-20 fbg.
- To assess potential vapor migration in utility conduits and inside the kiosk, Cambria proposes conducting field screening using a photoionization detector (PID).

WORK TASKS

Permits: Cambria will obtain a drilling permit from Alameda County Public Works Agency (ACPWA).

Site Safety Plan: Cambria will prepare a Site Safety Plan and Traffic Control Plan for fieldwork.

Utility Clearance: Cambria will mark proposed drilling locations and will clear the locations through Underground Service Alert prior to drilling. Also, a private utility line locating service will be scheduled to further ensure that no subsurface utilities are located at the proposed boring positions. To further minimize potential impact to any unidentified subsurface utilities, the top five to ten feet of the well borings will be cleared to at least 3 inches larger than the lead auger by use of an air knife.

Site Investigation: Three monitoring wells (S-8, S-9, and S-4B) are proposed at the locations shown on Figure 3. The well borings will be advanced using hollow-stem auger equipment. Similar to the existing site wells, the shallow proposed monitoring wells (S-8 and S-9) will be extended to approximately 12 fbg. Since the logs from the deeper borings did not indicate any

confining layer between the surface and 20 fbg, cross contamination between units is not an issue and standard hollow stem auger technique is proposed to advance and install the deeper well (S-4B) to 20 fbg.

Under the direct supervision of a California professional geologist, a Cambria staff geologist will supervise the drilling and describe encountered soils using the Unified Soil Classification System and Munsell Soil Color Charts. After borehole clearance, continuous soil sampling will be attempted. Soil samples will be retained for possible chemical analyses at five-foot intervals, at the soil-water interface, or at major changes in lithology. Organic vapors using a calibrated photo-ionization detector (PID) will be measured at least every five feet. Cambria will prepare an exploratory boring log for each boring and PID measurements will be recorded on the logs.

Soil samples designated for chemical analyses will be retained in stainless steel or brass sample tubes. The tubes will be covered on both ends with Teflon sheets and plastic end caps. Soil samples will be labeled, entered onto a chain-of-custody record and placed into a cooler with ice for transport to a State of California certified laboratory for analyses. A standard two-week turn-around time will be requested for laboratory results.

Soil Chemical Analyses: Selected soil samples will be analyzed for TPHg, BTEX, the five fuel oxygenates (MTBE, DIPE, TAME, ETBE, and TBA) and two lead scavengers (1,2-DCA and EDB) by EPA Method 8260B.

Monitoring Well Installation: The wells will be constructed using four-inch diameter Schedule 40 PVC casing. Each well screen interval will be confirmed in the field based on the lithology encountered; however wells S-8 and S-9 are anticipated to have screened intervals from 4 – 12 fbg, and S-4B from 15 to 20 fbg. A sand filter-pack will be placed from the bottom of the well up to one foot above the top of the well screen followed by a two-foot thick bentonite seal and cement grout to grade. Each well will be secured with a locking cap under a traffic-rated well box.

Well Development and Sampling: Blaine Tech Services, Inc. (Blaine) of San Jose, California will develop the new groundwater monitoring wells prior to sampling. After well development, Blaine will sample the site groundwater monitoring wells according to the existing sampling schedule and submit the samples to a State of California certified laboratory for chemical analyses.

Wellhead Survey Activities: Following their installation, a licensed surveyor will survey wellhead elevations relative to mean sea level and the latitude and longitude of each well.

Utility Vault Box Screening: During a field visit, the utility vault boxes onsite and within the sidewalks adjacent to the site will be accessed for screening with a PID. Prior to any use of the PID, it will be calibrated in accordance with the manufacturer's suggested protocol. Each vault box lid will be opened as little as possible to enable insertion of the PID tip. The PID will be allowed to screen the air within the vault box for approximately 60 seconds, with the PID readings recorded every 15 seconds. For comparison, similar screening will occur in each of the site monitoring wells, the four tank backfill wells, and inside the kiosk and station building. Ambient PID screening measurements will also be collected from various locations around the service station. Each location screened will be noted on a site map and a description of each will be recorded in the field notes, along with the PID measurements.

Report Preparation: Following the receipt of analytical results from the laboratory, Cambria will prepare a written report that will include field procedures, figures depicting all sample locations, tabulated laboratory results, complete certified analytical reports, boring logs, and conclusions.

Certification: The scope of work described in this work plan will be performed under the supervision of a California Professional Geologist.

SCHEDULE

Cambria is prepared to begin work upon receiving written approval of this work plan by the ACHCSA and receipt of appropriate permits.

CLOSING

Please contact Ana Friel at (707) 268-3812 if you have any questions or comments regarding this submittal.

Sincerely,
Cambria Environmental Technology, Inc.

Jacquelyn England
Project Geologist

Ana Friel, PG
Associate Geologist

Attachments

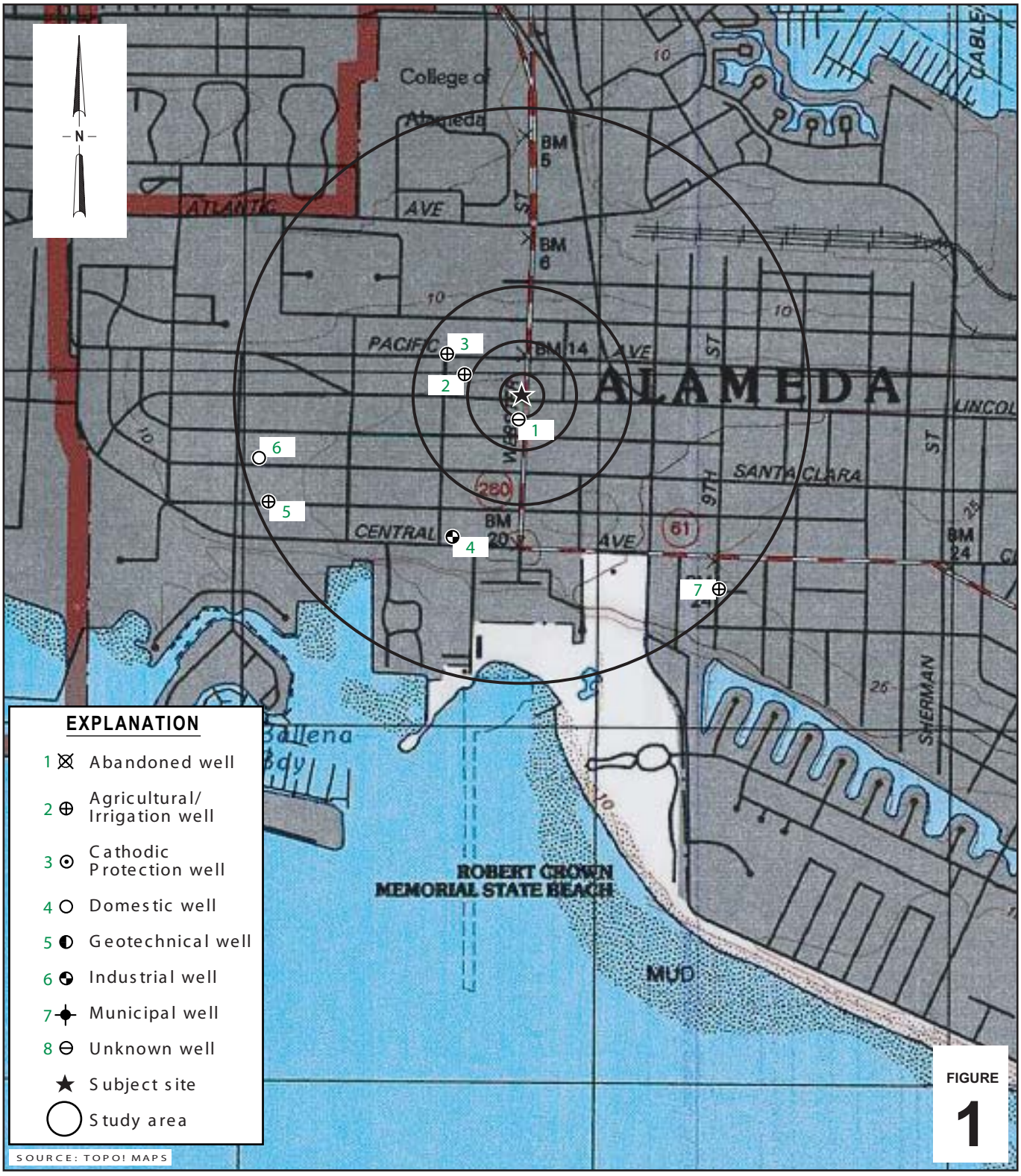
Figure 1. Vicinity/Sensitive Receptor Survey Map
Figure 2. Site Plan/Historical Sample Location Map
Figure 3. Proposed Well Location

Appendix A. Summary: Site Background and Previous Investigations/Activities
Appendix B. Data Tables

I:\Alameda 1601 Webster St\REPORTS_WPs_DOCs\May 2006 Risk Eval\06May Risk Eval & WP.doc

cc: Mr. Denis Brown, Shell Oil Products US
Thomas H. Kosel, ConocoPhillips Risk Management & Remediation, 76 Broadway, Sacramento, CA 95818
James C. Kirschner, ATC Associates, Inc. 6602 Owens Drive, Suite 100, Pleasanton, CA 94588 (consultant for ConocoPhillips)

11/08/04



G:\ALAMEDA 1601 WEBSTER\FIGURES\VIC-SRS-SURVEY.AI

FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Shell-branded Service Station

1601 Webster Street
Alameda, California
Incident #97437680

CAMBRIA

Vicinity/Sensitive Receptor Survey Map

(200, 500, and 1,000 Ft., and1/2 Mile Radii)

01/16/06

EXPLANATION

- SB-1 ◉ Soil boring location (11/30/04, 12/1-2/04)
- ⊠ Attempted soil boring location (11/30,12/1-2/04), not completed due to refusal
- D-1-2' ◆ Soil sample location (8/10/04)
- TBW-N ✛ Tank backfill well location
- MW-1 ⊠ Destroyed monitoring well location
- D-1 ■ Soil sample location (Cambria, 1997)
- BH-C ◉ Soil boring location (WA, 10/92)
- #1 △ Soil sample location (Blaine, 6/87)
- #2 ○ Grab water sample location (Blaine, 6/87)
- ---------- Electrical line (E)
- ———— Overhead electrical line (OE)
- — — — Sanitary sewer line (SS)
- ——·—— Water line (W)
- ○ Power pole
- ✲ Street light

LINCOLN AVENUE

WEBSTER STREET

Approximate Groundwater Flow Direction

MW-1 (BH-A)

former underground waste oil tank

vents

#1 #2

S-1

Station Building

BH-F

former dispenser island

former remediation piping

SS

E

SB-9 (attempted)

SB-10 (attempted)

planter

UST vent piping

former product piping

TBW-W

BH-E

canopy

P-4

backfill well piping

BH-H

MW-3

D-1-2'

D-2

P-3

P-1-3'

product piping

P-2-3'

dispensers

TBW-S

TBW-N

BH-I

SB-3

USTs

P-4-3'

SB-4

SB-8

BH-D

P-2

BH-G

BH-C

kiosk

P-3-3'

D-1

dispensers

MW-2 (BH-B)

former remediation system

P-1

P-5-3'

TBW-E

SB-2

SB-1

SB-7

D-2-2'

SB-6

SB-5

W

?

?

E

N

0 10 20 40

Scale (ft)

FIGURE

2

Site Plan/Historical Sample Location Map

Shell-branded Service Station

1601 Webster Street

Alameda, California

Incident No.97564701

CAMBRIA

G:\ALAMEDA 1601 WEBSTER\FIGURES\SITE PLAN 5-05.DWG

16-May-06

Proposed Well Locations

EXPLANATION

- Proposed monitoring well
- CPT soil boring
- Monitoring well (Shell)
- Destroyed monitoring well
- Tank backfill well
- Manhole
- Power pole
- Street light
- Storm drain inlet
- Monitoring well (Former 76)
- Electrical line (E)
- Overhead electrical line (OE)
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Water line (W)
- Gas line (G)
- Telecommunications line (T)

637 Lincoln
639 Lincoln
643 Lincoln
642-644 Pacific
643 Pacific
1619 Webster
1701 Webster
1600-1604 Webster
1606-1614 Webster
1616-1616 1/2 Webster

LINCOLN AVENUE
PACIFIC AVENUE
WEBSTER STREET

Shell Service Station
(1601 Webster)
Former Underground Waste Oil Tank
Vents
Former Dispenser Island
Former Product Piping
Canopy
Well Piping
Product Piping
former underground air line
Dispensers
USTs
Kiosk
phone
Building
Former W/O UST
Former USTs
Former 76 Service Station # 0843 (1629 Webster)
Former Dispenser
planter

MW-1
MW-2
MW-3
MW-4
MW-6
S-1
S-2
S-3
S-4
S-4B
S-5
S-6
S-7
S-8
S-9
SB-9
SB-10
SB-11
SB-12
SB-13
SB-14
TBW-W
TBW-N
TBW-S
TBW-E

76 Station Well MW-5 located outside map boundary ~ 80 feet north-northeast of well MW-6.

Inlet = 11.20'
FL = 7.70'
inlet = 10.80'
FL = 7.60'
rim = 11.70'
FL = 2.88'
FL = 2.89'
FL = 4.32'

W (8"Ø)
W (2"Ø)
W (6"Ø)
W (20"Ø)
W (16"Ø)
W (4"Ø)
W (24"Ø)
W (12"Ø)
SS (8"Ø)
SS (6"Ø)
SD (18"Ø RCP)
OE
G
T
E

Scale (ft)
0 15 30 60

FIGURE
3

Shell-branded Service Station
1601 Webster Avenue
Alameda, California

CAMBRIA

0467

Appendix A

Summary: Site Background and Previous Investigations/Activities

APPENDIX A
SUMMARY: Site Background & Previous Investigations/Activities
Shell-branded Service Station
1601 Webster Street, Alameda, California

SITE BACKGROUND

Site Conditions

Site Location and Topography: The site is located at the northwest corner of Webster Street and Lincoln Avenue in Alameda, California in a mixed commercial and residential area. The site is located approximately ½ mile from the San Francisco Bay. The site's address is known to Shell as 1601 Webster Street; however, the Alameda County Assessor's office lists the property address as 1607 Webster Street. Local topography is flat, and the site's elevation is approximately 13 ft above mean sea level.

Property Owner: As requested in the ACHCSA's September 3, 2004 *Notice of Responsibility* letter the current fee title owner of the referenced property is identified on behalf of Shell in compliance with section 25297.15(a) of Chapter 6.7 of the Health Safety Code. The property owner is Shell (Equilon Enterprises LLC). Shell's address for tax purposes is P.O. Box 4369, Houston, TX 77210. Shell's address for environmental correspondence is: Denis Brown, Shell Oil Products US, 20945 South Wilmington Avenue, Carson, California 90810.

Nearby Leaking Underground Fuel Tank (LUFT) Sites: According to the Geotracker database, several LUFT sites are present in the area near the site. These include:

- Former 76 Service Station 0843 at 1629 Webster Street, north of the site. According to the Geotracker database, this case is currently open due to a gasoline release, and is located downgradient of the subject Shell site.
- BP Oil Service Station #11104 at 1716 Webster Street, northeast of the site. Open case, gasoline, downgradient of the site.
- Chevron station at 1802 Webster Street, northeast of the site. Open case, gasoline, downgradient of the site.
- Devon Home Center, 1701 Webster Street, south of the site. Case closed on March 9, 1996, gasoline release, upgradient of the site.
- Ogden Service Corporation, 1700 Webster Street, southeast of the site. Case closed on June 24, 1992, waste oil/used oil release, upgradient of the site.
- Pacific Properties, 1628 Webster Street, southeast of the site. Case closed on August 28, 1996, gasoline release, upgradient of the site.
- Jiffy Lube, 1435 Webster Street, south of the site. Open case, upgradient of the site.

- Bank of America, 1528 Webster Street, south of the site. Case closed January 6, 1997, diesel release.
- Alameda Fire Station #2, 635 Pacific Avenue, north-northwest of the site. Case closed February 28, 1994, gasoline release.

Subsurface Geology: Boring logs from previous site investigations at the site and the nearby former 76 site indicate that the site is underlain by sand and silty sands to 21.5 feet below ground (fbg). Some prior reports identified the sediments as the Merritt Sand, an unconsolidated Pleistocene beach and near shore deposit. Review of the boring logs shows consistent poorly sorted sand to silty sand in the shallow water bearing zone.

Groundwater Depth: The historical depth to groundwater has previously ranged from approximately 4.5 fbg to 10.5 fbg. During August 2004 upgrade activities and emergency response actions, the depth to water in the tank backfill wells was measured at approximately 6 fbg before pumping of the wells.

Groundwater Flow Direction: Based on previous groundwater monitoring data at the site and the adjacent former 76 site, groundwater generally flows northerly to northeasterly. Review of the groundwater elevation contour maps indicates a consistent north to northeastern groundwater gradient.

PREVIOUS SITE INVESTIGATIONS AND ACTIVITIES

1987 Waste Oil Tank Removal: In June 1987, a 550-gallon underground waste oil tank that was originally installed in 1962 was removed from the site (Figure A). Blaine Tech Services (Blaine) of San Jose, California reported that the tank contained more than 77 holes and that hydrocarbon sheen was observed on the water in the excavation. Soil samples from 9.5 fbg in the excavation contained 133 parts per million (ppm) petroleum oil and grease (POG), 14 ppm total petroleum hydrocarbons (TPH), and 29 ppm 1,1,1-trichloroethane (TCA). A grab water sample collected from the water surface at about 12.5 fbg contained 244 ppm POG, 132 ppm TPH, 11 ppm TCA, and 59 ppm methyl chloride. These results were reported in Blaine's July 16, 1987 *Field Sampling at Shell Station* letter report, and Blaine's June 26, 1989 letter report summarizing previously unpublished notes. A figure showing the locations of historical samples is enclosed.

1987 Well S-1 Installation: In September 1987, Pacific Environmental Group (PEG) of Santa Clara, California drilled one soil boring and installed groundwater monitoring well S-1 immediately down gradient of the former waste oil tank to assess whether hydrocarbons detected during the excavation were in groundwater (Figure A). TOG was detected in the boring from 3.5 and 15.5 fbg at a maximum concentration of 130 ppm at about 5 fbg. TPH as gasoline (TPHg) was detected at 50 ppm in soil at about 4 fbg. No halogenated volatile organic compounds

(HVOCs) were detected in soil or groundwater. These results were reported in PEG's October 23, 1987 letter report.

1990 Well MW-1 and MW-2 Installation: In April 1990, Weiss Associates (WA) installed wells MW-1 and MW-2 (Figure A). TPHg was detected at a maximum concentration in soils of 32 ppm in the boring for well MW-2, with the highest concentration detected below the water table. Unsaturated soil samples from the two borings contained less than 0.1 ppm benzene, ethylbenzene, toluene, and/or xylenes (BTEX). No POG or HVOCs were detected in soil from either boring. These results were reported in WA's July 6, 1990 *Subsurface Investigation at Shell Service Station* report.

1992-1993 Subsurface Investigation: On October 12 and 22, 1992 and February 19, 1993, WA installed eight soil borings, BH-C through BH-J, ranging from 12.5 to 21.5 fbg, and one monitoring well, MW-3 (Figure A). TPHg was detected at a maximum concentration in soil of 170 ppm from 10.5 fbg in boring BH-E. Benzene was detected at a maximum concentration in soil of 0.11 ppm from boring BH-E at 13.5 fbg. Grab groundwater samples from each boring resulted in a maximum TPHg concentration of 26,000 parts per billion (ppb), and a maximum benzene concentration of 6,900 ppb. These results were reported in WA's April 16, 1993 *Subsurface Investigation Report.*

1997 Pipeline and Dispenser Upgrades: On August 27, 1997, Cambria conducted soil sampling under the product piping and below dispenser locations on-site at approximately 5 fbg (Figure A). The highest concentrations in soil were found in sample D-2 at a depth of 5 fbg with 11,000 ppm TPHg, 6.3 ppm benzene, 7.8 ppm toluene, 96 ppm ethylbenzene and 440 ppm total xylenes. TPHg concentrations for the same location at a depth of 10-fbg decreased to 760 ppm. No MTBE was detected in the analytical samples. Cambria's October 8, 1997 *Pipeline and Dispenser Soil Sampling Report* presented the results.

1998 Waste Oil Remote Fill Pipe Removal: Paradiso Mechanical Inc., of San Leandro, California upgraded the site's waste oil system and removed the remote fill pipe associated with the waste oil tank. Cambria confirmed with ACHCSA regulator Rob Weston prior to the upgrade that no samples would be required as the pipeline was pressurized at above 20 psi and tested overnight, therefore requiring no sample to be taken. Cambria's December 1, 1998 *1998 Upgrade Site Inspection Report* presented the findings.

Prior Groundwater Monitoring: Groundwater was monitored and sampled generally quarterly prior to the destruction of the on-site monitoring wells in 1999 and subsequent case closure. Following initial sampling of well S-1 in September 1987, groundwater was monitored consistently between September 1989 and April 1998. During that time, the groundwater

gradient near the USTs was consistently north-easterly, ranging between north-northwest and northeast. Depth to water has ranged between approximately 4.5 and 10.5 fbg at the site.

Prior Groundwater Remediation: Groundwater remediation by oxygenation was implemented by using an air compressor to inject air into MW-2 from March 2, 1995 until March 18, 1996.

1999 Monitoring Well Abandonment and Case Closure: On January 15, 1999, Cambria oversaw the destruction of all four on-site monitoring wells to facilitate case closure with the ACHCSA. Cambria's February 26, 1999 *Monitoring Well Abandonment Report* documented the work. ACHCSA's March 15, 1999 *Remedial Action Completion Certification and Fuel Leak Site Case Closure* letters confirmed completion of site investigation and remedial action and granted UST case closure for the site. The case closure letter also documented that up to 100 ppm TPHg and 0.026 ppm benzene existed in soil, and up to 3,800 ppb TPHg and 190 ppb benzene existed in groundwater at the time of case closure.

March 2004 Well Survey: At Shell's request, Cambria performed a search of California Department of Water Resources (DWR) records for water producing wells within one-half mile of the site. Monitor, cathodic, test, abandoned or destroyed wells were not researched. No public water supply (PWS) wells were identified from DWR records or from the Geotracker database. Records of seven non-PWS wells were found.

The nearest identified well was located by address approximately 150 ft south of the site. The DWR well record was undated, and did not record the well's intended use. Cambria's site inspection indicated that the address is currently occupied by a café, and the visit did not indicate the presence of a well; therefore the well is presumed to be abandoned. The next closest wells, irrigation wells installed in 1977, are estimated to be about 525 and 800 feet northwest of the site, and drilled to 25 and 32 fbg, respectively. Since groundwater is known to flow generally northward, these wells are cross-gradient of the site, and are therefore unlikely to be affected by impacted groundwater from the site. All other identified wells are located more than 1,000 feet to the southeast, south, and southwest (upgradient) of the site and therefore would not likely be affected by impacted groundwater from the site.

August 2004 Fuel System Upgrades: S.J. Weaver Contracting, Inc. of Signal Hill, California upgraded the station's fuel dispensers, piping, and vapor recovery system during August 2004. Due to the high water table, groundwater from the UST excavation was pumped into a storage tank periodically, and was off-hauled as non-hazardous waste to Shell's Martinez refinery for disposal. Cambria collected soil samples beneath removed dispensers and piping on August 10, 2004. No benzene or MTBE was detected in any soil samples collected during these activities. TPHg was detected in one soil sample and xylenes were detected in two soil samples

from beneath fuel piping. The soil analytical results indicated that the highest residual hydrocarbon concentrations were located near the northwest corner of the kiosk building at sample location P-3-3' (Figure A). Due to the reported presence of TPHg and xylenes in soil, Shell filed an August 11, 2004 **Unauthorized Release Report Form** with ACHCSA.

Following re-installation of one fuel pump into one 10,000 gallon UST, S.J. Weaver identified a product loss in one 10,000-gallon UST by manual tank gauging. S.J. Weaver personnel pumped water from the tank excavation into an open-top storage tank on-site. As fuel had leaked out of the damaged UST, the pumped water contained free product. The resulting gasoline vapor concentrations warranted site evacuation, cessation of work, and emergency response. As a result, Shell's contractors conducted emergency response and remediation beginning on August 19, 2004. On August 19, 2004, the remaining fuel in the damaged UST was removed by a tanker truck, and groundwater pumping from one of the tank backfill wells was initiated. Cambria oversaw emergency response efforts including on-going groundwater extraction from an on-site tank backfill well to recover product lost during the release. The product loss, emergency response activities, and emergency remediation efforts associated with this event are presented in further detail in Cambria's November 30, 2004 *Soil & Groundwater Investigation Work Plan and Agency Response*. As a result of the product loss, Shell filed an August 19, 2004 **Unauthorized Release Report Form** with ACHCSA. In addition, the Alameda Fire Department filed a report with the California Governor's Office of Emergency Services. ACHCSA subsequently opened a new environmental case for the site on September 3, 2004 (ACHSA RO# 2745).

August 2004 - Groundwater Extraction (GWE): Following the August 2004 product release at the site, Cambria supervised Philip Services Corporation's (PSC) groundwater extraction (GWE) from the northern-most tank backfill well (TBW-N). Initially, groundwater was extracted several times per day from August 19 until August 23, 2004. Then, daily GWE was conducted from August 24 until September 10, 2004. From September 13 through November 16, GWE was conducted weekly. Cambria gauged product thickness in well TBW-N, and estimated product recovery by measurement of product thickness in the tanker truck while separate phase hydrocarbons (SPH) were present. Cambria periodically collected grab groundwater samples from TBW-N for analysis for TPHg, BTEX, and MTBE. On November 1, 2004, Cambria switched the GWE contractor to Onyx Industrial Services. Beginning with the November 8, 2004 sample, all samples are also analyzed for four additional oxygenate compounds DIPE, TAME, TBA, and ETBE, EDB, 1, 2-DCA and ethanol. The sample analytical results and evaluation, and details regarding product removal and groundwater extraction are also presented in Cambria's November 30, 2004 *Soil & Groundwater Investigation Work Plan and Agency Response*. As of January 2006, monthly GWE was still ongoing.

November 2004 Soil and Groundwater Investigation: Between November 30 and December 3, 2004, Cambria installed eight soil borings (SB-1 through SB-8) at the site for the collection of soil and groundwater samples to further assess the impacts of the August 2004 product loss event (Figure A). The borings were augered to approximately 15 fbg. Soil samples were collected from each boring at 5 fbg and at 6.5 fbg (capillary fringe). Grab groundwater samples were collected from shallow groundwater from each boring at between 6.5 to 8.0 fbg. Discrete (hydropunch-type) groundwater samples were also collected from the deeper groundwater as follows: At 10 fbg in only one boring, SB-1, and at 15 fbg from all borings except SB-3, which did not produce any deeper groundwater samples.

The maximum concentrations in soil were 740 ppm of TPHg in SB-8-6.5', 1.5 ppm of MTBE in SB-4-6.5', and 53 ppm of ethanol in SB-8-6.5'. All of the other constituents were below the laboratory detection limits in soil.

The maximum concentrations in the grab groundwater samples were 17,000 ppb of TPHg and 250 ppb of benzene in SB-8-W, 9,000 ppb of MTBE in SB-3-W, and 1,100 ppb of TBA in SB-4-W. None of the other constituents were reported from the grab groundwater samples.

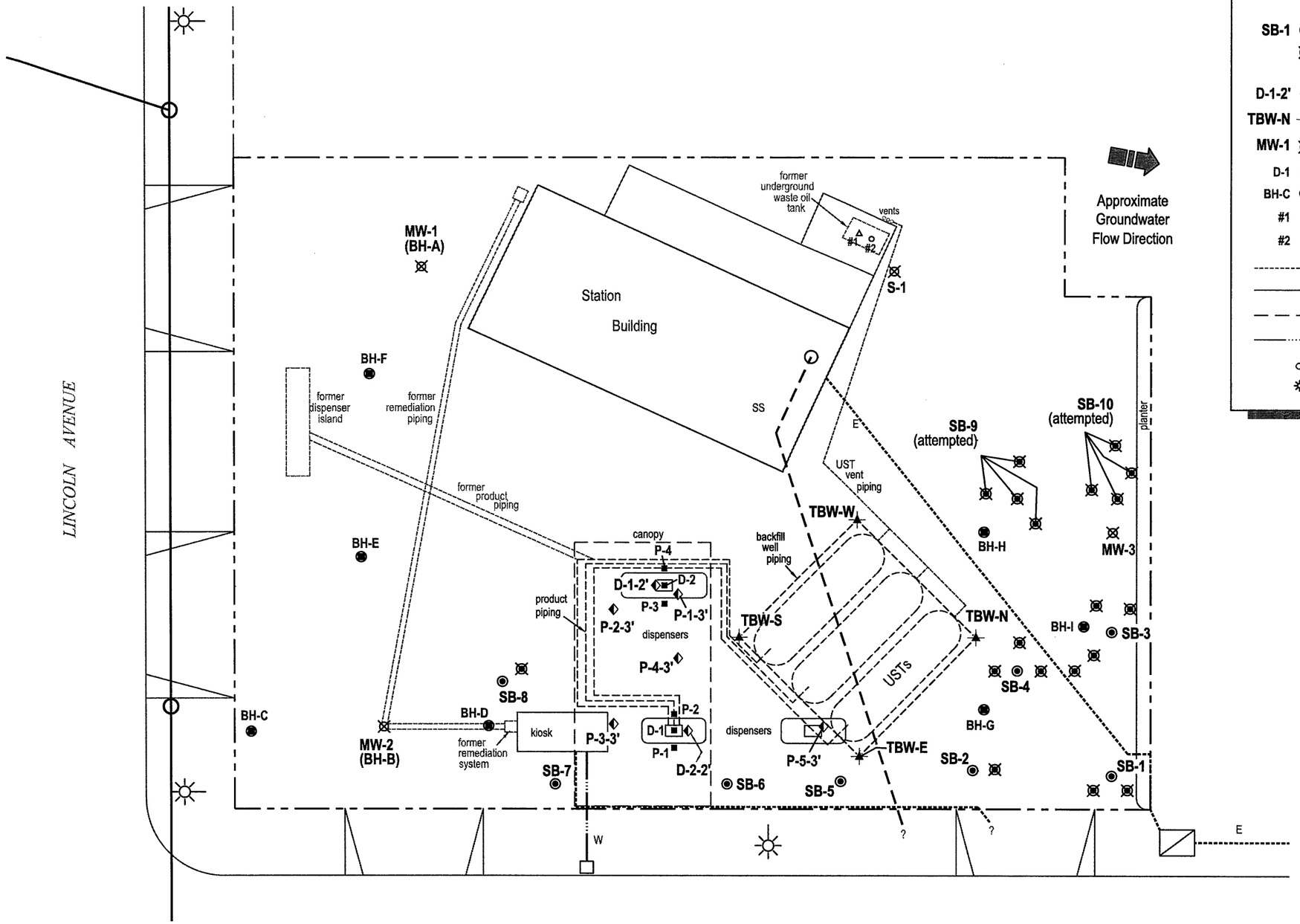
The maximum concentrations in the discrete groundwater samples were 920 ppb of TPHg in SB-7W-15', 5.3 ppb of benzene in SB-8W-15', 300 ppb of MTBE in SB-1W-10', 2,000 ppb TBA in SB-4W-15', and 4.0 ppb TAME in SB-4W-15'. None of the other fuel oxygenates or ethanol were detected in any of the discrete groundwater samples from 10 or 15 fbg.

These results were reported in Cambria's February 18, 2005 *Soil and Groundwater Investigation Report.*

01/16/06

EXPLANATION

- SB-1 ◉ Soil boring location (11/30/04, 12/1-2/04)
- ⊠ Attempted soil boring location (11/30,12/1-2/04), not completed due to refusal
- D-1-2' ◆ Soil sample location (8/10/04)
- TBW-N ▲ Tank backfill well location
- MW-1 ⊠ Destroyed monitoring well location
- D-1 ■ Soil sample location (Cambria, 1997)
- BH-C ◉ Soil boring location (WA, 10/92)
- #1 △ Soil sample location (Blaine, 6/87)
- #2 ○ Grab water sample location (Blaine, 6/87)
- ---------- Electrical line (E)
- ———— Overhead electrical line (OE)
- — — — Sanitary sewer line (SS)
- ——·—— Water line (W)
- ○ Power pole
- ✳ Street light



0 10 20 40

Scale (ft)

FIGURE

A

Site Plan/Historical Sample Location Map

Shell-branded Service Station

1601 Webster Street
Alameda, California
Incident No.97564701

CAMBRIA

G:\ALAMEDA 1601 WEBSTER\FIGURES\SITE PLAN 5-05.DWG

Appendix B

Data Tables

BLAINE
TECH SERVICES INC.

GROUNDWATER SAMPLING SPECIALISTS
SINCE 1985

March 21, 2006

Denis Brown
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

First Quarter 2006 Groundwater Monitoring at
Shell-branded Service Station
1601 Webster Street
Alameda, CA

Monitoring performed on December 9, 2005,
January 5 and 19, 2006, and February 24, 2006

Groundwater Monitoring Report **060224-MD-1**

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Mike Ninokata
Project Coordinator

MN/ks

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Ana Friel
Cambria Environmental Technology, Inc.
P.O. Box 259
Sonoma, CA 95476-0259

WELL CONCENTRATIONS
Shell Service Station
1601 Webster Street
Alameda, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
S-2	11/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.73	7.60	12.13
S-2	11/22/2005	996	0.630	0.500	0.500	3.10	406	<0.500	<0.500	0.570	18.0	NA	NA	NA	19.73	7.70	12.03
S-2	**02/24/2006**	**<50 b**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**2.0**	**<0.50**	**<0.50**	**<0.50**	**<5.0**	**NA**	**NA**	**NA**	**19.73**	**6.29**	**13.44**
S-3	11/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.14	7.01	12.13
S-3	11/22/2005	3,900	<0.500	<0.500	<0.500	0.900	3,730	<0.500	<0.500	3.44	26.0	NA	NA	NA	19.14	7.15	11.99
S-3	**02/24/2006**	**580 b**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**360**	**<0.50**	**<0.50**	**<0.50**	**<5.0**	**NA**	**NA**	**NA**	**19.14**	**5.95**	**13.19**
S-4	11/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.16	6.00	12.16
S-4	11/22/2005	4,570	<0.500	<0.500	<0.500	0.660	3,450	<0.500	<0.500	3.57	26.0	NA	NA	NA	18.16	6.10	12.06
S-4	**02/24/2006**	**2,200 b**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1,400**	**<0.50**	**<0.50**	**1.4**	**13 c**	**NA**	**NA**	**NA**	**18.16**	**5.09**	**13.07**
S-5	11/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.68	6.33	12.35
S-5	11/22/2005	1,010	0.900	<0.500	1.79	4.91	302	<0.500	<0.500	<0.500	397	NA	NA	NA	18.68	6.44	12.24
S-5	**02/24/2006**	**<50 b**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**19**	**<0.50**	**<0.50**	**<0.50**	**<5.0**	**NA**	**NA**	**NA**	**18.68**	**5.44**	**13.24**
S-6	11/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.32	6.36	12.96
S-6	11/22/2005	15,800	5.14	0.690	32.1	934	<0.500	<0.500	<0.500	<0.500	14.2	NA	NA	NA	19.32	6.53	12.79
S-6	**01/19/2006**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**19.32**	**5.50**	**13.82**
S-6	**02/24/2006**	**7,900 b**	**4.4**	**<1.5**	**260**	**380**	**<1.5**	**<1.5**	**<1.5**	**<1.5**	**<7.0**	**NA**	**NA**	**NA**	**19.32**	**5.76**	**13.56**
S-7	11/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.44	6.76	12.68
S-7	11/22/2005	51,100	2,680	2,980	969	6,360	1.49	<0.500	<0.500	<0.500	53.3	NA	NA	NA	19.44	6.88	12.56
S-7	**02/24/2006**	**22,000 b/25,000 d**	**1,700**	**1,200**	**1,200**	**2,800**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**58**	**NA**	**NA**	**NA**	**19.44**	**5.73**	**13.71**
TBW-E	11/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.31	NA
TBW-E	12/01/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.01	NA
TBW-E	12/07/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.32	NA
TBW-E	12/15/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.55	NA

WELL CONCENTRATIONS
Shell Service Station
1601 Webster Street
Alameda, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
TBW-E	12/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.95	NA
TBW-E	12/27/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.47	NA
TBW-N	11/23/2004	83,000	640	27,000	1,700	20,000	2,300	<400	<400	<400	1,300	<100	<100	<10,000	NA	5.64	NA
TBW-N	12/01/2004	160,000	700	31,000	2,300	24,000	2,900	<400	<400	<400	1,200	<100	<100	<10,000	NA	6.35	NA
TBW-N	12/07/2004	130,000	590	29,000	2,300	24,000	2,700	<400	<400	<400	1,300	<100	<100	<10,000	NA	5.65	NA
TBW-N	12/15/2004	120,000	420	26,000	2,000	22,000	3,300	<400	<400	<400	<1,000	<100	<100	<10,000	NA	5.85	NA
TBW-N	12/23/2004	100,000	220	23,000	1,900	20,000	1,900	<400	<400	<400	<1,000	<100	<100	<10,000	NA	5.30	NA
TBW-N	12/27/2004	110,000	470	26,000	2,300	22,000	1,800	<400	<400	<400	<1,000	<100	<100	<10,000	NA	7.80	NA
TBW-N	01/17/2005	86,000	330	22,000	2,200	21,000	1,600	<400	<400	<400	1,600	<100	<100	<10,000	NA	6.59	NA
TBW-N	02/04/2005	97,000	290	23,000	1,800	20,000	1,900	<400	<400	<400	<1,000	<100	<100	<10,000	NA	4.50	NA
TBW-N	03/02/2005	94,000	360	24,000	2,000	19,000	1,200	<400	<400	<400	<1,000	<100	<100	<10,000	NA	4.11	NA
TBW-N	04/12/2005	27,000	130	9,300	1,100	8,700	1,400	<100	<100	<20	390	<25	<25	<2,500	NA	4.08	NA
TBW-N	05/13/2005	42,000	130	8,700	1,500	12,000	1,400	<100	<100	<100	440	<25	<25	<2,500	NA	4.45	NA
TBW-N	06/10/2005	46,000	63	5,500	1,300	11,000	500	<100	<100	<100	<250	<25	<25	<2,500	NA	4.97	NA
TBW-N	07/15/2005	48,000	88	8,400	1,300	9,500	660	<100	<100	<100	310	<25	<25	<2,500	NA	5.18	NA
TBW-N	08/17/2005 a	36,000	85	8,500	1,200	11,000	510	<200	<200	<200	<500	<50	<50	<5,000	18.08	5.28	12.80
TBW-N	09/15/2005	20,000	59	2,400	730	9,300	600	<40	<40	<40	500	NA	NA	<1,000	18.08	5.92	12.16
TBW-N	10/17/2005	59,000	58	4,900	1,200	16,000	490	<100	<100	<100	<250	<25	<25	<2,500	18.08	5.96	12.12
TBW-N	11/22/2005	105,000	41.3	8,750	1,550	18,300	443	<0.500	<0.500	<0.500	248	<0.500	<0.500	<50.0	18.08	5.82	12.26
TBW-N	**12/09/2005**	**65,900**	**43.4**	**5,110**	**1,110**	**13,500**	**493**	**<0.500**	**<0.500**	**<0.500**	**259**	**<0.500**	**<0.500**	**<50.0**	**18.08**	**5.60**	**12.48**
TBW-N	**01/05/2006**	**80,100**	**33.8**	**4,910**	**1,620**	**19,400**	**410**	**<0.500**	**<0.500**	**<0.500**	**<10.0**	**<0.500**	**<0.500**	**<50.0**	**18.08**	**4.44**	**13.64**
TBW-N	**02/24/2006**	**56,000 b/60,000 d**	**15**	**2,700**	**1,000**	**12,000**	**270**	**<15**	**<15**	**<15**	**180**	**<15**	**<15**	**<150**	**18.08**	**4.67**	**13.41**
TBW-S	11/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.18	NA
TBW-S	12/01/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.87	NA
TBW-S	12/07/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.15	NA
TBW-S	12/15/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.38	NA
TBW-S	12/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.81	NA

WELL CONCENTRATIONS
Shell Service Station
1601 Webster Street
Alameda, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
TBW-S	12/27/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.35	NA
TBW-W	11/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.14	NA
TBW-W	12/01/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.86	NA
TBW-W	12/07/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.13	NA
TBW-W	12/15/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.37	NA
TBW-W	12/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.79	NA
TBW-W	12/27/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.32	NA

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by modified EPA Method 8260B.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B.
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 or tertiary butanol, analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane, analyzed by EPA Method 8260B
EDB = Ethylene Dibromide, analyzed by EPA Method 8260B
TOC = Top of Casing Elevation
GW = Groundwater
ug/L = Parts per billion
MSL = Mean sea level
ft. = Feet
<n = Below detection limit
NA = Not applicable

WELL CONCENTRATIONS
Shell Service Station
1601 Webster Street
Alameda, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)

Notes:

a = Extracted out of holding time.

b = Result with a carbon range of C4-C12.

c = Result may be biased slightly high. See lab report case narrative.

d = Result with a carbon range of C6-C12.

Ethanol analyzed by EPA Method 8260B.

Well TBW-N surveyed September 1, 2005 by Virgil Chavez Land Surveying of Vallejo, CA.

Wells S-2 through S-7 surveyed on November 30, 2005 by Virgil Chavez Land Surveying of Vallejo, CA.

Table 1. Well/Boring Data, Shell-branded Service Station, 1601 Webster Street, Alameda, California

Name	Type	Date Installed	TOC Elev (ft msl)	Total Depth (ft)	Soil Sample (ft) Incr. or	Soil Sample (ft) Depth(s)	First Encountered GW Depth (ft)	First Encountered GW Elev (ft msl)	Screen Diam. (In)	Screen Depth (ft) Top	Screen Depth (ft) Bottom	Comments
SB-1	Hydraulic Push	30-Nov-04	-	15	-	5, 6.5	6.5	-	-	-	-	
SB-2	Hydraulic Push	01-Dec-04	-	15	-	5, 6.5	7.0	-	-	-	-	
SB-3	Hydraulic Push	01-Dec-04	-	15	-	5, 6.5	7.0	-	-	-	-	
SB-4	Hydraulic Push	02-Dec-04	-	15	-	5, 6.5	7.9	-	-	-	-	
SB-5	Hydraulic Push	30-Nov-04	-	15	-	5, 6.5	7.2	-	-	-	-	
SB-6	Hydraulic Push	30-Nov-04	-	15	-	5, 6.5	7.0	-	-	-	-	
SB-7	Hydraulic Push	30-Nov-04	-	15	-	5, 6.5	8.0	-	-	-	-	
SB-8	Hydraulic Push	02-Dec-04	-	15	-	5, 6.5	7.1	-	-	-	-	
S-2	**HSA/Well**	**01-Nov-05**	**19.73**	**12**	**-**	**5**	**6.0**	**13.73**	**4**	**4**	**12**	
S-3	**HSA/Well**	**01-Nov-05**	**19.14**	**12**	**-**	**5**	**6.2**	**12.94**	**4**	**4**	**12**	
S-4	**HSA/Well**	**01-Nov-05**	**18.16**	**12**	**-**	**5**	**6.0**	**12.16**	**4**	**4**	**12**	
S-5	**HSA/Well**	**01-Nov-05**	**18.68**	**12**	**-**	**5**	**5.8**	**12.88**	**4**	**4**	**12**	
S-6	**HSA/Well**	**28-Nov-05**	**19.32**	**12**	**-**	**5**	**6.8**	**12.52**	**4**	**4**	**12**	Well installed 11-1-2005 was damaged & reconstructed on 11/28/05
S-7	**HSA/Well**	**01-Nov-05**	**19.44**	**12**	**-**	**5**	**7.0**	**12.44**	**4**	**4**	**12**	
SB-9	**CPT Boring**	**03-Nov-05**	**-**	**40**	**-**	**5**	**6.5**	**-**	**-**	**-**	**-**	
SB-10	**CPT Boring**	**02-Nov-05**	**-**	**40**	**-**	**5**	**7.0**	**-**	**-**	**-**	**-**	
SB-11	**CPT Boring**	**03-Nov-05**	**-**	**40**	**-**	**5**	**7.0**	**-**	**-**	**-**	**-**	
SB-12	**CPT Boring**	**02-Nov-05**	**-**	**40**	**-**	**5**	**6.5**	**-**	**-**	**-**	**-**	
SB-13	**CPT Boring**	**02-Nov-05**	**-**	**40**	**-**	**5**	**6.25**	**-**	**-**	**-**	**-**	
SB-14	**CPT Boring**	**03-Nov-05**	**-**	**40**	**-**	**5**	**5.75**	**-**	**-**	**-**	**-**	

Abbreviations:

TOC = Top of Casing referenced to mean sea level (msl)

GW = Groundwater

ft = feet

In = inches

C = Continuous

HSA = Hollow-stem auger

CPT = Cone penetration test

Table 2. Soil Analytical Data - Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)	TOG (mg/kg)
Site Investigation 2005																
S-2-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
S-3-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
S-4-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
S-5-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
S-6-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
S-7-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
SB-9-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
SB-10-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
SB-11-5.0	**5.0**	**31-Oct-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
SB-12-5.0	**5.0**	**02-Nov-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
SB-13-5.0	**5.0**	**02-Nov-05**	<1.0	<0.0050	<0.0050	<0.0050	**0.0080**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
SB-14-5.0	**5.0**	**02-Nov-05**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	NA	NA	NA	NA
Subsurface Investigation 2004																
SB-1-5'	5	30-Nov-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-1-6.5'	6.5	30-Nov-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA

Table 2. Soil Analytical Data - Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)	TOG (mg/kg)
SB-2-5'	5	01-Dec-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-2-6.5'	6.5	01-Dec-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	**0.011**	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-3-5'	5	01-Dec-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-3-6.5'	6.5	01-Dec-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-4-5'	5	02-Dec-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-4-6.5'	6.5	02-Dec-04	<50	<0.50	<0.50	<0.50	<0.50	**1.5**	<2.5	<1.0	<0.50	<0.50	<0.50	<0.50	<25	NA
SB-5-5'	5	30-Nov-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-5-6.5'	6.5	30-Nov-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-6-5'	5	30-Nov-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-6-6.5'	6.5	30-Nov-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	**0.0099**	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-7-5'	5	30-Nov-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-7-6.5'	6.5	30-Nov-04	**6.2**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-8-5'	5	02-Dec-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	NA
SB-8-6.5'	6.5	02-Dec-04	**740**	<1.0	**5.9**	**17**	**83**	<1.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	**53**	NA
SB-9	N/A	No sample due to refusal at 3 fbg.														
SB-10	N/A	No sample due to refusal at 3 fbg.														
Upgrade Soil Sampling 2004																
P-1-3'	3.0	11-Aug-08	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA
P-2-3'	3.0	10-Aug-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA
P-3-3'	3.0	10-Aug-04	**1,300**	<0.50	<0.50	<0.50	**49**	<0.50	NA	NA	NA	NA	NA	NA	NA	NA

Table 2. Soil Analytical Data - Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)	TOG (mg/kg)
P-4-3'	3.0	10-Aug-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA
P-5-3'	3.0	10-Aug-04	<1.0	<0.0050	<0.0050	<0.0050	0.045	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA
D-1-2'	2.0	10-Aug-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA
D-2-2'	2.0	10-Aug-04	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA
Upgrade Soil Sampling 1997																
D-1	5.0	27-Aug-97	10,000	<5.0	12	81	700	<25	NA	NA	NA	NA	NA	NA	NA	NA
D-2	5.0	27-Aug-97	11,000	6.3	7.8	96	440	<25	NA	NA	NA	NA	NA	NA	NA	NA
D-2	10.0	27-Aug-97	760	2.4	4.1	10	66	<6.2	NA	NA	NA	NA	NA	NA	NA	NA
P-1	5.0	27-Aug-97	140	<0.25	0.91	0.82	5.9	<1.2	NA	NA	NA	NA	NA	NA	NA	NA
P-2	5.0	27-Aug-97	3,600	1.9	1.9	36	220	<6.2	NA	NA	NA	NA	NA	NA	NA	NA
P-3	5.0	27-Aug-97	1,700	<1.2	<1.2	4	23	<6.2	NA	NA	NA	NA	NA	NA	NA	NA
P-4	5.0	27-Aug-97	230	<0.25	<0.25	1.2	3.4	<1.2	NA	NA	NA	NA	NA	NA	NA	NA
Monitoring Well Installation 1993																
BH-J-5.5' (MW-3)	5.5	19-Feb-93	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-J-10' (MW-3)	10.0	19-Feb-93	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
Subsurface Investigation 1992																
BH-C-5.5'	5.5	12-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-C-11'	11.0	12-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30

Table 2. Soil Analytical Data - Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)	TOG (mg/kg)
BH-D-5.5'	5.5	12-Oct-92	100	<0.005	<0.005	1.8	5.4	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-D-10.5'	10.5	12-Oct-92	<0.5	<0.005	<0.005	0.007	0.032	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-E-5.5'	5.5	22-Oct-92	14	0.026	0.4	0.2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-E-10.5'	10.5	22-Oct-92	170	<0.005	3.0	3.6	22	NA	NA	NA	NA	NA	NA	NA	NA	110
BH-E-13.5'	13.5	22-Oct-92	0.87	0.11	0.097	0.019	0.089	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-F-5.5'	5.5	22-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-F-10.5'	10.5	22-Oct-92	26	0.065	0.27	0.65	3.6	NA	NA	NA	NA	NA	NA	NA	NA	47
BH-G-5.5'	5.5	22-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-G-10'	10.0	22-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-H-5.5'	5.5	22-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-H-10'	10.0	22-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-I-5.5	5.5	22-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
BH-I-10.5	10.5	22-Oct-92	<0.5	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	<30
Monitoring Well Installation 1990																
BH-A (MW-1)	4.8	03-Apr-90	<1.0	<0.0025	0.0032	<0.0025	0.0030	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-A (MW-1)	7.8	03-Apr-90	<1.0	<0.0025	0.0029	<0.0025	<0.0025	NA	NA	NA	NA	NA	NA	NA	NA	<50
BH-A (MW-1)	10.8	03-Apr-90	<1.0	0.0026	0.010	<0.0025	0.0037	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-B (MW-2)	5.2	03-Apr-90	<1.0	<0.0025	0.0048	<0.0025	0.013	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-B (MW-2)	6.8	03-Apr-90	1.3	0.0034	0.017	0.010	0.079	NA	NA	NA	NA	NA	NA	NA	NA	<50
BH-B (MW-2)	10.2	03-Apr-90	20	0.530	3.800	0.750	4.000	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-B (MW-2)	15.2	03-Apr-90	32	0.15	1.8	0.67	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-B (MW-2)	20.2	03-Apr-90	<1.0	0.0049	0.023	0.0047	0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2. Soil Analytical Data - Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)	TOG (mg/kg)
Monitoring Well Installstion September 1987																
S-1	3.5-5	04-Sep-87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
S-1	9-10.5	04-Sep-87	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	30
S-1	14-15.5	04-Sep-87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13
Waste Oil UST Removal June 1987																
#1	9.5	26-Jun-87	14	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	133

Notes and Abbreviations:

fbg = feet below grade

parts per million = ppm

<x = Not detected at reporting limit x

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B. Prior to 2004, different methods were used.

Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B. Prior to 2004, different methods were used.

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8260B. Prior to 2004, analysis was by EPA Method 8020.

TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B

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

1,2-DCA = 1,2-Dichloroethane by EPA Method 8260B. Prior to 2004, different methods were used.

EDB = Ethylene dibromide, Prior to 2004, different methods were used.

Ethanol by EPA Method 6010B

Table 3. Groundwater Analytical Data, Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	TBA (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	1,2-DCA (µg/l)	EDB (µg/l)	Ethanol (µg/l)	TOG (µg/l)
SB-9-6.5W	6 to 10	03-Nov-05	<1,300	<13	<13	<13	<25	3,500	<130	<50	<50	<50	NA	NA	NA	NA
SB-9-15W	14 to 18	03-Nov-05	<2,500	<25	<25	<25	<50	9,200	<250	<100	<100	<100	NA	NA	NA	NA
SB-9-27W	24 to 28	03-Nov-05	<2,500	<25	<25	<25	<50	7,800	<250	<100	<100	<100	NA	NA	NA	NA
SB-9-36W	35 to 39	03-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	87	21	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-10-7W	6 to 10	02-Nov-05	53	<0.50	<0.50	<0.50	<1.0	3,000	1,300	<2.0	<2.0	3.7	NA	NA	NA	NA
SB-10-15W	14 to 18	02-Nov-05	500	<5.0	<5.0	<5.0	<10	690	2,200	<20	<20	<20	NA	NA	NA	NA
SB-10-25W	24 to 28	02-Nov-05	<1,300	<13	<13	<13	<25	2,700	<130	<50	<50	<50	NA	NA	NA	NA
SB-10-36W	35 to 39	02-Nov-05	70	<0.50	<0.50	<0.50	<1.0	76	68	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-11-7W	7 to 11	03-Nov-05	<1,300	<13	<13	<13	<25	4,800	290	<50	<50	<50	NA	NA	NA	NA
SB-11-15W	14 to 18	03-Nov-05	<2,000	<20	<20	<20	<40	2,200	740	<80	<80	<80	NA	NA	NA	NA
SB-11-27W	24 to 28	03-Nov-05	<1,000	<10	<10	<10	<20	2,300	<100	<40	<40	<40	NA	NA	NA	NA
SB-11-36W	35 to 39	03-Nov-05	67	<0.50	<0.50	<0.50	<1.0	23	22	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-12-6.5W	6 to 10	02-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	0.55	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-12-15W	14 to 18	02-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-12-25W	24 to 28	02-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-12-36W	35 to 39	02-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-13-6.25W	6 to 10	02-Nov-05	<2,500	<25	<25	<25	<50	4,100	<250	<100	<100	<100	NA	NA	NA	NA
SB-13-15W	14 to 18	02-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	4.6	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-13-25W	24 to 28	02-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	1.1	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-13-36W	35 to 39	02-Nov-05	64	<0.50	<0.50	<0.50	<1.0	1.0	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-14-5.75W	6 to 10	03-Nov-05	<1,300	<13	<13	<13	<25	2,700	<130	<50	<50	<50	NA	NA	NA	NA
SB-14-15W	14 to 18	03-Nov-05	<2,500	<25	<25	<25	<50	5,900	<250	<100	<100	<100	NA	NA	NA	NA
SB-14-27W	24 to 28	03-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	2.5	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
SB-14-36W	35 to 39	03-Nov-05	<50	<0.50	<0.50	<0.50	<1.0	3.7	<5.0	<2.0	<2.0	<2.0	NA	NA	NA	NA

Table 3. Groundwater Analytical Data, Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	TBA (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	1,2-DCA (µg/l)	EDB (µg/l)	Ethanol (µg/l)	TOG (µg/l)
Subsurface Investigation 2004																
SB-1-W	6.51 (g)	30-Nov-04	<2,500	<25	<25	<25	<50	6,000	<250	<100	<100	<100	<25	<25	<2,500	NA
SB-1W-10'	10	30-Nov-04	<250	<2.5	<2.5	<2.5	<5.0	300	<25	<10	<10	<10	<2.5	<2.5	<250	NA
SB-1W-15'	15	30-Nov-04	<13,000	<130	<130	<130	<250	24,000	1,700	<500	<500	<500	<130	<130	<13,000	NA
SB-2-W	6.95 (g)	01-Dec-04	<1,000	<10	<10	<10	<20	3,000	500	<40	<40	<40	<10	<10	<1,000	NA
SB-2W-15'	15	01-Dec-04	<1,300	<13	<13	<13	<25	2,000	420	<50	<50	<50	<13	<13	<13,000	NA
SB-3-W	7.01 (g)	01-Dec-04	<5,000	<50	<50	<50	<100	9,000	<500	<200	<200	<200	<50	<50	<5,000	NA
SB-4-W	7.85 (g)	02-Dec-04	<500	<5.0	<5.0	<5.0	<10	4,400	1,100	<20	<20	<20	<5.0	<5.0	<500	NA
SB-4W-15'	15	02-Dec-04	520	1.7	5.3	14	62	2,900	2,000	<2.0	<2.0	4.0	<0.50	<0.50	<50	NA
SB-5-W	7.21 (g)	30-Nov-04	<1,000	<10	<10	<10	<20	1,900	190	<40	<40	<40	<10	<10	<1,000	NA
SB-5W-15'	15	30-Nov-04	<1,000	<10	<10	<10	<20	2,000	340	<40	<40	<40	<10	<10	<1,000	NA
SB-6-W	7.01 (g)	30-Nov-04	2,000	0.61	0.88	59	57	14	5.5	<2.0	<2.0	<2.0	<0.50	<0.50	<50	NA
SB-6W-15'	15	30-Nov-04	<250	<2.5	<2.5	<2.5	<5.0	540	92	<10	<10	<10	<2.5	<2.5	<250	NA
SB-7-W	8.0 (g)	30-Nov-04	<500	<5.0	<5.0	<5.0	<10	990	180	<20	<20	<20	<5.0	<5.0	<500	NA
SB-7W-15'	15	30-Nov-04	920	0.54	1.1	28	19	13	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50	NA
SB-8-W	7.09 (g)	02-Dec-04	17,000	250	660	840	3,700	<10	<100	<40	<40	<40	<10	<10	<1,000	NA
SB-8W-15'	15	02-Dec-04	270	5.3	13	12	47	11	<5.0	<2.0	<2.0	<2.0	<0.50	<0.50	<50	NA
Monitoring Well Installation 1993																
MW-3		25-Feb-93	58	<0.5	<0.5	2.5	6.4	NA	NA	NA	NA	NA	1.5	NA	NA	140

Table 3. Groundwater Analytical Data, Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	TBA (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	1,2-DCA (µg/l)	EDB (µg/l)	Ethanol (µg/l)	TOG (µg/l)
Subsurface Investigation 1992																
BH-C		12-Oct-92	74	0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-D		12-Oct-92	24,000	4,200	<0.5	4,400	2,800	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-E		22-Oct-92	26,000	6,900	13,000	2,200	12,000	NA	NA	NA	NA	NA	NA	NA	NA	<7,000
BH-F		22-Oct-92	3,100	170	110	310	550	NA	NA	NA	NA	NA	NA	NA	NA	<14,000
BH-G		22-Oct-92	150	3.9	9.8	3.8	13	NA	NA	NA	NA	NA	NA	NA	NA	<6,000
BH-H		22-Oct-92	26,000	1,600	280	1,900	2,800	NA	NA	NA	NA	NA	NA	NA	NA	<6,000
BH-I		22-Oct-92	53	1.4	1.3	3.1	3.4	NA	NA	NA	NA	NA	NA	NA	NA	<8,000
Subsurface Investigation / Monitoring Well Sampling 1990																
S-1		11-Apr-90	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-1		11-Apr-90	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2		11-Apr-90	580	20	4.9	1.2	73	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monitoring Well Sampling 1989																
S-1		11-Sep-89	<50	<0.5	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	<1,000
Monitoring Well Installation 1987																
S-1		07-Sep-87	NA	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3. Groundwater Analytical Data, Shell-branded Service Station, 1601 Webster Street, Alameda, California

Sample ID	Depth (fbg)	Date	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	TBA (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	1,2-DCA (µg/l)	EDB (µg/l)	Ethanol (µg/l)	TOG (µg/l)
Waste Oil UST Removal 1987																
#2		26-Jun-87	**132,000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**244,000**
#2 (duplicate)		26-Jun-87	**1,600**	**3.7**	**45**	NA	**200**	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes and Abbreviations:

fbg = feet below grade

parts per billion = ppb

<x = Not detected at reporting limit x

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B. Prior to 2004, different methods were used.

Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B. Prior to 2004, different methods were used.

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8260B

TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B

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

1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B. Prior to 2004, different methods were used.

EDB = Ethylene dibromide analyzed by EPA Method 8260B. Prior to 2004, different methods were used.

Ethanol by EPA Method 6010B

* = flagged by the analytical laboratory because reporting limits were raised due to high levels of analyte present in the samples, analysis flag (L-2).

g = Grab sample collected at first encountered groundwater/piezometric surface

Table 4. Groundwater and Product Removal Data, Shell-branded Service Station, 1601 Webster Street, Alameda, California.

Date	Total Volume Hauled (gals)	Cumulative Volume (gals)	Measured Product Thickness in Vacuum Truck (ft)	Dissolved TPHg Conc. (ppm)	Est pounds TPHg removed in Dissolved Phase (lbs)	Estimated Volume of Product Removed as SPH (gal)	Estimated Volume of Product Removed as dissolved phase (gal)	Comments
								FUEL RELEASE ESTIMATE: UST gaging by SJ Weaver on 8/18 read 71.5 inches = 8,340 gallons, per tank chart. On 8/19 gaging by SJ Weaver read 55 inches = 6,256 gallons, per tank chart. Net est. Loss = 8,340-6,256 = 2,084 gallons.
8/19/2004	2,168	2,168	NM	*120*	*2.17*		*0.36*	Pumped from well into open Baker tank. Then tank emptied by PSC vacuum truck
8/19/2004	2,535	4,703	NM	*120*	*2.54*	915	*0.42*	Pumped from well into open Baker tank. Also pumped directly into Vacuum Truck. Then open Baker tank emptied by PSC
8/20/2004	0	4,703	NM	*120*	*0.00*	--	*0.00*	Pumped into closed Baker tank - none hauled.
8/21/2004	4,369	9,072	NM	*120*	*4.37*	*50*	*0.72*	Pumped into closed Baker tank, then began emptying closed tank by vacuum truck. Estimated SPH volume from similar data.
8/21/2004	*3,654*	12,726	0.67	*120*	*3.66*	773	*0.60*	From closed Baker tank and well. Volumes based on verbal report - missing bills of lading
8/21/2004	*2,091*	14,817	0.04	*120*	*2.09*	57	*0.34*	From well and baker tank. Volumes based on verbal report - missing bills of lading .
8/22/2004	319	15,136	NM	*120*	*0.32*	*NM*	*0.05*	Baker Tank cleaning water.
8/22/2004	2,285	17,421	0.11	*120*	*2.29*	150	*0.38*	
8/23/2004	1,947	19,368	0.01	*120*	*1.95*	13	*0.32*	
8/24/2004	1,013	20,381	0.01	*120*	*1.01*	12	*0.17*	
8/25/2004	4,026	24,407		*120*	*4.03*		*0.66*	
8/26/2004	3,839	28,246		82	2.63		0.43	
8/27/2004	3,882	32,128		82	2.66		0.44	
8/28/2004	2,770	34,898		100	2.31		0.38	
8/29/2004	3,834	38,732		100	3.20		0.53	
8/30/2004	3,376	42,108		91	2.56	*12*	0.42	Half UST cleaning water and half groundwater from well. SPH amount estimated from 0.02' SPH in UST gaged on 8/21/04
8/31/2004	3,249	45,357		91	2.47		0.41	
9/1/2004	3,832	49,189		110	3.52		0.58	
9/2/2004	2,151	51,340		110	1.97		0.32	
9/3/2004	3,136	54,476		99	2.59		0.43	
9/4/2004	3,671	58,147		99	3.03		0.50	
9/5/2004	3,395	61,542		66	1.87		0.31	
9/6/2004	2,948	64,490		66	1.62		0.27	
9/7/2004	3,285	67,775		66	1.81		0.30	
9/8/2004	3,128	70,903		66	1.72		0.28	
9/9/2004	3,902	74,805		67	2.18		0.36	water from TBW-N. TBW-S, & TBW-E
9/10/2004	2,989	77,794		67	1.67		0.27	water from TBW-N. TBW-S, & TBW-E
9/13/2004	2,807	80,601		61	1.43		0.23	70-barrel truck
9/20/2004	4,266	84,867		120	4.27		0.70	
9/28/2004	4,691	89,558		99	3.88		0.64	
10/4/2004	4,050	93,608		80	2.70		0.44	
10/11/2004	3,121	96,729		57	1.48		0.24	
10/18/2004	3,597	100,326		68	2.04		0.34	
10/25/2004	4,127	104,453		81	2.79			2,641 additional gallons from tank cleaning were disposed of on 10/25/04
11/1/2004	5,047	109,500		86	3.62		0.59	
11/8/2004	2,178	111,678		100	1.82		0.30	
11/16/2004	4,891	116,569		83	3.39		0.56	concentration based on 11/23/04 sample
11/29/2004	4,531	121,100		160	6.05		0.99	concentration based on 11/30/04 sample
12/13/2004	5,208	126,308		120	5.21		0.86	concentration based on 12/15/04 sample
12/27/2004	4,800	131,108		100	4.01		0.66	concentration based on 12/27/04 sample
1/17/2005	3,580	134,688		86	2.57		0.42	concentration based on 1/17/05 sample
2/7/2005	2,389	137,077		97	1.93		0.32	concentration based on 2/4/05 sample
3/8/2005	4,843	141,920		94	3.80		0.62	concentration based on 3/3/05 sample
4/6/2005	4,711	146,631		27	1.06		0.17	concentration based on 4/12/05 sample
5/2/2005	4,706	151,337		42	1.65		0.27	concentration based on 5/13/05 sample
6/6/2005	5,011	156,348		46	1.92		0.32	concentration based on 6/10/05 sample
7/11/2005	4,627	160,975		48	1.85		0.30	concentration based on 7/15/05 sample
8/8/2005	4,785	165,760		36	1.44		0.24	concentration based on 8/17/05 sample
9/12/2005	4,992	170,752		20	0.83		0.14	concentration based on 9/15/05 sample
10/10/2005	5,181	175,933		59	2.55		0.42	concentration based on 10/17/05 sample
11/7/2005	4,821	180,754		105	4.22		0.69	concentration based on 11/22/05 sample
TOTALS	**180,754**				**128.8**	**1,982.1**	**20.7**	
	(gallons) Total Estimated Volume of Liquid Removed				(pounds) Total estimated mass based on dissolved TPHg concentrations	(gallons) Total Estimated Volume accounted for as liquid SPH	(gallons) Total estimated equivalent volume based on dissolved TPHg concentrations	

NOTES:

Mass removal values are approximate only.

Pounds of TPHg/benzene/MTBE removal based on the calculation: (TPHg/benzene/MTBE concentration* (ppb)) x gallons pumped x (8.3×10^{-9} (liters/galxpounds/µg))