R06

Shell Oil Products US

December 19, 2005

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

Subject: Shell-branded Service Station
3420 San Pablo Avenue
Oakland, California

Dear Mr. Wickham:

Attached for your review and comment is a copy of the *Site Conceptual Model* 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.

As always, please feel free to contact me directly at (707) 865-0251 with any questions or concerns.

Sincerely,

Shell Oil Products US

Denis L. Brown
Project Manager

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CAMBRIA

December 19, 2005

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

Re: **Site Conceptual Model Report**
Former Shell-branded/Current San Pablo Gas Service Station
3420 San Pablo Avenue
Oakland, California
Incident #98995748
Cambria Project #247-0554-011

Dear Mr. Wickham:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), Cambria Environmental Technology, Inc. (Cambria) has prepared this *Site Conceptual Model Report* in response to a April 12, 2004 Alameda County Health Care Services Agency (ACHCSA) letter. Detailed below are summaries of the known environmental investigation activity and conditions for both the former Shell-branded service station and the adjacent former Thrifty Oil service station #49 (Thrifty) sites, and site conceptual models (SCMs) for both sites.

SHELL SITE SUMMARY

Location and Current Use

This operating service station is a former Shell service station located at the southeast corner of the 35th Street and San Pablo Avenue intersection in Oakland (Figures 1 and 2). Property use in the site vicinity is mixed residential and commercial. Shell sold the station and property to Portola Valley Shell, a California corporation, in March 2005.

Local Hydrogeology

According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report* (California Regional Water Quality Control Board – San Francisco Bay Region, June 1999), the site is located within the Oakland Sub-Area of the San Francisco Basin of the East Bay Plain. The Oakland Sub-Area contains a sequence of alluvial fans. The alluvial fill ranges in thickness from 300 to 700 feet deep. There are no well-defined aquitards such as the estuarine muds. The

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largest and deepest wells in this Sub-Area historically pumped 1 to 2 million gallons per day at depths greater than 200 feet. Overall, sustainable yields are low due to low recharge potential. The Merritt Sands in west Oakland was an important part of the early water supply for Oakland. It is shallow (up to 60 feet), and before the turn of the century, septic systems contaminated the water supply wells. Throughout most of the Alameda County portion of the East Bay Plain, from Hayward north to Albany, water level contours show that the groundwater flow direction is from east to west or from the Hayward Fault to San Francisco Bay. Groundwater flow direction generally correlates to topography. Flow direction and velocity are also influenced by buried stream channels that typically are oriented in an east-west direction.

The site elevation is approximately 30 feet above mean sea level. Primary surface water bodies in the site vicinity are the San Francisco Bay (located less than 2 miles west of the site), the Oakland Inner Harbor (approximately 2.0 miles south of the site), and Lake Merritt, a tidal lake (approximately 1.4 miles southeast of the site).

Locally, groundwater generally flows southwest at the site, as shown by prior groundwater monitoring. According to boring logs for wells constructed before 1998, groundwater was first encountered at depths ranging between 8 and 19 feet below grade (fbg) (Attachment A). Following boring advancement and monitoring well installation in some wells, static groundwater depths were generally shallower than the recorded first-encountered groundwater elevations. In 1998, while installing wells MW-3R and MW-6R, groundwater was first encountered at 5.5 fbg. Static depth to water following well installation was at approximately 6 fbg. Static depth to groundwater in site monitoring wells has ranged from approximately 1.2 to 13.14 fbg since monitoring began in August 1991 (Attachment B).

Currently, groundwater quality beneath the site is monitored quarterly by 11 monitoring wells (MW-1, MW-2, MW-3R, MW-4, MW-5, MW-6R, MW-7 through MW-11), 8 on-site and 3 off-site. Monitoring wells MW-3 and MW-6 were abandoned due to construction of a new site building in December 1997, and were replaced by wells MW-3R and MW-6R. Coordinated groundwater monitoring events with the adjacent former Thrifty Oil site are currently conducted. Figure 3 shows the most recent groundwater monitoring data.

Separate-phase hydrocarbons (SPH) have been reported previously in wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-6R, and MW-7, primarily from 1991 until 1997. Trace amounts of SPH were detected in well MW-6R in 2003 and 2004. No SPH has been reported in groundwater since October 2004.

Soil Lithology

United States Geological Survey (USGS) publications and maps indicate that the site area is underlain by Holocene era alluvial fan and fluvial deposits (symbol Q_{haf}) (*Areal and Engineering Geology of the Oakland West Quadrangle, California,* D.H. Radbruch, USGS, *Miscellaneous Geological Investigations, Map I-239,* 1957, and *Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California,* USGS R.W. Graymer, 2000).

Boring logs have indicated that the site is underlain by silty clay, sandy clay, and gravelly sand to the total explored depth of 31.5 fbg. Figures 4 through 6 present cross-sections of the site to illustrate the subsurface lithology and recent groundwater elevations.

Previous Work

The following summary is based upon the information available to Cambria at the time of this report.

1984 Dispenser Leak: In December 1984, gasoline-saturated soil was discovered beneath the pump island area. A review of inventory records indicated a loss of approximately 2,500 gallons of super-unleaded and 1,500 gallons of regular gasoline.

1985 Tank Replacement: In January 1985, the steel underground storage tanks (USTs) and product lines were replaced with double-walled fiberglass tanks and product lines.

1988 Soil Borings: In August 1988, Ensco Environmental Services, Inc. drilled five soil borings (B-1 though B-5) to a maximum depth of 20.5 fbg. Total petroleum hydrocarbons as gasoline (TPHg) and benzene were detected at maximum concentrations of 1,400 parts per million (ppm) and 1.9 ppm, respectively, at 5 fbg in boring B-1, located at the north end of the UST pit. Tables 1 and 2 summarize soil analytical data, and Attachment A presents copies of soil boring logs and well construction diagrams.

1989 Monitoring Well Installations: In April 1989, Delta Environmental Consultants (Delta) drilled and installed four on-site monitoring wells (MW-1 though MW-4). TPHg and benzene were detected at maximum concentrations of 850 ppm and 1.2 ppm, respectively, at 5.5 fbg in well MW-1, located adjacent to soil boring B-1.

1990 Monitoring Well Installations: In January 1990, Delta drilled and installed four additional on-site monitoring wells (MW-5 though MW-8) and one off-site well (MW-9). Monitoring well MW-5 was drilled to a depth of 26.5 fbg, and monitoring wells MW-6 though MW-9 were drilled to depths of 21.5 fbg. TPHg was detected at a maximum concentration of 6.1 ppm in soil collected from 10.5 fbg in off-site well MW-9. The maximum benzene concentration of 0.078 ppm was detected in the soil sample collected from 5.5 fbg in well MW-7.

1991 Monitoring Well Installations: In October 1991, Delta drilled and installed off-site monitoring wells MW-10 and MW-11. TPHg and benzene were detected at maximum concentrations of 1.8 ppm and 0.06 ppm, respectively, in the soil sample collected at 10 fbg in well MW-10.

1991 - 1993 SPH Recovery: Between October 23, 1991 and April 3, 1994, SPH was found in monitoring wells MW-1 through MW-7 at various times during groundwater monitoring. An estimated 20.17 pounds of SPH were removed by bailing, as summarized in Table 3.

1993 Soil Vapor Extraction Test: Weiss Associates (WA) conducted a soil vapor extraction (SVE) test of wells MW-1, MW-2, MW-4, and MW-6 to assess the potential SVE recovery of vapor-phase hydrocarbons. Initially, a 15-minute test of each well was conducted, and wells MW-1 and MW-6 were selected for longer term testing. Testing at applied vacuums ranging from 40 to 64 inches of water resulted in vapor flow rates from 8 to 19 standard cubic feet per minute. Based on laboratory analytical results, the hydrocarbon concentrations in soil vapor ranged from 1,400 to 4,500 parts per million by volume (ppmv) TPHg. No benzene was detected in the extracted soil vapor. A methane concentration of 9,000 ppmv was detected in vapors from MW-6. Mass removal rates from 7 to 32 pounds TPHg per day were estimated from the results. WA stated that vapor flow rates would be limited by groundwater upwelling in the extraction wells as a result of the applied vacuum.

1997 Station Renovation, Waste Oil Tank Removal, and Soil Sampling: In 1997, renovations of the station began. The station building, a 550-gallon waste oil UST, and two gasoline dispensers and associated piping were removed from the site. Two adjacent residential buildings were demolished, and the site was regraded in preparation for future construction.

As described in Cambria's December 5, 1997 *Waste Oil Tank Removal and Gasoline Dispenser/Pipeline Removal Soil Sampling Report*, 2 soil samples were collected from the sidewalls of the waste oil tank pit, and 10 soil samples were collected from beneath the former dispensers and gasoline product piping on June 26, 1997. TPHg was detected at a maximum concentration of 120 ppm in product piping sample P-8 at 2.5 fbg. The maximum benzene concentration of 0.13 ppm was detected at 2.5 fbg in piping sample P-1.

1998 Risk-Based Corrective Action (RBCA) Analysis: In June 1998, Cambria prepared a RBCA analysis for the site to determine the potential risks posed by residual hydrocarbons in soil and groundwater underlying the site. Cambria's Tier 2 risk assessment demonstrated that the risk associated with exposure to hydrocarbons in soil and groundwater beneath the new on-site building were acceptable. Specifically, benzene concentrations in soil and groundwater beneath the vicinity of the building were found to be below the Tier 2 California Environmental Protection Agency site-specific target levels. The analysis found that no further remediation action was warranted.

1998 Construction Activities: In 1998, construction of the new station building was completed. In Cambria's April 27, 1998 *First Quarter 1998 Monitoring Report*, Cambria proposed installing perforated plastic piping into the gravel base beneath the foundation of the site building. The piping was intended to remove hydrocarbon vapors should they accumulate beneath the building. The piping was installed as proposed. Pea gravel from above the USTs, and soil excavated during grading and footing excavation was sampled, profiled for disposal, removed from the site, and transported to an appropriate disposal facility. Groundwater was pumped from the building foundation excavations to allow construction.

1998 Well Abandonment: As part of site construction activities, monitoring wells MW-3 and MW-6 were abandoned to accommodate the new site building, as reported in Cambria's March 18, 1998, *Well Abandonment Report*. Gregg Drilling & Systems, Inc. of Martinez, California abandoned the wells by pressure grouting on December 5, 1997.

1998 Monitoring Well Installations: The new building constructed at the site covered previously installed monitoring wells MW-3 and MW-6. As described in Cambria's July 1, 1998 *Well Installation Report*, replacement wells MW-3R and MW-6R were installed in June 1998. Because data had been collected during previous well installations, no soil samples were submitted for chemical analysis during this investigation.

2001 Sensitive Receptor Survey (SRS), Conduit Study, and SCM: In 2001, Cambria conducted a search for wells within a ½-mile radius using California Department of Water Resources (DWR) well records. The study was reported in Cambria's July 6, 2001, *Second Quarter 2001 Monitoring Report*. The nearest well identified in the survey was reported to be a 97-foot-deep irrigation well located approximately 700 feet west of the site (Figure 1). In January 2002, a representative for the property owner indicated to Cambria that the well had not been used in decades and was scheduled for destruction. The site where the well was located, the former City of Paris Cleaners at 3516 Adeline Street, is also an open Leaking Underground Fuel Tank site overseen by ACHCSA.

Cambria performed a utility conduit survey to determine the location of potential groundwater preferential pathways in the site vicinity. Results of the 2001 conduit study were presented in Cambria's July 6, 2001 *Second Quarter 2001 Monitoring Report*. The utility survey consisted of reviewing maps and plans acquired from the City of Oakland Engineering Department and the East Bay Municipal Utility District (EBMUD), and conducting a site visit to visually identify utilities in the vicinity. Conduit study results are summarized below, and conduit locations are mapped on Figure 2.

Utility survey results indicate that San Pablo Avenue is underlain by two southward flowing 8-inch-diameter sanitary sewer pipes, an 18-inch-diameter southward-flowing storm drain, and two water lines (Figure 2). A water line and a westward flowing, 8-inch-diameter sanitary sewer lines are located beneath 35th Street. Three electrical utility vault boxes, possibly associated with traffic control signals, and one Pacific Bell (SBC) utility vault are located in the sidewalk near the southeast corner of San Pablo Avenue and 35th Street. EBMUD utility vault boxes are located in the sidewalks of both 35th Street (near the northeastern corner of the site) and San Pablo Avenue (near the southern edge of the property). Two cable television utility vaults are located in the sidewalk of 35th Street near the northwest corner of the property.

City of Oakland engineering maps of the area indicate that the sanitary sewer lines are typically buried at approximately 6 to 7 fbg and that the flow-line elevation of the sanitary sewer line beneath 35th Street ranges from 23.82 to 25.22 feet above mean sea level (amsl). Storm drains in the area are typically buried at approximately 7 to 9 fbg, and the flow-line elevation of the storm drain beneath San Pablo Avenue is approximately 21 feet amsl. The exact depths to water mains were not available, but according to EBMUD, the lines are typically buried 8 fbg to the top of the pipe. Based on this information, the back-filled trenches of the sanitary sewer, storm drain, and water lines are likely to be deeper at times than the groundwater surface and may potentially affect groundwater flow.

Cambria's *Second Quarter 2001 Monitoring Report* included an SCM which summarized the environmental conditions and findings of the well survey and conduit study.

2002 Off-Site Well Installation Attempt: Cambria's March 6, 2002 *Well Installation Work Plan* proposed installing an off-site monitoring well to 20 fbg in the San Pablo Avenue median strip to further define the extent of methyl tertiary butyl ether (MTBE) at the site. On October 24, 2002, Cambria attempted to install the well within San Pablo Avenue opposite the southerly site property line. A concrete road base was encountered, and Cambria could not complete the well installation. Cambria contacted the City of Oakland Department of Public Works for more information about the street construction of the concrete road base. Due to safety considerations, Cambria did not make an additional attempt to install this well through the concrete road base. Cambria's *First Quarter 2003 Monitoring Report* discusses the attempted well installation effort.

2004 Agency Response Letter: In an April 12, 2004 *Agency Response* letter, Cambria responded to comments included in ACHCSA's March 9, 2004 letter to Shell. The letter requested that a feasibility study and corrective action plan (FS/CAP) be prepared for this site, and requested response to five technical comments. Shell and Cambria agreed that the Shell site's environmental status should be reviewed. However, Cambria recommended that prior to preparing an FS/CAP, a revised SCM (to update the 2001 SCM) should be developed and validated to formulate an appropriate plan for achieving closure.

In the response, Cambria responded to five technical comments (in italics below) as follows:

1. *Although free product is observed only in MW-6R, elevated dissolved TPHg, BTEX and MTBE is present site-wide and has migrated off-site. Free product has been observed in MW-1, MW-5, and MW-7 in the past. The site has been monitored since 1991 and dissolved TPHg concentrations remain elevated in the higher impacted wells. This is indicative of a continuing on-going release and/or the lack of natural bio-degradation.*

   SPH was observed recently only in MW-6R. SPH has previously been noted in wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-6R, and MW-7. Prior to July 2003, SPH had not been observed at the site since 1997. From 1991 to 1997, SPH was observed much more frequently. Soil excavation and some groundwater pumping occurred during the 1995 and 1997 UST removals and 1998 site construction work. SPH removal by skimming and bailing has been conducted. It appears that these activities have greatly reduced the extent of SPH at the site. In comparison to prior conditions, the current presence of SPH at the site is of very limited extent and appears only infrequently. Therefore, it appears that an ongoing release is not occurring, and that SPH removal and natural processes have significantly reduced the amount of SPH present.

   TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX), and MTBE are currently detected across the site, and in two off-site monitoring wells. However, a cursory review of groundwater monitoring data indicates that current concentrations are greatly reduced in comparison to past concentrations. Although concentrations have not yet reached non-detectable levels, these monitoring results indicate that that an ongoing release is not occurring, and that natural processes are continuing to reduce the concentrations of dissolved hydrocarbons in groundwater.

2. *The extent of the petroleum release has not been determined either laterally or vertically. Off-site wells MW-9 and MW-10 recently detect up to 7,100 ppb TPHg, 20 ppb benzene, and 180 ppb MTBE. MW-5, located within twenty feet of the former Thrifty Oil (current ARCO) service station, reported 7,500 ppb TPHg and 63 ppb MTBE in the 4th Quarter 2003 QMR. It is likely that the plumes from these two sites have commingled. It is recommended that these sites co-ordinate sampling events and provide cross-sectional plots including both sites.*

   Cambria and Shell believe that sufficient lateral definition of petroleum hydrocarbons in soil and groundwater has been achieved north and west of the site, given the physical constraints (streets and elevated freeway) present. Monitoring results from wells MW-9 and MW-10 have shown overall decreasing concentrations of TPHg, BTEX, and MTBE. However, in the proposed SCM, Cambria will review the site data to determine if lateral definition in these directions is adequate.

   Previously, investigations to 32 feet below ground surface (bgs) have been conducted. No indication of hydrocarbon impacts to soil or groundwater or the existence of a separate water bearing zone below 32 ft bgs has been indicated. However, Cambria will review the adequacy of previous investigation data in the proposed SCM.

   Cambria and Shell agree that it is possible that hydrocarbon plumes from the Shell site and former Thrifty Oil sites have commingled. The second quarter 2004 monitoring event was conducted on April 1, 2004. Therefore, Shell and Cambria will attempt to coordinate monitoring and sampling during the third quarter event and exchange monitoring data with Thrifty Oil. The data will be included in the SCM. When sufficient information is obtained, a cross section will be developed and presented.

3. *Historic remediation at the sites has only consisted of free product removal, by bailing and skimmers, and the former UST removals. The 1994 SVE test concluded that this remediation method appears to be a viable approach and vapor extraction piping was installed beneath the onsite building for future potential use.*

   SPH removal by skimming and bailing has been conducted, and soil was excavated during UST and dispenser removals and replacements and during building construction. Despite some hydrocarbon removal achieved during testing, WA's 1993 SVE testing at the site found that vapor flow rates would be limited by groundwater upwelling in the extraction wells as a result of the applied vacuum. However, if remediation were determined to be necessary, Cambria believes SVE is unlikely to be selected as the remedial option in a FS/CAP. Boring

logs from the Shell site indicate that unsaturated soils consist primarily of silty clays, and the depth to water is very shallow, ranging from 1.6 ft bgs to 13 ft bgs. These conditions do not favor remediation by SVE. However, if remediation is determined to be necessary, all potential remedial options will be considered in a FS/CAP.

Perforated piping was installed underneath the building constructed in 1998 at the site as a precautionary measure, per Cambria's February 6, 1998 *Vapor Extraction Piping Installation* letter. The 1998 RBCA analysis was subsequently conducted, and it did not indicate the need for either active site remediation or for sub-slab ventilation to protect building occupants. The purpose of the plastic vapor extraction piping was to give Shell a method to remove any hydrocarbon vapors that may accumulate beneath the building, should that be necessary. The sub-slab vapor extraction piping is not suitably installed for soil remediation.

4. *The July 2001 Sensitive Receptor and Utilities Survey concluded that utilities within San Pablo Ave. could be acting as preferential pathways, however, no further investigation was proposed. We recommend that you review results from investigations of the 3400 San Pablo Ave. site, to help determine is additional investigation is warranted. The presence of 7,100 ppb TPHg in MW-10 recently, indicates that the utilities are not effectively controlling plume migration.*

   The identified utilities are installed at depths below the groundwater table, and, depending on groundwater flow direction, could act as preferential pathways for groundwater flow and chemical migration. Shell and Cambria agree that the utilities are not effectively controlling plume migration. However, Cambria did not intend to suggest that the utilities would effectively control plume migration. At the time of the utility survey, Cambria did not believe that site conditions, as based upon the prior RBCA analysis and SCM, warranted further investigation of the utilities as preferential pathways for groundwater flow or chemical migration. However, additional off-site investigation in San Pablo Avenue was proposed in Cambria's March 6, 2002 *Well Installation Work Plan,* to further define MTBE in groundwater near these utilities. Cambria attempted to drill in several locations; however, drilling encountered impenetrable concrete. Cambria attempted to obtain additional street construction information from the City of Oakland Public Works department, but no additional information could be obtained. Due to safety concerns, Cambria abandoned further drilling attempts in this location.

5. *As an interim RAP* (Remedial Action Plan), *our office concurs with your proposal to perform groundwater extraction from the site prior to the next sampling event. We recommend extraction from all elevated TPH impacted wells and consider additional extraction events based upon your future monitoring results.*

Cambria directed one vacuum-truck groundwater extraction event from well MW-6R prior to the first quarter 2004 monitoring event to address the SPH detected. No SPH has been found during subsequent monitoring events. The results are reported in the groundwater monitoring reports. At this time, we believe groundwater conditions do not warrant additional groundwater extraction events; however, this will be evaluated and considered in the revised SCM.

2004 File Reviews and Requests for Thrifty Records: Prior to receiving the April 12, 2004 ACHCSA letter, Cambria had completed a cursory file review of ACHCSA's records for the former Thrifty Oil site on November 20, 2003. Cambria had also reviewed data available from the Geotracker website. From the ACHCSA records reviewed at the time, it appeared that Thrifty had recently completed some investigation work. Cambria's review of the Geotracker website indicated that only groundwater monitoring and limited soil analytical data were available for the former Thrifty Oil site. Since Cambria believed it was necessary to include the most current Thrifty site data in the SCM, on May 14, 2004 Cambria requested that Thrifty Oil provide copies of reports, including well survey data, current site maps, cumulative soil and groundwater data, and soil boring and well construction logs. After multiple requests, Thrifty told Cambria that they would provide copies of the requested information. Thrifty provided groundwater monitoring water level and chemical concentration data dating back to 1992; however, after further repeated requests, Thrifty stated they would be unable to provide any additional data. Therefore, Cambria conducted a more detailed ACHCSA file review on August 19, 2004 to obtain the additional information contained in this report.

2004 Revised Well Survey and SRS: In 2004, an SRS was conducted to update Cambria's previously completed 2001 SRS. Four possible receptor wells within a ½-half mile radius of the subject site were identified through the DWR records. Details of well survey results are summarized below, tabulated in Table 4, and illustrated on Figure 1. The closest identified well to the site is Well 1, a 97-foot-deep well of unknown use located approximately 700 feet west and cross-gradient of the site. As stated above, in January 2002, a representative for the property owner indicated to Cambria that the well had not been used in decades and was scheduled for destruction. The site where the well was located, the former City of Paris Cleaners at 3516 Adeline Street, is also an open Leaking Underground Fuel Tank site overseen by ACHCSA.

The other closest identified down-gradient well to the site is Well 4, a 215-foot-deep well of unknown use or ownership, located approximately 2,500 feet to the southwest. Site inspection of the approximate location in 2004 indicated three vacant lots and one unidentified building. Well 2 was a 108-foot well of unknown use, reportedly originally owned by a bakery, located approximately 2,000 feet to the northwest and upgradient of the site. Well 3 is a 510-foot well of

unknown use, reportedly originally owned by a laundry. The exact location of Well 1 is uncertain due to incomplete records, but it is believed to be located upgradient of the site, about 2,000 feet to the north-northwest.

From this revised well survey and SRS, Cambria concludes that there are no known groundwater production wells or known shallow or deep groundwater users within ½ mile of the site.

Groundwater Monitoring: Groundwater monitoring has been conducted at the site since 1991. Attachment B summarizes cumulative groundwater monitoring data. The highest TPHg, benzene and MTBE concentrations detected in groundwater monitoring samples collected at the site were 2,700,000 parts per billion (ppb), 15,000 ppb, and 50,000 ppb, respectively. Monitoring results for the third quarter 2005 indicate that the current highest TPHg, benzene, and MTBE concentrations in site monitoring wells are 35,000, 3,900, and 660 ppb, respectively. Figure 3 shows the third quarter 2005 monitoring data and groundwater elevation contours.

THRIFTY SITE SUMMARY

The adjacent former Thrifty site, at the corner of San Pablo Avenue and 34th Street, in Oakland, California, has been under investigation since 1986. Presently, this site is an active Arco-branded service station.

As with the former Shell site, the available boring logs indicate that the Thrifty site is underlain primarily by silty clay, sandy clay, and gravelly sand to the total explored depth of 15 fbg. Figures 4 through 6 present cross-sections of the site to illustrate the subsurface lithology and groundwater elevation.

Based on documents available to Cambria, the following provides a brief summary of environmental investigations and related activities conducted at the former Thrifty site:

- Groundwater Technology, Inc. prepared an August 1986 *Site Assessment Investigation Report* for ARCO. Three groundwater monitoring wells (MW-1 to MW-3) and three soil borings (SB-1 to SB-3) were installed on July 31, 1986. Groundwater samples were collected. Attachment C presents Thrifty boring logs, and Attachment D summarizes Thrifty groundwater data since 1992.
- Woodward Clyde Consultants (WCC) prepared a December 1986 *Subsurface Assessment.* In November 1986, four monitoring wells (MW-4 to MW-7) were installed, and soil and groundwater samples were collected.
- In February 1987, WCC submitted *Proposal for Remediation* to ACHCSA.

- In August 1987, WCC began weekly free product bailing.
- In August 1987, WCC submitted a proposal for a two-phase recovery system to ACHCSA.
- In September 1987, Hydrotech Consultants, Inc. prepared a *Limited Subsurface Investigation.* Five soil borings (B-1 to B-5) were advanced, and soil samples were collected.
- WCC prepared *Progress Report on Well Monitoring and Product Recovery at Station #49* which documented monitoring of wells MW-1 through MW-4 and periodic free-product removal by manual bailing from 1987 through 1988.
- In April 1989, WCC prepared the *Work Plan for Groundwater Remediation.* Groundwater recovery using a single extraction well with a two-phase pump to remove both floating product and contaminated groundwater was proposed to ACHCSA.
- In July 1989, ACHCSA approved the WCC remediation plan.
- In April 1991, a groundwater extraction system was installed and began operation.
- In December 1997, Pacific Environmental Group (PEG) prepared *Baselining Subsurface Investigation Report.* During June 1997, PEG collected 10 soil samples beneath fuel dispensers and advanced 10 soil borings in the vicinity of the USTs and dispenser islands.
- In August 1998, PEG prepared *Underground Storage Tank Removal Report.* Four single-walled steel and fiberglass USTs o 8,000- and 10,000-gallon capacity were removed, and soil samples collected. Two double-walled 10,000-gallon capacity USTs were installed. Approximately 1,093 tons of soil were excavated.
- In December 2002, Thrifty submitted a *Work Plan for Site Assessment and Remedial System Upgrade.*
- In December 2002, ACHCSA requested an addendum to Thrifty's December 2002 work plan.
- In February 2003, Thrifty submitted an *Addendum to Workplan for Additional Site Assessment and Remedial System Upgrade.*
- In March 2003, Thrifty submitted the *1st Quarter 2003, Status Report* which documented groundwater monitoring results.
- In May 2003, ACHCSA approved Thrifty's request to connect MW-4 to the existing remediation system and to upgrade the remediation system. The letter reiterated ACHCSA's requests that Thrifty conduct a conduit and well study, and provide detailed geologic cross sections.
- In June 2003, ACHCSA required a conduit study and well survey.

- In August 2003, Thrifty requested to abandon and replace monitoring wells MW-2, MW-4, and RW due to screen biofouling. Three replacement wells (MW-2R, MW-4R, and RW-1R) were proposed. ACHCSA approved this request.
- In October 2003, Advanced GeoEnvironmental, Inc. reports results of a DWR well search and utility survey in *Ground Water Production Well and Utility Conduit Survey*.
- In March 2004, Thrifty transmitted soil and laboratory data for off-site soil borings, and groundwater data for replacement wells MW-2R, MW-4R, and RW-1R. Grab groundwater samples from MW-2R contained 52,200 ppb TPHg, 278 ppb benzene, and 7,880 ppb MTBE. Grab groundwater samples from MW-4R contained 36,400 ppb TPHg, 746 ppb benzene, and 6,720 ppb MTBE. Grab groundwater samples from RW-1R contained 49,300 ppb TPHg, 294 ppb benzene, and 5,650 ppb MTBE.
- In April 2004, Thrifty transmitted *1st Quarter 2004, Status Report* containing groundwater monitoring data collected by Earth Management Company and updating the status of off-site investigation and remediation system upgrades. In addition to the installation of wells MW-2R, MW-4R, and RW-1R, this report indicates that off-site borings B-1 through B-4 were installed. The groundwater extraction system was reported to be shut down for upgrades on April 4, 2003.
- In May 2004, Thrifty's *Workplan for Additional Offsite Assessment* proposed two off-site borings (SB-5 and SB-6), two off-site monitoring wells (MW-8 and MW-9), and one on-site monitoring well (MW-10). All borings were proposed to be advanced to 20 fbg, and the wells were proposed to be completed to approximately 18 fbg.
- In May 2004, an ACHCSA letter generally concurred with the Thrifty work plan, and requested that Thrifty address three technical comments. ACHCSA emphasized that vertical delineation of soil and groundwater contamination should be the goal of the proposed soil boring and monitoring wells. ACHCSA requested that five oxygenates be target analytes, and that ethylene dibromide be analyzed at least once in the highest impacted well. ACHCSA also commented that additional monitoring wells should be considered in the locations of SB-5 and SB-6 if significant contamination was found.

Quarterly Monitoring: Groundwater monitoring has been conducted at the site since 1986; however, Thrifty's groundwater monitoring data tables only include data since 1992. The highest TPHg, benzene, and MTBE concentrations detected in groundwater were 430,000 ppb, 9,000 ppb, and 77,000 ppb, respectively (Attachment D). Thrifty's monitoring results for the third quarter 2005 indicate that the current highest TPHg, benzene, and MTBE concentrations in site monitoring wells are 4,900 ppb, 392 ppb, and 742 ppb, respectively.

SCMS

Cambria has prepared SCMs for both the former Shell and the Thrifty sites. The Shell and Thrifty SCMs are provided in Attachments E and Attachment F, respectively, and are summarized below.

Conceptual Site Model for Former Shell Site

Cambria's prior SRS's for Shell have established that a) no surface water bodies are present within a 2,000-foot radius of the site, and b) that are no known shallow or deep groundwater users within ½ mile downgradient of the site. Thus, no human ingestion or direct exposure to impacted groundwater by contact or consumption is likely. No aquatic habitat exposure to groundwater by seepage or discharge to surface water within ½ mile downgradient of the site is likely. On-site land use is expected to remain as a gasoline service station, and off-site land use is expected to remain as mixed residential and commercial.

Depth to groundwater at the site has ranged from approximately 1.2 to 12.40 fbg since August 1991. Although the groundwater flow direction has been generally to the southwest, water levels in some wells appear to create divergent flow directions. Groundwater occasionally appears to flow away from a hydraulic mound near the center of the site. This may be due to local recharge from landscape irrigation, water leakage, or sanitary sewer or storm drain exfiltration.

The site is underlain primarily by silty clay, sandy clay, and gravelly sand to the total explored depth of 31.5 fbg.

Potential pathways for contaminant migration in groundwater include subsurface utilities. Cambria's 2001 utility survey indicated that San Pablo Avenue and 35th Street are underlain by electrical conduits, storm drains, water mains, and sanitary sewer lines. Based on their approximate depths, the trenches of the sanitary sewer, storm drain and water lines may at times be deeper than the groundwater surface and may affect groundwater flow. However, groundwater monitoring data does not indicate that preferential groundwater flow is occurring or that contaminants are migrating through preferential pathways.

Based on current and historic quarterly monitoring reports, BTEX and MTBE concentrations appear to be stable or decreasing. Currently, the area of greatest TPHg and BTEX impact to groundwater is near the northeastern portion of the site adjacent to 35th Street, while the area of greatest MTBE impact is between the USTs, dispensers, and San Pablo Avenue.

Soil and groundwater concentrations at the Shell site were previously evaluated in a RBCA assessment, and the results indicated acceptably low risks to the occupants under the current land-use scenario.

Conceptual Site Model of Thrifty Site

Groundwater flow directions have been variable, but groundwater generally flows to the west with an unreported hydraulic gradient. Depth to groundwater is approximately 5 fbg.

Soil at the site consists of alternating units of silty clay, clay, sandy clay, gravelly clay, and silty sand to the maximum explored depth of 25 fbg.

Thrifty's well survey reportedly identified the same wells as found in Cambria's surveys. No wells were verified in active use. No groundwater use is known in the area.

Based on available documents regarding historical investigations at the Thrifty site, the highest TPHg and benzene concentrations in on-site soils have been reported in the areas of the USTs. In March 1998, TPHg was detected in soil at a maximum concentration of 3,900 ppm at an unknown depth in sample P-4. In June 1997, benzene was detected at a maximum concentration of 12 ppm in boring MW-4 at 6.75 fbg. Prior to 1997 site characterizations, soils were not analyzed for MTBE. During 1997 dispenser and UST removal and sampling activities, MTBE was detected at a maximum concentration of 13 ppm. Soil sample locations are shown on Figure 2.

SPH has been reported in Thrifty wells MW-1 through MW-4. However, no SPH has been reported in the groundwater since April 1998.

The maximum benzene concentration in groundwater sampled at the site since 1992 was reported in July 1996 at 6,500 ppb in MW-2. The maximum benzene concentration at the site in July 2005 was reported to be 392 ppb in down-gradient well MW-2R. In general, BTEX concentrations have decreased since first discovery in 1986 (Attachment D).

As reported in July 2005 groundwater monitoring data, MTBE was reported at a maximum concentration of 1,280 ppb in well MW-4R.

CONCLUSIONS

Characterization of the lateral extent of hydrocarbon impacts to soil at the Shell site has been completed to the extent feasible. Characterization of the lateral extent of hydrocarbon impacts to groundwater at the Shell site has also been completed to the extent feasible. Although a depth-discrete groundwater investigation has not been conducted to profile the vertical extent of groundwater impacts, Cambria does not believe site conditions indicate a cause for vertical migration of hydrocarbons below the shallow groundwater zone.

Characterization of the lateral extent of hydrocarbon impacts to soil and groundwater at the Thrifty site appears to be ongoing. Although a depth-discrete groundwater investigation has not been conducted to profile the vertical extent of groundwater impacts, Cambria does not believe site conditions indicate a cause for vertical migration of hydrocarbons below the shallow groundwater zone.

TPHg, benzene, and MTBE concentrations in groundwater have generally decreased with time for both the former Shell and Thrifty sites. Evaluation of both the former Shell and Thrifty sites indicates that a localized groundwater mound or depression occasionally appears to exist on the former Shell site. The source of localized groundwater recharge is not known, but may result from landscape irrigation, water leaks, or exfiltration from sanitary sewers or storm drains. The cause of localized groundwater depression is not known.

Additionally, the northernmost Thrifty monitoring wells (MW-3, MW-6, and MW-7) did not have TPHg, benzene, or MTBE concentrations above the laboratory reporting limit in July 2005. During July 2005, the southeastern-most Shell monitoring well (MW-3R) did not contain detectable TPHg, benzene, or MTBE concentrations. Southernmost Shell well MW-5 contained 2,100 ppb TPHg, less than 1 ppb benzene, and 110 ppb MTBE. From these and past data, it does not appear that petroleum hydrocarbons are currently migrating or have previously migrated significantly from the former Shell site to the Thrifty site.

To date, the Thrifty wells do not appear to have been surveyed to a datum comparable to that used by Shell and in compliance with Geotracker requirements. Thus, no direct comparison of groundwater elevations and groundwater flow directions from the concurrent Shell and Thrifty gauging and monitoring events can be made.

Thrifty appears to possibly have conducted additional investigation and remediation since March 2004. Data for this work was neither available to Cambria during agency file reviews nor publicly available via the Geotracker website.

It does not appear that subsurface conduits are causing significant groundwater migration or are acting as significant preferential pathways for contaminant migration from the Shell site. Due to the lack of available data from Thrifty's off-site investigations, no conclusions can be made regarding off-site migration from the Thrifty site.

Environmental health risks to human receptors were previously evaluated for the Shell site in 1998, and were found to be acceptable for the current land use. Since that time, the accepted parameters and methods used in risk assessment for the chemicals of concern have changed, and the results of the 1998 RBCA analysis may no longer be applicable.

RECOMMENDATIONS

Cambria recommends the following:

- Shell continue joint groundwater monitoring with the adjacent Thrifty site;
- Thrifty survey its monitoring wells to a Geotracker acceptable datum;
- Shell investigate possible water leaks, landscape irrigation, sanitary sewer, and storm drains as sources of the observed periodic groundwater mounding;
- Shell complete a screening level risk evaluation of site soil and groundwater data against applicable San Francisco Bay Regional Water Quality Control Board's environmental screening levels and Oakland risk-based screening levels for appropriate potential exposure pathways;
- If the screening level risk evaluation indicates unacceptable soil or groundwater conditions at the Shell site, conduct a FS/CAP to establish appropriate cleanup levels and goals and to evaluate appropriate remedial alternatives; and
- If the screening level risk evaluation indicates acceptable risks to human health and the environment, discontinue groundwater monitoring and proceed with case closure.

CLOSING

Please call Ana Friel at (707) 2683812 if you have any questions or comments regarding this report.

Sincerely,
Cambria Environmental Technology, Inc.

for

Matthew W. Derby, P.E.
Senior Project Engineer

Figures:
1 - Vicinity/Sensitive Receptor Survey Map
2 - Site Plan with Geological Cross-Section Lines
3 - Groundwater Contour/Chemical Concentration Map – July 20, 2005
4 - Geologic Cross Section A-A'
5 - Geologic Cross Section B-B'
6 - Geologic Cross Section C-C'

Tables:
1 - Cumulative Soil Analytical Data – TPHg, BTEX, MTBE, 1,2-DCA, EDB and Total Lead
2 - Soil Analytical Data – Metals
3 - Separate-Phase Hydrocarbon Removal
4 -Well Survey Results

Attachments:
A - Shell Site Boring Logs
B - Blaine Third Quarter 2005 Groundwater Monitoring – Shell Site
C - Thrifty Site Boring Logs
D - Groundwater Monitoring and Oxygenates Data – Thrifty Site
E - Shell Conceptual Site Model
F - Thrifty Conceptual Site Model

cc: Denis Brown, Shell Oil Products US, 20945 S. Wilmington Avenue, Carson, CA 90810
Shahriar Almasi, Portola Valley Shell, 965 Laurel Glen Drive, Palo Alto, CA 94304
Mike Bowery, Thrifty Oil Co., 13116 Imperial Highway, Santa Fe Springs, CA 90670-0138

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08/11/05

EXPLANATION

- MW-1 — Monitoring well location (Shell)
- MW-3 — Destroyed monitoring well location
- P-1 — Soil sample location (6/97)
- B-1 — Soil boring location (5/89)
- MW-1 — Monitoring well location (Thrifty)
- RW-1R — Recovery well location (Thrifty)
- B-1 — Soil boring location (Thrifty)
- B-1 — Soil boring location (Thrifty, 9/87)
- SB1 — Soil boring location (Thrifty, 7/86)
- Storm drain line (SD)
- Sanitary Sewer line (SS)
- Water line (W)
- Overhead electrical line (OHE)
- Storm drain catch basin
- Fire hydrant (FH)
- Flow direction indicator
- Miscellaneous utility vault, as labeled

Site Plan with Geological Cross-Section Lines

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0 20 40 80

Scale (ft)

FIGURE

2

Shell-branded Service Station

3420 San Pablo Avenue
Oakland, California
Incident No.98995748

09-Sep-05

Groundwater Contour/Chemical Concentration Map

July 20, 2005

CAMBRIA

EXPLANATION

- MW-1 — Monitoring well location (Shell)
- MW-3 — Destroyed monitoring well location
- P-1 — Soil sample location (6/97)
- B-1 — Soil boring location (5/89)
- MW-1 — Monitoring well location (Thrifty)
- RW-1R — Recovery well location (Thrifty)
- B-1 — Soil boring location (Thrifty)
- B-1 — Soil boring location (Thrifty, 9/87)
- SB1 — Soil boring location (Thrifty, 7/86)
- Storm drain line (SD)
- Sanitary Sewer line (SS)
- Water line (W)
- Overhead electrical line (OHE)
- Storm drain catch basin
- Fire hydrant (FH)
- Flow direction indicator
- Miscellaneous utility vault, as labeled
- Groundwater elevation contour in feet referenced to mean sea level (ft msl). Arrows indicate approximate groundwater flow direction.

25.63	Groundwater elevation in ft msl
(<0.50)	Benzene concentration in parts per billion (ppb)
(<0.50)	MTBE concentration in ppb
NS	Not surveyed

Note: Thrifty wells surveyed to an arbitrary value, 100' above msl.

Approximate hydraulic gradient = 0.04

INTERSTATE 580

35th STREET

34th STREET

SAN PABLO AVENUE

MW-11 25.68 (<0.50) (2.9)

MW-9 25.25 (<0.50) (45)

MW-6R 24.51 (640) (83)

MW-2 24.15 (3,900) (86)

MW-8 26.76 (2.0) (<0.50)

MW-7 25.02 (800) (660)

MW-4 23.53 (34) (280)

MW-10 22.93 (8.1) (35)

MW-1 25.82 (20) (110)

MW-3R 24.03 (<0.50) (2.9)

MW-5 25.67 (<1.0) (110)

Shell Station
3420 San Pablo

Former Thrifty #049
Current Arco Station
3400 San Pablo

former building

former dispenser island

former product line

former dispensers

Disp-1

Disp-2

P-1 P-2 P-3 P-4 P-5 P-6 P-7 P-8

B-1 B-2 B-3 B-4 B-5

TP-N TP-S

SB1 SB2 SB3

RW-1 RW-1R

MW-2R NS (392) (742)

MW-4R NS (251) (1,289)

MW-3 99.87 (<0.32) (<0.63)

MW-5 99.09 (<0.32) (274)

MW-7 99.22 (<0.32) (<0.63)

MW-1 94.61 (<0.32) (<0.63)

Existing USTs

Former USTs removed

Scale (ft)

0 20 40 80

FIGURE

3

Shell-branded Service Station

3420 San Pablo Ave.
Oakland, California

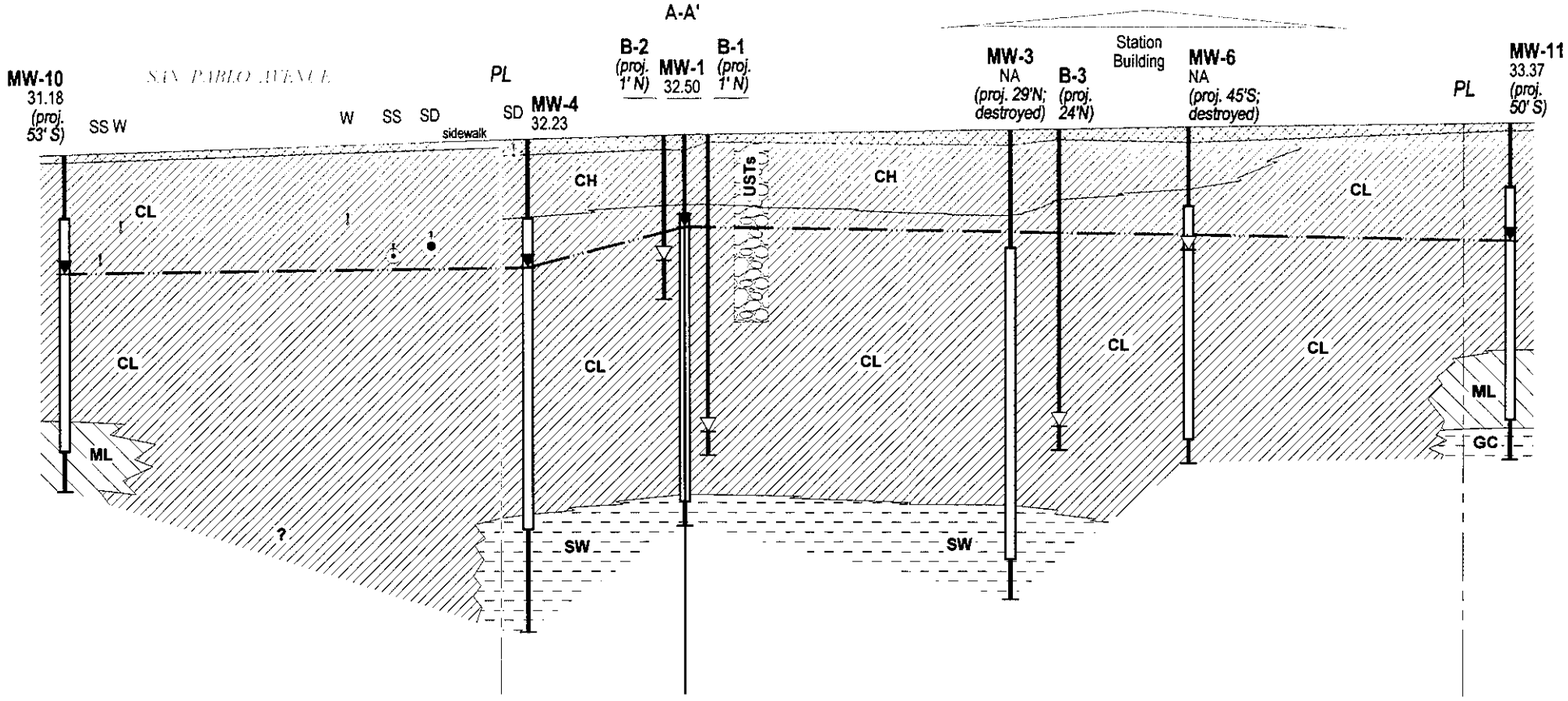
PATH

08/09/05

Geologic Cross Section B-B'

B West-Northwest — B' East-Southeast

A-A'

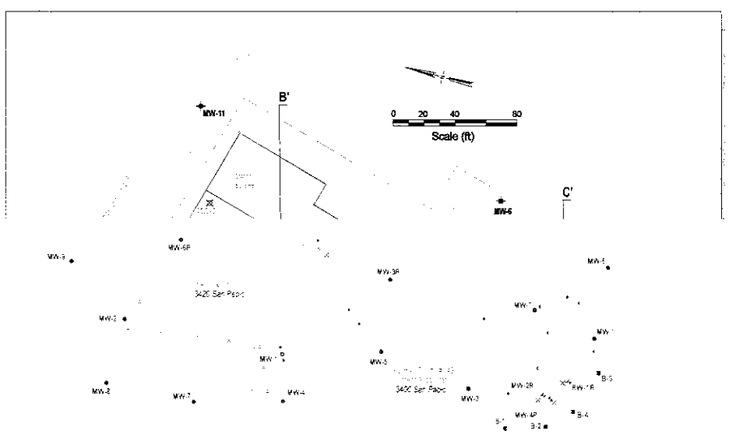


Elevation (in feet above mean sea level)

35, 30, 25, 20, 15, 10, 5, MSL, -5, -10, -15, -20

Depth (in feet below grade)

0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50



EXPLANATION

= Low Permeability Soils
- **CH** - Inorganic Clay
- **CL** - Clay
- **SC** - Clayey Sand

= Moderate Permeability Soils
- **ML** - Clayey Silt
- **SM** - Silty Sand

= High Permeability Soils
- **SP** - Poorly Graded Sand
- **SW** - Well Graded Sand
- **GC** - Gravels

= Fill (Tank Pit)

Well ID — Well Designation
Elev. — Top of Well Vault Elevation
NS — Not surveyed

Groundwater Monitoring Well
Well Screen Interval
Bottom of boring
Groundwater Table
Initial Groundwater level
Depth of Groundwater - 7/21/2004

10
Scale (ft)
0 30

FIGURE
5

Shell-branded Service Station
3420 San Pablo Avenue
Oakland, California

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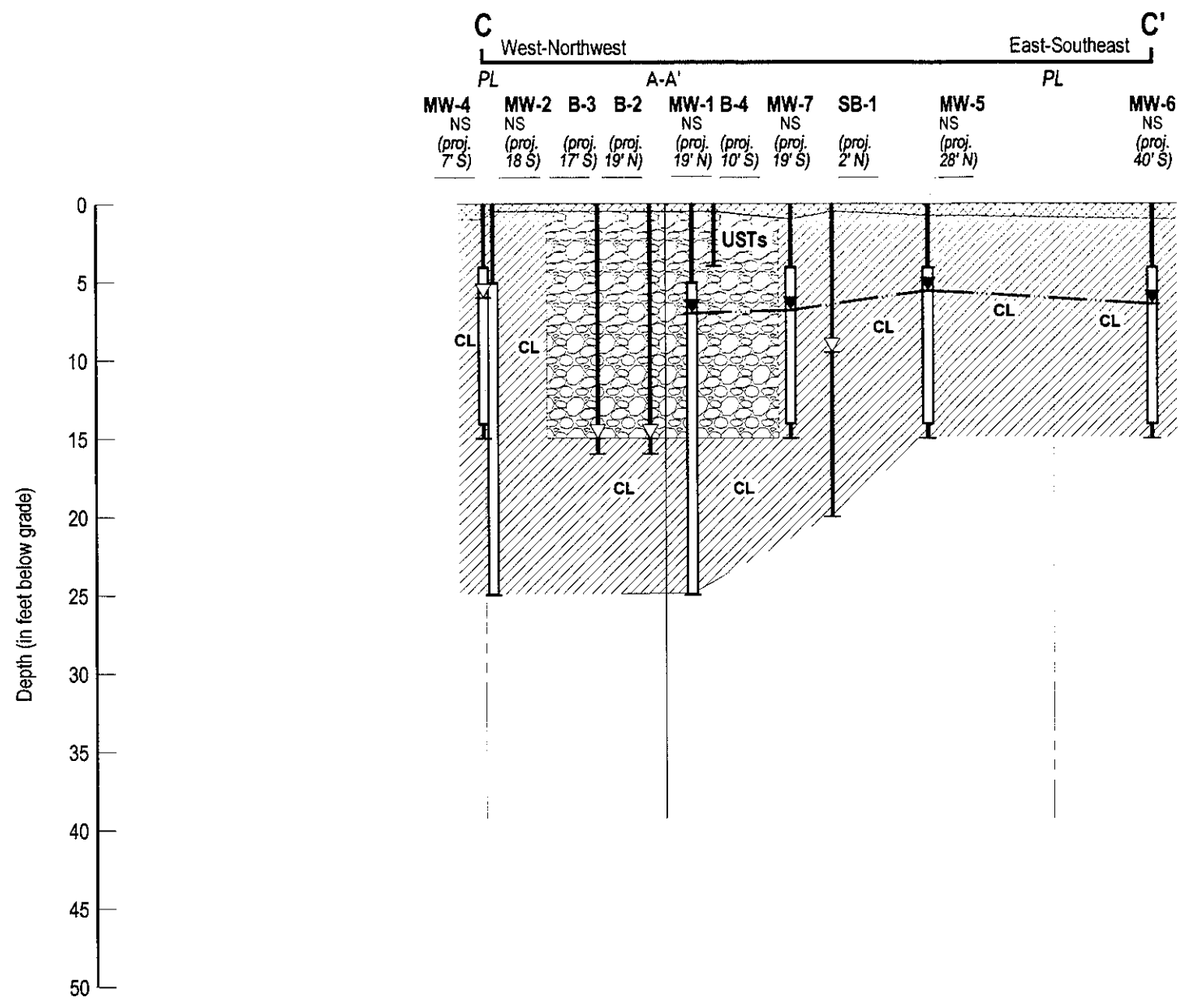
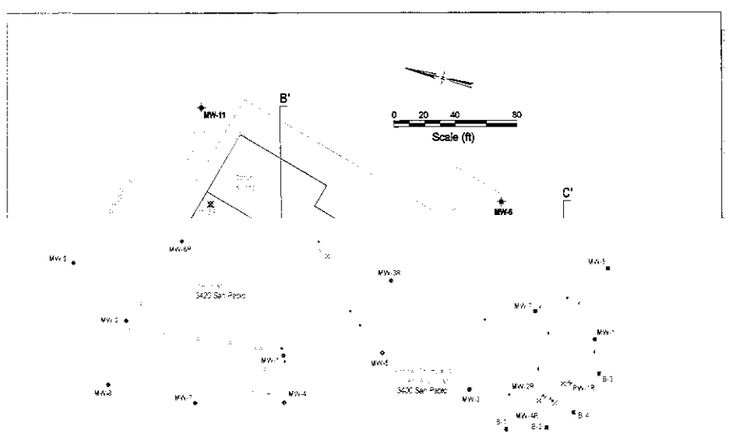
08/18/05

Geologic Cross Section C-C'





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Well Screen Interval
Bottom of boring
Groundwater Table
Initial Groundwater level
Depth of Groundwater - 7/21/2004

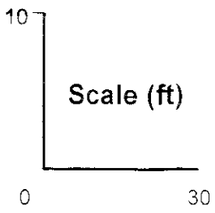
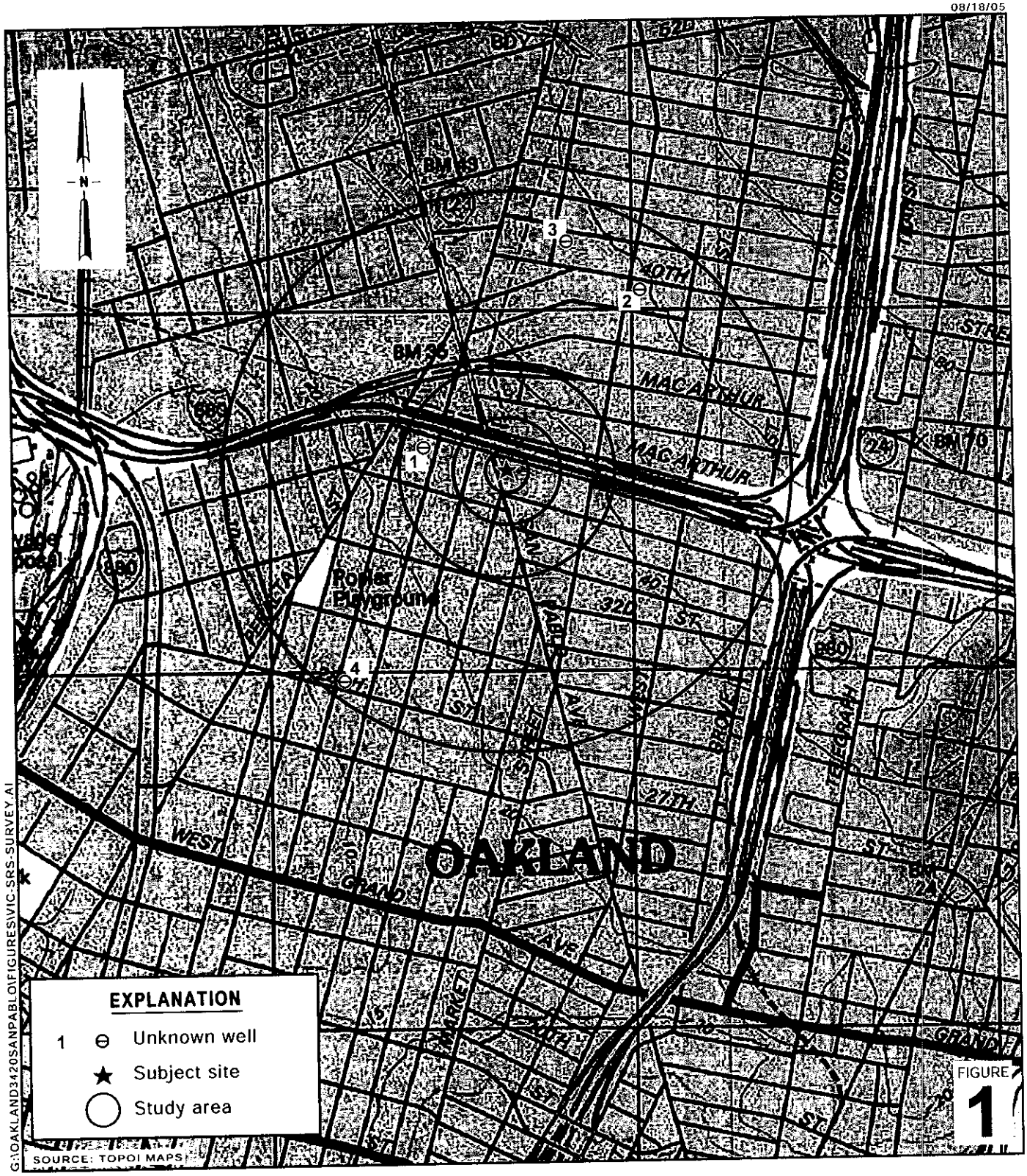


FIGURE
6

Shell-branded Service Station
3420 San Pablo Avenue
Oakland, California

CAMBRIA

08/18/05



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0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Shell-branded Service Station
3420 San Pablo Avenue
Oakland, California
Incident No.98995748

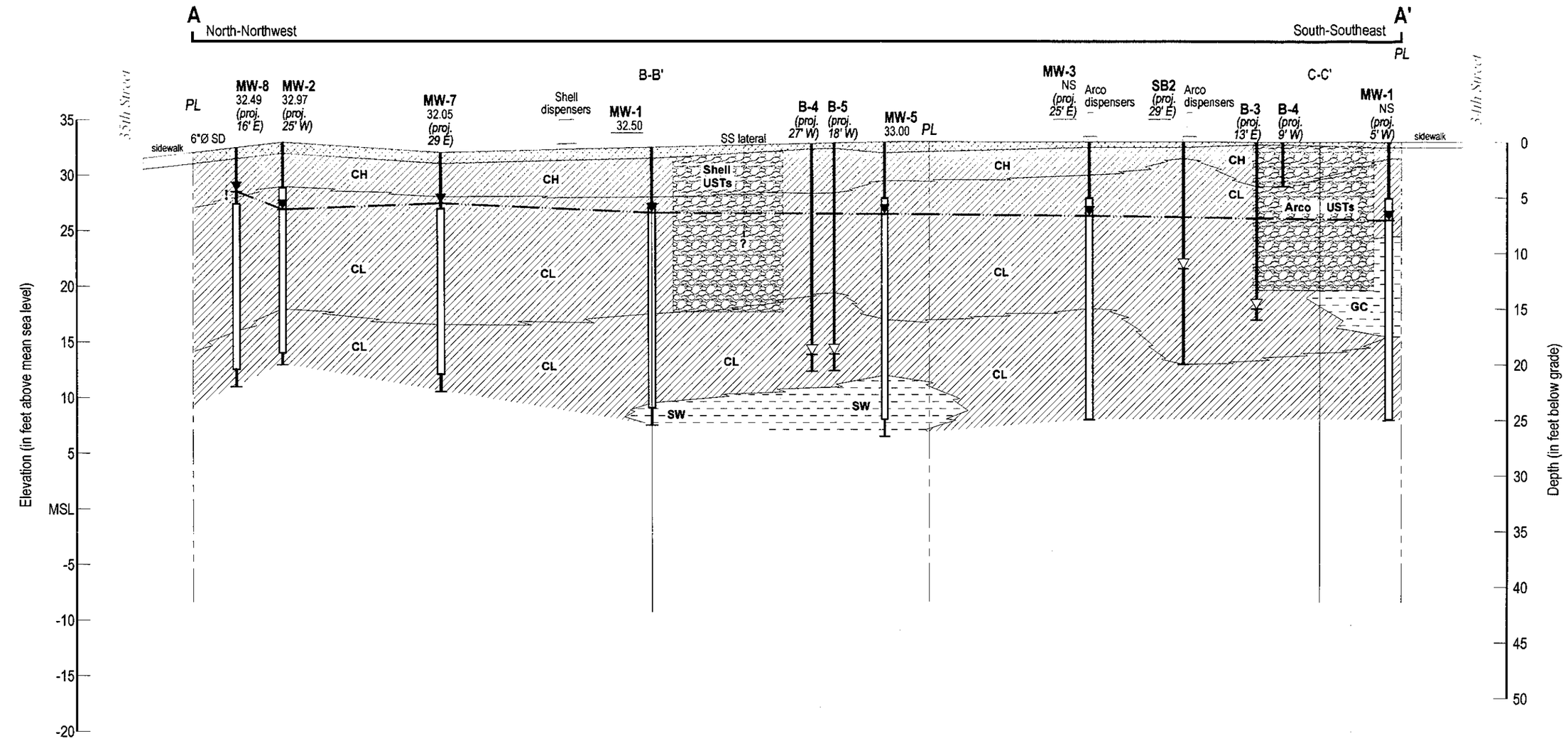
CAMBRIA

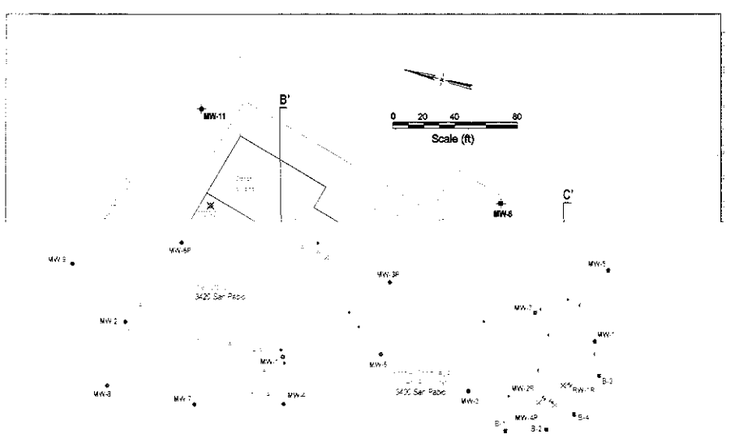
Vicinity/Sensitive Receptor Survey Map

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

08/09/05

Geologic Cross Section A-A'





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Groundwater Monitoring Well
Well Screen Interval
Bottom of boring
Groundwater Table
Initial Groundwater level
Depth of Groundwater - 7/21/2004

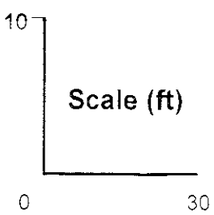


FIGURE
4

Shell-branded Service Station
3420 San Pablo Avenue
Oakland, California

CAMBRIA

Table 1. **Cumulative Soil Analytical Data - TPHg, BTEX, MTBE, 1,2-DCA, EDB and Total Lead**
- Former Shell Service Station, 3420 San Pablo Avenue, Oakland, California, Incident #98995748.

Date Drilled	Boring ID	Sample ID	Sample Depth fbg	TPH-g	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	1,2-DCA	EDB	Total Lead
				←				ppm				→
8/8/88	B-1	B-1-1	5 - 5.5	**1,400**	**1.9**	**42**	**43**	**120**	--	--	--	
8/8/88	B-1	B-1-2	9.5 - 10	80	--	--	--	--	--	--	--	
8/8/88	B-1	B-1-3	15 - 15.5	<5.0	--	--	--	--	--	--	--	
8/8/88	B-1	B-1-4	20 - 20.5	<5.0						--	--	
8/8/88	B-2	B-2-1	5 - 5.5	**550**	**1.5**	**16**	**35**	**33**	--	--	--	
8/8/88	B-2	B-2-2	10 - 10.5	**580**	**0.7**	**3.3**	**7.8**	**48**	--	--	--	
8/8/88	B-3	B-3-1-2-3 composite	5, 10, and 15	<5.0	--	--	--	--	--	--	--	
8/8/88	B-4	B-4-1-2-3 composite	5, 10, and 15	<5.0	--	--	--	--	--	--	--	
8/8/88	B-5	B-5-1-2-3 composite	5, 10, and 15	<5.0	--	--	--	--	--	--	--	
4/10/89	MW-1	MW-1-1	5.5 - 6	**850**	**1.2**	**14**	**19**	**100**	--	<0.2	<0.2	4
4/10/89	MW-1	MW-1-2	10.5 - 11	**80**	<0.05	**1.9**	**1.9**	**16**	--	<0.5	<0.5	3
4/10/89	MW-2	MW-2-2	10.5 - 11	**70**	**0.4**	**1.5**	**1.7**	**1.5**	--	<0.2	<0.2	8
4/10/89	MW-3	MW-3-2	10.5 - 11	<0.2	<0.002	**0.010**	**0.008**	**0.069**	--	<0.002	<0.002	3
4/10/89	MW-4	MW-4-2	10.5 - 11	<0.2	<0.002	**0.005**	**0.004**	**0.031**	--	<0.002	<0.002	2
1/19/90	MW-5	MW-5-1	5.5 - 6	**5.0**	ND	ND	ND	ND	--	--	--	--
1/19/90	MW-6	MW-6-1	5.5 - 6	ND	ND	ND	ND	ND	--	--	--	--
1/19/90	MW-7	MW-7-1	5.5 - 6	**14**	**0.078**	ND	**0.21**	ND	--	--	--	--
1/18/90	MW-8	MW-8-1	5.5 - 6	ND	ND	ND	ND	ND	--	--	--	--
1/18/90	MW-9	MW-9-2	10.5 - 11	**6.1**	ND	ND	**0.39**	**0.14**	--	--	--	--
10/23/91	MW-10	MW-10-1	5	**1.4**	**0.015**	**0.006**	**0.010**	**0.008**	--	--	--	--
10/23/91	MW-10	MW-10-2	10	**1.8**	**0.06**	<0.0050	**0.027**	**0.0070**	--	--	--	--
10/23/91	MW-11	MW-11-1	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--
10/23/91	MW-11	MW-11-2	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--
6/26/97	Disp-1-2.5	Disp-1-2.5	2.5	**8.4**	**0.054**	**0.046**	**0.0094**	**0.21**	**1.6**	--	--	--
6/26/97	Disp-2-2.0	Disp-2-2.0	2	**51**	**0.075**	**1.6**	**0.38**	**1.6**	**7.9**	--	--	--
6/26/97	TP-N-7	TP-N-7	NA	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	--	--	--
6/26/97	TP-S-7	TP-S-7	NA	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	--	--	--
6/26/97	P-1-2.5	P-1-2.5	2.5	**39**	**0.13**	**0.051**	**0.012**	**0.032**	**0.82**	--	--	--
6/26/97	P-2-2.5	P-2-2.5	2.5	**17**	**0.035**	**0.079**	**0.063**	**0.11**	**0.33**	--	--	--
6/26/97	P-3-2.5	P-3-2.5	2.5	**16**	**0.028**	**0.059**	**0.019**	**0.026**	**0.092**	--	--	--
6/26/97	P-4-4.0	P-4-4.0	4	**19**	**0.041**	**0.053**	<0.010	**0.078**	<0.050	--	--	--

Table 1. **Cumulative Soil Analytical Data - TPHg, BTEX, MTBE, 1,2-DCA, EDB and Total Lead**
- Former Shell Service Station, 3420 San Pablo Avenue, Oakland, California, Incident #98995748.

Date Drilled	Boring ID	Sample ID	Sample Depth fbg	TPH-g	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	1,2-DCA	EDB	Total Lead
				←				ppm				→
6/26/97	P-5-4.0	P-5-4.0	4	**3.1**	**0.016**	**0.0054**	<0.0050	**0.018**	**0.028**	--	--	--
6/26/97	P-6-2.5	P-6-2.5	2.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	--	--	--
6/26/97	P-7-2.0	P-7-2.0	2	**4.5**	**0.040**	**0.0097**	**0.0095**	**0.053**	<0.025	--	--	--
6/26/97	P-8-2.5	P-8-2.5	2.5	**120**	<0.12	**0.43**	**0.33**	**0.42**	<0.62	--	--	--
6/18/98	MW-3R	**No samples submitted for analysis**										
6/18/98	MW-6R	**No samples submitted for analysis**										

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015M

BTEX = Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

MTBE = Methyl tert butyl ether analyzed by EPA Method 8020

NA = Not applicable

NR = Not reported

ND = Not Detected (reporting limit not reported)

-- = Not analyzed

* = Composite sample

fgb = Feet below grade

ppm = Parts per million, equivalent to mg/kg.

<n = Below laboratory reporting limit of n ppm.

Table 2. Soil Analytic Data - Total Metals - Former Shell Service Station, 3240 San Pablo Avenue, Oakland, California, Incident #98995748

Sample ID	Sample Location	Date Sampled	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
Disp-1-2.5	Dispensers	6/26/1997	---	---	5.8	---	---
Disp-2-2.0	Dispensers	6/26/1997	---	---	9.6	---	---
TP-N-7	Waste Oil Tank Pit	6/26/1997	<0.5	18	<5.0	14	16
TP-S-7	Waste Oil Tank Pit	6/26/1997	<0.5	38	6.4	34	33
P-1-2.5	Product Lines	6/26/1997	---	---	7.4	---	---
P-2-2.5	Product Lines	6/26/1997	---	---	7.4	---	---
P-3-2.5	Product Lines	6/26/1997	---	---	6.9	---	---
P-4-4.0	Product Lines	6/26/1997	---	---	7.4	---	---
P-5-4.0	Product Lines	6/26/1997	---	---	7.4	---	---
P-6-2.5	Product Lines	6/26/1997	---	---	33	---	---
P-7-2.0	Product Lines	6/26/1997	---	---	2,000	---	---
P-8-2.5	Product Lines	6/26/1997	---	---	8.2	---	---

Abbreviations and Notes:
Total Metals by EPA Method 6010
mg/kg = milligrams per kilogram
<n = Below detection limit of n mg/kg
--- = Not Analyzed

Table 3. **Separate-Phase Hydrocarbon Removal** – Former Shell-branded Service Station, 3420 San Pablo Avenue, Oakland, California Incident # 98995748

Well ID	Date	Separate-Phase Hydrocarbon Thickness (ft)	Separate-Phase Hydrocarbons Removed (lbs)	Cumulative Separate-Phase Hydrocarbons Removed (lbs)
MW-1	10/23/91	0.01	---	---
	05/04/92	<0.01	---	---
	10/12/92	0.09	---	---
	01/12/93	0.02	3.12	3.12
	04/06/93	<0.01	0.78	3.90
	07/12/93	0.01	0.18	4.08
	10/13/93	0.01	0.06	4.14
	01/20/94	0.01	0.03	4.17
	04/03/94	0.02	0.12	4.29
MW-2	10/12/92	0.03	---	---
	01/12/93	0.01	1.56	1.56
	04/06/93	<0.01	0.78	2.34
	04/03/94	<0.01	0.03	2.37
MW-4	10/12/92	0.78	---	---
	01/12/93	1.0	---	---
	04/06/93	0.95	---	---
	07/12/93	0.03	6.36	6.36
	10/13/93	0.12	0.78	7.14
	01/20/94	0.02	0.03	7.17
	04/13/94	0.01	0.12	7.29
	10/27/94	0.03	0.79	8.08
	01/03/95	0.01	0.16	8.24
	04/13/95	0.03	0.16	8.40
MW-5	10/12/92	0.01	---	---
	01/12/93	<0.01	---	---
	10/13/93	0.03	---	---
	01/20/94	0.01	---	---
	04/13/94	0.01	0.03	0.03
MW-6	10/12/92	0.48	---	---
	01/12/93	<0.01	---	---
	10/13/93	0.2	---	---
	01/20/94	0.02	---	---
	04/13/94	0.01	0.03	0.03
	07/19/94	0.07	0.03	0.06
	10/27/94	0.11	1.43	1.49
	01/03/95	0.02	0.12	1.61
	04/13/95	0.02	0.13	1.74

Table 3. **Separate-Phase Hydrocarbon Removal** – Shell-branded Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California (continued)

MW-7	01/20/94	0.05	---	---
	04/13/94	0.16	0.66	0.66
	07/19/94	0.20	0.04	0.70
	10/27/94	0.04	1.11	1.81
	01/03/95	0.02	0.16	1.97
	04/13/95	0.02	0.16	2.13
	10/31/95	0.04	0.80	2.93
	01/17/96	0.04	0.09	3.02
	04/10/96	0.05	---	3.02
	07/03/96	0.03	---	3.02
	10/17/96	0.02	0.16	3.18
	07/14/97	0.03	0.16	3.34
	10/08/97	0.01	---	3.34
	Total Separate-Phase Hydrocarbons Removed			**20.17**

Notes and Abbreviations:

ft = Feet
lbs = Pounds
--- = Not available
Weight of separate-phase hydrocarbons converted from volume using the relation: 1 liter gasoline = 1.61 pounds

Table 4. Well Survey Results - Shell-branded Service Station, 3420 San Pablo Avenue, Oakland, California. Incident # 98995748

Map ID	State Well ID	Owner Well ID	Distance from Site (feet)	Direction from Site	Well Use	Well Status	Installation Date	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)	Comments
1	1S4W-23M2 (01-745)	NA	671	W	UNK	DESTROYED	UNK	97	UNK	UNK	Planned for destruction in 2002, per property owner. Site is an open UST case. Well not observed. Location measured from street.
2	1S4W-23 (01-738)	NA	2,098	NE	UNK	UNK	1928	108	UNK	UNK	Closed bakery building at site. Well not observed. Location measured from street. Well not observed.
3	1S4W-23 (01-741)	NA	2,298	NNE	UNK	UNK	1926	510	UNK	UNK	Location measured at SE corner of intersection.
4	1S4W-27A (01-889)	NA	2,511	SW	UNK	UNK	UNK	215	UNK	UNK	Location measured at center of intersection. Well not observed. Three vacant lots and one unidentified building at intersection.

Notes and Abbreviations:

Well information provided by the California Department of Water Resources (DWR).

Map ID number refers to map location on Figure 1.

State Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California

Well locations are approximate and have not been field verified unless otherwise noted. The well locations are plotted on Figure 1 based on the information provided on the DWR form.

Well use is based on the information on the DWR form. This information may not be current. Unless otherwise noted, this information has not been confirmed by a field visit.

Monitoring wells were not included in the table or mapped.

fbg = feet below grade

AG = Agricultural

DOM = Domestic

GEO = Geotechnical

IND = Industrial

UNK = Unknown

NA = Not Available

C:\Documents and Settings\bcarter\Local Settings\Temp\[Table 4 3420 San Pablo Well Survey Table.xls]Well Survey Table

ATTACHMENT A

Shell Site Boring Logs

ensco environmental services, inc.

PROJECT NAME: SHELL STATION
3420 SAN PABLO AVE.
OAKLAND, CA

PROJECT NUMBER: 1859G

BORING NO. B-1

DATE DRILLED: 8/8/88

LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
				Asphalt - 2", baserock - 4"		
1-4			CL	SILTY CLAY, very dark gray (7.5YR 3/0), slight petroleum odor, moderately high plasticity, stiff, moist		
5	B-1-1	27	CH	SILTY CLAY, dark gray (10YR 4/1), some angular brown gravel sized fragments, petroleum odor, moderately high plasticity, very stiff, moist.		155
6-9			CL	SILTY CLAY, olive gray to gray (5Y 5/2 to 7.5Y 5/0), localized fine grained sands, some angular gravel up to 1.5" across, petroleum odor, moderate plasticity, very stiff, moist		
10	B-1-2	32				150
11-13						-
14			CL	SANDY CLAY, mottled browns (10YR 5/4 to 10YR 5/8),some fine to medium sands and angular, medium gravels, no petroleum odor, stiff, moist to very moist		
15	B-1-3	13				0
16-17						
18-19			CL	SILTY CLAY, mottled reddish yellow to light yellow (7.5YR 6/8 to 2.5Y 6/4), locally sandy areas, some gravels, no petroleum odor, very stiff, moist to very moist	▽	
				8/8/88, Groundwater encountered - 19 ft.		
20	B-1-4	32				0
21				Bottom of boring =20.5 feet		

SUPERVISED AND APPROVED BY R.G./C.E.G.

ensco environmental services, inc.

PROJECT NAME: SHELL STATION
3420 SAN PABLO AVE.
OAKLAND, CA

PROJECT NUMBER: 1859G

BORING NO. B-2

DATE DRILLED: 8/8/88

LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
				Asphalt - 2", baserock - 9"		
1-4			CH	SILTY CLAY, very dark gray (7.5 3/0), some fine grained sands and gravels, moderately high plasticity, petroleum odor, stiff, moist		
5-6	B-2-1	30	CL	SILTY CLAY to SANDY CLAY, gray (2.5Y 5/0), fine grained sands, some subangular gravels up to 0.5" across, petroleum odor, very stiff, moist		230
7-9			CL	SILTY CLAY, mottled light gray to grayish brown (7.5YR 6/0 to 10YR 5/2), some medium to coarse grained sands and gravels up to 0.5" across, petroleum odor, very stiff, moist	▽ 8/8/88, Groundwater encountered - 8 ft.	
10	B-2-2	30				210
11				Bottom of boring = 10.5 feet		
12-21						

SUPERVISED AND APPROVED BY R.G./C.E.G.

environmental services, inc.

3420 SAN PABLO AVE.
OAKLAND, CA

DATE DRILLED: 8/8/88

PROJECT NUMBER: 1859G

LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
				Asphalt - 2", baserock - 6"		
1-4			CH	SILTY CLAY, very dark gray (7.5YR 3/0), localized fine grained sands, no petroleum odor, moderately high plasticity, stiff, moist		
5	B-3-1	30	CH	SILTY CLAY, mottled strong brown to brownish yellow (7.5YR 6/6 to 7.5YR 6/5), localized fine grained sands and angular to subangular gravels up to 0.5" across, no petroleum odor, moderately high plasticity, very stiff, moist		0
6-9						
10	B-3-2	25				0
11-12						
13			CL	SANDY CLAY, mottled brownish yellow to yellowish brown (10YR 6/6 to 10YR 5/8), fine grained sands, no petroleum odor, stiff, moist to very moist		-
14						
15	B-3-3	16				
16						0
17-18			CL-SC	SANDY CLAY to CLAYEY SAND, mottled light gray to dark brown (10YR 7/1 to 10YR 3/8), fine grained sands up to 60%, no petroleum odor, stiff to medium dense, wet		
19				8/8/88, Groundwater encountered - 19 ft.	▽	
20	B-3-4	16				
21				Bottom of boring = 20.5 feet		0

SUPERVISED AND APPROVED BY R.G./C.E.G.

ensco environmental services, inc.

PROJECT NAME: SHELL STATION
3420 SAN PABLO AVE.
OAKLAND, CA

BORING NO: B-4

DATE DRILLED: 8/8/88

PROJECT NUMBER: 1859G

LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
				Asphalt - 2", baserock - 4"		
1-4			CH	SILTY CLAY, very dark gray (7.5YR 3/0), localized fine grained sands, no petroleum odor, moderately high plasticity, stiff, moist		
5-8	B-4-1	24	CL	SANDY CLAY, mottled gray to strong brown (7.5YR 5/0 to 7.5YR 5/6), fine to medium grained sands up to 40%, angular to subangular gravels up to 0.5" across, locally very sandy and gravelly, no petroleum odor, very stiff, moist		0
9-10	B-4-2	35	CL	SANDY CLAY, mottled brown to yellowish brown (10YR 5/3 to 10YR 5/6), fine grained sand, locally very sandy and very clayey, no petroleum odor, hard, moist		0
11-13						-
14				Localized very gravelly beds, very stiff		
15-16	B-4-3	18		Root holes containing free water		0
17-18						
19				8/8/88, Groundwater encountered - 19 ft.	▽	
20	B-4-4	30				0
21				Bottom of boring = 20.5 feet		

SUPERVISED AND APPROVED BY R.G./C.E.G.

ensco environmental services, inc.

PROJECT NAME: SHELL STATION
3420 SAN PABLO AVE.
OAKLAND, CA

BORING NO: B-5

DATE DRILLED: 8/8/88

PROJECT NUMBER: 1859G

LOGGED BY: RAG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
				Asphalt - 2", baserock - 4"		
1-4			CH	SILTY CLAY, very dark gray (7.5YR 3/0), localized fine grained sands, no petroleum odor, moderately high plasticity, stiff, moist		
5	B-5-1	28	CL	SANDY CLAY, mottled grayish brown to yellowish brown (10YR 5/2 to 10YR 5/6), fine to coarse sand up to 40%, locally abundant gravels up to 0.5" across, no petroleum odor, very stiff, moist		0
6-8						
9			CL	SANDY CLAY, mottled gray to brownish yellow (10YR 6/1 to 10YR 6/6), fine grained sands up to 30%, root holes, no petroleum odor, low plasticity, hard, moist		
10	B-5-2	38				0
11-13						-
14			CL	SANDY CLAY, mottled yellow browns (10YR 5/4 to 10YR 5/8), fine grained sands up to 40%, locally abundant gravels up to 0.5" across, no petroleum odor, stiff, moist to very moist, free water in root holes		
15	B-5-3	13				0
16-18						
19				8/8/88, Groundwater encountered - 19 ft.	▽	
20	B-5-4	23		Decreasing sand, very stiff		0
21				Bottom of boring = 20.5 feet		

SUPERVISED AND APPROVED BY R.G./C.E.G.

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-1	SHEET 1 OF 2
3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-55
	START: 8:00		COMPLETED: 4-11-89/10:30
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 100.00 (relative)		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLER NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE RECOV (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION INSTRUMENT: UNITS: Tip	GENERAL OBSERVATION NOTES Odor
					1	ASPHALT AND ROAD BASE		
					2	CLAY; very dark gray, highly plastic, slightly moist, no sand (CH)		
					3			
					4			
CA	MW1 1	9/ 12/ 15	5.0- 6.5	18	5	SANDY CLAY; dark greenish gray, moderately plastic, slightly moist, sand fine to coarse, some gravel toward the bottom of the unit (CL)	1100	Strong odor
					6			
					7			
					8			
					9			
CA	MW1 2	12/ 15/ 18	10.0- 11.5	18	10		375	Slight odor
					11			
					12			
					13			
					14			
CA	MW1 3	6/6/ 9	15.0- 16.5	17	15	SILTY CLAY; dark yellowish brown, moderately plastic, very moist, stiff, some gravel at the bottom of unit (CL)	30	Slight odor
					16			
					17			
					18			
					19			
CA	MW1 4	11/ 15/ 21	20.0- 21.5	15	20		3	Very slight odor
					21			
					22			
					23			

WATER LEVEL DATA				PROFESSIONAL GEOLOGIST
DATE				
TIME				SIGNATURE
GWL				
CASING DEPTH				TYPED NAME

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-1	SHEET 2 OF 2
3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-55
	START: 8:00/4-11-89		COMPLETED: 10:30/4-11-89
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 100.00 (relative)		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE REC'V (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: / UNITS: Tip	GENERAL OBSERVATION NOTES
CA	MW1 6	12/ 14/ 20	25.0- 26.5	6	25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	GRAVELLY SAND; brown, very coarse sand, saturated, gravel 1/2 inch to 1/4 inch, minor plastic fines (SW) Total Depth 25.0 feet	Lost sample	No odor

WATER LEVEL DATA			
DATE			
TIME			
GWL			
CASING DEPTH			

PROFESSIONAL GEOLOGIST

SIGNATURE

TYPED NAME

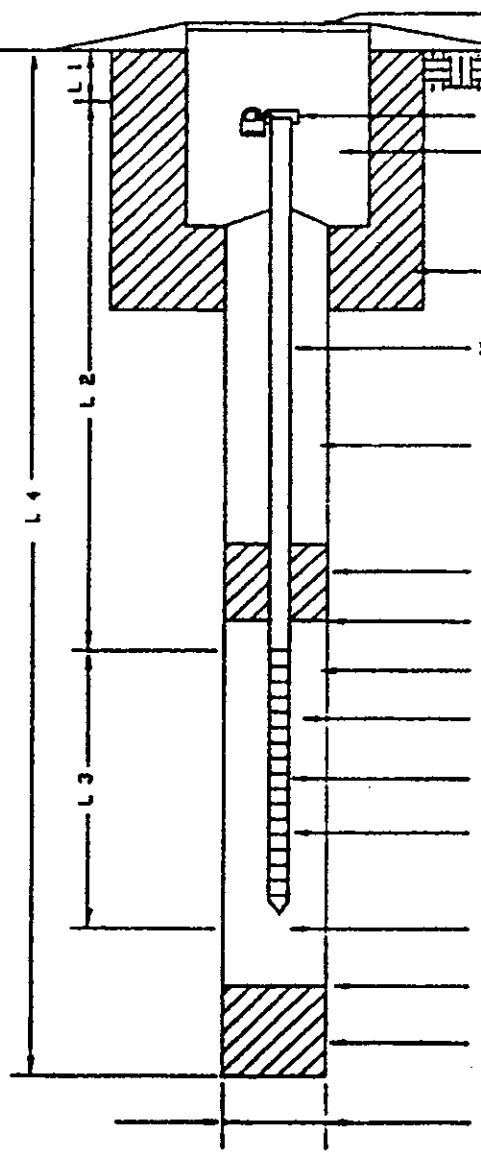
INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT Oakland Shell

DELTA NO. 40-88-666

MONITORING WELL NO. MW-1

ELEVATIONS: TOP OF RISER 100.0 relative
GROUND LEVEL _____



FLUSH GRADE WELL CONSTRUCTION DIAMETER AND MATERIAL	15-inch galvanized
TOTAL LENGTH	12 inches
LENGTH ABOVE GROUND	0 foot
THICKNESS AND TYPE OF SEAL	18 inches, concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4-inch PVC SCH 40 Flush-threaded
TYPE OF BACKFILL AROUND RISER	Concrete with 5% bentonite
THICKNESS AND TYPE OF SEAL	2 feet, bentonite pellets
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	2 feet
TYPE OF FILTER AROUND SCREEN	16/40 clementine
MONITORING WELL MATERIAL	PVC SCH 40
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inches 20 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	25 feet
DEPTH TO THE BOTTOM OF FILTER SAND	25 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25 FT.
L 2 = 5 FT.
L 3 = 20 FT.
L 4 = 25 FT.

INSTALLATION COMPLETED
DATE: 4-11-1989
TIME: 10:30

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
4-17-1989	13:25	6.30

* MEASURE POINT: Top of Casing

Delta Environmental Consultants, Inc.

1022 B/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-2	SHEET 1 OF 1
3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-55
	START: 8:00/4-10-89		COMPLETED: 9:45/4-10-89
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 100.29 (relative)		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT(ft)	SAMPLE RECOV(in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: UNITS: Tip	GENERAL OBSERVATION NOTES
					1	ASPHALT AND ROAD BASE		
					2	CLAY; very dark gray, highly plastic, slightly moist, no sand (CH)		
					3			
					4			
CA	MW2 1	6/ 19/ 19	5.0- 6.5	18	5	SANDY CLAY; dark greenish gray, moderately low plasticity, slightly moist, sand grades to gravel at bottom of the unit (CL)	25	Moderate odor
					6			
					7			
					8			
					9			
CA	MW2 2	9/ 10/ 14	10.0- 11.5	17	10		75	Moderate odor
					11			
					12			
					13			
					14			
CA	MW2 3	4/5/ 7	15.0- 16.5	16	15	SILTY CLAY; dark yellowish brown, moderately low plasticity, moist stiff gravel toward bottom of the unit (CL)	0	No odor
					16			
					17			
					18			
					19			
CA	MW2 4	12/ 26/ 35	20.0- 21.5	17	20	Total Depth 20.0 feet	0	No odor
					21			
					22			
					23			

WATER LEVEL DATA				PROFESSIONAL GEOLOGIST
DATE				
TIME				SIGNATURE
GWL				
CASING DEPTH				TYPED NAME

INSTALLATION OF FLUSH GRADE MONITORING WELL

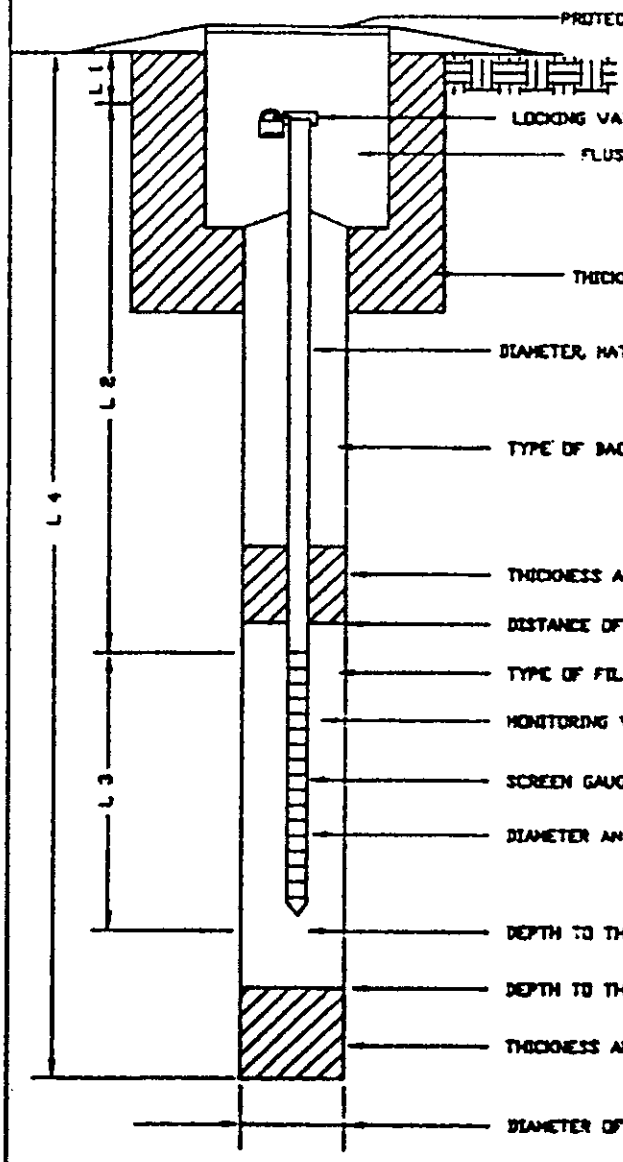
PROJECT: Oakland Shell

MONITORING WELL NO.: MW-2

DELTA NO.: 40-88-666

ELEVATIONS: TOP OF RISER 100.29 relativ

GROUND LEVEL: _____



FLUSH GRADE WELL CONSTRUCTION DIAMETER AND MATERIAL	15-inch galvanized
TOTAL LENGTH	12 inches
LENGTH ABOVE GROUND	0 foot
THICKNESS AND TYPE OF SEAL	18 inches, concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4-inch PVC SCH 40 Flush-threaded
TYPE OF BACKFILL AROUND RISER	Concrete with 5% bentonite
THICKNESS AND TYPE OF SEAL	2 feet, bentonite pellets
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	2 feet
TYPE OF FILTER AROUND SCREEN	16/40 clementine
MONITORING WELL MATERIAL	PVC SCH 40
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inches 20 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	19 feet
DEPTH TO THE BOTTOM OF FILTER SAND	19 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25/4 FT.

L 2 = _____ FT.

L 3 = 15 FT.

L 4 = 19 FT.

INSTALLATION COMPLETED:

DATE: 4-10-1989

TIME: 9:45

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
4-17-1989	13:15	6.46

* MEASURE POINT: Top of casing

Delta Environmental Consultants, Inc.

1022 B/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-3	SHEET 1 OF 2
3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-55
	START: 11:00/4-10-89		COMPLETED: 1:00/4-10-89
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 100.00 (relative)		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE RECOV (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: UNITS: Tip	GENERAL OBSERVATION NOTES
					1	ASPHALT AND ROAD BASE		
					2	CLAY; very dark gray, highly plastic, slightly moist, no sand (CH)		
					3			
					4			
CA	MW3-1	8/13/13	5.0-6.5	18	5		0	No odor
					6	SILTY CLAY; olive brown with light olive brown mottles, moderately high plasticity, slighty moist (CL)		
					7			
					8			
					9			
CA	MW3-2	13/23/21	10.0-11.5	18	10		0	No odor
					11			
					12			
					13			
					14			
CA	MW3-3	11/14/15	15.0-16.5	17	15	SANDY CLAY; yellowish brown, moderately low plasticity, moist, fine sands (CL)	0	No odor
					16			
					17			
					18			
					19			
CA	MW3-4	3/8/15	20.0-21.5	15	20		0	No odor
					21			
					22			
					23			

WATER LEVEL DATA			
DATE			
TIME			
GWL			
CASING DEPTH			

PROFESSIONAL GEOLOGIST

SIGNATURE

TYPED NAME

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-3	SHEET 2 OF 2
3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-55
	START: 11:00/4-10-89		COMPLETED: 1:00/4-10-89
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 100.50' (relative)		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE REC (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: / UNITS:	GENERAL OBSERVATION NOTES
CA	MW3-5	25/25/42	25.0-26.5	14	25	GRAVELLY SAND; brown, coarse sand, gravel, saturated, minor plastic fines (SW)	0	No odor
CA	MW3-6	18/23/39	30.0-31.5	15	30	Total Depth 30.0 feet	0	No odor

WATER LEVEL DATA			
DATE			
TIME			
GWL			
CASING DEPTH			

PROFESSIONAL GEOLOGIST

SIGNATURE

TYPED NAME

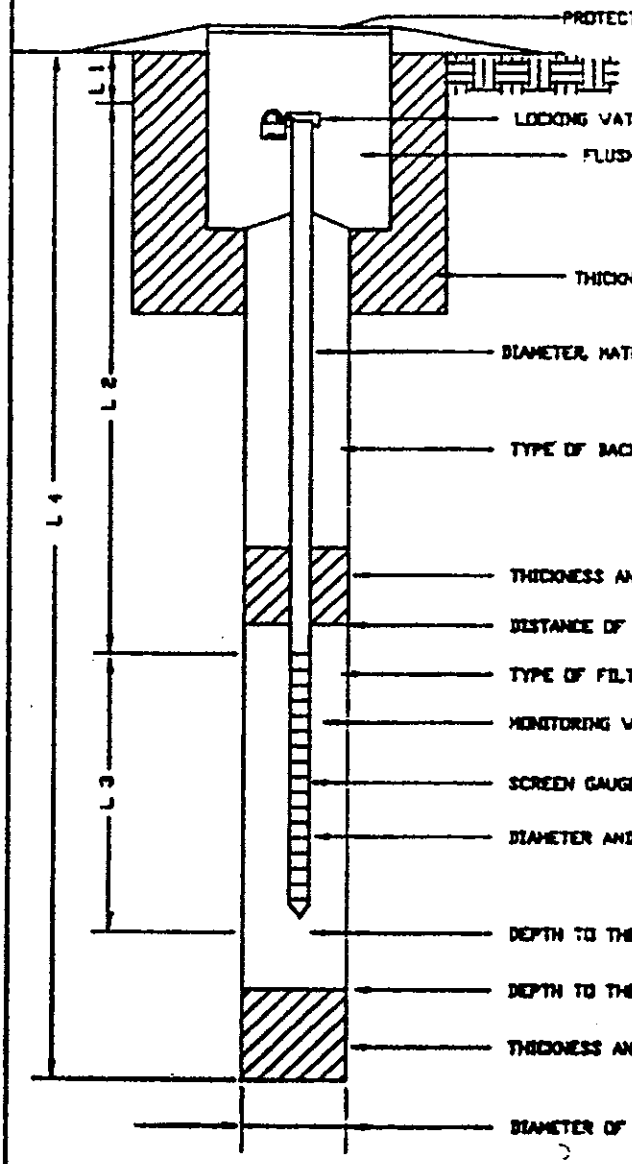
INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT Oakland Shell

MONITORING WELL NO. MW-3

DELTA NO. 40-88-666

ELEVATIONS: TOP OF RISER 100.50 relative
GROUND LEVEL _____



DIAMETER AND MATERIAL	15-inch galvanized
TOTAL LENGTH	12 inches
LENGTH ABOVE GROUND	0 foot
THICKNESS AND TYPE OF SEAL	15-inch concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4-inch PVC SCH 40 Flush-threaded
TYPE OF BACKFILL AROUND RISER	Concrete with 5% bentonite
THICKNESS AND TYPE OF SEAL	2 feet, bentonite pellets
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	2 feet
TYPE OF FILTER AROUND SCREEN	16/40 clementine
MONITORING WELL MATERIAL	PVC SCH 40
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inches 20 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	27.5 feet
DEPTH TO THE BOTTOM OF FILTER SAND	27.5 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25 FT.

L 2 = 7.5 FT.

L 3 = 20 FT.

L 4 = 27.5 FT.

INSTALLATION COMPLETED:

DATE: 4-10-89

TIME: 13:00

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
4-17-1989	13:20	5.81

* MEASURE POINT: Top of casing

Delta Environmental Consultants, Inc.

1022 B/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-4	SHEET 1 OF 2
3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-55
	START: 2:30/4-10-89		COMPLETED: 6:30/4-10-89
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 99.03' (relative)		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE RECOV (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: / UNITS:	GENERAL OBSERVATION NOTES: Odor
					1	ASPHALT AND ROAD BASE		
					2	LEAN CLAY; very dark gray, highly plastic, slightly moist, no sand (CH)		
					3			
					4			
CA	MW4-1	17/25/32	5.0-6.5	18	5		7	Slight odor
					6	SILTY CLAY; dark greenish gray, medium plasticity, slightly moist, some gravel (CL)		
					7			
					8			
					9			
CA	MW4-2	6/8/12	10.0-11.5	17	10	SILTY CLAY; dark yellowish brown, dark greenish-gray, mottles, moderately plastic, moist (CL)	0	No odor
					11			
					12			
					13			
					14			
CA	MW4-3	8/9/12	14.0-16.5	17	15	SANDY CLAY; yellowish brown, moderately plastic, moist, fine sand, grades to a coarse sand at the bottom of the unit (CL)	0	No odor
					16			
					17			
					18			
					19			
CA	MW4-4	9/8/24	20.0-21.5	15	20		0	No odor
					21			
					22			
					23			

WATER LEVEL DATA				PROFESSIONAL GEOLOGIST
DATE				
TIME				SIGNATURE
GWL				
CASING DEPTH				TYPED NAME

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-4	SHEET 2 OF 2
3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-55
	START: 2:30/4-10-89		COMPLETED: 6:30/4-10-89
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 99.03 (relative)		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE REC OV (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: / UNITS:	GENERAL OBSERVATION NOTES Odor
CA	MW4-5	25/24/30	25.0-26.5	16	25	GRAVELLY SAND; brown, coarse sand, saturated, gravel 1/2" to 1", some plastic fines (SW)	0	No odor
CA	MW4-6	19/22/37	30.0-31.5	17	30	Total Depth 31.5	0	No odor

WATER LEVEL DATA			
DATE			
TIME			
GWL			
CASING DEPTH			

PROFESSIONAL GEOLOGIST

SIGNATURE

TYPED NAME

INSTALLATION OF FLUSH GRADE MONITORING WELL

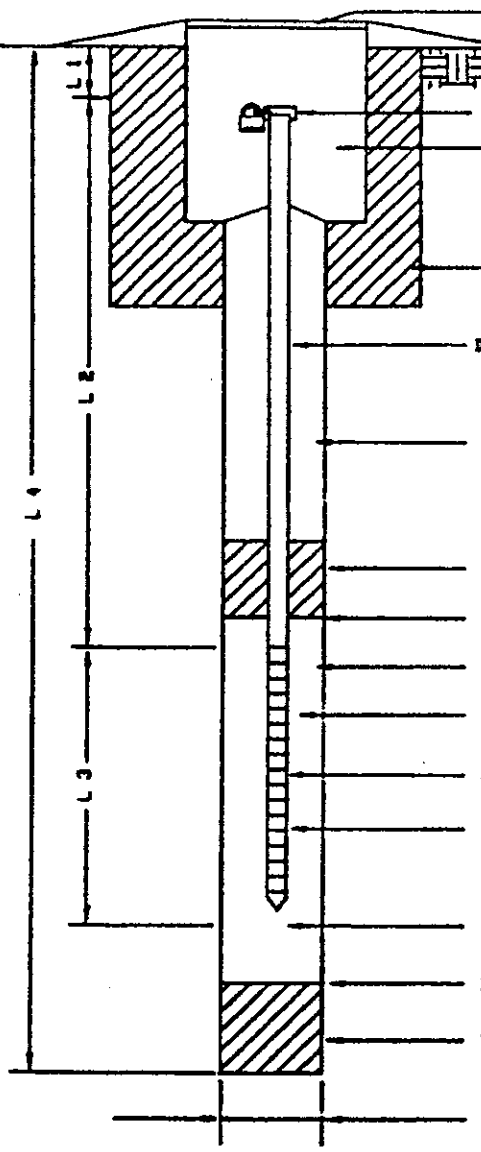
PROJECT Oakland Shell

DELTA NO. 40-88-666

MONITORING WELL NO. MW-4

ELEVATIONS: TOP OF RISER 99.03 relative

GROUND LEVEL



FLUSH GRADE WELL CONSTRUCTION DIAMETER AND MATERIAL	15-inch galvanized
TOTAL LENGTH	12 inches
LENGTH ABOVE GROUND	0 foot
THICKNESS AND TYPE OF SEAL	18-inch concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4-inch PVC Flush-threaded
TYPE OF BACKFILL AROUND RISER	Concrete with 5% bentonite
THICKNESS AND TYPE OF SEAL	2 feet, bentonite pellets
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	2 feet
TYPE OF FILTER AROUND SCREEN	16/40 clementine
MONITORING WELL MATERIAL	PVC SCH 40
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inches 20 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	25 feet
DEPTH TO THE BOTTOM OF FILTER SAND	25 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25 FT.

L 2 = 5 FT.

L 3 = 20 FT.

L 4 = 25 FT.

INSTALLATION COMPLETED:

DATE: 4-10-1989

TIME: 18:30

MONITORING WELL WATER LEVEL MEASUREMENTS		
DATE	TIME	WATER LEVEL *
4-17-1989	13:30	6.30

* MEASURE POINT: Top of casing

Delta Environmental Consultants, Inc.

1022 B/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-5	SHEET 1 OF 2
Oakland Shell 3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-75
	START: 12:15/01-19-90		COMPLETED: 2:40/01-19-90
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 20.91		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE REC/V (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION INSTRUMENT: OVM UNITS: ppm	GENERAL OBSERVATION NOTES
					1	Asphalt road base		
					2	CLAY; very dark gray, highly plastic, slightly moist (CH)		
					3			
					4			
CA	MW-5-1	9/12/38	5.0-6.5	18	5	SANDY CLAY; yellowish brown, moderately plastic, slightly moist (CL)	50	Slight odor
					6			
					7			
					8			
					9			
CA	MW-5-2	12/16/9	10.0-11.5	18	10	Saturated	0	No odor
					11			
					12			
					13			
					14			
CA	MW-5-3	5/7/11	15.0-16.5	18	15		0	No odor
					16			
					17	SILTY CLAY; dark yellowish brown, moderately plastic, saturated (CL)		
					18			
					19			
CA	MW-5-4	4/4/7	20.0-21.5	18	20		0	No odor
					21			
					22			
					23			

WATER LEVEL DATA			
DATE	02-02		
TIME	2:40		
GWL	7.89		
CASING DEPTH	25'		

GEOLOGIST
Hal Hansen
SIGNATURE
Hal Hansen
TYPED NAME

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-5	SHEET 2 OF 2
Oakland Shell 3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-75
	START: 12:15/01-19-90		COMPLETED: 2:40/01-19-90
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 20.91		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE REC/COV (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: OVM UNITS: ppm	GENERAL OBSERVATION NOTES
CA	MW-5-5	26/47/50 for 4"	25.0-26.5	12	25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	GRAVELLY SAND; brown, course sand, saturated, minor plastic fines (SW) Total Depth at 26.5 feet	1	No odor

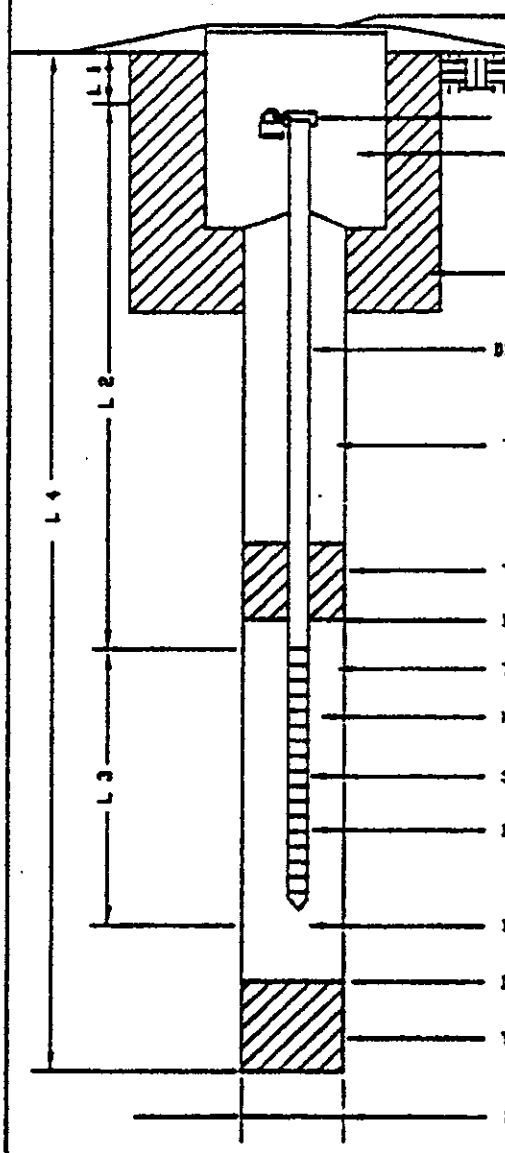
WATER LEVEL DATA			
DATE	02-02		
TIME	2:40		
GWL	7.89		
CASING DEPTH	25'		

GEOLOGIST
Hal Hansen
SIGNATURE
Hal Hansen
TYPED NAME

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: Oakland Shell
3420 San Pablo Ave
DELTA NO. 40-88-666

MONITORING WELL NO. MW-5
ELEVATIONS: TOP OF RISER 20.91
GROUND LEVEL 21.29



FLUSH GRADE WELL CONSTRUCTION DIAMETER AND MATERIAL	12 inch steel
TOTAL LENGTH	9 inches
LENGTH ABOVE GROUND	1/4 inch
THICKNESS AND TYPE OF SEAL	1-foot concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4 inch PVC, flush thread
TYPE OF BACKFILL AROUND RISER	sand cement
THICKNESS AND TYPE OF SEAL	1 foot bentonite
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	1 foot
TYPE OF FILTER AROUND SCREEN	#3 clemintine
MONITORING WELL MATERIAL	sch 40, PVC
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inch 20 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	25 feet
DEPTH TO THE BOTTOM OF FILTER SAND	25 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25 FT.
L 2 = 4.75 FT.
L 3 = 20.0 FT.
L 4 = 25.0 FT.

INSTALLATION COMPLETED
DATE 1-19-90
TIME 240

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
2-2-90	11:59	7.89

* MEASURE POINT: Top of casing

Delta Environmental Consultants, Inc.

1022 B/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-6	SHEET 1 OF 1
Oakland Shell 3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-75
	START: 9:00/01-19-90		COMPLETED: 1:00/01-19-90
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 22.32		LOGGED BY: Hal Hansen

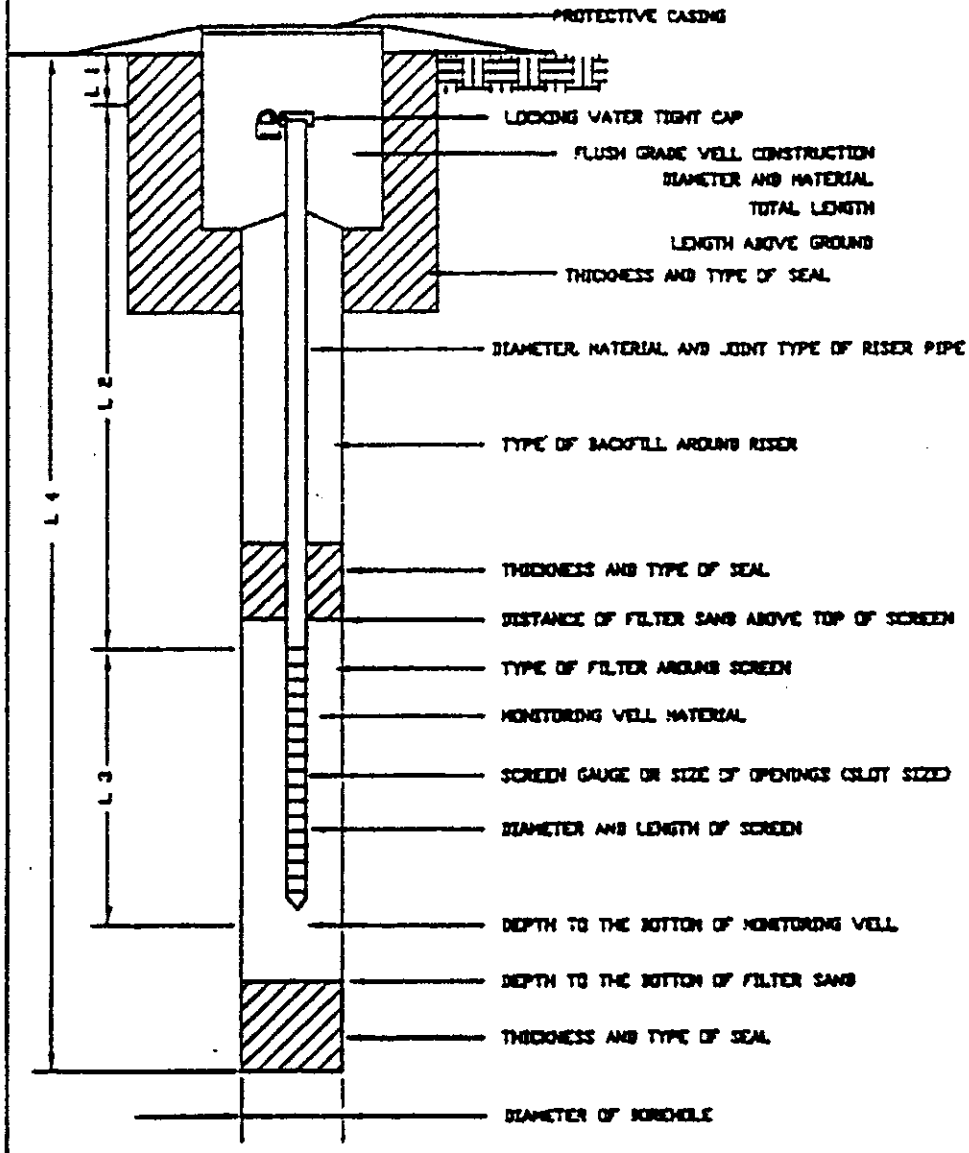
SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INTVL(ft)	SAMPLE RECOV(in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: OVM UNITS: ppm	GENERAL OBSERVATION NOTES
					1	Asphalt road base		
					2	CLAY; very dark gray, highly plastic, slightly moist (CH)		
					3			
					4			
CA	MW-6-1	10/12/38	5.0-6.5	18	5	SANDY CLAY; greenish gray, moderately plastic, slightly moist (CL)	0	No odor
					6			
					7			
					8			
					9			
CA	MW-6-2	9/13/20	10.0-11.5	18	10	Color change to yellowish brown	14	Slight odor
					11			
					12			
					13	Saturated		
					14			
CA	MW-6-3	5/8/11	15.0-16.5	18	15	SILTY CLAY; yellowish brown, moderately plastic, saturated (CL)	0	No odor
					16			
					17			
					18			
					19			
CA	MW-6-4	4/7/11	20.0-21.5	18	20		0	No odor
						Total Depth at 21.5 feet		
					21			
					22			
					23			

WATER LEVEL DATA				GEOLOGIST
DATE	02-02			Hal Hansen
TIME	11:41			SIGNATURE
GWL	7.86			Hal Hansen
CASING DEPTH	20'			TYPED NAME

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: Oakland Shell
3420 San Pablo Ave
DELTA NO. 40-88-666

MONITORING WELL NO. MW-6
ELEVATIONS: TOP OF RISER 22.32
GROUND LEVEL 22.63



12 inch steel	
9 inches	
1/4 inch	
1 foot concrete	
4 inch, PVC, flush thread	
sand cement	
1 foot bentonite	
1 foot	
#3 clemintine	
sch 40 PVC	
0.01 inch	
4 inch 15 feet	
20 feet	
20 feet	
N/A	
10 inches	

L 1 = 0.25 FT.
L 2 = 4.75 FT.
L 3 = 15.0 FT.
L 4 = 20.0 FT.

INSTALLATION COMPLETED:
DATE: 1-19-90
TIME: 10:00

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
2-2-90	11:41	7.86

* MEASURE POINT: Top of casing

Delta Environmental Consultants, Inc.

1022 B/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-7	SHEET 1 OF 1
Oakland Shell 3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling	DRILLING METHOD: H.S.A.	
	DRILLER: Randy Reidhead	DRILLING RIG: CME-75	
	START: 11:00/01-19-90	COMPLETED: 12:00/01-19-90	
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 20.36	LOGGED BY: Hal Hansen	

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE REC (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: OVM UNITS: ppm	GENERAL OBSERVATION NOTES
					1	Asphalt road base		
					2	CLAY; very dark gray, highly plastic, slightly moist (CH)		
					3			
					4			
CA	MW-7-1	16/22/30	5.0-6.5	18	5	SANDY CLAY; greenish gray, moderately plastic, slightly moist (CL)	95	Moderate odor
					6			
					7			
					8			
					9			
CA	MW-7-2	9/15/25	10.0-11.5	18	10	Color change to yellowish brown	85	Moderate odor
					11	Saturated		
					12			
					13			
					14			
CA	MW-7-3	6/8/10	15.0-16.5	18	15		5	Slight odor
					16	SILTY CLAY; yellowish brown, moderately plastic, saturated (CL)		
					17			
					18			
					19			
CA	MW-7-4	6/8/14	20.0-21.5	18	20		0	No odor
					21			
					22	Total Depth at 21.5 feet		
					23			

WATER LEVEL DATA			
DATE	02-02		
TIME	11:52		
GWL	8.91		
CASING DEPTH	20'		

GEOLOGIST

Hal Hansen

SIGNATURE

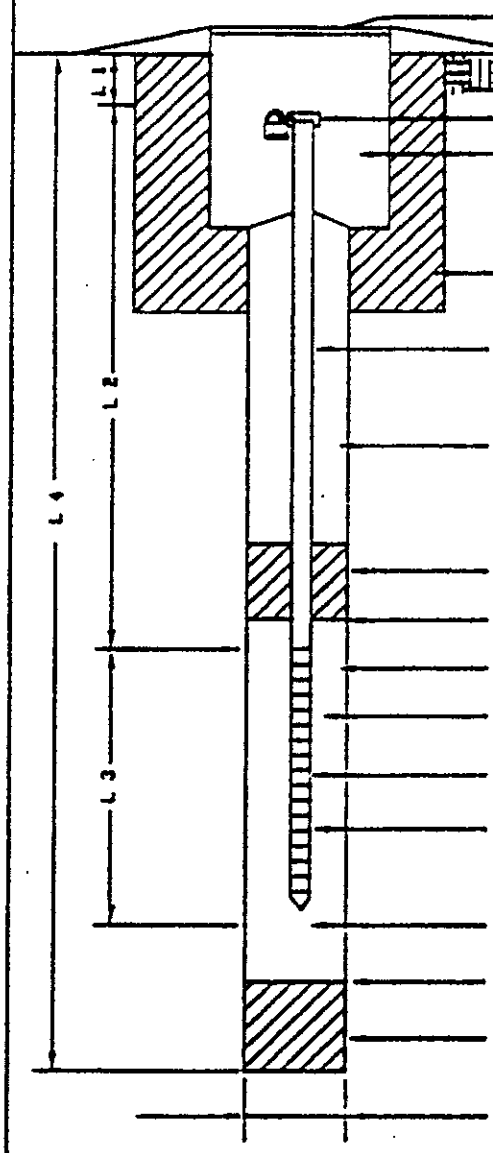
Hal Hansen

TYPED NAME

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: Oakland Shell
3420 San Pablo Ave
DELTA NO.: 40-88-666

MONITORING WELL NO.: MW-7
ELEVATIONS: TOP OF RISER 20.36
GROUND LEVEL 20.76



FLUSH GRADE WELL CONSTRUCTION DIAMETER AND MATERIAL	12 inch steel
TOTAL LENGTH	9 inches
LENGTH ABOVE GROUND	1/4 inch
THICKNESS AND TYPE OF SEAL	1 foot concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4 inches PVC, flush thread
TYPE OF BACKFILL AROUND RISER	sand cement
THICKNESS AND TYPE OF SEAL	1 foot bentonite
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	1 foot
TYPE OF FILTER AROUND SCREEN	#3 clemintine
MONITORING WELL MATERIAL	sch 40 PVC
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inch 15 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	20 feet
DEPTH TO THE BOTTOM OF FILTER SAND	20 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25 FT.
L 2 = 4.75 FT.
L 3 = 15.0 FT.
L 4 = 20.0 FT.

INSTALLATION COMPLETED:
DATE: 1-19-90
TIME: 12:00

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
2-2-90	11:52	8.91

* MEASURE POINT: top of casing

Delta Environmental Consultants, Inc.

1022 8/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-8	SHEET 1 OF 1
Oakland Shell 3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-75
	START: 2:30/01-18-90		COMPLETED: 3:45/01-18-90
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 20.95		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INTERVAL(ft)	SAMPLE RECOVERY(in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION INSTRUMENT: OVM UNITS: ppm	GENERAL OBSERVATION NOTES
					1	Asphalt road base		
					2	CLAY; very dark gray, highly plastic, slightly moist (CH)		
					3			
					4			
CA	MW-8-1	16/27/28	5.0-6.5	18	5		3	Slight odor
					6	SANDY CLAY; greenish gray, moderately plastic, slightly moist (CL)		
					7			
					8			
					9			
CA	MW-8-2	11/13/19	10.0-11.5	18	10	Saturated	100	Moderate odor
					11			
					12			
					13			
					14			
CA	MW-8-3	4/6/7	15.0-16.5	18	15		0	No odor
					16			
					17	SILTY CLAY; dark yellowish brown, slightly plastic, saturated (CL)		
					18			
					19			
CA	MW-8-4	9/11/16	20.0-21.5	18	20		0	No odor
					21			
					22	Total Depth at 21.5 feet		
					23			

WATER LEVEL DATA			
DATE	02-02		
TIME	11:49		
GWL	7.32		
CASING DEPTH	20'		

GEOLOGIST
Hal Hansen
SIGNATURE
Hal Hansen
TYPED NAME

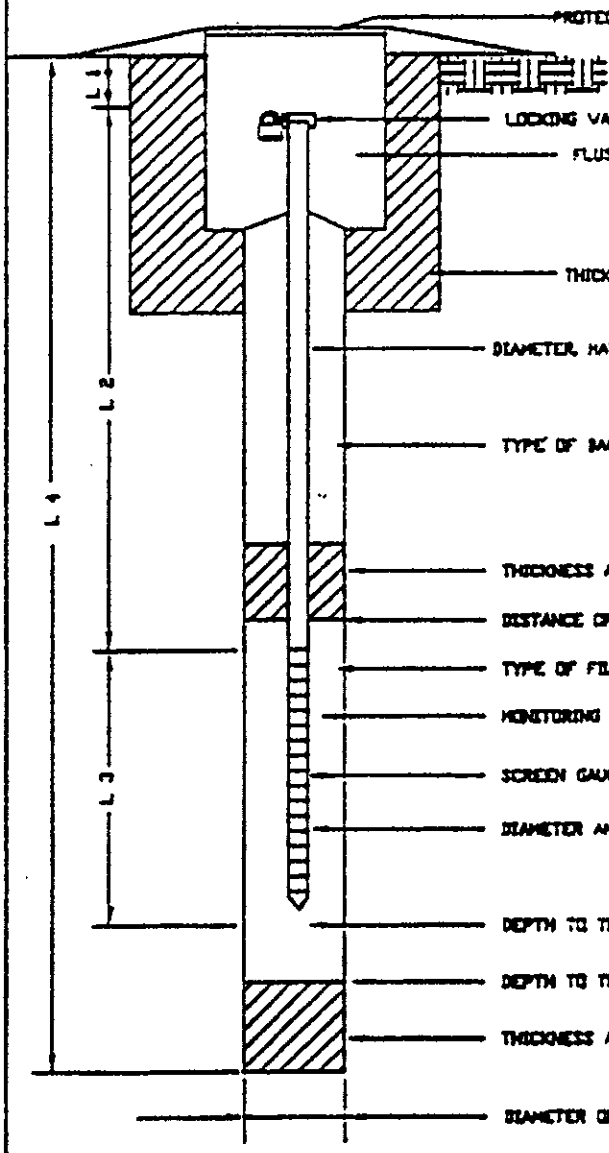
INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: Oakland Shell
3420 San Pablo Ave

DELTA NO.: 40-88-666

MONITORING WELL NO.: MW-8

ELEVATIONS: TOP OF RISER 20.95
GROUND LEVEL 21.14



FLUSH GRADE WELL CONSTRUCTION DIAMETER AND MATERIAL	12 inch steel
TOTAL LENGTH	9 inches
LENGTH ABOVE GROUND	1/4 inch
THICKNESS AND TYPE OF SEAL	1 foot concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4 inches PVC, flush thread
TYPE OF BACKFILL AROUND RISER	sand cement
THICKNESS AND TYPE OF SEAL	1 foot bentonite
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	1 foot
TYPE OF FILTER AROUND SCREEN	#3 clemintine
MONITORING WELL MATERIAL	sch 40 PVC
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inch 15 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	20 feet
DEPTH TO THE BOTTOM OF FILTER SAND	20 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25 FT.
L 2 = 4.75 FT.
L 3 = 15.0 FT.
L 4 = 20.0 FT.

INSTALLATION COMPLETED:
DATE: 1-18-90
TIME: 3:45

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
2-2-90	11:49	7.32

* MEASURE POINT: top of casing

Delta Environmental Consultants, Inc.

1022 B/3-89

PROJECT NAME / LOCATION	PROJECT NUMBER: 40-88-666	BORING NUMBER: MW-9	SHEET 1 OF 1
Oakland Shell 3420 San Pablo Avenue Oakland, CA	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: H.S.A.
	DRILLER: Randy Reidhead		DRILLING RIG: CME-75
	START: 12:30/01-19-90		COMPLETED: 2:00/01-19-90
LAND OWNER: Shell Oil Company	SURFACE ELEVATION: 21.19		LOGGED BY: Hal Hansen

SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	SAMPLE INT (ft)	SAMPLE REC/OV (in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS	CONTAMINANT OBSERVATION / INSTRUMENT: OVM UNITS: ppm	GENERAL OBSERVATION NOTES
					1	Asphalt road base		
					2	CLAY; very dark gray, highly plastic, slighly moist (CH)		
					3			
					4			
CA	MW-9-1	9/23/27	5.0-6.5	10	5	SANDY CLAY; yellowish brown, moderately plastic, slightly moist (CL)	0	No odor
					6			
					7			
					8			
					9			
CA	MW-9-2	16/21/31	10.0-11.5	18	10		30	Slight odor
					11			
					12			
					13			
					14			
CA	MW-9-3	5/9/12	15.0-16.5	18	15	SILTY CLAY; dark yellowish brown, slightly plastic saturated (CL)	0	No odor
					16			
					17			
					18			
					19			
CA	MW-9-4		20.0-21.5	18	20		0	No odor
					21			
					22	Total Depth at 21.5 feet		
					23			

WATER LEVEL DATA			
DATE	02-02		
TIME	11:43		
GWL	9.02		
CASING DEPTH	20'		

GEOLOGIST

Hal Hansen

SIGNATURE

Hal Hansen

TYPED NAME

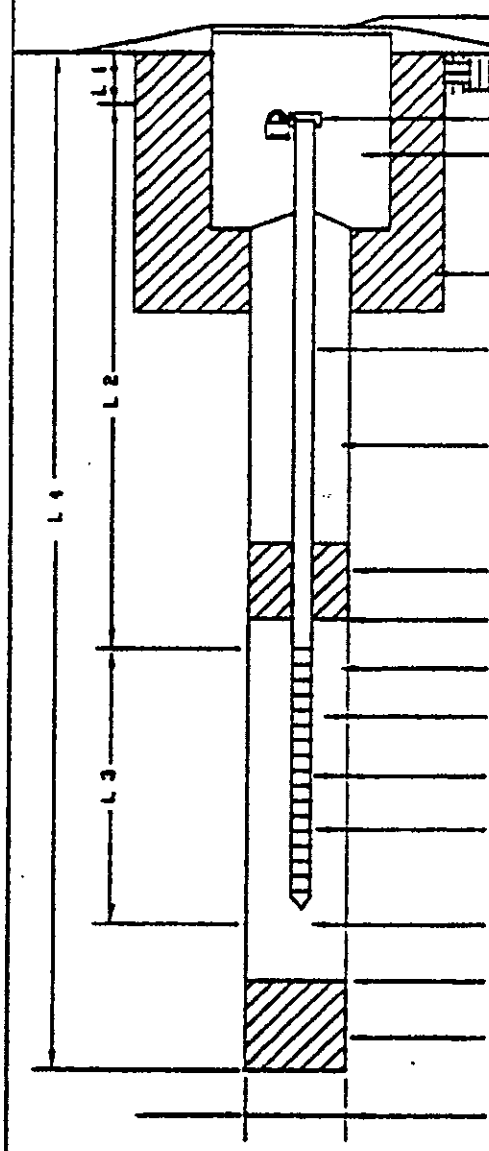
INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: Oakland Shell
3420 San Pablo Ave

DELTA NO.: 40-88-666

MONITORING WELL NO.: MW-9

ELEVATIONS: TOP OF RISER 21.19
GROUND LEVEL 21.46



LOCKING WATER TIGHT CAP	
FLUSH GRADE WELL CONSTRUCTION DIAMETER AND MATERIAL	12-inches, steel
TOTAL LENGTH	9 inches
LENGTH ABOVE GROUND	1/4 inch
THICKNESS AND TYPE OF SEAL	1 foot concrete
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4 inches PVC, flush thread
TYPE OF BACKFILL AROUND RISER	sand cement
THICKNESS AND TYPE OF SEAL	1 foot bentonite
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	1 foot
TYPE OF FILTER AROUND SCREEN	#3 clemintine
MONITORING WELL MATERIAL	sch 40, PVC
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.01 inch
DIAMETER AND LENGTH OF SCREEN	4 inch - 15 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	20 feet
DEPTH TO THE BOTTOM OF FILTER SAND	20 feet
THICKNESS AND TYPE OF SEAL	N/A
DIAMETER OF BOREHOLE	10 inches

L 1 = 0.25 FT.
L 2 = 4.75 FT.
L 3 = 15.0 FT.
L 4 = 20.0 FT.

INSTALLATION COMPLETED
DATE: 1-18-90
TIME: 2:00

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
2-2-90	11:43	9.02

* MEASURE POINT: top of casing

Delta Environmental Consultants, Inc.

1022 8/3-89

PROJECT NAME/LOCATION:	Project Number	40-88-666	Boring Number	MW-10
Oakland Shell 3420 San Pablo Oakland, California	Contractor	West Hazmat	Drilling Method	H.S.A 10"
	Driller	Tom Wright	Drilling Rig	Acker
	Start	9:00 a.m. 10/23/91	Completed	10:45 a.m. 10/23/91
Landowner: City of Oakland	Surface Elev.		Logged By	Charles K. Almeida

Sample Type	Sample No.	Blow Count	Sample Interval (ft)	Sample Recovery (in.)	Depth Scale 1" = 4'	Descriptions of Materials and Conditions	Observations: Instrument: OVM Units: ppm	Observations: General Observation Notes
					1	Asphalt/Road Base		
					2			
					3			
					4			
CA	MW-10-1	7-20-25	5-6.5	16	5	CLAY; silty dark gray, medium plasticity; dry (CL)	55	
					6			
					7			
					8			
					9			
CA	MW-10-2	7-12-21	10-11.5	18	10	CLAY; silty, some coarse grained sand and .25"- diameter angular grains, very moist (CL)	213	
					11			
					12			
					13			
					14			
CA	MW-10-3	4-8-15	15-16.5	18	15	CLAY; silty gray green, medium to coarse gravely sand, minor fragments; very moist (CL)	118	
					16			
					17			
					18			
					19			
CA	MW-10-4	6-15-20	20-21.5	18	20	SANDY SILT; clayey tan brown, very fine grained sand, soft; very moist (ML)	51	
					21			
					22	Total Depth at 21.5 ft.		
					23			

BOREHOLE WATER LEVEL DATA			
Date	10/23/91		
Time	10:50 a.m.		
GWL	16.54		
Casing Depth	19.3		

Delta Environmental Consultants, Inc.

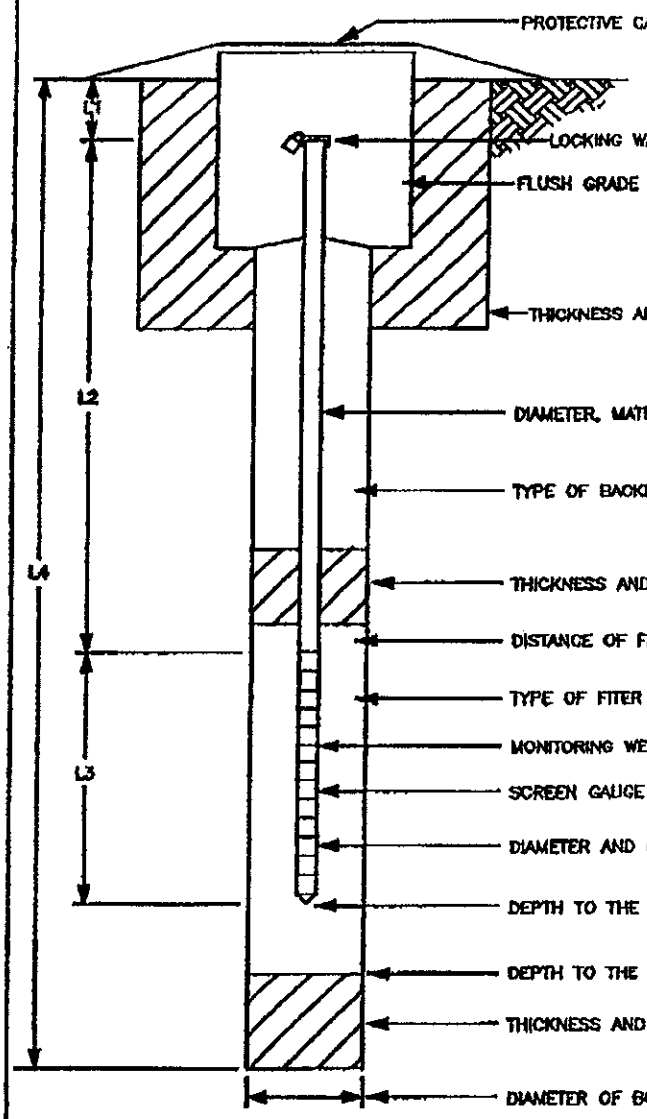
INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: Oakland Shell
3420 San Pablo Avenue

DELTA NO.: 40-88-666

MONITORING WELL NO.: MW-10

ELEVATIONS:
TOP OF RISER: 19.74
GROUND LEVEL:



DIAMETER AND MATERIAL	10 inch
TOTAL LENGTH	12 inch
THICKNESS AND TYPE OF SEAL	1-foot concrete
DIAMETER, MATERIAL, AND JOINT TYPE OF RISER PIPE	4-inch PVC Flush Threaded
TYPE OF BACKFILL AROUND RISER	Portland cement < 5% Bentonite
THICKNESS AND TYPE OF SEAL	.5-foot Bentonite chips
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	.5 feet
TYPE OF FITER AROUND SCREEN	#3 Monterey sand
MONITORING WELL MATERIAL	PVC
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.020 inch
DIAMETER AND LENGTH OF SCREEN	4 inch x 15 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	19.3 feet
DEPTH TO THE BOTTOM OF FILTER SAND	19.3 feet
THICKNESS AND TYPE OF SEAL	NA
DIAMETER OF BOREHOLE	10 inch

L1 = .25 FT
L2 = 4.05 FT
L3 = 15 FT
L4 = 19.3 FT

INSTALLATION COMPLETED:
DATE: 10/23/91
TIME: 10:45 am

Delta Environmental Consultants, Inc.

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
10/23/91	14:50	8.57

* MEASURE POINT: Top of casing

PROJECT NAME/LOCATION:	Project Number	40-88-666	Boring Number	MW-11
Oakland Shell 3420 San Pablo Avenue Oakland, California	Contractor	West Hazmat	Drilling Method	H.S.A. 10"
	Driller	Tom Wright	Drilling Rig	Acker
	Start	12:20 p.m. 10/23/91	Completed	2:15 p.m. 10/23/91 p.m.
Landowner: City of Oakland	Surface Elev.		Logged By	Charles K. Almeida

Sample Type	Sample No.	Blow Count	Sample Interval (ft)	Sample Recovery (in.)	Depth Scale 1" = 4'	Descriptions of Materials and Conditions	Observations: Instrument: OVM Units: ppm	Observations: General Observation Notes
					1	----------Asphalt/Road Base----------		
					2			
					3			
					4			
CA	MW-11-1	4-14-35	5-6.5	15	5	CLAY; silty dark brown, minor fine grained sand, medium plasticity--dry (CL)	0	
					6			
					7			
					8			
					9			
CA	MW-11-2	4-18-31	10-11.5	10	10	Tan brown, very moist.	0	
					11			
					12			
					13			
					14	gradational contact		
CA	MW-11-3	6-10-13	15-16.5	15	15	SILT; clayey, tan brown, minor fine to medium grained sand; saturated (ML)	0	
					16			
					17			
					18			
					19			
CA	MW-11-4	16-24-35	20-21.5	20	20	CLAYEY SILTY GRAVEL; brown, .25-.5" angular grains, minor coarse grained sand; saturated (GC)	0	
					21	----------Total Depth at 21.5 ft.----------		
					22			
					23			

BOREHOLE WATER LEVEL DATA			
Date	10/23/91		
Time	3:15 p.m.		
GWL	14.0		
Casing Depth	19.0		

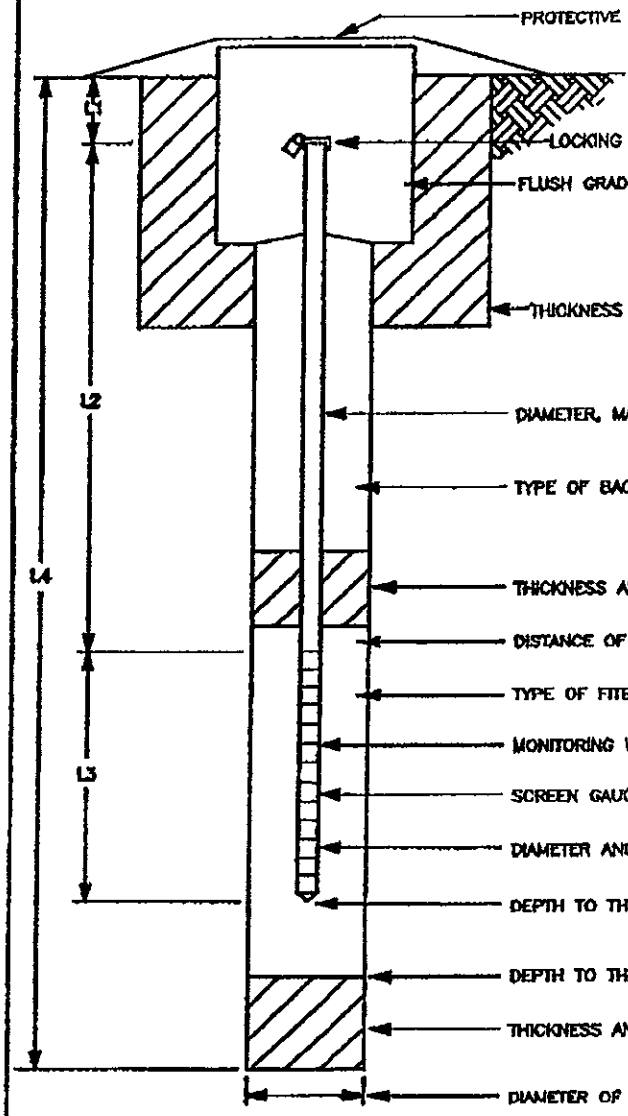
Delta Environmental Consultants, Inc.

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT Oakland Shell
3420 San Pablo Avenue
DELTA NO. 40-88-666

MONITORING WELL NO. MW-11

ELEVATIONS:
TOP OF RISER 22.06
GROUND LEVEL



DIAMETER AND MATERIAL	10 inch
TOTAL LENGTH	12 inch
THICKNESS AND TYPE OF SEAL	1-foot concrete
DIAMETER, MATERIAL, AND JOINT TYPE OF RISER PIPE	4-inch PVC Flush Threaded
TYPE OF BACKFILL AROUND RISER	Portland cement < 5% Bentonite
THICKNESS AND TYPE OF SEAL	.5-foot Bentonite chips
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	.5 feet
TYPE OF FITER AROUND SCREEN	#3 Monterey sand
MONITORING WELL MATERIAL	PVC
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	0.020 inch
DIAMETER AND LENGTH OF SCREEN	4 inch x 15 feet
DEPTH TO THE BOTTOM OF MONITORING WELL	19 feet
DEPTH TO THE BOTTOM OF FILTER SAND	19 feet
THICKNESS AND TYPE OF SEAL	NA
DIAMETER OF BOREHOLE	10 inch

L1 = .25 FT
L2 = 3.75 FT
L3 = 15 FT
L4 = 19 FT

MONITORING WELL WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL *
10/23/91	15:15	14.0

INSTALLATION COMPLETED:
DATE: 10/23/91
TIME: 14:15

Delta Environmental Consultants, Inc.

* MEASURE POINT: Top of casing

DRILLING LOG

Client: Shell Oil Products Company

Project No: 240-0554 Phase Task

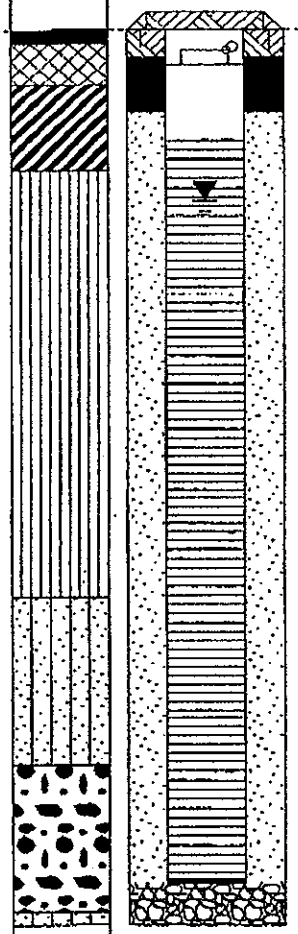
Well ID MW-6R Boring ID MW-6R

Location 3420 San Pablo Avenue, Oakland, California

Surface Elev. NA ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	% Rec	Lithologic Description
0	Ground Surface			
	NA			**ASPHALT**
				Gravelly Fill
				Silty CLAY; (CH); black; stiff; moist; 60% clay, 40% silt; high plasticity; very low estimated permeability.
5	NA			**Clayey SILT**; (ML); olive; medium stiff; moist; 20% clay, 60% silt, 10% fine grained sand, 10% gravel; medium plasticity; low estimated permeability.
				Clayey Sandy SILT; (ML); yellowish brown; medium stiff; moist; 20% clay, 40% silt, 40% fine to medium grained sand; low to medium plasticity; low to medium estimated permeability.
10	NA			
15	NA			20% clay, 35% silt, 40% sand, 5% gravel.
20	NA			**Clayey Silty SAND**; (SM); yellowish brown; medium dense; moist; 20% clay, 20% silt, 60% sand; medium plasticity; medium estimated permeability.
25	NA			**Sandy GRAVEL**; (GP); brown; loose; wet; 5% clay, 10% silt, 35% fine to coarse sand, 50% angular gravel; no plasticity; high estimated permeability.
30	NA			10% clay, 10% silt, 30% fine to coarse grained sand, 50% angular gravel.
				Silty Clayey SAND; (SM); yellow to yellowish brown; medium dense; moist; 20% clay, 20% silt, 50% fine to medium grained sand, 10% angular gravel; low to medium plasticity; high estimated permeability.
35				

TPHg (ppm) | Graphic Log | Well Construction Graphics | Depth (feet) | Well Construction Details



T.O.C. Elev. na

water encountered during drilling @ 5.5'
static water level @ 6'

bottom of boring @31.5'

Driller Gregg Drilling	Development Yield NA	Bentonite Seal 3' to 1'
Logged By J. Riggi	Well Casing 2" Dia. 0' to 4'	Sand Pack 3' to 30'
Drilling Started 6/18/98	Casing Type Schedule 40 PVC	Sand Pack Type # 2/12 Sand
Drilling Completed 6/18/98	Well Screen 2" Dia. 4' to 30'	Static Water Level 6.00 ft Depth
Construction Completed 6/18/98	Screen Type Schedule 40 PVC	Date 6/18/98
Development Completed NA	Slot Size 0.010"	Notes: Rhino Rig HSA 8" augers
Water Bearing Zones NA	Drilling Mud NA	
	Grout Type Concrete	

WELL 24554 7/1/98

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: Shell Oil Products Company

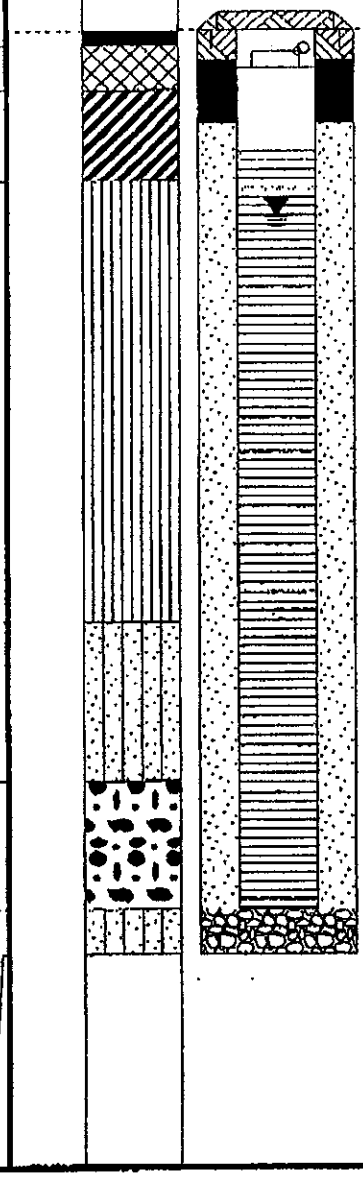
Project No: 240-0554 Phase Task

Well ID MW-3R Boring ID MW-3R

Location 3420 San Pablo Avenue, Oakland, California

Surface Elev. NA ft. Page 1 of 1

Depth (feet)	Blow Count	Sample	% Rec	Lithologic Description
0	Ground Surface			
0				ASPHALT
				Gravelly fill
5				Silty CLAY: (CH); black; stiff; moist; 60% clay, 40% silt; high plasticity; very low estimated permeability.
10	NA			Clayey Sandy SILT: (ML); yellowish brown; medium stiff; moist; 20% clay, 40% silt, 30% fine to medium grained sand, 10% gravel; medium plasticity; low estimated permeability.
15	NA			20% clay, 40% silt, 40% sand.
20	NA			Wet; 25% clay, 40% silt, 30% fine grained sand, 5% gravel.
25	NA			Clayey Silty SAND: (SM); yellowish brown; medium dense; wet; 20% clay, 20% silt, 60% fine grained sand; medium plasticity; medium estimated permeability.
30	NA			Silty Sandy GRAVEL: (GP); brown; loose; wet; 5% clay, 20% silt, 20% fine to coarse grained sand, 55% angular gravel; no plasticity; high estimated permeability.
35	NA			Clayey Silty SAND with gravel: (SM); yellowish brown; medium dense; wet; 20% clay, 20% silt, 40% fine to medium grained sand, 20% angular gravel; low to medium plasticity; high estimated permeability.



Well Construction Details

T.O.C. Elev. na

water encountered during drilling @ 6'
static water level @ 6.25'

bottom of boring @ 31.5

Driller: Gregg Drilling	Development Yield: NA		Bentonite Seal: 3' to 1'
Logged By: J. Riggl	Well Casing: 2" Dia. 0' to 4'		Sand Pack: 3' to 30'
Drilling Started: 6/18/98	Casing Type: Schedule 40 PVC		Sand Pack Type: # 2/12 Sand
Drilling Completed: 6/18/98	Well Screen: 2" Dia. 4' to 30'		Static Water Level: 6.25 ft Depth
Construction Completed: 6/18/98	Screen Type: Schedule 40 PVC		Date: 6/18/98
Development Completed: NA	Slot Size: 0.010"		Notes: Rhino Rig HSA 8" augers
Water Bearing Zones: NA	Drilling Mud: NA		
	Grout Type: Concrete		

WELL 24554 7/1/98

Cambria Environmental Technology, Inc.

ATTACHMENT B

Blaine Third Quarter 2005

Groundwater Monitoring

BLAINE
TECH SERVICES INC.

GROUNDWATER SAMPLING SPECIALISTS
SINCE 1985

August 5, 2005

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

Third Quarter 2005 Groundwater Monitoring at
Former Shell/Current San Pablo Gas Service Station
3420 San Pablo Avenue
Oakland, CA

Monitoring performed on July 20, 2005

Groundwater Monitoring Report **050720-PM-1 Revised**

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 Shell Martinez Manufacturing Complex.

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,

Leon Gearhart
Project Coordinator

LG/ks

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

cc: Ana Friel
Cambria Environmental Technology, Inc.
270 Perkins Street
Sonoma, CA 95476

WELL CONCENTRATIONS
Former Shell/Current San Pablo Gas Service Station
3420 San Pablo Avenue
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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-1	8/6/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	10.86	NA	10.43	NA	NA
MW-1	10/23/1991	32,000	2,700	360	550	3,700	NA	NA	NA	NA	NA	NA	NA	21.28	11.05	NA	10.24	0.01	NA
MW-1	1/28/1992	14,000	1,000	106	450	1,600	NA	NA	NA	NA	NA	NA	NA	21.28	10.84	NA	10.44	NA	NA
MW-1	5/5/1992	98,000	11,000	1,200	3,500	18,000	NA	NA	NA	NA	NA	NA	NA	21.28	9.42	NA	11.86	<0.01	NA
MW-1	7/13/1992	11,000	1,100	130	740	1,300	NA	NA	NA	NA	NA	NA	NA	21.28	11.36	NA	9.92	NA	NA
MW-1	10/12/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	13.14	NA	8.21	0.09	NA
MW-1	1/12/1993	NA	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	7.52	NA	13.78	0.02	NA
MW-1	4/6/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	7.13	NA	14.16	<0.01	NA
MW-1	7/12/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	11.02	NA	10.27	0.01	NA
MW-1	10/13/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	12.18	NA	9.11	0.01	NA
MW-1	1/20/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	9.18	NA	12.10	0.01	NA
MW-1	4/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.28	8.72	NA	12.58	0.02	NA
MW-1	7/19/1994	17,000	420	140	530	1,300	NA	NA	NA	NA	NA	NA	NA	21.28	8.76	NA	12.52	NA	NA
MW-1	10/27/1994	23,000	1,200	130	990	960	NA	NA	NA	NA	NA	NA	NA	21.28	10.49	NA	10.79	NA	NA
MW-1	1/3/1995	31,000	610	160	1,200	5,000	NA	NA	NA	NA	NA	NA	NA	21.28	6.15	NA	15.13	NA	NA
MW-1	4/13/1995	20,000	340	42	680	2,900	NA	NA	NA	NA	NA	NA	NA	21.28	5.24	NA	16.04	NA	NA
MW-1	6/30/1995	16,000	450	62	460	1,200	NA	NA	NA	NA	NA	NA	NA	21.28	7.24	NA	14.04	NA	NA
MW-1	10/11/1995	8,400	660	47	510	850	8,000	NA	NA	NA	NA	NA	NA	21.28	9.48	NA	11.80	NA	NA
MW-1	10/13/1995	7,400	730	54	490	1,100	8,200	NA	NA	NA	NA	NA	NA	21.28	NA	NA	NA	NA	NA
MW-1	1/17/1996	24,000	570	110	820	2,900	15,000	NA	NA	NA	NA	NA	NA	21.28	6.48	NA	14.80	NA	NA
MW-1	4/10/1996	20,000	120	11	420	1,400	15,000	NA	NA	NA	NA	NA	NA	21.28	5.38	NA	15.90	NA	NA
MW-1	7/30/1996	7,900	240	22	170	300	12,000	NA	NA	NA	NA	NA	NA	21.28	7.61	NA	13.67	NA	NA
MW-1	10/17/1996	6,600	1,000	20	120	130	10,000	NA	NA	NA	NA	NA	NA	21.28	8.66	NA	12.62	NA	1.4
MW-1	1/22/1997	13,000	170	<50	330	1,200	18,000	NA	NA	NA	NA	NA	NA	21.28	5.00	NA	16.28	NA	1.6
MW-1	4/1/1997	7,900	240	26	130	200	6,400	NA	NA	NA	NA	NA	NA	21.28	6.42	NA	14.86	NA	1.4
MW-1	7/14/1997	5,000	<20	<20	59	61	9,000	NA	NA	NA	NA	NA	NA	21.28	8.92	NA	12.36	NA	1.9
MW-1	10/8/1997	3,200	180	7.6	18	6.1	11,000	NA	NA	NA	NA	NA	NA	21.28	9.43	NA	11.85	NA	4.8
MW-1	1/19/1998	8,100	39	<20	280	660	1,100	NA	NA	NA	NA	NA	NA	21.28	1.20	NA	20.08	NA	2.6
MW-1	4/28/1998	2,900	62	<10	160	370	1,200	1,200	NA	NA	NA	NA	NA	21.28	4.81	NA	16.47	NA	2.4
MW-1	9/30/1998	1,300	25	8.3	<5.0	12	2,000	NA	NA	NA	NA	NA	NA	21.05	9.90	NA	11.15	NA	1.6
MW-1	12/9/1998	21,000	240	<200	520	920	18,000	18,000	NA	NA	NA	NA	NA	21.05	12.26	NA	8.79	NA	4.3
MW-1	1/18/1999	10,600	<100	<100	471	130	48,600	50,800	NA	NA	NA	NA	NA	21.05	6.00	NA	15.05	NA	1.3

WELL CONCENTRATIONS
Former Shell/Current San Pablo Gas Service Station
3420 San Pablo Avenue
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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-1	4/12/1999	7,500	101	26.0	248	578	31,000	37,900	NA	NA	NA	NA	NA	21.05	4.00	NA	17.05	NA	1.2
MW-1	7/27/1999	5,420	80.1	<50.0	123	143	24,700	33,200*	NA	NA	NA	NA	NA	21.05	6.18	NA	14.87	NA	1.3
MW-1	10/14/1999	3,750	75.8	<12.5	30.3	37.0	17,200	20,600	NA	NA	NA	NA	NA	21.05	6.83	NA	14.22	NA	1.3
MW-1	1/6/2000	5,550	82.2	<5.00	128	45.4	9,410	8,200	NA	NA	NA	NA	NA	21.05	6.36	NA	14.69	NA	1.3
MW-1	4/5/2000	2,860	50.6	<10.0	98.2	36.2	4,120	3,150*	NA	NA	NA	NA	NA	21.05	3.65	NA	17.40	NA	2.0
MW-1	7/20/2000	3,600	37.9	36.0	34.2	40.4	3,140	3,430*	NA	NA	NA	NA	NA	21.05	4.11	NA	16.94	NA	1.2
MW-1	10/24/2000	2,330	32.3	<10.0	10.5	27.1	4,900	4,500	NA	NA	NA	NA	NA	21.05	5.18	NA	15.87	NA	1.4
MW-1	1/19/2001	2,000	25.9	24.9	12.5	29.7	2,610	3,070	NA	NA	NA	NA	NA	32.01	3.90	NA	28.11	NA	1.8
MW-1	4/27/2001	2,200	14	<2.0	5.3	6.8	NA	1,100	NA	NA	NA	NA	NA	32.01	4.48	NA	27.53	NA	1.5
MW-1	7/26/2001	2,600	26	2.3	<2.0	5.4	NA	890	NA	NA	NA	NA	NA	32.01	6.28	NA	25.73	NA	1.2
MW-1	10/2/2001	1,900	54	<2.0	7.8	14	NA	890	<2.0	<2.0	<2.0	450	<500	32.01	6.53	NA	25.48	NA	1.6
MW-1	1/15/2002	2,300	19	2.8	9.3	12	NA	370	NA	NA	NA	NA	NA	32.01	5.00	NA	27.01	NA	1.9
MW-1	4/17/2002	4,500	20	2.0	1.3	4.6	NA	500	NA	NA	NA	NA	NA	32.01	5.63	NA	26.38	NA	2.4
MW-1	7/11/2002	2,700	25	1.1	<1.0	2.1	NA	500	NA	NA	NA	NA	NA	32.01	6.10	NA	25.91	NA	1.5
MW-1	10/10/2002	2,200	20	1.0	1.8	3.5	NA	580	NA	NA	NA	NA	NA	32.01	6.68	NA	25.33	NA	2.5
MW-1	1/21/2003	3,100	27	12	30	14	NA	810	NA	NA	NA	NA	NA	32.01	4.35	NA	27.66	NA	1.7
MW-1	5/2/2003	4,100	36	<25	<25	<50	NA	1,000	NA	NA	NA	NA	NA	32.01	5.19	NA	26.82	NA	2.1
MW-1	7/10/2003	1,900	37	<12	<12	<25	NA	600	NA	NA	NA	NA	NA	32.01	5.61	NA	26.40	NA	NA
MW-1	10/28/2003	4,300	97	<10	10	<20	NA	1,800	NA	NA	NA	NA	NA	32.01	5.78	NA	26.23	NA	NA
MW-1	1/13/2004	3,000	53	10	29	<10	NA	510	NA	NA	NA	NA	NA	32.01	4.95	NA	27.06	NA	NA
MW-1	4/1/2004	3,000	85	29	11	15	NA	310	NA	NA	NA	NA	NA	32.01	5.05	NA	26.96	NA	NA
MW-1	7/21/2004	3,200	130	19	7.7	18	NA	410	<20	<20	<20	1,100	NA	32.01	5.90	NA	26.11	NA	NA
MW-1	10/20/2004	3,600	200	8.4	12	21	NA	320	NA	NA	NA	NA	NA	32.01	5.63	NA	26.38	NA	NA
MW-1	1/19/2005	2,800	55	<5.0	21	17	NA	170	NA	NA	NA	NA	NA	32.01	4.64	NA	27.37	NA	NA
MW-1	4/20/2005	2,600	28	<5.0	11	<10	NA	140	NA	NA	NA	NA	NA	32.01	3.75	NA	28.26	NA	NA
MW-1	**7/20/2005**	**2,000**	**20**	**<1.0**	**1.6**	**2.3**	**NA**	**110**	**<4.0**	**<4.0**	**<4.0**	**220**	**NA**	**32.01**	**6.19**	**NA**	**25.82**	**NA**	**NA**
MW-2	8/6/1991	50,000	15,000	NA	2,700	13,000	NA	NA	NA	NA	NA	NA	NA	21.56	9.72	NA	11.84	NA	NA
MW-2	10/23/1991	120,000	11,000	1,400	3,500	19,000	NA	NA	NA	NA	NA	NA	NA	21.56	10.03	NA	11.53	NA	NA
MW-2	1/28/1992	49,000	7,400	800	1,800	8,300	NA	NA	NA	NA	NA	NA	NA	21.56	8.78	NA	12.78	NA	NA
MW-2	5/5/1992	52,000	12,000	1,100	2,200	12,000	NA	NA	NA	NA	NA	NA	NA	21.56	7.58	NA	13.98	NA	NA
MW-2	7/13/1992	47,000	15,000	2,400	4,500	16,000	NA	NA	NA	NA	NA	NA	NA	21.56	9.63	NA	11.93	NA	NA
MW-2	10/12/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.56	11.66	NA	9.92	0.03	NA

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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-2	1/12/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.56	7.13	NA	14.44	0.01	NA
MW-2	4/6/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.56	6.40	NA	15.17	<0.01	NA
MW-2	7/12/1993	59,000	12,000	950	2,400	11,000	NA	NA	NA	NA	NA	NA	NA	21.56	8.75	NA	12.81	NA	NA
MW-2	10/13/1993	54,000	14,000	1,200	3,700	22,000	NA	NA	NA	NA	NA	NA	NA	21.56	10.28	NA	11.28	NA	NA
MW-2	1/20/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.56	NA	NA	NA	NA	NA
MW-2	4/13/1994	79,000	9,400	740	2,100	12,000	NA	NA	NA	NA	NA	NA	NA	21.56	7.35	NA	14.22	<0.01	NA
MW-2	7/19/1994	63,000	13,000	810	1,900	13,000	NA	NA	NA	NA	NA	NA	NA	21.56	8.24	NA	13.32	NA	NA
MW-2	10/27/1994	64,000	8,800	480	2,100	10,000	NA	NA	NA	NA	NA	NA	NA	21.56	10.26	NA	13.32	NA	NA
MW-2	1/3/1995	67,000	9,800	720	2,800	11,000	NA	NA	NA	NA	NA	NA	NA	21.56	6.44	NA	15.12	NA	NA
MW-2	4/13/1995	83,000	10,000	490	2,600	13,000	NA	NA	NA	NA	NA	NA	NA	21.56	5.89	NA	15.67	NA	NA
MW-2	6/30/1995	65,000	12,000	1,800	2,400	12,000	NA	NA	NA	NA	NA	NA	NA	21.56	7.41	NA	14.15	NA	NA
MW-2	10/11/1995	68,000	8,800	840	3,000	13,000	1,400	NA	NA	NA	NA	NA	NA	21.56	8.02	NA	13.54	NA	NA
MW-2	1/17/1996	79,000	12,000	640	2,700	14,000	2,200	NA	NA	NA	NA	NA	NA	21.56	7.42	NA	14.14	NA	NA
MW-2	4/10/1996	84,000	7,200	310	1,700	7,800	2,900	NA	NA	NA	NA	NA	NA	21.56	6.91	NA	14.65	NA	NA
MW-2	7/30/1996	26,000	6,800	210	1,300	5,500	4,500	NA	NA	NA	NA	NA	NA	21.56	7.63	NA	13.93	NA	NA
MW-2	10/17/1996	46,000	9,800	340	2,000	6,500	4,900	NA	NA	NA	NA	NA	NA	21.56	8.27	NA	13.29	NA	1.8
MW-2	1/22/1997	52,000	6,200	220	1,400	6,600	3,000	NA	NA	NA	NA	NA	NA	21.56	7.09	NA	14.47	NA	1.9
MW-2	4/1/1997	69,000	6,000	380	2,400	11,000	3,800	NA	NA	NA	NA	NA	NA	21.56	6.91	NA	14.65	NA	2.0
MW-2	7/14/1997	53,000	7,700	260	1,600	5,200	2,400	NA	NA	NA	NA	NA	NA	21.56	9.93	NA	11.63	NA	1.2
MW-2	10/8/1997	56,000	8,500	320	1,600	5,100	4,200	NA	NA	NA	NA	NA	NA	21.56	10.43	NA	11.13	NA	2.1
MW-2	1/19/1998	64,000	10,000	230	2,400	12,000	2,700	NA	NA	NA	NA	NA	NA	21.56	3.60	NA	17.96	NA	2.4
MW-2	4/28/1998	45,000	9,800	310	2,700	11,000	2,400	2,000	NA	NA	NA	NA	NA	21.56	4.81	NA	15.71	NA	2
MW-2	9/30/1998	42,000	7,400	200	2,600	9,800	1,800	NA	NA	NA	NA	NA	NA	21.58	7.20	NA	14.38	NA	1.6
MW-2	12/9/1998	60,000	7,000	270	1,600	7,000	2,100	NA	NA	NA	NA	NA	NA	21.58	7.11	NA	14.47	NA	4.6
MW-2	1/18/1999	45,000	7,960	151	1,750	6,410	1,310	NA	NA	NA	NA	NA	NA	21.58	6.83	NA	14.75	NA	1.8
MW-2	4/12/1999	47,400	7,680	131	1,840	6,400	<1,000	NA	NA	NA	NA	NA	NA	21.58	5.90	NA	15.68	NA	1.9
MW-2	7/27/1999	36,400	6,750	83.5	1,590	5,070	682	NA	NA	NA	NA	NA	NA	21.58	6.56	NA	15.02	NA	2.0
MW-2	10/14/1999	45,300	6,990	144	1,850	4,930	1,070	NA	NA	NA	NA	NA	NA	21.58	8.90	NA	12.68	NA	1.5
MW-2	1/6/2000	44,100	5,820	107	1,720	4,590	841	NA	NA	NA	NA	NA	NA	21.58	7.27	NA	14.31	NA	1.4
MW-2	4/5/2000	32,000	6,680	<100	1,770	4,030	934	NA	NA	NA	NA	NA	NA	21.58	5.32	NA	16.26	NA	1.3
MW-2	7/20/2000	32,100	5,290	68.6	1,870	3,810	254	NA	NA	NA	NA	NA	NA	21.58	5.47	NA	16.11	NA	2.9
MW-2	10/24/2000	24,400	4,680	<50.0	1,460	2,380	682	NA	NA	NA	NA	NA	NA	21.58	5.88	NA	15.70	NA	2.2
MW-2	1/19/2001	29,200	4,980	127	2,820	4,320	<500	NA	NA	NA	NA	NA	NA	32.54	5.96	NA	26.58	NA	1.4

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MW-2	4/27/2001	40,000	5,400	67	2,800	5,100	NA	380	NA	NA	NA	NA	NA	32.54	5.87	NA	26.67	NA	1.1
MW-2	7/26/2001	42,000	4,700	59	2,800	4,300	NA	<250	NA	NA	NA	NA	NA	32.54	6.48	NA	26.06	NA	1.0
MW-2	10/2/2001	36,000	4,200	64	2,400	2,700	NA	<200	NA	NA	NA	NA	NA	32.54	6.65	NA	25.89	NA	1.6
MW-2	1/15/2002	39,000	4,100	46	2,200	2,300	NA	280	NA	NA	NA	NA	NA	32.54	5.81	NA	26.73	NA	1.8
MW-2	4/17/2002	30,000	3,800	44	2,100	2,100	NA	270	NA	NA	NA	NA	NA	32.54	6.03	NA	26.51	NA	1.6
MW-2	7/11/2002	34,000	3,600	18	2,700	2,200	NA	110	NA	NA	NA	NA	NA	32.54	6.49	NA	26.05	NA	2.7
MW-2	10/10/2002	26,000	2,600	19	1,900	810	NA	<100	NA	NA	NA	NA	NA	32.54	6.82	NA	25.72	NA	2.4
MW-2	1/21/2003	30,000	3,000	24	2,000	1,400	NA	140	NA	NA	NA	NA	NA	32.54	6.00	NA	26.54	NA	1.6
MW-2	5/2/2003	23,000	2,800	28	1,400	880	NA	<250	NA	NA	NA	NA	NA	32.54	5.85	NA	26.69	NA	1.7
MW-2	7/10/2003	20,000	3,800	<50	2,500	1,500	NA	180	NA	NA	NA	NA	NA	32.54	6.16	NA	26.38	NA	NA
MW-2	10/28/2003	35,000	5,400	59	2,800	1,400	NA	140	NA	NA	NA	NA	NA	32.54	6.30	NA	26.24	NA	NA
MW-2	1/13/2004	39,000	6,400	55	3,000	1,400	NA	240	NA	NA	NA	NA	NA	32.54	5.93	NA	26.61	NA	NA
MW-2	4/1/2004	29,000	4,200	<50	2,300	1,000	NA	140	NA	NA	NA	NA	NA	32.54	5.99	NA	26.55	NA	NA
MW-2	7/21/2004	43,000	3,900	<50	2,700	860	NA	93	<200	<200	<200	<500	NA	32.54	6.05	NA	26.49	NA	NA
MW-2	10/20/2004	33,000	5,100	<50	2,800	950	NA	97	NA	NA	NA	NA	NA	32.54	6.10	NA	26.44	NA	NA
MW-2	1/19/2005	27,000	3,400	<50	2,000	580	NA	120	NA	NA	NA	NA	NA	32.54	5.41	NA	27.13	NA	NA
MW-2	4/20/2005	37,000	3,400	<50	1,900	580	NA	110	NA	NA	NA	NA	NA	32.54	5.86	NA	26.68	NA	NA
MW-2	**7/20/2005**	**33,000**	**3,900**	**<50**	**2,300**	**590**	**NA**	**86**	**<200**	**<200**	**<200**	**<500**	**NA**	**32.54**	**8.39**	**NA**	**24.15**	**NA**	**NA**
MW-3	8/6/1991	430	8	1	4	15	NA	NA	NA	NA	NA	NA	NA	21.78	11.18	NA	10.60	NA	NA
MW-3	10/23/1991	390	2.10	<0.3	0.48	2	NA	NA	NA	NA	NA	NA	NA	21.78	11.69	NA	10.09	NA	NA
MW-3	1/28/1992	190	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	9.99	NA	11.79	NA	NA
MW-3	5/4/1992	190	<1	<1	<1	0.71	NA	NA	NA	NA	NA	NA	NA	21.78	9.46	NA	12.32	NA	NA
MW-3	7/20/1992	200a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	11.29	NA	10.49	NA	NA
MW-3	10/12/1992	180a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	13.10	NA	8.68	NA	NA
MW-3	1/12/1993	180	<0.5	2.3	0.9	5.6	NA	NA	NA	NA	NA	NA	NA	21.78	7.32	NA	14.46	NA	NA
MW-3	4/6/1993	280	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	7.44	NA	14.34	NA	NA
MW-3	7/12/1993	310a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	10.62	NA	11.16	NA	NA
MW-3	10/13/1993	150	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	12.05	NA	9.73	NA	NA
MW-3	1/20/1994	180	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	9.62	NA	12.16	NA	NA
MW-3	4/13/1994	270	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	9.15	NA	12.63	NA	NA
MW-3	7/19/1994	190a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	10.13	NA	11.65	NA	NA
MW-3	10/27/1994	160a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	11.66	NA	10.12	NA	NA

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MW-3	1/3/1995	100a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	6.89	NA	14.89	NA	NA
MW-3	4/13/1995	120a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	6.79	NA	14.99	NA	NA
MW-3	6/30/1995	180a	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	21.78	8.94	NA	12.84	NA	NA
MW-3	10/11/1995	150	2.2	<0.5	<0.5	<0.5	2.3	NA	NA	NA	NA	NA	NA	21.78	10.62	NA	11.16	NA	NA
MW-3	1/17/1996	120	<0.5	<0.5	<0.5	<0.5	7.8	NA	NA	NA	NA	NA	NA	21.78	7.18	NA	14.60	NA	NA
MW-3	4/10/1996	160	<0.5	<0.5	<0.5	<0.5	12	NA	NA	NA	NA	NA	NA	21.78	6.76	NA	15.02	NA	NA
MW-3	7/30/1996	57	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	21.78	9.04	NA	12.74	NA	NA
MW-3	10/17/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	21.78	9.04	NA	12.74	NA	2.0
MW-3	1/22/1997	<50	<0.5	<0.5	<0.5	<0.5	3.7	NA	NA	NA	NA	NA	NA	21.78	5.03	NA	16.75	NA	2.4
MW-3	4/1/1997	71	<0.50	<0.50	<0.50	<0.50	NA b	NA	NA	NA	NA	NA	NA	21.78	8.23	NA	13.55	NA	1.6
MW-3	7/14/1997	<50	<0.50	<0.50	<0.50	1.5	NA b	NA	NA	NA	NA	NA	NA	21.78	9.09	NA	12.69	NA	1.9
MW-3	10/8/1997	73	<0.50	<0.50	<0.50	<0.50	NA b	NA	NA	NA	NA	NA	NA	21.78	10.23	NA	11.55	NA	5.5
MW-3	12/5/1997	Abandoned																	
MW-3R	4/6/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.83	9.89	NA	11.94	NA	NA
MW-3R	4/12/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	NA	21.83	5.83	NA	16.00	NA	2.1
MW-3R	7/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	4.15	NA	NA	NA	NA	NA	NA	21.83	9.59	NA	12.24	NA	2.0
MW-3R	10/14/1999	<50.0	<0.500	<0.500	<0.500	<0.500	9.43	NA	NA	NA	NA	NA	NA	21.83	10.00	NA	11.83	NA	0.6
MW-3R	1/6/2000	78	<0.500	<0.500	<0.500	<0.500	31	NA	NA	NA	NA	NA	NA	21.83	9.71	NA	12.12	NA	0.8
MW-3R	4/5/2000	<50.0	<0.500	<0.500	<0.500	<0.500	273	2,890*	NA	NA	NA	NA	NA	21.83	6.90	NA	14.93	NA	1.5
MW-3R	7/20/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	21.83	6.94	NA	14.89	NA	1.1
MW-3R	10/24/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.83	8.90	NA	12.93	NA	NA
MW-3R	1/19/2001	<50.0	<0.500	<0.500	<0.500	<0.500	79.2	NA	NA	NA	NA	NA	NA	32.79	7.04	NA	25.75	NA	2.0
MW-3R	4/27/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	7.38	NA	25.41	NA	NA
MW-3R	7/26/2001	97	<0.50	<0.50	<0.50	<0.50	NA	200	NA	NA	NA	NA	NA	32.79	9.30	NA	23.49	NA	1.8
MW-3R	10/2/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	9.41	NA	23.38	NA	NA
MW-3R	1/15/2002	55	<0.50	<0.50	<0.50	<0.50	NA	32	NA	NA	NA	NA	NA	32.79	6.05	NA	26.74	NA	0.7
MW-3R	4/17/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	7.70	NA	25.09	NA	NA
MW-3R	7/11/2002	110	<0.50	<0.50	<0.50	<0.50	NA	65	NA	NA	NA	NA	NA	32.79	8.76	NA	24.03	NA	2.5
MW-3R	10/10/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	9.65	NA	23.14	NA	NA
MW-3R	1/21/2003	65	<0.50	<0.50	<0.50	<0.50	NA	13	NA	NA	NA	NA	NA	32.79	5.21	NA	27.58	NA	1.6
MW-3R	5/2/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	6.08	NA	26.71	NA	NA
MW-3R	7/10/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	11	NA	NA	NA	NA	NA	32.79	8.20	NA	24.59	NA	NA

WELL CONCENTRATIONS
Former Shell/Current San Pablo Gas Service Station
3420 San Pablo Avenue
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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-3R	10/28/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	8.57	NA	24.22	NA	NA
MW-3R	1/13/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	3.9	NA	NA	NA	NA	NA	32.79	5.79	NA	27.00	NA	NA
MW-3R	4/1/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	7.22	NA	25.57	NA	NA
MW-3R	7/21/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	2.7	<2.0	<2.0	<2.0	<5.0	NA	32.79	8.55	NA	24.24	NA	NA
MW-3R	10/20/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	8.30	NA	24.49	NA	NA
MW-3R	1/19/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	2.0	NA	NA	NA	NA	NA	32.79	6.10	NA	26.69	NA	NA
MW-3R	4/20/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.79	6.41	NA	26.38	NA	NA
MW-3R	**7/20/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**2.9**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**NA**	**32.79**	**8.76**	**NA**	**24.03**	**NA**	**NA**
MW-4	8/6/1991	1,300	28	18	68	150	NA	NA	NA	NA	NA	NA	NA	20.31	10.57	NA	9.74	NA	NA
MW-4	10/23/1991	1,900	97	6.10	38	77	NA	NA	NA	NA	NA	NA	NA	20.31	10.46	NA	9.85	NA	NA
MW-4	1/28/1992	200	7.60	<0.5	3	3.30	NA	NA	NA	NA	NA	NA	NA	20.31	9.54	NA	10.77	NA	NA
MW-4	5/4/1992	690	98	3	13	<1	NA	NA	NA	NA	NA	NA	NA	20.31	8.33	NA	11.98	NA	NA
MW-4	7/13/1992	1,500	140	2.90	17	12	NA	NA	NA	NA	NA	NA	NA	20.31	9.87	NA	10.44	NA	NA
MW-4	10/12/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	12.43	NA	8.50	0.78	NA
MW-4	1/12/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	7.12	NA	13.99	1.00	NA
MW-4	4/6/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	7.23	NA	13.84	0.95	NA
MW-4	7/12/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	10.08	NA	10.25	0.03	NA
MW-4	10/13/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	11.35	NA	9.06	0.12	NA
MW-4	1/20/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	9.06	NA	11.26	0.02	NA
MW-4	4/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	8.58	NA	11.74	0.01	NA
MW-4	7/19/1994	12,000	230	43	230	660	NA	NA	NA	NA	NA	NA	NA	20.31	9.71	NA	10.60	NA	NA
MW-4	10/27/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	10.60	NA	9.73	0.03	NA
MW-4	1/3/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	5.49	NA	14.83	0.01	NA
MW-4	4/13/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	6.53	NA	13.80	0.03	NA
MW-4	6/30/1995	7,400	140	<0.5	160	350	NA	NA	NA	NA	NA	NA	NA	20.31	9.57	NA	10.74	NA	NA
MW-4	10/11/1995	3,000	29	10	100	82	9,700	NA	NA	NA	NA	NA	NA	20.31	10.30	NA	10.01	NA	NA
MW-4	1/17/1996	9,700	190	<0.5	190	410	4,500	NA	NA	NA	NA	NA	NA	20.31	6.68	NA	13.63	NA	NA
MW-4	4/10/1996	2,800	16	<0.5	22	50	6,100	NA	NA	NA	NA	NA	NA	20.31	7.90	NA	12.41	NA	NA
MW-4	7/30/1996	1,600	68	<12	58	39	8,500	NA	NA	NA	NA	NA	NA	20.31	8.73	NA	11.58	NA	2.8
MW-4	10/17/1996	4,800	120	<25	150	96	11,000	NA	NA	NA	NA	NA	NA	20.31	7.63	NA	10.34	NA	2.8
MW-4	1/22/1997	12,000	83	<20	170	240	4,300	NA	NA	NA	NA	NA	NA	20.31	5.26	NA	15.05	NA	2.6
MW-4	4/1/1997	4,800	65	<5.0	81	93	3,200	NA	NA	NA	NA	NA	NA	20.31	8.02	NA	12.29	NA	2.4

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MW-4	7/14/1997	2,400	35	<10	30	20	6,000	NA	NA	NA	NA	NA	NA	20.31	10.05	NA	10.26	NA	2.0
MW-4	10/8/1997	2,900	66	<20	<20	<20	7,300	NA	NA	NA	NA	NA	NA	20.31	10.22	NA	10.09	NA	5.9
MW-4	1/19/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	NA	NA	NA	NA	NA
MW-4	4/28/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.31	NA	NA	NA	NA	NA
MW-4	9/30/1998	1,300	57	8.7	58	37	3,600	NA	NA	NA	NA	NA	NA	20.92	9.31	NA	11.61	NA	2.9
MW-4	12/9/1998	3,500	130	<5.0	100	36	3,200	4,500	NA	NA	NA	NA	NA	20.92	9.30	NA	11.62	NA	2.2
MW-4	1/18/1999	7,040	321	<25.0	273	<25.0	4,830	4,660	NA	NA	NA	NA	NA	20.92	8.60	NA	12.32	NA	2.3
MW-4	4/12/1999	1,540	47.6	<10.0	24.4	<10.0	2,760	NA	NA	NA	NA	NA	NA	20.92	6.25	NA	14.67	NA	1.9
MW-4	7/27/1999	3,570	214	<25.0	58.3	31.0	5,440	7,280*	NA	NA	NA	NA	NA	20.92	9.33	NA	11.59	NA	1.9
MW-4	10/14/1999	3,920	157	<25.0	103	<25.0	6,550	8,990	NA	NA	NA	NA	NA	20.92	9.93	NA	10.99	NA	1.7
MW-4	1/6/2000	5,030	247	7.2	169	37.7	6,860	7,400	NA	NA	NA	NA	NA	20.92	9.31	NA	11.61	NA	1.7
MW-4	4/5/2000	1,870	120	<5.00	15.1	<5.00	4,400	2,890*	NA	NA	NA	NA	NA	20.92	6.00	NA	14.92	NA	1.8
MW-4	7/20/2000	6,740	114	36.4	71.9	28.2	1,900	NA	NA	NA	NA	NA	NA	20.92	6.10	NA	14.82	NA	2.1
MW-4	10/24/2000	2,120	108	8.28	12.5	<5.00	6,070	5,950	NA	NA	NA	NA	NA	20.92	8.90	NA	12.02	NA	1.1
MW-4	1/19/2001	3,330	67.2	<5.00	7.18	<5.00	3,620	4,330	NA	NA	NA	NA	NA	31.88	7.25	NA	24.63	NA	1.8
MW-4	4/27/2001	1,600	79	<10	<10	<10	NA	3,900	NA	NA	NA	NA	NA	31.88	7.41	NA	24.47	NA	1.4
MW-4	7/26/2001	2,700	140	<20	24	<20	NA	4,700	NA	NA	NA	NA	NA	31.88	8.20	NA	23.68	NA	1.8
MW-4	10/2/2001	4,600	170	<10	50	<10	NA	6,300	<10	<10	<10	2,600	<500	31.88	8.55	NA	23.33	NA	2.1
MW-4	1/15/2002	1,000	34	<5.0	<5.0	9.8	NA	2,800	NA	NA	NA	NA	NA	31.88	6.53	NA	25.35	NA	2.7
MW-4	4/17/2002	1,400	92	<10	<10	11	NA	4,100	NA	NA	NA	NA	NA	31.88	7.00	NA	24.88	NA	2.4
MW-4	7/11/2002	1,800	82	<10	<10	11	NA	4,500	NA	NA	NA	NA	NA	31.88	8.49	NA	23.39	NA	2.1
MW-4	10/10/2002	7,400	230	<10	45	<10	NA	6,600	NA	NA	NA	NA	NA	31.88	9.05	NA	22.83	NA	2.5
MW-4	1/21/2003	1,400	27	<2.5	<2.5	<2.5	NA	1,200	NA	NA	NA	NA	NA	31.88	6.50	NA	25.38	NA	0.4
MW-4	5/2/2003	<2,500	80	<25	<25	<50	NA	2,500	NA	NA	NA	NA	NA	31.88	6.97	NA	24.91	NA	1.3
MW-4	7/10/2003	<2,500	93	<25	<25	<50	NA	2,800	NA	NA	NA	NA	NA	31.88	7.74	NA	24.14	NA	NA
MW-4	10/28/2003	4,000	120	<10	<10	<20	NA	2,100	NA	NA	NA	NA	NA	31.88	8.43	NA	23.45	NA	NA
MW-4	1/13/2004	2,000	45	<5.0	<5.0	<10	NA	620	NA	NA	NA	NA	NA	31.88	6.75	NA	25.13	NA	NA
MW-4	4/1/2004	1,400	17	<2.5	<2.5	<5.0	NA	540	NA	NA	NA	NA	NA	31.88	6.40	NA	25.48	NA	NA
MW-4	7/21/2004	3,100	120	<2.5	11	<5.0	NA	900	<10	<10	<10	2,200	NA	31.88	8.23	NA	23.65	NA	NA
MW-4	10/20/2004	3,600	97	<2.5	9.7	<5.0	NA	470	NA	NA	NA	NA	NA	31.88	8.30	NA	23.58	NA	NA
MW-4	1/19/2005	1,600	15	<2.5	<2.5	<5.0	NA	220	NA	NA	NA	NA	NA	31.88	5.83	NA	26.05	NA	NA
MW-4	4/20/2005	1,300	8.8	<2.5	<2.5	<5.0	NA	210	NA	NA	NA	NA	NA	31.88	6.12	NA	25.76	NA	NA
MW-4	**7/20/2005**	**1,600**	**34**	**<2.5**	**3.8**	**<5.0**	**NA**	**280**	**<10**	**<10**	**<10**	**1,100**	**NA**	**31.88**	**8.35**	**NA**	**23.53**	**NA**	**NA**

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MW-5	8/6/1991	9,100	210	27	240	660	NA	NA	NA	NA	NA	NA	NA	20.91	10.23	NA	10.68	NA	NA
MW-5	10/23/1991	12,000	92	18	230	450	NA	NA	NA	NA	NA	NA	NA	20.91	10.89	NA	10.02	NA	NA
MW-5	1/28/1992	3,300	130	10	180	220	NA	NA	NA	NA	NA	NA	NA	20.91	8.45	NA	12.46	NA	NA
MW-5	5/4/1992	3,900	95	<12.5	260	120	NA	NA	NA	NA	NA	NA	NA	20.91	8.05	NA	12.86	NA	NA
MW-5	7/13/1992	4,100	180	12	250	73	NA	NA	NA	NA	NA	NA	NA	20.91	10.00	NA	10.91	NA	NA
MW-5	10/12/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.91	11.83	NA	9.09	0.01	NA
MW-5	1/12/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.91	6.10	NA	14.81	<0.01	NA
MW-5	4/6/1993	6,200	71	<0.5	53	150	NA	NA	NA	NA	NA	NA	NA	20.91	6.18	NA	14.73	NA	NA
MW-5	7/12/1993	3,400	130	<0.5	170	130	NA	NA	NA	NA	NA	NA	NA	20.91	9.59	NA	11.32	NA	NA
MW-5	10/13/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.91	10.80	NA	10.13	0.03	NA
MW-5	1/20/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.91	7.42	NA	13.49	0.01	NA
MW-5	4/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.91	7.05	NA	13.87	0.01	NA
MW-5	7/19/1994	11,000	180	13	180	260	NA	NA	NA	NA	NA	NA	NA	20.91	8.57	NA	12.34	NA	NA
MW-5	10/27/1994	6,900	82	<5	210	1,110	NA	NA	NA	NA	NA	NA	NA	20.91	10.14	NA	10.77	NA	NA
MW-5	1/3/1995	12,000	110	46	790	510	NA	NA	NA	NA	NA	NA	NA	20.91	5.84	NA	15.07	NA	NA
MW-5	4/13/1995	10,000	61	<20	330	140	NA	NA	NA	NA	NA	NA	NA	20.91	5.28	NA	15.63	NA	NA
MW-5	6/30/1995	12,000	180	8.60	440	340	NA	NA	NA	NA	NA	NA	NA	20.91	7.43	NA	13.48	NA	NA
MW-5	10/11/1995	11,000	<50	<50	440	340	5,100	NA	NA	NA	NA	NA	NA	20.91	8.90	NA	12.01	NA	NA
MW-5	1/17/1996	82,000	330	120	960	1,400	820	NA	NA	NA	NA	NA	NA	20.91	6.40	NA	14.51	NA	NA
MW-5	4/10/1996	23,000	<50	<50	360	190	770	NA	NA	NA	NA	NA	NA	20.91	5.70	NA	15.21	NA	NA
MW-5	7/30/1996	38,000	3,000	<100	1,100	2,600	560	NA	NA	NA	NA	NA	NA	20.91	7.71	NA	13.20	NA	NA
MW-5	10/17/1996	13,000	36	<10	210	160	720	NA	NA	NA	NA	NA	NA	20.91	9.04	NA	11.87	NA	1.4
MW-5	1/22/1997	20,000	63	<50	380	390	650	NA	NA	NA	NA	NA	NA	20.91	4.85	NA	16.06	NA	1.6
MW-5	4/1/1997	16,000	110	<50	390	320	2,200	NA	NA	NA	NA	NA	NA	20.91	6.54	NA	14.37	NA	1.4
MW-5	7/14/1997	15,000	70	<20	220	170	450	NA	NA	NA	NA	NA	NA	20.91	8.54	NA	12.37	NA	1.8
MW-5	10/8/1997	9,100	27	11	170	57	530	NA	NA	NA	NA	NA	NA	20.91	9.09	NA	11.82	NA	4.7
MW-5	1/19/1998	9,500	92	<50	200	77	1,100	NA	NA	NA	NA	NA	NA	20.91	2.11	NA	18.80	NA	2.5
MW-5	4/28/1998	15,000	100	53	150	80	460	NA	NA	NA	NA	NA	NA	20.91	4.90	NA	16.01	NA	2.2
MW-5	9/30/1998	11,000	120	<100	240	200	<500	NA	NA	NA	NA	NA	NA	21.71	8.05	NA	13.66	NA	2.0
MW-5	12/9/1998	45,000	<200	<200	240	240	<1,000	NA	NA	NA	NA	NA	NA	21.71	8.62	NA	13.09	NA	4.7
MW-5	1/18/1999	9,120	13.8	<2.50	315	74.5	131	NA	NA	NA	NA	NA	NA	21.71	6.75	NA	14.96	NA	2.1
MW-5	4/12/1999	16,200	80.9	<50.0	163	<50.0	8,310	NA	NA	NA	NA	NA	NA	21.71	4.80	NA	16.91	NA	2.3

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MW-5	7/27/1999	6,820	<5.00	<5.00	99.7	<5.00	216	NA	NA	NA	NA	NA	NA	21.71	6.25	NA	15.46	NA	2.1
MW-5	10/14/1999	10,800	47.8	<12.5	313	23.1	232	NA	NA	NA	NA	NA	NA	21.71	6.93	NA	14.78	NA	2.8
MW-5	1/6/2000	9,920	39.8	15.4	220	69.6	478	NA	NA	NA	NA	NA	NA	21.71	7.52	NA	14.19	NA	2.9
MW-5	4/5/2000	8,370	68.3	20.1	40.2	<10.0	1,570	NA	NA	NA	NA	NA	NA	21.71	5.31	NA	16.40	NA	0.4
MW-5	7/20/2000	15,500	60.5	181	104	108	460	NA	NA	NA	NA	NA	NA	21.71	5.40	NA	16.31	NA	1.7
MW-5	10/24/2000	5,170	24.3	12.6	16.5	9.79	130	NA	NA	NA	NA	NA	NA	21.71	5.59	NA	16.12	NA	1.3
MW-5	1/19/2001	4,000	<5.00	17.4	88.1	22.6	371	NA	NA	NA	NA	NA	NA	32.67	5.05	NA	27.62	NA	1.0
MW-5	4/27/2001	3,100	<1.0	<1.0	2.6	1.3	NA	210	NA	NA	NA	NA	NA	32.67	5.38	NA	27.29	NA	1.3
MW-5	7/26/2001	11,000	1.4	<1.0	13	2.2	NA	46	NA	NA	NA	NA	NA	32.67	7.17	NA	25.50	NA	1.6
MW-5	10/2/2001	5,300	6.2	3.4	60	11	NA	<100	NA	NA	NA	NA	NA	32.67	7.86	NA	24.81	NA	2.2
MW-5	1/15/2002	3,800	1.0	<0.50	1.7	0.60	NA	120	NA	NA	NA	NA	NA	32.67	4.35	NA	28.32	NA	1.7
MW-5	4/17/2002	4,600	0.61	<0.50	1.5	<0.50	NA	140	NA	NA	NA	NA	NA	32.67	6.04	NA	26.63	NA	0.5
MW-5	7/11/2002	7,200	1.8	0.58	5.9	0.78	NA	130	NA	NA	NA	NA	NA	32.67	6.72	NA	25.95	NA	4.2
MW-5	10/10/2002	4,300	3.2	<1.0	3.5	<1.0	NA	86	NA	NA	NA	NA	NA	32.67	6.99	NA	25.68	NA	2.5
MW-5	1/21/2003	4,300	2.4	<0.50	7.8	0.67	NA	170	NA	NA	NA	NA	NA	32.67	5.09	NA	27.58	NA	0.5
MW-5	5/2/2003	3,600 d	<10	<10	<10	<20	NA	170	NA	NA	NA	NA	NA	32.67	5.14	NA	27.53	NA	0.05
MW-5	7/10/2003	2,700	2.1	<1.0	4.8	<2.0	NA	48	NA	NA	NA	NA	NA	32.67	5.68	NA	26.99	NA	NA
MW-5	10/28/2003	7,500	<5.0	<5.0	11	<10	NA	63	NA	NA	NA	NA	NA	32.67	5.79	NA	26.88	NA	NA
MW-5	1/13/2004	3,800	<2.5	<2.5	6.9	<5.0	NA	140	NA	NA	NA	NA	NA	32.67	4.69	NA	27.98	NA	NA
MW-5	4/1/2004	3,800	<5.0	<5.0	<5.0	<10	NA	180	NA	NA	NA	NA	NA	32.67	5.60	NA	27.07	NA	NA
MW-5	7/21/2004	2,500	<5.0	<5.0	<5.0	<10	NA	85	<20	<20	<20	59	NA	32.67	6.50	NA	26.17	NA	NA
MW-5	10/20/2004	4,900	<5.0	<5.0	<5.0	<10	NA	120	NA	NA	NA	NA	NA	32.67	6.87	NA	25.80	NA	NA
MW-5	1/19/2005	3,200	<5.0	<5.0	<5.0	<10	NA	110	NA	NA	NA	NA	NA	32.67	4.73	NA	27.94	NA	NA
MW-5	4/20/2005	3,300	<5.0	<5.0	<5.0	<10	NA	53	NA	NA	NA	NA	NA	32.67	5.29	NA	27.38	NA	NA
MW-5	**7/20/2005**	**2,100**	**<1.0**	**<1.0**	**1.0**	**<2.0**	**NA**	**110**	**<4.0**	**<4.0**	**<4.0**	**51**	**NA**	**32.67**	**7.00**	**NA**	**25.67**	**NA**	**NA**
MW-6	8/6/1991	28,000	1,400	200	1,300	4,200	NA	NA	NA	NA	NA	NA	NA	22.32	10.61	NA	11.71	NA	NA
MW-6	10/23/1991	53,000	1,400	230	1,800	6,700	NA	NA	NA	NA	NA	NA	NA	22.32	11.68	NA	10.64	NA	NA
MW-6	1/28/1992	87,000	1,200	470	2,000	6,600	NA	NA	NA	NA	NA	NA	NA	22.32	8.90	NA	13.42	NA	NA
MW-6	5/5/1992	230,000	<500	<500	3,200	11,000	NA	NA	NA	NA	NA	NA	NA	22.32	8.01	NA	14.31	NA	NA
MW-6	7/13/1992	2,700,000	<2,500	3,500	14,000	36,000	NA	NA	NA	NA	NA	NA	NA	22.32	10.77	NA	11.55	NA	NA
MW-6	10/12/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	8.68	NA	9.34	0.48	NA
MW-6	1/12/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	6.40	NA	15.92	<0.01	NA

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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-6	4/6/1993	320,000	2,500	14,000	980	14,000	NA	NA	NA	NA	NA	NA	NA	22.32	5.93	NA	16.39	NA	NA
MW-6	7/12/1993	31,000	1,100	4,500	150	4,500	NA	NA	NA	NA	NA	NA	NA	22.32	10.25	NA	12.07	NA	NA
MW-6	10/13/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	12.28	NA	10.20	0.20	NA
MW-6	1/20/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	9.14	NA	13.20	0.02	NA
MW-6	4/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	7.67	NA	14.66	0.01	NA
MW-6	7/19/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	10.07	NA	12.31	0.07	NA
MW-6	10/27/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	11.84	NA	10.57	0.11	NA
MW-6	1/3/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	7.80	NA	14.54	0.02	NA
MW-6	4/13/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.32	5.77	NA	16.57	0.02	NA
MW-6	6/30/1995	1,100,000	6,600	6,100	12,000	29,000	NA	NA	NA	NA	NA	NA	NA	22.32	7.78	NA	14.54	NA	NA
MW-6	10/11/1995	30,000	130	<50	1,400	4,200	710	NA	NA	NA	NA	NA	NA	22.32	10.06	NA	12.26	NA	NA
MW-6	1/17/1996	450,000	510	1,400	2,700	11,000	630	NA	NA	NA	NA	NA	NA	22.32	6.91	NA	15.41	NA	NA
MW-6	4/10/1996	22,000	47	<10	350	860	<50	NA	NA	NA	NA	NA	NA	22.32	5.92	NA	16.40	NA	NA
MW-6	7/30/1996	38,000	3,000	<100	1,100	2,600	560	NA	NA	NA	NA	NA	NA	22.32	8.97	NA	13.35	NA	NA
MW-6	10/17/1996	34,000	470	<100	1,300	3,900	<500	NA	NA	NA	NA	NA	NA	22.32	9.87	NA	12.45	NA	1.0
MW-6	1/22/1997	26,000	<100	<100	600	1,700	<500	NA	NA	NA	NA	NA	NA	22.32	4.43	NA	17.89	NA	1.3
MW-6	4/1/1997	30,000	96	33	840	2,600	190	NA	NA	NA	NA	NA	NA	22.32	6.84	NA	15.48	NA	1.4
MW-6	7/14/1997	29,000	200	<100	690	2,000	<500	NA	NA	NA	NA	NA	NA	22.32	10.30	NA	12.02	NA	2.3
MW-6	10/8/1997	55,000	500	110	640	1,500	900	NA	NA	NA	NA	NA	NA	22.32	10.46	NA	11.86	NA	0.0
MW-6	12/5/1997	Abandoned																	
MW-6R	4/6/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.19	12.13	NA	10.06	NA	NA
MW-6R	4/12/1999	26,100	1,750	68.5	2,160	4,450	765	NA	NA	NA	NA	NA	NA	22.19	6.10	NA	16.09	NA	2.4
MW-6R	7/27/1999	25,600	1,190	30.5	1,810	3,030	163	NA	NA	NA	NA	NA	NA	22.19	8.60	NA	13.59	NA	2.5
MW-6R	10/14/1999	21,400	999	<50.0	1,400	1,680	<500	NA	NA	NA	NA	NA	NA	22.19	9.35	NA	12.84	NA	2.0
MW-6R	1/6/2000	17,800	1,440	<50.0	1,310	2,340	301	NA	NA	NA	NA	NA	NA	22.19	9.18	NA	13.01	NA	2.1
MW-6R	4/5/2000	24,400	1,470	63.1	1,750	3,590	496	NA	NA	NA	NA	NA	NA	22.19	6.26	NA	15.93	NA	0.4
MW-6R	7/20/2000	17,200	1,070	42.9	1,260	2,490	725	NA	NA	NA	NA	NA	NA	22.19	6.79	NA	15.40	NA	2.6
MW-6R	10/24/2000	17,200	1,890	107	869	1,620	1,320	NA	NA	NA	NA	NA	NA	22.19	7.40	NA	14.79	NA	1.1
MW-6R	1/19/2001	15,000	1,120	40.2	1,240	2,230	1,670	NA	NA	NA	NA	NA	NA	33.15	6.16	NA	26.99	NA	1.4
MW-6R	4/27/2001	25,000	1,300	24	1,300	2,400	NA	400	NA	NA	NA	NA	NA	33.15	6.93	NA	26.22	NA	1.0
MW-6R	7/26/2001	31,000	1,500	31	1,800	3,000	NA	370	NA	NA	NA	NA	NA	33.15	9.12	NA	24.03	NA	1.4
MW-6R	10/2/2001	28,000	1,100	28	1,800	2,800	NA	160	NA	NA	NA	NA	NA	33.15	8.88	NA	24.27	NA	2.1

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MW-6R	1/15/2002	17,000	1,400	19	900	1,500	NA	650	NA	NA	NA	NA	NA	33.15	5.46	NA	27.69	NA	2.1
MW-6R	4/17/2002	33,000	1,600	33	1,700	3,100	NA	220	NA	NA	NA	NA	NA	33.15	7.68	NA	25.47	NA	2.2
MW-6R	7/11/2002	25,000	1,200	21	1,300	1,900	NA	240	NA	NA	NA	NA	NA	33.15	8.75	NA	24.40	NA	1.6
MW-6R	10/10/2002	83,000 c	1,400	34	2,000	4,400	NA	290	NA	NA	NA	NA	NA	33.15	9.27	NA	23.88	NA	1.0
MW-6R	1/21/2003	20,000	1,200	18	1,100	1,700	NA	340	NA	NA	NA	NA	NA	33.15	6.95	NA	26.20	NA	1.2
MW-6R	5/2/2003	28,000	1,600	32	1,600	2,400	NA	300	NA	NA	NA	NA	NA	33.15	7.50	NA	25.65	NA	1.6
MW-6R	7/10/2003	19,000	1,600	<25	1,400	2,000	NA	730	NA	NA	NA	NA	NA	33.15	8.60	e	24.55	NA	NA
MW-6R	10/28/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.15	8.91	8.65	24.45	0.26	NA
MW-6R	11/24/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.15	8.47	8.32	24.80	0.15	NA
MW-6R	1/13/2004	87,000	1,300	<50	3,300	6,700	NA	160	NA	NA	NA	NA	NA	33.15	6.52	NA	26.63	NA	NA
MW-6R	4/1/2004	39,000	1,300	<50	2,400	3,500	NA	160	NA	NA	NA	NA	NA	33.15	6.90	NA	26.25	NA	NA
MW-6R	7/21/2004	51,000	970	<50	3,200	6,700	NA	120	<200	<200	<200	<500	NA	33.15	8.40	NA	24.75	NA	NA
MW-6R	10/20/2004	140,000	1,700	<50	4,300	7,400	NA	210	NA	NA	NA	NA	NA	33.15	8.61	NA	24.54	<.01	NA
MW-6R	1/19/2005	44,000	1,300	<50	2,700	3,300	NA	140	NA	NA	NA	NA	NA	33.15	6.11	NA	27.04	NA	NA
MW-6R	4/20/2005	26,000	340	<50	800	920	NA	<50	NA	NA	NA	NA	NA	33.15	7.01	NA	26.14	NA	NA
MW-6R	**7/20/2005**	**35,000**	**640**	**<50**	**2,000**	**2,200**	**NA**	**83**	**<200**	**<200**	**<200**	**<500**	**NA**	**33.15**	**8.64**	**NA**	**24.51**	**NA**	**NA**
MW-7	8/6/1991	13,000	4,300	76	770	730	NA	NA	NA	NA	NA	NA	NA	20.36	8.00	NA	12.36	NA	NA
MW-7	10/23/1991	18,000	3,200	31	660	770	NA	NA	NA	NA	NA	NA	NA	20.36	8.16	NA	12.20	NA	NA
MW-7	1/28/1992	5,000	1,200	<10	220	54	NA	NA	NA	NA	NA	NA	NA	20.36	7.11	NA	13.25	NA	NA
MW-7	5/5/1992	9,500	3,100	72	620	880	NA	NA	NA	NA	NA	NA	NA	20.36	6.47	NA	13.89	NA	NA
MW-7	7/13/1992	20,000	4,200	130	1,600	1,100	NA	NA	NA	NA	NA	NA	NA	20.36	7.73	NA	12.63	NA	NA
MW-7	10/12/1992	16,000	2,500	170	560	170	NA	NA	NA	NA	NA	NA	NA	20.36	9.97	NA	11.68	NA	NA
MW-7	1/12/1993	15,000	2,300	<50	690	440	NA	NA	NA	NA	NA	NA	NA	20.36	6.26	NA	14.10	NA	NA
MW-7	4/6/1993	26,000	5,400	<0.5	1,200	3,000	NA	NA	NA	NA	NA	NA	NA	20.36	5.92	NA	14.44	NA	NA
MW-7	7/12/1993	10,000	3,000	100	510	530	NA	NA	NA	NA	NA	NA	NA	20.36	7.27	NA	13.09	NA	NA
MW-7	10/13/1993	59,000	13,000	4,400	4,400	20,000	NA	NA	NA	NA	NA	NA	NA	20.36	9.40	NA	10.96	NA	NA
MW-7	1/20/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	7.03	NA	13.37	0.05	NA
MW-7	4/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	6.56	NA	13.93	0.16	NA
MW-7	7/19/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	6.91	NA	13.61	0.20	NA
MW-7	10/27/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	8.28	NA	12.11	0.04	NA
MW-7	1/3/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	6.48	NA	13.90	0.02	NA
MW-7	4/13/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	6.54	NA	13.84	0.02	NA

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MW-7	6/30/1995	900,000	11,000	8,500	14,000	52,000	NA	NA	NA	NA	NA	NA	NA	20.36	7.08	NA	13.28	NA	NA
MW-7	10/11/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	7.88	NA	12.51	0.04	NA
MW-7	1/17/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	7.26	NA	13.13	0.04	NA
MW-7	4/10/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	6.98	NA	13.42	0.05	NA
MW-7	7/30/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	7.34	NA	13.04	0.03	NA
MW-7	10/17/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	7.63	NA	12.75	0.02	NA
MW-7	1/22/1997	56,000	2,000	520	1,400	8,400	1,800	NA	NA	NA	NA	NA	NA	20.36	6.46	NA	13.90	NA	0.5
MW-7	4/1/1997	66,000	3,600	460	2,400	10,000	2,300	NA	NA	NA	NA	NA	NA	20.36	6.97	NA	13.39	NA	1.6
MW-7	7/14/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.36	8.90	NA	11.48	0.03	NA
MW-7	10/8/1997	68,000	3,200	470	2,400	9,700	3,300	NA	NA	NA	NA	NA	NA	20.36	9.21	NA	11.15	0.01	2.1
MW-7	1/19/1998	44,000	1,800	220	1,700	7,800	1,600	NA	NA	NA	NA	NA	NA	20.36	4.65	NA	15.71	NA	1.6
MW-7	4/28/1998	82,000	1,500	<500	1,200	8,900	<2,500	NA	NA	NA	NA	NA	NA	20.36	6.53	NA	13.83	NA	1.3
MW-7	9/30/1998	41,000	2,300	290	2,200	7,000	1,400	NA	NA	NA	NA	NA	NA	20.35	5.59	NA	14.76	NA	1.4
MW-7	12/9/1998	31,000	530	130	1,100	4,300	<500	NA	NA	NA	NA	NA	NA	20.35	5.91	NA	14.44	NA	4.9
MW-7	1/18/1999	35,300	975	175	1,360	5,750	256	NA	NA	NA	NA	NA	NA	20.35	5.02	NA	15.33	NA	1.2
MW-7	4/12/1999	43,300	728	161	1,820	6,190	<500	NA	NA	NA	NA	NA	NA	20.35	4.57	NA	15.78	NA	1.3
MW-7	7/27/1999	36,600	863	68.3	1,540	4,370	593	NA	NA	NA	NA	NA	NA	20.35	5.36	NA	14.99	NA	1.2
MW-7	10/14/1999	65,600	1,140	157	2,230	7,060	1,090	NA	NA	NA	NA	NA	NA	20.35	5.87	NA	14.48	NA	1.8
MW-7	1/6/2000	57,100	1,060	142	1,540	5,980	634	NA	NA	NA	NA	NA	NA	20.35	6.12	NA	14.23	NA	1.8
MW-7	4/5/2000	36,500	843	<100	1,460	4,220	1,140	NA	NA	NA	NA	NA	NA	20.35	4.87	NA	15.48	NA	1.4
MW-7	7/20/2000	28,400	263	251	457	1,300	690	NA	NA	NA	NA	NA	NA	20.35	5.01	NA	15.34	NA	1.7
MW-7	10/24/2000	33,500	464	<200	1,600	3,830	<1,000	NA	NA	NA	NA	NA	NA	20.35	4.17	NA	16.18	NA	1.5
MW-7	1/19/2001	1,860,000	<2,000	<2,000	<2,000	5,790	<10,000	NA	NA	NA	NA	NA	NA	31.31	5.18	NA	26.13	NA	1.2
MW-7	4/27/2001	31,000	150	20	1,400	3,000	NA	190	NA	NA	NA	NA	NA	31.31	4.99	NA	26.32	NA	1.4
MW-7	7/26/2001	30,000	340	20	1,500	2,600	NA	380	NA	NA	NA	NA	NA	31.31	6.20	NA	25.11	NA	1.1
MW-7	10/2/2001	38,000	480	9.0	970	2,600	NA	300	NA	NA	NA	NA	NA	31.31	6.45	NA	24.86	NA	1.5
MW-7	1/15/2002	33,000	160	6.6	810	1,300	NA	130	NA	NA	NA	NA	NA	31.31	4.31	NA	27.00	NA	2.0
MW-7	4/17/2002	28,000	160	6.1	1,000	1,700	NA	140	NA	NA	NA	NA	NA	31.31	4.12	NA	27.19	NA	1.2
MW-7	7/11/2002	26,000	200	<5.0	830	1,300	NA	170	NA	NA	NA	NA	NA	31.31	5.90	NA	25.41	NA	3.0
MW-7	10/10/2002	95,000 c	380	11	1,500	3,900	NA	330	NA	NA	NA	NA	NA	31.31	6.32	NA	24.99	NA	2.9
MW-7	1/21/2003	18,000	100	2.6	530	780	NA	96	NA	NA	NA	NA	NA	31.31	3.04	NA	28.27	NA	0.9
MW-7	5/2/2003	23,000	99	<10	490	620	NA	<100	NA	NA	NA	NA	NA	31.31	3.45	NA	27.86	NA	0.91
MW-7	7/10/2003	18,000	200	<5.0	460	1,100	NA	52	NA	NA	NA	NA	NA	31.31	4.59	NA	26.72	NA	NA

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MW-7	10/28/2003	37,000	290	<10	830	1,200	NA	98	NA	NA	NA	NA	NA	31.31	4.97	NA	26.34	NA	NA
MW-7	1/13/2004	22,000	94	<10	410	680	NA	97	NA	NA	NA	NA	NA	31.31	4.55	NA	26.76	NA	NA
MW-7	4/1/2004	24,000	250	<10	440	660	NA	210	NA	NA	NA	NA	NA	31.31	4.91	NA	26.40	NA	NA
MW-7	7/21/2004	21,000	440	<10	460	640	NA	110	<40	<40	<40	<100	NA	31.31	4.58	NA	26.73	NA	NA
MW-7	10/20/2004	23,000	430	<10	410	640	NA	40	NA	NA	NA	NA	NA	31.31	1.95	NA	29.36	NA	NA
MW-7	1/19/2005	17,000	97	<10	240	370	NA	150	NA	NA	NA	NA	NA	31.31	3.91	NA	27.40	NA	NA
MW-7	4/20/2005	18,000	160	<10	260	320	NA	80	NA	NA	NA	NA	NA	31.31	4.64	NA	26.67	NA	NA
MW-7	**7/20/2005**	**15,000**	**800**	**<10**	**200**	**250**	**NA**	**660**	**<40**	**<40**	**<40**	**290**	**NA**	**31.31**	**6.29**	**NA**	**25.02**	**NA**	**NA**
MW-8	8/6/1991	32,000	3,700	1,100	1,400	6,100	NA	NA	NA	NA	NA	NA	NA	20.95	9.60	NA	11.35	NA	NA
MW-8	10/23/1991	63,000	4,800	1,300	1,300	6,900	NA	NA	NA	NA	NA	NA	NA	20.95	9.73	NA	11.22	NA	NA
MW-8	1/28/1992	32,000	1,900	750	1,400	6,300	NA	NA	NA	NA	NA	NA	NA	20.95	7.72	NA	13.23	NA	NA
MW-8	5/5/1992	180,000	2,200	2,000	2,700	13,000	NA	NA	NA	NA	NA	NA	NA	20.95	6.48	NA	14.47	NA	NA
MW-8	7/13/1992	56,000	4,500	1,500	2,700	9,100	NA	NA	NA	NA	NA	NA	NA	20.95	8.55	NA	12.40	NA	NA
MW-8	10/12/1992	34,000	2,400	550	1,400	6,400	NA	NA	NA	NA	NA	NA	NA	20.95	9.97	NA	10.98	NA	NA
MW-8	1/12/1993	110,000	2,100	1,200	2,400	12,000	NA	NA	NA	NA	NA	NA	NA	20.95	6.94	NA	14.01	NA	NA
MW-8	4/6/1993	38,000	2,500	840	1,100	4,900	NA	NA	NA	NA	NA	NA	NA	20.95	5.72	NA	15.23	NA	NA
MW-8	7/12/1993	27,000	2,800	990	1,200	5,300	NA	NA	NA	NA	NA	NA	NA	20.95	7.65	NA	13.30	NA	NA
MW-8	10/13/1993	32,000	3,300	1,300	1,600	8,400	NA	NA	NA	NA	NA	NA	NA	20.95	8.25	NA	12.70	NA	NA
MW-8	1/20/1994	78,000	1,900	670	1,300	6,600	NA	NA	NA	NA	NA	NA	NA	20.95	7.25	NA	13.70	NA	NA
MW-8	4/13/1994	41,000	1,300	720	1,200	6,000	NA	NA	NA	NA	NA	NA	NA	20.95	7.12	NA	13.83	NA	NA
MW-8	7/19/1994	140,000	1,800	1,400	2,000	9,000	NA	NA	NA	NA	NA	NA	NA	20.95	7.43	NA	13.52	NA	NA
MW-8	10/27/1994	32,000	1,200	670	1,200	5,700	NA	NA	NA	NA	NA	NA	NA	20.95	7.55	NA	13.40	NA	NA
MW-8	1/3/1995	38,000	1,000	700	1,500	7,500	NA	NA	NA	NA	NA	NA	NA	20.95	6.04	NA	14.91	NA	NA
MW-8	4/13/1995	31,000	1,200	570	1,000	5,300	NA	NA	NA	NA	NA	NA	NA	20.95	5.04	NA	15.91	NA	NA
MW-8	6/30/1995	110,000	2,000	1,500	2,000	9,700	NA	NA	NA	NA	NA	NA	NA	20.95	5.72	NA	15.23	NA	NA
MW-8	10/11/1995	36,000	170	60	1,300	6,300	510	NA	NA	NA	NA	NA	NA	20.95	7.06	NA	13.89	NA	NA
MW-8	1/17/1996	38,000	1,000	520	1,100	6,200	950	NA	NA	NA	NA	NA	NA	20.95	5.84	NA	15.11	NA	NA
MW-8	4/10/1996	54,000	650	260	850	4,700	<250	NA	NA	NA	NA	NA	NA	20.95	5.03	NA	15.92	NA	NA
MW-8	7/30/1996	33,000	780	330	830	4,200	1,700	NA	NA	NA	NA	NA	NA	20.95	6.36	NA	14.59	NA	NA
MW-8	10/17/1996	35,000	750	300	1,100	5,000	1,200	NA	NA	NA	NA	NA	NA	20.95	5.94	NA	15.01	NA	1.6
MW-8	1/22/1997	25,000	260	78	420	2,400	120	NA	NA	NA	NA	NA	NA	20.95	5.93	NA	15.02	NA	1.8
MW-8	4/1/1997	22,000	680	180	550	2,500	260	NA	NA	NA	NA	NA	NA	20.95	6.24	NA	14.71	NA	1.8

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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-8	7/14/1997	29,000	870	200	850	3,100	500	NA	NA	NA	NA	NA	NA	20.95	8.59	NA	12.36	NA	1.4
MW-8	10/8/1997	27,000	1,000	190	960	3,000	170	NA	NA	NA	NA	NA	NA	20.95	9.04	NA	11.91	NA	4.6
MW-8	1/19/1998	21,000	660	160	740	3,300	170	NA	NA	NA	NA	NA	NA	20.95	3.34	NA	17.61	NA	2.2
MW-8	4/28/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.95	NA	NA	NA	NA	NA
MW-8	9/30/1998	19,000	370	230	880	3,800	410	NA	NA	NA	NA	NA	NA	21.15	7.00	NA	14.15	NA	1.2
MW-8	12/9/1998	1,400	92	90	74	260	<250	NA	NA	NA	NA	NA	NA	21.15	6.38	NA	14.77	NA	3.6
MW-8	1/18/1999	317	<0.500	<0.500	3.04	0.984	3.92	NA	NA	NA	NA	NA	NA	21.15	1.85	NA	19.30	NA	2.0
MW-8	4/12/1999	8,300	35.6	24.4	144	466	<100	NA	NA	NA	NA	NA	NA	21.15	3.65	NA	17.50	NA	1.6
MW-8	7/27/1999	12,700	<5.00	5.47	281	1,130	50.3	NA	NA	NA	NA	NA	NA	21.15	5.00	NA	16.15	NA	1.4
MW-8	10/14/1999	11,900	86.7	16.9	210	469	<100	NA	NA	NA	NA	NA	NA	21.15	5.95	NA	15.20	NA	1.2
MW-8	1/6/2000	5,930	65	12.4	106	129	203.0	NA	NA	NA	NA	NA	NA	21.15	6.19	NA	14.96	NA	1.3
MW-8	4/5/2000	6,770	100	<50.0	61.3	150	322	NA	NA	NA	NA	NA	NA	21.15	5.14	NA	16.01	NA	2.1
MW-8	7/20/2000	28,900	109	307	119	235	337	NA	NA	NA	NA	NA	NA	21.15	5.21	NA	15.94	NA	2.1
MW-8	10/24/2000	8,620	99.0	12.8	152	366	225	NA	NA	NA	NA	NA	NA	21.15	3.11	NA	18.04	NA	1.0
MW-8	1/19/2001	5,590	49.4	6.50	26.0	57.4	99.5	NA	NA	NA	NA	NA	NA	32.11	5.35	NA	26.76	NA	1.8
MW-8	4/27/2001	3,800	<0.50	<0.50	14	31	NA	<5.0	NA	NA	NA	NA	NA	32.11	4.58	NA	27.53	NA	0.7
MW-8	7/26/2001	4,400	0.88	0.59	7.0	14	NA	<5.0	NA	NA	NA	NA	NA	32.11	5.83	NA	26.28	NA	0.9
MW-8	10/2/2001	1,800	9.8	<0.50	23	16	NA	<5.0	NA	NA	NA	NA	NA	32.11	6.50	NA	25.61	NA	1.2
MW-8	1/15/2002	2,700	1.2	1.5	0.93	1.7	NA	12	NA	NA	NA	NA	NA	32.11	5.07	NA	27.04	NA	1.6
MW-8	4/17/2002	3,200	2.2	<1.0	9.0	14	NA	<10	NA	NA	NA	NA	NA	32.11	3.80	NA	28.31	NA	1.0
MW-8	7/11/2002	6,500	23	1.0	12	19	NA	<10	NA	NA	NA	NA	NA	32.11	6.29	NA	25.82	NA	1.9
MW-8	10/10/2002	1,900	5.3	<0.50	30	33	NA	7.6	NA	NA	NA	NA	NA	32.11	4.32	NA	27.79	NA	2.4
MW-8	1/21/2003	3,700	1.4	<1.0	3.9	6.6	NA	<10	NA	NA	NA	NA	NA	32.11	5.57	NA	26.54	NA	0.6
MW-8	5/2/2003	3,900 d	<5.0	<5.0	<5.0	<10	NA	<50	NA	NA	NA	NA	NA	32.11	1.67	NA	30.44	NA	0.23
MW-8	7/10/2003	2,400	<2.5	<2.5	<2.5	<5.0	NA	<2.5	NA	NA	NA	NA	NA	32.11	3.81	NA	28.30	NA	NA
MW-8	10/28/2003	3,000	<2.5	3.1	4.6	6.1	NA	<2.5	NA	NA	NA	NA	NA	32.11	4.99	NA	27.12	NA	NA
MW-8	1/13/2004	4,600	3.6	<2.5	14	20	NA	2.5	NA	NA	NA	NA	NA	32.11	5.10	NA	27.01	NA	NA
MW-8	4/1/2004	4,200	3.9	<2.5	7.1	8.8	NA	<2.5	NA	NA	NA	NA	NA	32.11	3.32	NA	28.79	NA	NA
MW-8	7/21/2004	3,400	<2.5	<2.5	4.1	<5.0	NA	<2.5	<10	<10	<10	<25	NA	32.11	3.95	NA	28.16	NA	NA
MW-8	10/20/2004	2,300	<2.5	<2.5	<2.5	<5.0	NA	<2.5	NA	NA	NA	NA	NA	32.11	1.48	NA	30.63	NA	NA
MW-8	1/19/2005	2,000	<2.5	<2.5	<2.5	<5.0	NA	<2.5	NA	NA	NA	NA	NA	32.11	5.28	NA	26.83	NA	NA
MW-8	4/20/2005	2,300	<2.5	<2.5	<2.5	<5.0	NA	<2.5	NA	NA	NA	NA	NA	32.11	3.52	NA	28.59	NA	NA
MW-8	**7/20/2005**	**1,500**	**2.0**	**0.77**	**1.4**	**1.3**	**NA**	**<0.50**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**NA**	**32.11**	**5.35**	**NA**	**26.76**	**NA**	**NA**

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MW-9	8/6/1991	11,000	1,700	95	520	1,400	NA	NA	NA	NA	NA	NA	NA	21.19	10.33	NA	10.86	NA	NA
MW-9	10/23/1991	20,000	1,000	47	<0.3	940	NA	NA	NA	NA	NA	NA	NA	21.19	11.13	NA	10.06	NA	NA
MW-9	1/28/1992	3,500	120	<10	280	36	NA	NA	NA	NA	NA	NA	NA	21.19	9.02	NA	12.17	NA	NA
MW-9	5/4/1992	7,700	1,200	<50	380	630	NA	NA	NA	NA	NA	NA	NA	21.19	7.67	NA	13.52	NA	NA
MW-9	7/20/1992	11,000	910	<50	220	1,200	NA	NA	NA	NA	NA	NA	NA	21.19	10.26	NA	10.93	NA	NA
MW-9	10/12/1992	2,100	340	15	77	44	NA	NA	NA	NA	NA	NA	NA	21.19	12.19	NA	9.00	NA	NA
MW-9	1/12/1993	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.19	NA	NA	NA	NA	NA
MW-9	4/6/1993	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.19	NA	NA	NA	NA	NA
MW-9	7/12/1993	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.19	NA	NA	NA	NA	NA
MW-9	10/13/1993	2,900	140	<5	<5	120	NA	NA	NA	NA	NA	NA	NA	21.19	11.17	NA	10.02	NA	NA
MW-9	1/20/1994	1,700	380	6.90	150	400	NA	NA	NA	NA	NA	NA	NA	21.19	8.03	NA	13.16	NA	NA
MW-9	4/13/1994	6,000	1,000	<20	450	420	NA	NA	NA	NA	NA	NA	NA	21.19	7.81	NA	13.38	NA	NA
MW-9	7/19/1994	12,000	1,400	<5	740	1,200	NA	NA	NA	NA	NA	NA	NA	21.19	8.96	NA	12.23	NA	NA
MW-9	10/27/1994	10,000	1,200	160	280	860	NA	NA	NA	NA	NA	NA	NA	21.19	11.00	NA	10.19	NA	NA
MW-9	1/3/1995	4,400	680	7.70	180	370	NA	NA	NA	NA	NA	NA	NA	21.19	6.60	NA	14.59	NA	NA
MW-9	4/13/1995	1,700	270	<10	69	170	NA	NA	NA	NA	NA	NA	NA	21.19	6.73	NA	14.46	NA	NA
MW-9	6/30/1995	14,000	2,200	18	900	2,600	NA	NA	NA	NA	NA	NA	NA	21.19	7.32	NA	13.87	NA	NA
MW-9	10/11/1995	9,600	35	12	360	980	590	NA	NA	NA	NA	NA	NA	21.19	8.10	NA	13.09	NA	NA
MW-9	1/17/1996	2,800	150	7.41	54	130	170	NA	NA	NA	NA	NA	NA	21.19	5.75	NA	15.44	NA	NA
MW-9	4/10/1996	5,200	290	<5	92	220	240	NA	NA	NA	NA	NA	NA	21.19	5.17	NA	16.02	NA	NA
MW-9	7/30/1996	5,100	960	<10	380	770	670	NA	NA	NA	NA	NA	NA	21.19	8.10	NA	13.09	NA	NA
MW-9	10/17/1996	15,000	2,100	<25	590	1,300	1,500	NA	NA	NA	NA	NA	NA	21.19	9.12	NA	12.07	NA	2.4
MW-9	1/22/1997	5,600	690	<5.0	140	310	620	NA	NA	NA	NA	NA	NA	21.19	4.72	NA	16.47	NA	2.2
MW-9	4/1/1997	4,000	590	<10	140	200	600	NA	NA	NA	NA	NA	NA	21.19	6.86	NA	14.33	NA	2.2
MW-9	7/14/1997	7,100	860	<10	51	230	950	NA	NA	NA	NA	NA	NA	21.19	10.04	NA	11.15	NA	3.8
MW-9	10/8/1997	1,500	57	<2.0	2.0	13	540	NA	NA	NA	NA	NA	NA	21.19	11.38	NA	9.81	NA	8.2
MW-9	1/19/1998	2,500	280	<20	79	61	620	NA	NA	NA	NA	NA	NA	21.19	3.88	NA	17.31	NA	1.4
MW-9	4/28/1998	2,200	330	<20	91	110	640	NA	NA	NA	NA	NA	NA	21.19	5.87	NA	15.32	NA	1.6
MW-9	9/30/1998	2,800	490	<5.0	87	240	1,200	NA	NA	NA	NA	NA	NA	21.19	8.25	NA	12.94	NA	4.0
MW-9	12/9/1998	3,700	370	<5.0	83	130	1,100	NA	NA	NA	NA	NA	NA	21.19	8.07	NA	13.12	NA	2.9
MW-9	1/18/1999	9,670	1,110	<5.00	442	571	786	NA	NA	NA	NA	NA	NA	21.19	7.54	NA	13.65	NA	3.2
MW-9	4/12/1999	3,140	272	<10.0	41.6	114	542	NA	NA	NA	NA	NA	NA	21.19	5.60	NA	15.59	NA	1.7

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MW-9	7/27/1999	3,580	247	<1.00	67.7	137	432	NA	NA	NA	NA	NA	NA	21.19	7.30	NA	13.89	NA	1.6
MW-9	10/14/1999	3,200	199	<10.0	74.1	88.9	468	NA	NA	NA	NA	NA	NA	21.19	7.26	NA	13.93	NA	1.4
MW-9	1/6/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	21.19	8.31	NA	12.88	NA	1.5
MW-9	4/5/2000	2,790	156	<5.00	39.1	57.8	399	NA	NA	NA	NA	NA	NA	21.19	5.40	NA	15.79	NA	0.9
MW-9	7/20/2000	5,530	283	14.9	379	728	92.7	NA	NA	NA	NA	NA	NA	21.19	5.70	NA	15.49	NA	2.1
MW-9	10/24/2000	3,090	110	<5.00	46.4	63.3	362	NA	NA	NA	NA	NA	NA	21.19	5.90	NA	15.29	NA	1.0
MW-9	1/19/2001	6,060	180	<5.00	181	164	231	NA	NA	NA	NA	NA	NA	32.15	5.39	NA	26.76	NA	1.2
MW-9	4/27/2001	2,700	56	<0.50	26	46	NA	150	NA	NA	NA	NA	NA	32.15	5.38	NA	26.77	NA	1.2
MW-9	7/26/2001	4,200	50	<0.50	28	53	NA	180	NA	NA	NA	NA	NA	32.15	6.45	NA	25.70	NA	1.0
MW-9	10/2/2001	11,000	150	<2.0	120	140	NA	180	NA	NA	NA	NA	NA	32.15	6.10	NA	26.05	NA	1.4
MW-9	1/15/2002	1,200	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	32.15	4.77	NA	27.38	NA	1.2
MW-9	4/17/2002	2,200	24	<0.50	26	27	NA	96	NA	NA	NA	NA	NA	32.15	5.57	NA	26.58	NA	0.6
MW-9	7/11/2002	4,600	21	<0.50	17	33	NA	140	NA	NA	NA	NA	NA	32.15	6.64	NA	25.51	NA	2.1
MW-9	10/10/2002	2,800	8.8	<0.50	3.2	9.5	NA	160	NA	NA	NA	NA	NA	32.15	7.41	NA	24.74	NA	2.4
MW-9	1/21/2003	470	1.9	<0.50	1.7	1.1	NA	13	NA	NA	NA	NA	NA	32.15	5.47	NA	26.68	NA	1.0
MW-9	5/2/2003	770	2.9	<0.50	1.5	1.8	NA	82	NA	NA	NA	NA	NA	32.15	5.40	NA	26.75	NA	0.96
MW-9	7/10/2003	1,700	4.9	<2.5	3.0	5.2	NA	100	NA	NA	NA	NA	NA	32.15	6.59	NA	25.56	NA	NA
MW-9	10/28/2003	2,400	<5.0	<5.0	<5.0	<10	NA	180	NA	NA	NA	NA	NA	32.15	6.94	NA	25.21	NA	NA
MW-9	1/13/2004	550	<0.50	0.54	<0.50	<1.0	NA	23	NA	NA	NA	NA	NA	32.15	5.62	NA	26.53	NA	NA
MW-9	4/1/2004	440	<0.50	<0.50	<0.50	<1.0	NA	19	NA	NA	NA	NA	NA	32.15	5.94	NA	26.21	NA	NA
MW-9	7/21/2004	1,100	<0.50	<0.50	<0.50	<1.0	NA	110	<2.0	<2.0	<2.0	34	NA	32.15	6.60	NA	25.55	NA	NA
MW-9	10/20/2004	730	<0.50	<0.50	<0.50	<1.0	NA	56	NA	NA	NA	NA	NA	32.15	4.48	NA	27.67	NA	NA
MW-9	1/19/2005	320	<0.50	<0.50	<0.50	<1.0	NA	3.0	NA	NA	NA	NA	NA	32.15	4.56	NA	27.59	NA	NA
MW-9	4/20/2005	100	<0.50	0.56	<0.50	<1.0	NA	5.8	NA	NA	NA	NA	NA	32.15	5.21	NA	26.94	NA	NA
MW-9	**7/20/2005**	**400**	**<0.50**	**1.4**	**<0.50**	**<1.0**	**NA**	**45**	**<2.0**	**<2.0**	**<2.0**	**20**	**NA**	**32.15**	**6.90**	**NA**	**25.25**	**NA**	**NA**
MW-10	10/23/1991	27,000	1,600	110	1,800	510	NA	NA	NA	NA	NA	NA	NA	19.74	8.57	NA	11.17	NA	NA
MW-10	1/28/1992	3,800	360	14	170	39	NA	NA	NA	NA	NA	NA	NA	19.74	7.60	NA	12.14	NA	NA
MW-10	5/4/1992	3,000	360	<12.5	140	26	NA	NA	NA	NA	NA	NA	NA	19.74	7.54	NA	12.20	NA	NA
MW-10	7/20/1992	15,000	400	<25	180	67	NA	NA	NA	NA	NA	NA	NA	19.74	8.59	NA	11.15	NA	NA
MW-10	10/12/1992	16,000	320	<50	360	100	NA	NA	NA	NA	NA	NA	NA	19.74	10.23	NA	9.51	NA	NA
MW-10	1/12/1993	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.74	NA	NA	NA	NA	NA
MW-10	4/6/1993	14,000	370	<0.5	880	210	NA	NA	NA	NA	NA	NA	NA	19.74	6.70	NA	13.04	NA	NA

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MW-10	7/12/1993	10,000	440	58	890	220	NA	NA	NA	NA	NA	NA	NA	19.74	8.05	NA	11.69	NA	NA
MW-10	10/13/1993	15,000	1,000	51	810	170	NA	NA	NA	NA	NA	NA	NA	19.74	8.25	NA	11.49	NA	NA
MW-10	1/20/1994	12,000	820	56	1,100	350	NA	NA	NA	NA	NA	NA	NA	19.74	7.20	NA	12.54	NA	NA
MW-10	4/13/1994	18,000	760	36	700	130	NA	NA	NA	NA	NA	NA	NA	19.74	7.57	NA	12.17	NA	NA
MW-10	7/19/1994	24,000	400	2.30	800	22	NA	NA	NA	NA	NA	NA	NA	19.74	8.18	NA	11.56	NA	NA
MW-10	10/27/1994	11,000	360	43	310	89	NA	NA	NA	NA	NA	NA	NA	19.74	8.68	NA	11.06	NA	NA
MW-10	1/3/1995	17,000	770	38	690	160	NA	NA	NA	NA	NA	NA	NA	19.74	6.86	NA	12.88	NA	NA
MW-10	4/13/1995	9,900	650	16	280	40	NA	NA	NA	NA	NA	NA	NA	19.74	6.91	NA	12.83	NA	NA
MW-10	6/30/1995	12,000	750	20	480	130	NA	NA	NA	NA	NA	NA	NA	19.74	7.61	NA	12.13	NA	NA
MW-10	1/17/1996	17,000	870	260	93	830	NA	NA	NA	NA	NA	NA	NA	19.74	7.00	NA	12.74	NA	NA
MW-10	4/10/1996	14,000	470	38	110	370	NA	NA	NA	NA	NA	NA	NA	19.74	6.80	NA	NA	NA	NA
MW-10	7/30/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.74	NA	NA	NA	NA	NA
MW-10	10/17/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.74	NA	NA	NA	NA	NA
MW-10	1/22/1997	10,000	520	<20	64	32	180	NA	NA	NA	NA	NA	NA	19.74	6.68	NA	13.06	NA	3.1
MW-10	4/1/1997	11,000	590	<20	53	32	210	NA	NA	NA	NA	NA	NA	19.74	7.34	NA	12.40	NA	2.8
MW-10	7/14/1997	6,600	410	13	28	11	89	NA	NA	NA	NA	NA	NA	19.74	8.10	NA	11.64	NA	1.4
MW-10	10/8/1997	7,600	220	13	65	22	190	NA	NA	NA	NA	NA	NA	19.74	8.20	NA	11.54	NA	6.4
MW-10	1/19/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.74	NA	NA	NA	NA	NA
MW-10	4/28/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.74	NA	NA	NA	NA	NA
MW-10	9/30/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.76	8.11	NA	11.65	NA	NA
MW-10	12/9/1998	28,000	150	<100	240	160	<500	NA	NA	NA	NA	NA	NA	19.76	8.21	NA	11.55	NA	2.7
MW-10	1/18/1999	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.76	NA	NA	NA	NA	NA
MW-10	4/12/1999	8,320	71.2	27.4	138	456	<100	NA	NA	NA	NA	NA	NA	19.76	5.96	NA	13.80	NA	1.8
MW-10	7/27/1999	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.76	NA	NA	NA	NA	NA
MW-10	10/14/1999	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.76	NA	NA	NA	NA	NA
MW-10	1/6/2000	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.76	NA	NA	NA	NA	NA
MW-10	2/1/2000	4880	40.2	5.27	27.0	8.42	75.5	23.9	NA	NA	NA	NA	NA	19.76	6.43	NA	13.33	NA	1.6
MW-10	4/5/2000	4,950	97.6	6.72	20.2	5.39	104	NA	NA	NA	NA	NA	NA	19.76	7.00	NA	12.76	NA	1.7
MW-10	7/20/2000	2,800	166	191	27.6	88.7	81.5	NA	NA	NA	NA	NA	NA	19.76	7.03	NA	12.73	NA	1.0
MW-10	10/24/2000	5,070	79.6	46.6	34.2	11.7	242	NA	NA	NA	NA	NA	NA	19.76	7.96	NA	11.80	NA	1.9
MW-10	1/19/2001	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.76	NA	NA	NA	NA	NA
MW-10	1/30/2001	6,920	362	14.2	22.7	<10.0	138	NA	NA	NA	NA	NA	NA	30.75	7.32	NA	23.43	NA	2.2
MW-10	4/27/2001	12,000	35	<2.5	37	6.5	NA	51	NA	NA	NA	NA	NA	30.75	8.28	NA	22.47	NA	1.2

WELL CONCENTRATIONS
Former Shell/Current San Pablo Gas Service Station
3420 San Pablo Avenue
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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-10	7/26/2001	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.75	NA	NA	NA	NA	NA
MW-10	10/2/2001	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.75	NA	NA	NA	NA	NA
MW-10	10/23/2001	470	3.5	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	30.75	7.02	NA	23.73	NA	1.8
MW-10	1/15/2002	3,000	5.4	<0.50	7.9	2.1	NA	12	NA	NA	NA	NA	NA	30.75	6.69	NA	24.06	NA	2.7
MW-10	4/17/2002	5,100	7.9	<1.0	9.3	2.6	NA	15	NA	NA	NA	NA	NA	30.75	7.34	NA	23.41	NA	0.6
MW-10	7/11/2002	5,700	38	2.2	7.8	3.5	NA	43	NA	NA	NA	NA	NA	30.75	7.85	NA	22.90	NA	2.0
MW-10	10/10/2002	4,700	53	2.1	3.8	2.8	NA	80	NA	NA	NA	NA	NA	30.75	8.04	NA	22.71	NA	3.3
MW-10	1/21/2003	3,900	11	1.0	7.5	2.3	NA	51	NA	NA	NA	NA	NA	30.75	6.81	NA	23.94	NA	1.7
MW-10	5/2/2003	3,100	1.4	<0.50	4.6	1.4	NA	41	NA	NA	NA	NA	NA	30.75	7.12	NA	23.63	NA	0.75
MW-10	7/10/2003	4,200	17	<1.2	6.2	<2.5	NA	51	NA	NA	NA	NA	NA	30.75	7.80	NA	22.95	NA	NA
MW-10	10/28/2003	7,100	20	<5.0	8.4	<10	NA	120	NA	NA	NA	NA	NA	30.75	7.91	NA	22.84	NA	NA
MW-10	1/13/2004	4,800	18	<2.5	6.3	<5.0	NA	99	NA	NA	NA	NA	NA	30.75	6.62	NA	24.13	NA	NA
MW-10	4/1/2004	5,500	6.0	<5.0	<5.0	<10	NA	59	NA	NA	NA	NA	NA	30.75	7.00	NA	23.75	NA	NA
MW-10	7/21/2004	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.75	NA	NA	NA	NA	NA
MW-10	7/29/2004	4,700	22	<5.0	5.5	<10	NA	95	<20	<20	<20	<50	NA	30.75	7.60	NA	23.15	NA	NA
MW-10	10/20/2004	4,800	23	<5.0	<5.0	<10	NA	110	NA	NA	NA	NA	NA	30.75	7.90	NA	22.85	NA	NA
MW-10	1/19/2005	1,200	1.1	<0.50	<0.50	<1.0	NA	30	NA	NA	NA	NA	NA	30.75	6.28	NA	24.47	NA	NA
MW-10	4/20/2005	3,900	3.9	<0.50	2.7	<1.0	NA	9.0	NA	NA	NA	NA	NA	30.75	6.80	NA	23.95	NA	NA
MW-10	**7/20/2005**	**3,000**	**8.1**	**1.2**	**2.1**	**1.4**	**NA**	**35**	**29**	**<2.0**	**<2.0**	**19**	**NA**	**30.75**	**7.82**	**NA**	**22.93**	**NA**	**NA**
MW-11	10/23/1991	140	<12	<0.3	0.37	0.56	NA	NA	NA	NA	NA	NA	NA	22.06	8.06	NA	8.06	NA	NA
MW-11	1/28/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	8.74	NA	3.32	NA	NA
MW-11	5/4/1992	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	8.29	NA	13.77	NA	NA
MW-11	7/13/1992	140	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	10.50	NA	11.56	NA	NA
MW-11	10/12/1992	75	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	12.40	NA	9.66	NA	NA
MW-11	1/12/1993	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	NA	NA	NA	NA	NA
MW-11	4/6/1993	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	NA	NA	NA	NA	NA
MW-11	7/12/1993	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	NA	NA	NA	NA	NA
MW-11	10/13/1993	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	11.47	NA	10.59	NA	NA
MW-11	1/20/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	9.09	NA	12.97	NA	NA
MW-11	4/13/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	8.02	NA	14.04	NA	NA
MW-11	7/19/1994	50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	9.82	NA	12.24	NA	NA
MW-11	10/27/1994	60*	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	11.66	NA	10.40	NA	NA

WELL CONCENTRATIONS
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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-11	1/3/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	6.15	NA	15.91	NA	NA
MW-11	4/13/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	6.00	NA	16.06	NA	NA
MW-11	6/30/1995	70	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	22.06	8.31	NA	13.75	NA	NA
MW-11	10/11/1995	60	53	<0.5	<0.5	0.80	3.0	NA	NA	NA	NA	NA	NA	22.06	10.30	NA	11.76	NA	NA
MW-11	1/17/1996	<50	<0.5	<0.5	<0.5	<0.5	<2	NA	NA	NA	NA	NA	NA	22.06	6.45	NA	15.61	NA	NA
MW-11	4/10/1996	<50	<0.5	<0.5	<0.5	<0.5	3.9	NA	NA	NA	NA	NA	NA	22.06	6.05	NA	16.01	NA	NA
MW-11	7/30/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	22.06	8.92	NA	13.14	NA	NA
MW-11	10/17/1996	3,000	28	23	29	210	76	NA	NA	NA	NA	NA	NA	22.06	9.24	NA	12.82	NA	NA
MW-11	1/22/1997	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	22.06	5.12	NA	16.94	NA	3.7
MW-11	4/1/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	22.06	7.41	NA	14.65	NA	2.8
MW-11	7/14/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	22.06	9.74	NA	12.32	NA	1.9
MW-11	10/8/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	22.06	10.23	NA	11.83	NA	2.4
MW-11	1/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	22.06	3.69	NA	18.37	NA	3.2
MW-11	4/28/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	22.06	5.83	NA	16.23	NA	3.0
MW-11	9/30/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	NA	NA	NA	NA	NA
MW-11	12/9/1998	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	NA	NA	NA	NA	NA
MW-11	1/18/1999	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	NA	NA	NA	NA	NA
MW-11	4/12/1999	Inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	NA	NA	NA	NA	NA
MW-11	4/26/1999	63	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	22.06	5.80	NA	16.26	NA	3.6
MW-11	7/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	6.02	NA	NA	NA	NA	NA	NA	22.06	8.30	NA	13.76	NA	2.0
MW-11	10/14/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	NA	22.06	8.99	NA	13.07	NA	2.4
MW-11	1/6/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	22.06	9.93	NA	12.13	NA	2.9
MW-11	4/5/2000	<50.0	<0.500	<0.500	<0.500	<0.500	3.53	NA	NA	NA	NA	NA	NA	22.06	5.90	NA	16.16	NA	1.8
MW-11	7/20/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	22.06	6.13	NA	15.93	NA	1.7
MW-11	10/24/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.06	7.45	NA	14.61	NA	NA
MW-11	1/19/2001	<50.0	<0.500	<0.500	<0.500	<0.500	4.29	NA	NA	NA	NA	NA	NA	32.99	5.95	NA	27.04	NA	1.6
MW-11	4/27/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	6.12	NA	26.87	NA	NA
MW-11	7/26/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	32.99	7.65	NA	25.34	NA	2.1
MW-11	10/2/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	6.17	NA	26.82	NA	NA
MW-11	1/15/2002	69	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	32.99	4.95	NA	28.04	NA	1.5
MW-11	4/17/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	6.35	NA	26.64	NA	NA
MW-11	7/11/2002	58	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	32.99	7.47	NA	25.52	NA	2.3
MW-11	10/10/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	8.45	NA	24.54	NA	NA

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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)

Notes:

a = Chromatogram pattern indicates an unidentified hydrocarbon.

b = MTBE could not be quantified due to co-eluting compounds.

c = The highest recovery value for TPH has been reported, but this should be considered an estimate. Repeated analysis yielded inconsistent results.

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

e = SPH present in well measured at less than 0.01 feet. Visual inspection revealed the presence of distinct phases within the sample, indicating the possible presence of undissolved hydrocarbons.

f = The concentration reported reflects individual or discrete unidentified peaks not matching a typical fuel pattern.

* = This sample was analyzed outside the EPA recommended holding time.

When separate-phase hydrocarbons are present, groundwater elevations is adjusted using the equation:

Corrected Groundwater Elevation = Top of Casing Elevation - Depth to water + (0.8 x Hydrocarbon Thickness).

Resurvey of wells was performed on August 28, 1998 by Virgil Chavez Land Surveying of Vallejo, CA..

All wells except MW-11 surveyed February 26, 2001 by Virgil Chavez Land Surveying of Vallejo, CA.

WELL CONCENTRATIONS
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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-11	1/21/2003	57	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	32.99	5.45	NA	27.54	NA	1.4
MW-11	5/2/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	5.14	NA	27.85	NA	NA
MW-11	7/10/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	2.1	NA	NA	NA	NA	NA	32.99	7.41	NA	25.58	NA	NA
MW-11	10/28/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	7.78	NA	25.21	NA	NA
MW-11	1/13/2004	56 d	<0.50	0.50	<0.50	<1.0	NA	2.9	NA	NA	NA	NA	NA	32.99	5.85	NA	27.14	NA	NA
MW-11	4/1/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	6.02	NA	26.97	NA	NA
MW-11	7/21/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	2.2	<2.0	<2.0	<2.0	<5.0	NA	32.99	7.52	NA	25.47	NA	NA
MW-11	10/20/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	7.20	NA	25.79	NA	NA
MW-11	1/19/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	1.8	NA	NA	NA	NA	NA	32.99	4.50	NA	28.49	NA	NA
MW-11	4/20/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.99	5.09	NA	27.90	NA	NA
MW-11	**7/20/2005**	**53 f**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**2.9**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**NA**	**32.99**	**7.31**	**NA**	**25.68**	**NA**	**NA**

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by modified EPA Method 8260B; prior to April 27, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to April 27, 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 butyl 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
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

ATTACHMENT C

Thrifty Site Boring Logs

GROUN WATER TECHNOLOGY

Division of Oil Recovery Systems, Inc

Arco

SOIL BORING SB 1

Project Arco/San Pablo Owner Arco Petroleum

Location 3400 San Pablo Ave. Project Number 20-8126

Date Drilled 7/31/86 Total Depth of Hole 20ft Diameter 8 in.

Surface Elevation ____ Water Level, Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Sierra Pacific Drilling Method H. S. Auger

Driller L. Pera Log by B. Channell

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0		PID			Asphalt
1				CL	Black clay, damp, semi-stiff, no odor
2					
3					
4				CL	Green gray clay, stiff, damp, no odor
5					
6					
7					
8		55 ppm	A 6		Green gray sandy clay, moderately stiff, wet in
9			7	CL	places, moderate odor
10			21	▼7/31/86	
11					Brown silty clay, stiff, dry, no odor
12					
13		0 ppm	B 3		
14			5		
15			6	CL	
16					
17					Brown silty clay, very stiff, damp, minor pebbles,
18					no odor
19		0 ppm	5 C 12		
20			14		
21					
22					
23					
24					
25					

GROUNI WATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

SOIL BORING SB 2

Drilling Log

Project Arco/San Pablo Owner Arco Petroleum

Location 3400 San Pablo Ave. Project Number 20-8126

Date Drilled 7/31/86 Total Depth of Hole 20 ft Diameter 8 in.

Surface Elevation ____ Water Level, Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Sierra Pacific Drilling Method H. S. Auger

Driller L. Pera Log by B. Channell

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0		PID			Concrete
1				CL	Black clay, stiff, damp, no odor
2					
3		11 ppm	A		
4			5	GC	Gray gravel and brown clay, damp, moderate odor
5			12		
6					
7					
8		7 ppm	B		
9			4 5		Brown silty clay, stiff, damp, minor pebbles, slight odor
10			6		
11					▼7/31/86
12					
13		0 ppm	C	CL	
14			4		
15			5 5		Brown silty clay, very stiff, dry, no odor
16					
17					
18		0 ppm	D		
19			5		
20			10 12		
21					
22					
23					
24					
25					

02100144

GROUND WATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

SOIL BORING SB 3 Drilling Log

Project Arco/San Pablo Owner Arco Petroleum
Location 3400 San Pablo Ave. Project Number 20-8126
Date Drilled 7/31/86 Total Depth of Hole 20 ft Diameter 8 in.
Surface Elevation ____ Water Level, Initial ____ 24-hrs. ____
Screen: Dia. ____ Length ____ Slot Size ____
Casing: Dia. ____ Length ____ Type ____
Drilling Company Sierra Pacific Drilling Method H. S. Auger
Driller L. Pera Log by Lynn Pera

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					Concrete
1					Black silty clay, stiff, damp, slight hydrocarbon odor
2					
3					Greenish gray fine sandy clay with gravel, stiff, moist, slight odor
4		28 ppm	A 5 7 11		
5					
6					Greenish brown fine sandy clay, medium stiff, moist
7					
8					Brown sandy clay with gravel, stiff, moist
9		12 ppm	B 5 7 7	CL	
10					
11					
12					
13					Grayish brown sandy clay, stiff, moist
14		0ppm	C 3 6 8		
15					
16					▼ 7/31/86
17					
18					(grades orange-brown)
19		0ppm	D 5 7 10		
20					
21					
22					
23					
24					
25					

02100144

GROUNDWATER TECHNOLOGY

Division of Oil Recovery Systems, Inc.

Drilling Log

Well Number MW 1

City San Pablo Owner Arco Petroleum

Address 2600 San Pablo Ave. Project Number 20-8126

Date Drilled 7/31/86 Total Depth of Hole 25 ft. Diameter 8 in.

Surface Elevation _____ Water Level, Initial _____ 24-hrs. _____

Screen: Dia. 2 in. Length 20 ft. Slot Size .020

Casing: Dia. 2 in. Length 5 ft. Type PVC

Drilling Company Sierra Pacific Drilling Method H. S. Auger

Driller L. Pera Log by B. Channell

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0		PID			Concrete
1				CL	Black clay, stiff, damp, no odor
2					
3				CL	Green gray clay, stiff, damp, moderate odor
4					
5				CL	Brown silty clay, stiff, damp, moderate odor
6					
7				CL	Brown sandy clay; soft, wet, pebbles, moderate odor
8		3 ppm	A 12		
9			16		
10			27		Grey gravel and brown clay, dry, crumbly, moderate odor
11				▼ 7/31/86	
12					
13		0 ppm	B	GC	Gray gravel in brown clay, soft, wet, no odor
14			9		
15			8		
16			7		
17					
18					
19					
20				CL	Brown silty clay, stiff, dry, no odor
21					
22					
23					
24					
25					

02100144

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

Drilling Log

Well Number MW 2

Project Arco/San Pablo — Owner Arco Petroleum

Location 3400 San Pablo Ave. — Project Number 20-8126

Date Drilled 7/31/86 — Total Depth of Hole 25 ft. — Diameter 8 in.

Surface Elevation ____ — Water Level, Initial ____ — 24-hrs. ____

Screen: Dia. 2 in. — Length 20 ft. — Slot Size .020

Casing: Dia. 2 in. — Length 5 ft. — Type PVC

Drilling Company Sierra Pacific — Drilling Method H. S. Auger

Driller L. Pera — Log by B. Channell

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					Concrete
1		PID			Black clay, stiff, dry, no odor
2					
3					
4					Green gray clay, stiff, camp, moderate odor
5				CL	
6					Brown clay, soft, moist, pebbles, moderate odor
7					
8					
9			5		
10		12 ppm	A 6		Brown silty clay, stiff, pockets of water, minor pebbles, no odor
11			7		▼ 7/31/86
12					
13		7 ppm	B		
14			3		
15			4		
16			6	CL	Brown silty clay, very stiff, damp, no odor
17					
18					
19					
20					
21					
22					
23					
24					
25					

02100144

ct No.: 90386A

: 11-14-86

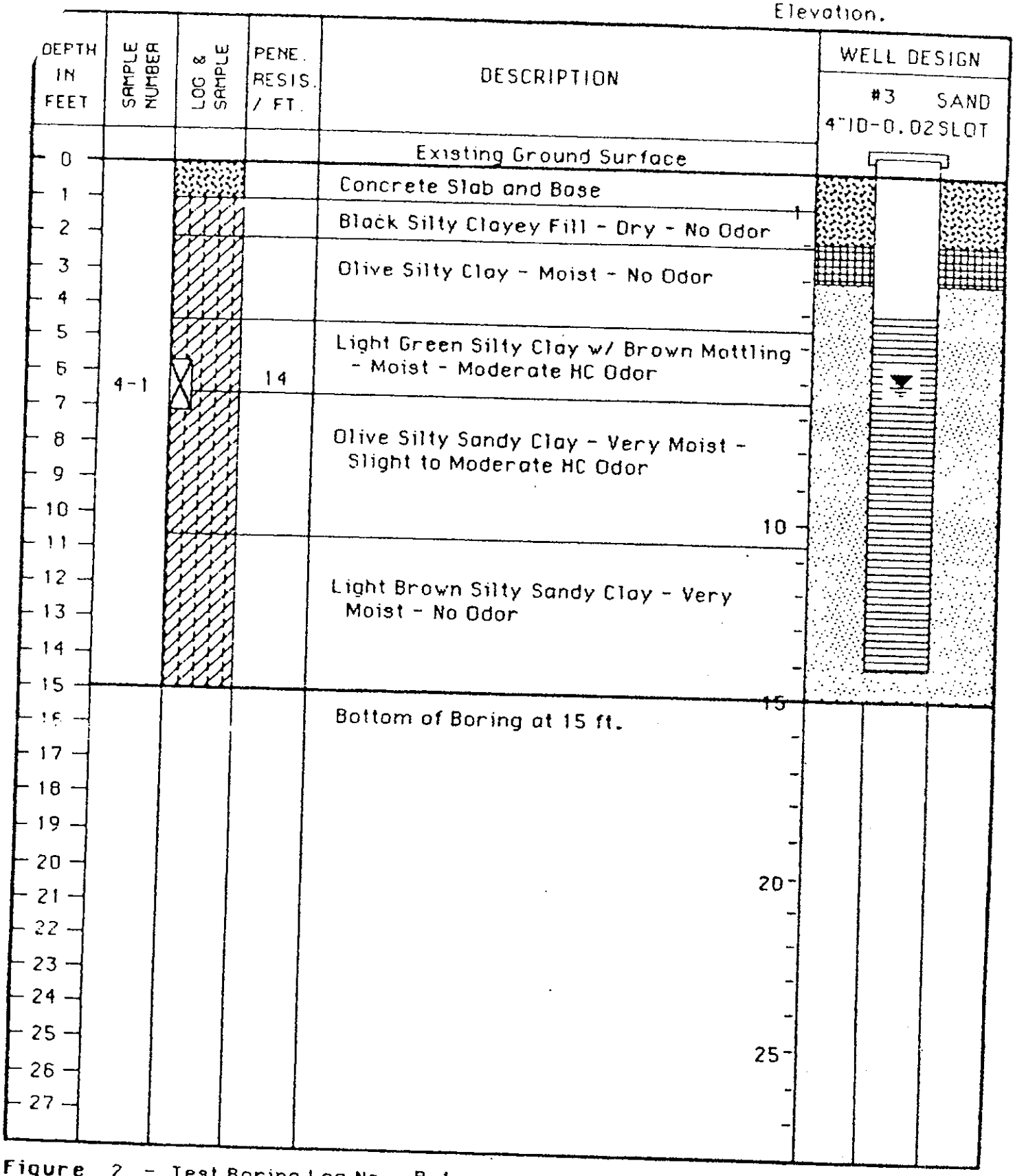

Figure 2 - Test Boring Log No. B-1
- Monitoring Well No. MW-4

Woodward-Clyde Consultants

GROUNDWATER TECHNOLOGY

Division of Oil Recovery Systems, Inc.

Drilling Log

Well Number MW 3

Project Arco/San Pablo Owner Arco Petroleum

Location 3400 San Pablo Ave. Project Number 20-8126

Date Drilled 7/31/86 Total Depth of Hole 25 ft. Diameter 8 in.

Surface Elevation _____ Water Level, Initial _____ 24-hrs. _____

Screen: Dia. 2 in. Length 20 ft Slot Size .020 in.

Casing: Dia. 2 in. Length 5 ft. Type PVC

Drilling Company Sierra Pacific Drilling Method H. S. Auger

Driller L. Pera Log by B. Channell

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0		PID			Concrete
1				CL	Black clay, stiff, damp, slight odor
2					
3		15 ppm	A		
4			4 4 4		Gray silty clay, soft, damp, minor gravel, moderate odor
5				CL	
6					
7					
8		15 ppm	B		Brown silty clay, stiff, damp, pebbles, slight odor
9			4 4 6		
10				▼ 7/31/86	
11					
12					
13		0 ppm	C		
14			4 5 7		
15				CL	Brown silty clay, stiff, dry, no odor
16					
17					
18					
19		0 ppm	D		
20			5 7 13		
21					
22					
23					
24					
25					

02100144

ject No.: 90386A

Date: 11-14-86

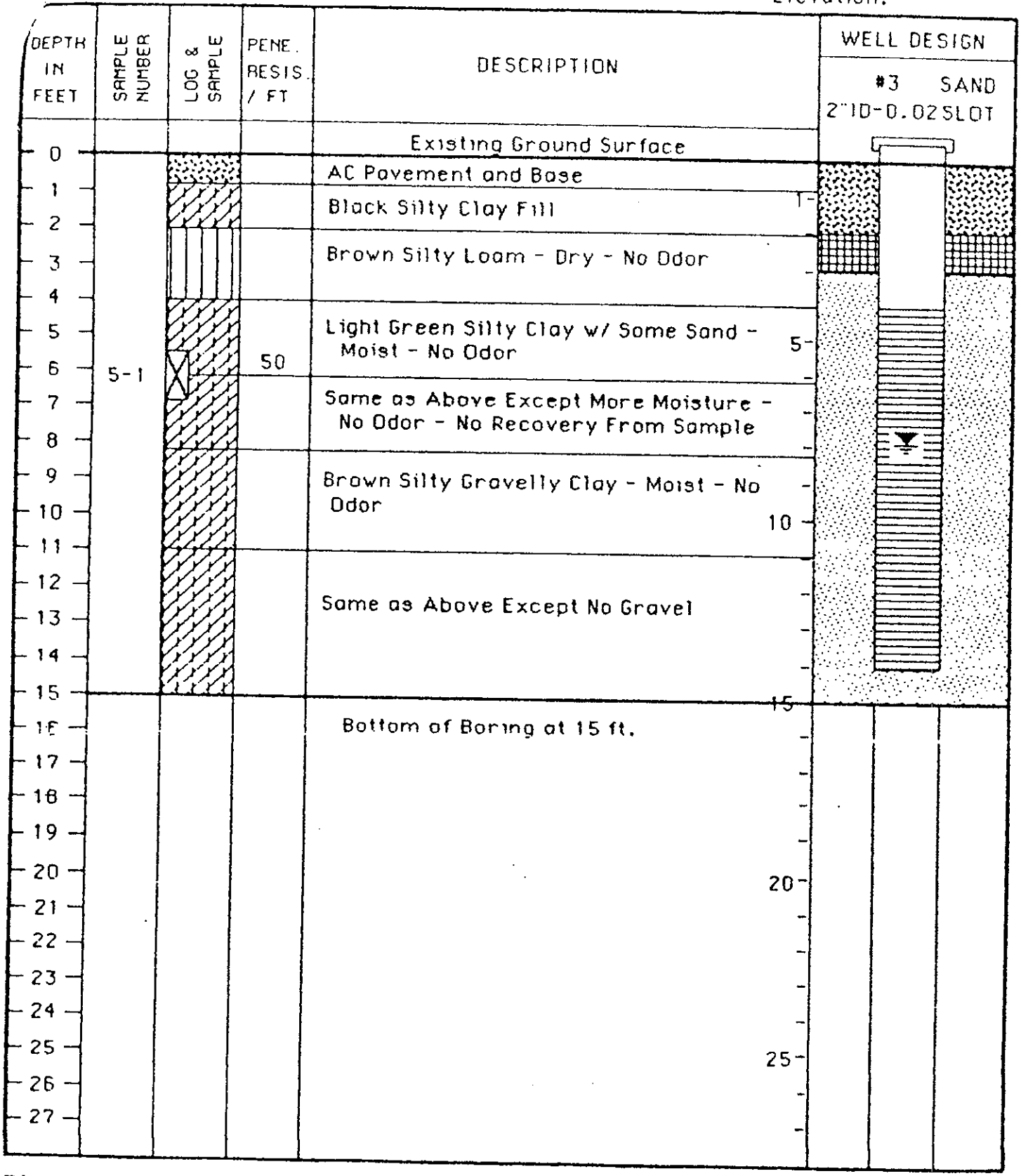

Figure 3 - Test Boring Log No. B-2
- Monitoring Well No. MW-5

Woodward-Clyde Consultants

ject No.: 90386A
ate: 11-14-86

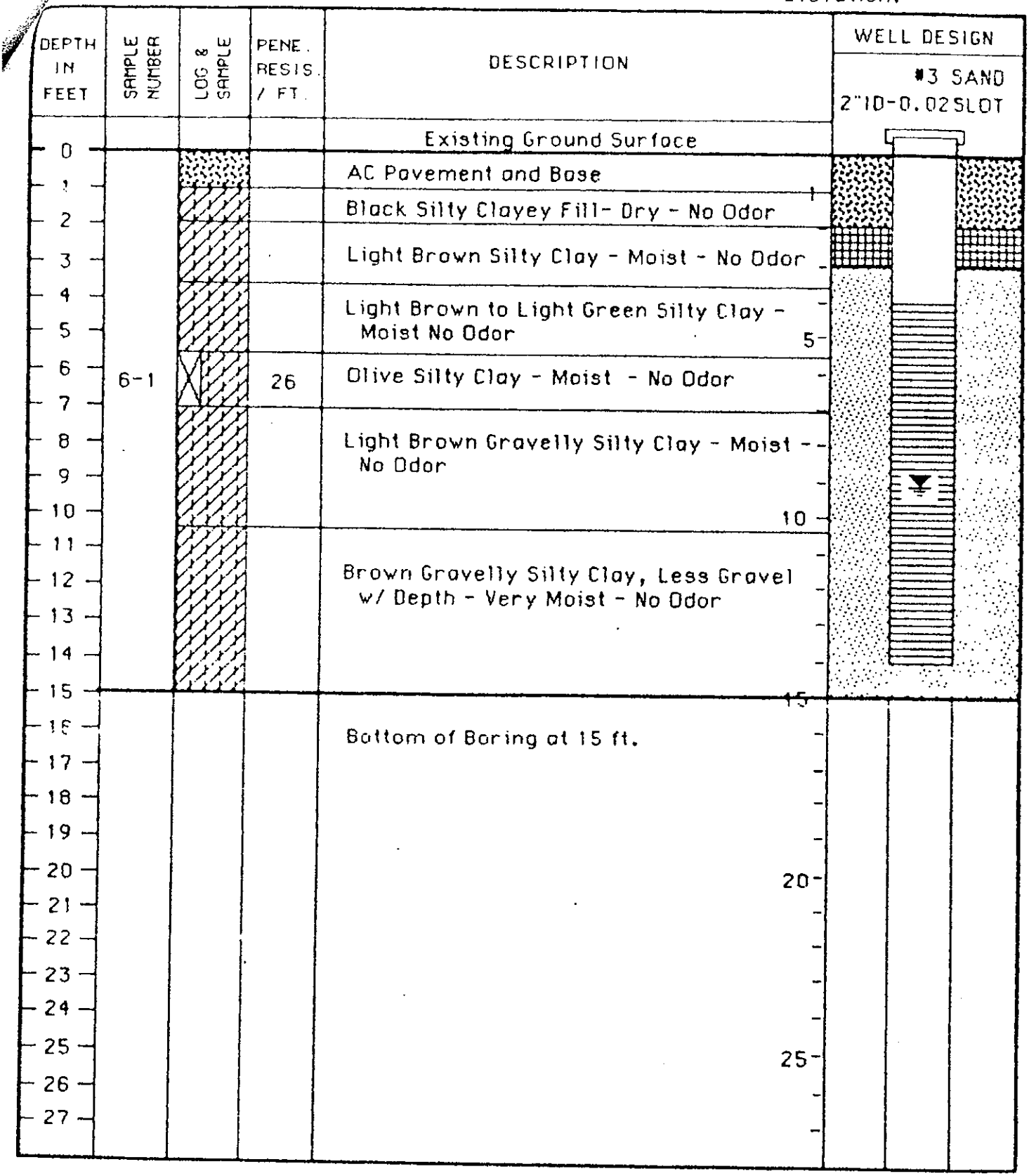

Figure 4 - Test Boring Log No. B-3
- Monitoring Well No. MW-6

Woodward-Clyde Consultants

Project No.: 90386A

Date: 11-14-86

Elevation.

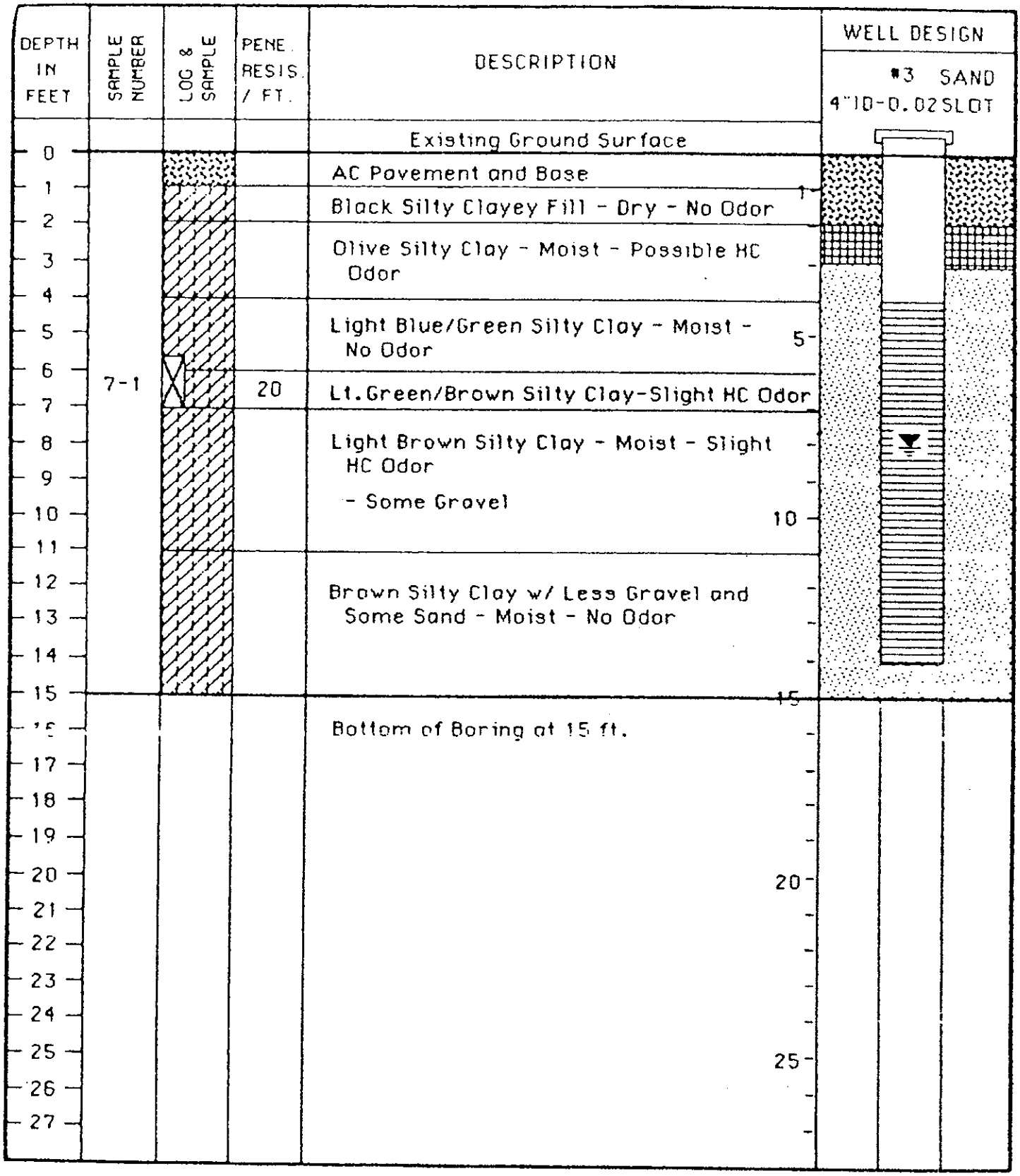

Figure 5 - Test Boring Log No. B-7
- Monitoring Well No. MW-7

Woodward-Clyde Consultants

DATE OBSERVED: 9-11-87 METHOD OF DRILLING: HOLLOW STEM AUGER

LOGGED BY: SAW GROUND ELEVATION: 30' LOCATION: SEE PLOT PLAN FIGURE 1

BORING NO. B-1

B-1

DEPTH (FEET)	CLASSIFICATION	BLOWS/FOOT	UNDISTURBED SAMPLE	BULK SAMPLE	MOISTURE CONTENT (%)	IN PLACE DRY DENSITY (PCF)	DESCRIPTION	SOIL TEST CASTECHTOR READING in ppm
0							CONCRETE COVER	
							NATURAL GROUND: WEATHERED BEDROCK: Dark Brown CLAY with silt, moist, no petroleum odor	
5		26					@ 5' color change to grey-green, becomes very stiff, petroleum odor noted	225 ppm
10		38					@ 10' becomes hard, petroleum odor noted	225 ppm
15		16					@ 15' Groundwater Present	
							TOTAL DEPTH: 16 FEET	
							GROUNDWATER @ 15 FEET	

JOB NO.: 13-6782-017-00-00 LOG OF BORING FIGURE: B-3

DATE OBSERVED: 9-11-87 METHOD OF DRILLING: HOLLOW STEM AUGER

LOGGED BY: SAW GROUND ELEVATION: 30' LOCATION: SEE PLOT PLAN FIGURE 1

BORING NO. B-2

DEPTH (FEET)	CLASSIFICATION	BLOWS/FOOT	UNDISTURBED SAMPLE	BULK SAMPLE	MOISTURE CONTENT (%)	IN PLACE DRY DENSITY (PCF)	DESCRIPTION	SOIL TEST GASTECHTOR READING in ppm
0								
5	SM	23	■				FILL: Brown fine silty SAND, dry slight petroleum odor @ 5' strong petroleum odor noted	500 ppm
10	Ss	24	■				NATURAL GROUND: BEDROCK: Grey-green weathered SILTSTONE, very moist to wet, very stiff, no petroleum odor noted	125 ppm
15		24	■				@ 15' Groundwater noted	
20							TOTAL DEPTH: 16 FEET GROUNDWATER @ 15 FEET	
25								
30								
35								
40								

JOB NO.: 13-6782-017-00-00 LOG OF BORING FIGURE: B-4

DATE OBSERVED: 9-11-87 METHOD OF DRILLING: HOLLOW STEM AUGER

LOGGED BY: SAW GROUND ELEVATION: 30' LOCATION: SEE PLOT PLAN FIGURE B-1

BORING NO. B-3

DEPTH (FEET)	CLASSIFICATION	BLOWS/FOOT	UNDISTURBED SAMPLE	BULK SAMPLE	MOISTURE CONTENT (%)	IN PLACE DRY DENSITY (PCF)	DESCRIPTION	SOIL TEST GASTECHTOR READING in ppm
0							CONCRETE COVER	
	CL						FILL: Black to dark brown, CLAY with silt, moist, stiff, slight petroleum odor	
5	Ss	28					BEDROCK: Green weathered SILTSTONE, moist very stiff, petroleum odor noted	220 ppm
10		8					@ 10' color changed to brown, petroleum odor noted	500 ppm
15							@ 12' becomes wet, no petroleum odor noted @ 15' Groundwater noted	
20							TOTAL DEPTH: 16 FEET GROUNDWATER @ 15 FEET	
25								
30								
35								
40								

JOB NO: 13-6782-017-00-00 LOG OF BORING FIGURE: B-5

DATE OBSERVED: 9-11-87 METHOD OF DRILLING: HOLLOW STEM AUGER

LOGGED BY: SAK GROUND ELEVATION: 30' LOCATION: SEE PLOT PLAN FIGURE 1

BORING NO. B-4

DEPTH (FEET)	CLASSIFICATION	BLOWS/FOOT	UNDISTURBED SAMPLE	BULK SAMPLE	MOISTURE CONTENT (%)	IN PLACE DRY DENSITY (PCF)	DESCRIPTION	SOIL TEST GASTECHTOR READING in ppm
0							CONCRETE COVER	
	ML CL						FILL: Black CLAY and SILT, moist stiff, strong petroleum odor	500 ppm
5							@ 4' boring terminated due to presence of subsurface vent lines, no damage	
							TOTAL DEPTH: 4 FEET	
10							NO GROUNDWATER	
15								
20								
25								
30								
35								
40								

JOB NO.: 13-5782-017-00-00 LOG OF BORING FIGURE: B-6

OBSERVED: 9-29-87 METHOD OF DRILLING: HOLLOW STEM AUGER

LOGGED BY: SAW GROUND ELEVATION: 30' LOCATION: SEE PLOT PLAN FIGURE B-1

BORING NO. B-5

DEPTH (FEET)	CLASSIFICATION	BLOWS/FOOT	UNDISTURBED SAMPLE	BULK SAMPLE	MOISTURE CONTENT (%)	IN PLACE DRY DENSITY (PCF)	DESCRIPTION	SOIL TEST GASTECHTOR READING
0							6" concrete cover	
							FILL: Gray-green silty SAND with gravel	
5		24					Dark brown to black silty CLAY to clayey SILT, moist, very stiff, no petroleum odor.	50 ppm
10	Ss	50					NATURAL GROUND: BEDROCK: Gray-green weathered SILTSTONE, moist, very stiff to hard, strong petroleum odor.	480 ppm
15		32					@ 15' groundwater noted	30 ppm
20							TOTAL DEPTH 16 FEET GROUNDWATER AT 15 FEET	
25								
30								
35								
40								

JOB NO.: 13-6782-017-05-00 LOG OF BORING FIGURE: B-7

ATTACHMENT D

Groundwater Monitoring and Oxygenates Data

Thrifty Site

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	TPH (G) (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYLBENZENE (ppb)	XYLENES (ppb)	MTBE (ppb)	DEPTH TO GROUNDWATER (feet)	DEPTH TO BOTTOM (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
01/09/92	-	-	-	-	-	-	5.54		NP	0.00	98.03	92.49
04/13/92	-	-	-	-	-	-	5.86		NP	0.00	98.03	92.17
10/05/92	-	-	-	-	-	-	9.39		NP	0.00	98.03	88.64
01/06/93	-	-	-	-	-	-	4.76		NP	0.00	98.03	93.27
04/26/93	-	-	-	-	-	-	4.96		NP	0.00	98.03	93.07
01/04/94	-	-	-	-	-	-	7.00		NP	0.00	98.03	91.03
04/05/94	-	-	-	-	-	-	6.44		NP	0.00	98.03	91.59
10/09/95	44,000	4,500	4,300	1,700	10,000	-	-		-	-	98.03	-
01/08/96	21,000	1,200	150	34	4,800	-	6.15		NP	0.00	98.03	91.88
04/08/96	4,700	80	110	10	910	-	5.40		NP	0.00	98.03	92.63
07/22/96	7,000	280	130	<3	2,100	440	5.50		NP	0.00	98.03	92.53
10/16/96	120	<0.3	<0.3	<0.3	<0.5	180	6.02		NP	0.00	98.03	92.01
01/22/97	160	<0.3	<0.3	<0.3	<0.5	360	4.40		NP	0.00	98.03	93.63
04/21/97	20,000	420	140	5.8	840	55,000	6.30		NP	0.00	98.03	91.73
07/14/97	13,000	<0.3	<0.3	<0.3	<0.55	30,000	5.92		NP	0.00	98.03	92.11
10/07/97	-	-	-	-	-	-	7.71		7.70	0.01	98.03	90.33
01/15/98	<50	0.3	<0.3	<0.3	<0.5	-	4.40		NP	0.00	98.03	93.63
04/23/98	540	<0.3	<0.3	<0.3	<0.5	<20	8.10		NP	0.00	98.03	89.93
07/20/98	<50	<0.3	<0.3	<0.3	<0.5	<5	5.55		NP	0.00	98.03	92.48
10/14/98	50	1.4	0.56	<0.3	11	22	7.05		NP	0.00	98.03	90.98
01/21/99	<50	0.59	<0.3	<0.3	<0.5	<5	4.10		NP	0.00	98.03	93.93
04/15/99	<50	<0.3	<0.3	<0.3	<0.5	<5	4.30		NP	0.00	98.03	93.73
07/26/99	<50	<0.3	<0.3	<0.3	<0.5	<5	5.54		NP	0.00	98.03	92.49
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.13		NP	0.00	98.03	91.90
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	<5	6.04		NP	0.00	98.03	91.99
04/05/00	<50	<0.25	<0.25	<0.25	<0.5	<5	4.03		NP	0.00	98.03	94.00
07/19/00	<50	<0.3	<0.3	<0.3	<0.6	<5	4.00		NP	0.00	98.03	94.03
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.53		NP	0.00	98.03	92.50
01/17/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.97		NP	0.00	98.03	94.06
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.98		NP	0.00	98.03	94.05
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.51		NP	0.00	98.03	92.52
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.97		NP	0.00	98.03	94.06
01/30/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.95		NP	0.00	98.03	94.08
04/17/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	2.42		NP	0.00	98.03	95.61
07/31/02	<50	<0.18	1.3	<0.18	<0.26	<0.24	5.49		NP	0.00	98.03	92.54
11/14/02	<50	<0.08	<0.18	<0.17	<0.4	16	6.13		NP	0.00	98.03	91.90
01/29/03	<15	<0.04	<0.02	<0.02	<0.06	<0.03	2.45		NP	0.00	98.03	95.58
04/23/03	<15	<0.04	<0.02	<0.02	<0.06	<0.03	7.02		NP	0.00	98.03	91.01
07/10/03	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.15	17.74	NP	0.00	98.03	92.88
10/20/03	<15	<0.04	<0.02	<0.02	<0.06	<0.03	5.13	17.74	NP	0.00	98.03	92.90
01/14/04	<15	<0.04	<0.02	<0.02	<0.06	<0.03	3.92	17.72	NP	0.00	98.03	94.11
04/08/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	4.54	17.74	NP	0.00	98.03	93.49

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	TPH-G (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	XYLENES (ug/L)	MTBE (ug/L)	DEPTH TO GROUNDWATER (feet)	DEPTH TO BOTTOM (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
10/20/03	13,000	4.79	<0.02	<0.02	<0.06	*6,330 / 5,980	5.10	23.76	NP	0.00	97.44	92.34
01/14/04	WELL ABANDONED 01/2004											
MONITORING WELL #MW-2												
04/08/04	11,600	304	16 J	55	427	4,170	4.58	16.74	NP	0.00	-	-
07/21/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	6.72	16.74	NP	0.00	-	-
10/20/04	20,900	3,180	2,970	259	1,240	92	3.72	16.74	NP	0.00	-	-
01/19/05	18,900	537	250	866	2,290	3,340	4.50	16.74	NP	0.00	-	-
04/20/05	13,100	<2.2	<3.2	<3.1	<4.0	563	5.27	16.74	NP	0.00	-	-
07/07/05	2,500	70	7.6	<0.24	160	1,930	-	-	-	-	-	-
07/20/05	4,260	392	15 J	175	100	742	6.12	16.76	NP	0.00	-	-
MONITORING WELL #MW-3			Screen Interval: 5 to 25 feet									
01/09/92	-	-	-	-	-	-	17.60		NP	0.00	97.69	80.09
04/13/92	-	-	-	-	-	-	17.40		NP	0.00	97.69	80.29
10/05/92	-	-	-	-	-	-	17.35		NP	0.00	97.69	80.34
01/06/93	-	-	-	-	-	-	17.40		NP	0.00	97.69	80.29
04/26/93	-	-	-	-	-	-	17.90		NP	0.00	97.69	79.79
01/04/94	-	-	-	-	-	-	17.60		NP	0.00	97.69	80.09
04/05/94	-	-	-	-	-	-	16.25		NP	0.00	97.69	81.44
01/08/96	-	-	-	-	-	-	7.11		NP	0.00	97.69	90.58
04/08/96	8,800	610	31	530	900	-	7.20		NP	0.00	97.69	90.49
07/22/96	38,000	4,100	1,500	1,600	5,400	2,600	6.82		NP	0.00	97.69	90.87
10/16/96	2,400	<0.3	<0.3	<0.3	<0.5	3,800	6.84		NP	0.00	97.69	90.85
01/22/97	2,200	<0.3	<0.3	<0.3	<0.5	5,500	4.80		NP	0.00	97.69	92.89
04/21/97	15,000	1,500	36	260	710	11,000	9.40		NP	0.00	97.69	88.29
07/14/97	5,400	0.45	<0.3	<0.3	<0.5	14,000	10.92		NP	0.00	97.69	86.77
10/07/97	8,800	0.39	<0.3	<0.3	0.88	-	11.95		NP	0.00	97.69	85.74
01/19/98	22,000	1,300	15	20	310	-	7.85		NP	0.00	97.69	89.84
04/23/98	9,200	3.9	3.1	5.7	9.8	16,000	11.20		NP	0.00	97.69	86.49
07/20/98	750	0.41	1.4	0.47	1.8	2,800	7.36		NP	0.00	97.69	90.33
10/14/98	750	<0.3	<0.3	<0.3	<0.5	15,000	11.95		NP	0.00	97.69	85.74
01/21/99	4,700	0.32	<0.3	<0.3	<0.5	* 12,000 / 16,000	10.45		NP	0.00	97.69	87.24
04/15/99	7,900	0.59	0.69	<0.3	0.94	* 11,000 / 14,000	7.86		NP	0.00	97.69	89.83
07/26/99	5,200	<3	<3	<3	<5	*9,600 / 11,000	10.40		NP	0.00	97.69	87.29
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	7.09		NP	0.00	97.69	90.60
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	<5	6.86		NP	0.00	97.69	90.83
04/05/00	<50	0.8	<0.25	<0.25	<0.5	*5.6 / <5	8.85		NP	0.00	97.69	88.84
07/19/00	<50	<0.3	<0.3	<0.3	<0.6	<5	8.86		NP	0.00	97.69	88.83
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	<0.24	7.32		NP	0.00	97.69	90.37
01/17/01	<50	<0.18	2.0	<0.18	1.0	*39 / 39	5.40		NP	0.00	97.69	92.29
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	8.87		NP	0.00	97.69	88.82

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	TPH (g)	B	T	E	X	MTBE	DEPTH TO WATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	7.32		NP	0.00	97.69	90.37
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	8.87		NP	0.00	97.69	88.82
01/30/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.78		NP	0.00	97.69	91.91
04/17/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	7.31		NP	0.00	97.69	90.38
07/31/02	138	1.1	1.2	<0.18	<0.26	<0.24	5.76		NP	0.00	97.69	91.93
11/14/02	<50	<0.08	<0.18	<0.17	<0.4	21	5.73		NP	0.00	97.69	91.96
01/29/03	<15	<0.04	<0.02	<0.02	<0.06	16	7.30		NP	0.00	97.69	90.39
04/23/03	<15	<0.04	<0.02	<0.02	<0.06	16	5.76		NP	0.00	97.69	91.93
07/10/03	<15	<0.22	<0.32	<0.31	<0.4	11	5.63	24.16	NP	0.00	97.69	92.06
10/20/03	13,700	4.13	<0.02	<0.02	<0.06	*6,570 / 4,920	5.61	24.16	NP	0.00	97.69	92.08
01/14/04	1,160	2.0	2.2	6.1	7.8	*1,510 / 767	4.23	24.16	NP	0.00	97.69	93.46
04/08/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.48	24.13	NP	0.00	97.69	92.21
07/21/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	6.66	24.13	NP	0.00	97.69	91.03
10/20/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	4.20	24.13	NP	0.00	97.69	93.49
01/19/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.74	24.13	NP	0.00	97.69	91.95
04/20/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18	7.23	24.11	NP	0.00	97.69	90.46
07/20/05	<2.9	<0.32	<0.10	<0.24	<0.30	<0.63	6.82	24.13	NP	0.00	97.69	90.87
MONITORING WELL MW2												
01/09/92	-	-	-	-	-	-	5.25		NP	0.00	97.33	92.08
04/13/92	-	-	-	-	-	-	6.40		NP	0.00	97.33	90.93
10/05/92	-	-	-	-	-	-	9.95		NP	0.00	97.33	87.38
01/06/93	-	-	-	-	-	-	4.10		NP	0.00	97.33	93.23
04/26/93	-	-	-	-	-	-	4.84		NP	0.00	97.33	92.49
01/04/94	-	-	-	-	-	-	9.05		NP	0.00	97.33	88.28
04/05/94	-	-	-	-	-	-	8.10		NP	0.00	97.33	89.23
10/09/95	63,000	9,000	2,100	2,500	9,600	-	-		-	-	97.33	-
01/08/96	23,000	2,200	830	880	3,600	-	5.57		NP	0.00	97.33	91.76
04/08/96	56,000	5,000	2,500	2,600	11,000	-	5.36		NP	0.00	97.33	91.97
07/22/96	33,000	3,700	1,600	1,400	6,000	2,400	4.80		NP	0.00	97.33	92.53
10/16/96	2,800	7.8	0.60	0.41	52	2,000	5.47		NP	0.00	97.33	91.86
01/22/97	1,400	<0.3	<0.3	<0.3	<0.5	3,100	5.15		NP	0.00	97.33	92.18
04/21/97	-	-	-	-	-	-	6.36		5.30	1.06	97.33	91.77
07/14/97	-	-	-	-	-	-	5.24		5.21	0.03	97.33	92.11
10/07/97	-	-	-	-	-	-	7.82		7.80	0.02	97.33	89.53
01/15/98	-	-	-	-	-	-	6.68		6.60	0.08	97.33	90.71
04/23/98	-	-	-	-	-	-	6.36		5.30	1.06	97.33	91.77
07/20/98	<50	<0.3	<0.3	<0.3	<0.5	<5	6.05		NP	0.00	97.33	91.28
10/14/98	3,100	86	23	2.0	520	1,100	6.85		NP	0.00	97.33	90.48
01/21/99	9,100	3.2	5.6	1.8	130	* 24,000 / 17,000	6.10		NP	0.00	97.33	91.23
04/15/99	14,000	<0.3	0.71	<0.3	<0.5	* 20,000 / 22,000	6.05		NP	0.00	97.33	91.28
07/26/99	4,500	<6	<6	<6	<10	*8,700 / 9,800	6.07		NP	0.00	97.33	91.26

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

Date Sampled	TPH (g) (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	Depth to Groundwater (feet)	Depth to Bottom (feet)	Depth to Product (feet)	Product Thickness (feet)	Casing Elevation (feet)	Groundwater Elevation (feet)
07/21/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	7.01	17.74	NP	0.00	98.03	91.02
10/20/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.46	17.73	NP	0.00	98.03	92.57
01/19/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.48	17.73	NP	0.00	98.03	92.55
04/20/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18	6.99	17.73	NP	0.00	98.03	91.04
07/20/05	<2.9	<0.32	<0.10	<0.24	<0.30	<0.63	6.42	17.72	NP	0.00	98.03	91.61
MONITORING WELL MW-2												
01/09/92	-	-	-	-	-	-	5.35		NP	0.00	97.44	92.09
04/13/92	-	-	-	-	-	-	7.42		NP	0.00	97.44	90.02
10/05/92	-	-	-	-	-	-	12.15		NP	0.00	97.44	85.29
01/06/93	-	-	-	-	-	-	5.46		NP	0.00	97.44	91.98
04/26/93	-	-	-	-	-	-	5.15		NP	0.00	97.44	92.29
01/04/94	-	-	-	-	-	-	9.45		NP	0.00	97.44	87.99
04/05/94	-	-	-	-	-	-	8.23		NP	0.00	97.44	89.21
10/09/95	33,000	6,000	390	1,700	4,900	-	-		-	-	97.44	-
01/08/96	<50	0.32	<0.3	0.41	2.1	-	5.60		NP	0.00	97.44	91.84
04/08/96	10,000	490	210	210	830	-	5.43		NP	0.00	97.44	92.01
07/22/96	60,000	6,500	1,000	1,500	10,000	8,500	5.65		NP	0.00	97.44	91.79
10/16/96	6,500	12	0.34	0.72	110	4,700	5.82		NP	0.00	97.44	91.62
01/22/97	3,200	<0.3	0.46	0.37	<0.5	8,000	4.30		NP	0.00	97.44	93.14
04/21/97	66,000	5,300	1,000	2,300	14,000	30,000	5.80		NP	0.00	97.44	91.64
07/14/97	17,000	1.8	4.6	4.6	350	24,000	8.92		NP	0.00	97.44	88.52
10/07/97	220,000	5,200	1,700	3,800	15,000	-	6.80		NP	0.00	97.44	90.64
01/19/98	25,000	5.4	2.2	2.1	240	-	8.50		NP	0.00	97.44	88.94
04/23/98	7,700	<0.3	0.55	0.38	4.9	28,000	7.60		NP	0.00	97.44	89.84
07/20/98	430,000	4,200	10,000	5,400	28,000	77,000	6.94		NP	0.00	97.44	90.50
1014/98	27,000	<0.3	4.5	4.1	4.6	65,000	8.45		NP	0.00	97.44	88.99
01/21/99	16,000	7.6	9.8	4.2	310	* 49,000 / 42,000	6.95		NP	0.00	97.44	90.49
04/15/99	20,000	<0.3	<0.3	<0.3	<0.5	* 31,000 / 30,000	8.45		NP	0.00	97.44	88.99
07/26/99	6,700	<6	<6	<6	<10	*11,000 / 15,000	6.94		NP	0.00	97.44	90.50
10/13/99	7,600	<3	3.7	<3	11	11,000	5.48		NP	0.00	97.44	91.96
01/20/00	7,500	<6	<6	<6	<10	*14,000 / 16,000	5.84		NP	0.00	97.44	91.60
04/05/00	10,400	<0.25	<0.25	<0.25	<0.5	*10,000 / 14,400	5.41		NP	0.00	97.44	92.03
07/19/00	130	<0.3	<0.3	<0.3	<0.6	*9,620 / 6,520	5.40		NP	0.00	97.44	92.04
10/18/00	150	<0.18	<0.14	<0.18	<0.26	*9,090 / 6,560	6.91		NP	0.00	97.44	90.53
01/17/01	75	<0.18	2.0	2.0	3.0	*8,650 / 9,710	5.41		NP	0.00	97.44	92.03
04/19/01	4,380	<0.18	<0.14	<0.18	<0.26	8,890	5.40		NP	0.00	97.44	92.04
07/18/01	3,260	<0.18	<0.14	<0.18	2.0	*7960 / 1,710	6.92		NP	0.00	97.44	90.52
10/10/01	1,760	<0.18	<0.14	<0.18	<0.26	*2,980 / 2,600	3.87		NP	0.00	97.44	93.57
01/30/02	1,770	<0.18	1.0	1.0	2.0	*2,560 / 1,590	8.45		NP	0.00	97.44	88.99
04/17/02	1,470	1.0	<0.14	<0.18	<0.26	*2,460 / 2,080	8.45		NP	0.00	97.44	88.99
07/31/02	3,910	<0.18	1.2	<0.18	2.1	*2,090 / 1,740	9.98		NP	0.00	97.44	87.46

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

SAMPLE ID	TPH (G)	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	MTBE	DEPTH TO GROUNDWATER (feet)	DEPTH TO BOTTOM (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
MW-2												
11/14/02	39,400	1,680	728	173	5,120	8,270	5.40		NP	0.00	97.44	92.04
01/29/03	22,100	746	76	<1.0	2,840	8,220	8.43		NP	0.00	97.44	89.01
04/23/03	19,500	<0.8	<0.4	<0.4	<1.2	9,580	5.38		NP	0.00	97.44	92.06
07/10/03	29,900	<2.2	<3.2	<3.1	<4.0	6,690	5.10	23.76	NP	0.00	97.44	92.34

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYLBENZENE (ug/L)	XYLENES (ug/L)	MTBE (ug/L)	DEPTH TO GROUNDWATER (feet)	DEPTH TO BOTTOM (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
MW-4												
10/13/99	410	<0.3	0.63	<0.3	<0.5	660	5.54		NP	0.00	97.33	91.79
01/20/00	770	<0.3	<0.3	<0.3	<0.5	*2,400 / 1,900	5.49		NP	0.00	97.33	91.84
04/05/00	61,200	0.9	<0.25	<0.25	<0.5	*18,500 / 21,900	5.30		NP	0.00	97.33	92.03
07/19/00	96,600	1,770	1,760	2,690	8,730	21,900 / 9,740 J	5.29		NP	0.00	97.33	92.04
10/18/00	34,900	698	1,010	607	4,130	*27,800 / 15,900	6.02		NP	0.00	97.33	91.31
01/17/01	29,100	799	930	614	3,400	*24,300 / 31,400	4.88		NP	0.00	97.33	92.45
04/19/01	103,000	4,880	3,980	3,260	11,800	66,900	4.89		NP	0.00	97.33	92.44
07/18/01	52,200	3,320	2,090	440	5,520	*55,500 / 16,800	6.04		NP	0.00	97.33	91.29
10/10/01	8,580	6.1	14	5.3	70	*40,100 / 30,000	4.51		NP	0.00	97.33	92.82
01/30/02	36,500	<0.18	3.0	1.0	3.0	*43,000 / 24,900	4.51		NP	0.00	97.33	92.82
04/17/02	12,900	8.0	1.0	<0.18	1.0	16,000 / 13,600	4.51		NP	0.00	97.33	92.82
07/31/02	19,300	<0.18	1.2	1.5	2.6	*13,200 / 10,100	5.26		NP	0.00	97.33	92.07
11/14/02	36,200	1,720	940	235	6,190	8,280	5.27		NP	0.00	97.33	92.06
01/29/03	13,000	444	39	<0.4	1,200	8,160	4.50		NP	0.00	97.33	92.83
04/23/03	7,430	130	5.7	<0.2	387	5,830	4.80		NP	0.00	97.33	92.53
07/10/03	16,200	<2.2	<3.2	<3.1	<4.0	3,930	4.55	13.60	NP	0.00	97.33	92.78
10/20/03	6,040	672	384	3.4	444	*3,780 / 3,220	4.56	13.60	NP	0.00	97.33	92.77
01/14/04	WELL ABANDONED 01/2004											
MONITORING WELL #MW-2R												
04/08/04	37,900	819	424	159	3,190	18,400	4.96	19.62	NP	0.00	-	-
07/21/04	14,500	<2.2	<3.2	<3.1	39 J	18,900	6.60	19.62	NP	0.00	-	-
10/20/04	66,000	6,390	6,560	672	3,290	13,300	3.38	19.62	NP	0.00	-	-
01/19/05	17,600	513	240	855	2,230	3,310	4.32	19.62	NP	0.00	-	-
04/20/05	19,200	190	109	452	974	1,870	4.72	19.64	NP	0.00	-	-
07/07/05	11,500	233	68	369	875	2,350	-	-	-	-	-	-
07/20/05	11,300	251	90	154	1,460	1,280	6.08	19.62	NP	0.00	-	-
MONITORING WELL #MW-5	Screen Interval 4 to 14 feet											
01/09/92	-	-	-	-	-	-	5.32		NP	0.00	98.85	93.53
04/13/92	-	-	-	-	-	-	4.82		NP	0.00	98.85	94.03
10/0/92	-	-	-	-	-	-	8.78		NP	0.00	98.85	90.07
01/06/93	-	-	-	-	-	-	3.46		NP	0.00	98.85	95.39
04/26/93	-	-	-	-	-	-	4.66		NP	0.00	98.85	94.19
01/04/94	-	-	-	-	-	-	6.36		NP	0.00	98.85	92.49
04/05/94	-	-	-	-	-	-	5.94		NP	0.00	98.85	92.91
07/12/95	<100	<0.5	<0.5	<0.5	<1	-	-		-	-	98.85	-
10/09/95	440	31	11	19	84	-	-		-	-	98.85	-
01/08/96	<50	<0.3	<0.3	<0.3	<0.5	-	6.63		NP	0.00	98.85	92.22
04/08/96	<50	<0.3	<0.3	<0.3	<0.5	-	5.22		NP	0.00	98.85	93.63
07/22/96	<50	<0.3	<0.3	<0.3	<0.5	<20	6.62		NP	0.00	98.85	92.23
10/16/96	<50	<0.3	<0.3	<0.3	<0.5	<20	6.12		NP	0.00	98.85	92.73

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	TPH-G (ug/l)	BENZENE (ug/l)	TOLUENE (ug/l)	ETHYLBENZENE (ug/l)	XYLENES (ug/l)	MTBE (ug/l)	DEPTH TO GROUNDWATER (feet)	DEPTH TO BOTTOM (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
01/22/97	<50	<0.3	<0.3	<0.3	<0.5	<20	5.17		NP	0.00	98.85	93.68
04/21/97	73	2.5	0.34	0.74	3.8	21	6.64		NP	0.00	98.85	92.21
07/14/97	<50	<0.3	<0.3	<0.3	<0.5	<20	6.67		NP	0.00	98.85	92.18
10/07/97	130	<0.3	<0.3	<0.3	<0.5	-	8.20		NP	0.00	98.85	90.65
01/19/98	85	<0.3	<0.3	<0.3	<0.5	-	1.55		NP	0.00	98.85	97.30
04/23/98	220	0.39	<0.3	<0.3	<0.5	350	8.10		NP	0.00	98.85	90.75
07/20/98	<50	<0.3	<0.3	<0.3	<0.5	<5	6.30		NP	0.00	98.85	92.55
10/14/98	<50	<0.3	<0.3	<0.3	<0.5	<5	7.65		NP	0.00	98.85	91.20
01/21/99	<50	<0.3	<0.3	<0.3	<0.5	*6.7 / <5	6.15		NP	0.00	98.85	92.70
04/15/99	<50	<0.3	<0.3	<0.3	<0.5	<5	1.60		NP	0.00	98.85	97.25
07/26/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.13		NP	0.00	98.85	92.72
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.61		NP	0.00	98.85	92.24
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	<5	6.14		NP	0.00	98.85	92.71
04/05/00	<50	0.5	<0.25	<0.25	<0.5	*5.4 / <5	4.58		NP	0.00	98.85	94.27
07/19/00	<50	<0.3	<0.3	<0.3	<0.6	<5	4.59		NP	0.00	98.85	94.26
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	<0.24	6.28		NP	0.00	98.85	92.57
01/17/01	<50	<0.18	<0.14	<0.18	1.0	*5 / 4.8	4.58		NP	0.00	98.85	94.27
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	4.58		NP	0.00	98.85	94.27
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	6.12		NP	0.00	98.85	92.73
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	4.58		NP	0.00	98.85	94.27
01/30/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	4.48		NP	0.00	98.85	94.37
04/17/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	4.58		NP	0.00	98.85	94.27
07/31/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	6.10		NP	0.00	98.85	92.75
11/14/02	<50	<0.08	<0.18	<0.17	<0.4	9	6.11		NP	0.00	98.85	92.74
01/29/03	<15	<0.04	<0.02	<0.02	<0.06	7.1	4.55		NP	0.00	98.85	94.30
04/23/03	<15	<0.04	<0.02	<0.02	<0.06	7.9	3.03		NP	0.00	98.85	95.82
07/10/03	<15	<0.22	<0.32	<0.31	<0.4	7.4	5.25	13.76	NP	0.00	98.85	93.60
10/20/03	<15	<0.04	<0.02	<0.02	<0.06	*9.11 / 9.2	5.25	13.76	NP	0.00	98.85	93.60
01/14/04	<15	<0.04	<0.02	<0.02	<0.06	*8.2 / 4.1	3.03	13.76	NP	0.00	98.85	95.82
04/08/04	797	<0.22	<0.32	<0.31	<0.4	635	4.35	13.76	NP	0.00	98.85	94.50
07/21/04	548	<0.22	<0.32	<0.31	<0.4	788	5.56	13.76	NP	0.00	98.85	93.29
10/20/04	901	<0.22	<0.32	<0.31	<0.4	734	4.15	13.77	NP	0.00	98.85	94.70
01/19/05	350	<0.22	<0.32	<0.31	<0.4	860	4.57	13.77	NP	0.00	98.85	94.28
04/20/05	718	<0.22	<0.32	<0.31	<0.4	848	6.10	13.77	NP	0.00	98.85	92.75
07/20/05	255	<0.32	<0.10	<0.24	<0.30	274	5.76	13.77	NP	0.00	98.85	93.09
MONITORING WELL #MW-6 [illegible] Screen Interval = 4 to 14 feet												
01/09/92	-	-	-	-	-	-	6.30		NP	0.00	99.67	93.37
04/13/92	-	-	-	-	-	-	5.47		NP	0.00	99.67	94.20
10/05/92	-	-	-	-	-	-	9.85		NP	0.00	99.67	89.82
01/06/93	-	-	-	-	-	-	4.16		NP	0.00	99.67	95.51
04/26/93	-	-	-	-	-	-	5.75		NP	0.00	99.67	93.92

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	TPH (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	DEPTH TO GROUNDWATER (feet)	DEPTH TO BOTTOM (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
01/14/94	-	-	-	-	-	-	7.20		NP	0.00	99.67	92.47
04/05/94	-	-	-	-	-	-	6.76		NP	0.00	99.67	92.91
07/10/95	<100	<0.5	0.9	<0.5	1.1	-	-		-	-	99.67	-
10/09/95	250	4.8	5.6	11	58	-	-		-	-	99.67	-
01/08/96	<50	<0.3	<0.3	<0.3	<0.5	-	6.16		NP	0.00	99.67	93.51
04/08/96	230	4.6	4.7	3.2	33	-	4.60		NP	0.00	99.67	95.07
07/22/96	<50	<0.3	<0.3	<0.3	<0.5	<20	7.30		NP	0.00	99.67	92.37
10/16/96	<50	<0.3	<0.3	<0.3	<0.5	<20	5.82		NP	0.00	99.67	93.85
01/22/97	<50	<0.3	<0.3	<0.3	<0.5	<20	4.40		NP	0.00	99.67	95.27
04/21/97	130	<0.3	<0.3	<0.3	<0.5	<20	7.10		NP	0.00	99.67	92.57
07/14/97	<50	<0.3	<0.3	<0.3	0.70	<20	7.35		NP	0.00	99.67	92.32
10/07/97	<50	0.78	0.3	<0.3	<0.5	-	6.98		NP	0.00	99.67	92.69
01/23/98	<50	<0.3	<0.3	<0.3	<0.5	-	2.35		NP	0.00	99.67	97.32
04/23/98	<50	<0.3	<0.3	<0.3	<0.5	<20	6.90		NP	0.00	99.67	92.77
07/20/98	<50	<0.3	1.1	<0.3	1.4	<5	5.45		NP	0.00	99.67	94.22
10/14/98	<50	<0.3	<0.3	<0.3	<0.5	<5	4.95		NP	0.00	99.67	94.72
01/21/99	<50	0.35	0.62	<0.3	<0.5	<5	3.90		NP	0.00	99.67	95.77
04/15/99	<50	<0.3	<0.3	<0.3	<0.5	<5	2.35		NP	0.00	99.67	97.32
07/26/99	1,000	<0.3	<0.3	<0.3	<0.5	*2,300 / 3,900	3.93		NP	0.00	99.67	95.74
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.15		NP	0.00	99.67	93.52
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	*42 / 41	5.84		NP	0.00	99.67	93.83
04/05/00	4,600	338	2.8	1.2	55.2	*282 / 230	3.89		NP	0.00	99.67	95.78
07/19/00	60	1.0	2.0	<0.3	<0.6	*87 / 76	3.07		NP	0.00	99.67	96.60
10/18/00	-	-	-	-	-	-	-		-	-	99.67	-
01/17/01	103	<0.18	2.0	<0.18	3.0	*78 / 106	3.87		NP	0.00	99.67	95.80
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.86		NP	0.00	99.67	95.81
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.40		NP	0.00	99.67	94.27
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.86		NP	0.00	99.67	95.81
01/30/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.86		NP	0.00	99.67	95.81
04/17/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.86		NP	0.00	99.67	95.81
07/31/02	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.40		NP	0.00	99.67	94.27
11/14/02	140	3.2	<0.18	5.2	<0.4	111	5.42		NP	0.00	99.67	94.25
01/29/03	694 J	<0.04	<0.02	<0.02	<0.06	630	3.88		NP	0.00	99.67	95.79
04/23/03	1,550	<0.04	<0.02	<0.02	<0.06	578	3.86		NP	0.00	99.67	95.81
07/10/03	1,670	<0.22	<0.32	<0.31	<0.4	509	5.31	13.04	NP	0.00	99.67	94.36
10/20/03	1,320	<0.04	<0.02	<0.02	<0.06	*656 / 662	5.30	13.04	NP	0.00	99.67	94.37
01/14/04	272	<0.04	<0.02	<0.02	<0.06	*304 / 180	3.82	13.02	NP	0.00	99.67	95.85
04/08/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.18	13.06	NP	0.00	99.67	94.49
07/21/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	6.42	13.06	NP	0.00	99.67	93.25
10/20/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.62	13.06	NP	0.00	99.67	94.05
01/19/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.40	13.06	NP	0.00	99.67	94.27
04/20/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.41	13.06	NP	0.00	99.67	94.26
07/20/05	<2.9	<0.32	<0.10	<0.24	<0.30	<0.63	4.07	13.06	NP	0.00	99.67	95.60

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	TPH-G (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	TOTAL XYLENES (ppb)	MTBE (ppb)	DEPTH TO GROUNDWATER (feet)	DEPTH TO SOIL (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
MONITORING WELL MW-1												
01/09/92	-	-	-	-	-	-	6.30		NP	0.00	99.02	92.72
04/13/92	-	-	-	-	-	-	6.68		NP	0.00	99.02	92.34
10/05/92	-	-	-	-	-	-	9.60		NP	0.00	99.02	89.42
01/06/93	-	-	-	-	-	-	13.90		NP	0.00	99.02	85.12
04/26/93	-	-	-	-	-	-	5.55		NP	0.00	99.02	93.47
01/04/94	-	-	-	-	-	-	7.58		NP	0.00	99.02	91.44
04/05/94	-	-	-	-	-	-	6.66		NP	0.00	99.02	92.36
10/09/95	27,000	2,400	140	1,700	2,700	-	-		-	-	99.02	-
01/08/96	13,000	800	42	540	860	-	6.94		NP	0.00	99.02	92.08
04/08/94	9,100	840	31	690	1,200	-	5.48		NP	0.00	99.02	93.54
07/22/96	11,000	1,700	22	660	700	840	6.60		NP	0.00	99.02	92.42
10/16/96	180	<0.3	<0.3	<0.3	<0.5	270	6.42		NP	0.00	99.02	92.60
01/22/97	130	<0.3	<0.3	<0.3	<0.5	470	5.70		NP	0.00	99.02	93.32
04/21/97	10,000	1,400	27	820	490	1,100	5.30		NP	0.00	99.02	93.72
07/14/97	8,200	660	15	230	270	560	7.90		NP	0.00	99.02	91.12
10/07/97	7,700	480	15	8.4	350	-	7.70		NP	0.00	99.02	91.32
01/19/98	1,400	20	0.74	0.46	4.4	-	6.05		NP	0.00	99.02	92.97
04/23/98	590	<0.3	<0.3	<0.3	<0.5	1,700	7.60		NP	0.00	99.02	91.42
07/20/98	4,900	570	150	300	500	1,500	5.30		NP	0.00	99.02	93.72
10/14/98	1,100	1.0	<0.3	<0.3	5.3	2,000	8.60		NP	0.00	99.02	90.42
01/21/99	570	0.32	<0.3	<0.3	<0.5	* 1,500 / 1,700	6.70		NP	0.00	99.02	92.32
04/15/99	770	<0.3	<0.3	<0.3	<0.5	* 1,400 / 1,200	6.07		NP	0.00	99.02	92.95
07/26/99	500	<0.3	<0.3	<0.3	<0.5	*710 / 950	7.86		NP	0.00	99.02	91.16
10/13/99	<50	<0.3	0.44	<0.3	0.62	<5	6.93		NP	0.00	99.02	92.09
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	*5 / <5	6.44		NP	0.00	99.02	92.58
04/05/00	5,670	415	19	1.7	60.1	*329 / 194	7.86		NP	0.00	99.02	91.16
07/19/00	1,350	14	<3	<3	10	*237 / 120	7.10		NP	0.00	99.02	91.92
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	*63 / 41.1	5.28		NP	0.00	99.02	93.74
01/17/01	<50	<0.18	<0.14	<0.18	3.0	*57 / 81	5.27		NP	0.00	99.02	93.75
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	66	7.86		NP	0.00	99.02	91.16
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	*9 / 3.5	6.30		NP	0.00	99.02	92.72
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	*9.4 / 7.9	8.23		NP	0.00	99.02	90.79
01/30/02	2,590	40	9.0	8.0	6.0	*45 / 22	5.14		NP	0.00	99.02	93.88
04/17/02	51	<0.18	<0.14	<0.18	<0.26	*58 / 45	5.53		NP	0.00	99.02	93.49
07/31/02	<50	<0.18	<0.14	<0.18	<0.26	*39 / 33	5.93		NP	0.00	99.02	93.09
11/14/02	<50	<0.08	<0.18	<0.17	<0.4	6.8	5.92		NP	0.00	99.02	93.10
01/29/03	<15	<0.04	<0.02	<0.02	<0.06	<0.03	5.51		NP	0.00	99.02	93.51
04/23/03	<15	<0.04	<0.02	<0.02	<0.06	<0.03	5.14		NP	0.00	99.02	93.88
07/10/03	<15	<0.22	<0.32	<0.31	<0.4	<0.18	5.03	13.56	NP	0.00	99.02	93.99
10/20/03	<15	<0.04	<0.02	<0.02	<0.06	<0.03	5.01	13.56	NP	0.00	99.02	94.01

ATTACHMENT F

Thrifty Conceptual Site Model

SITE CONCEPTUAL MODEL
Former Shell-branded Service Station
3420 San Pablo Avenue, Oakland, California

6	**Additional Recommended Data or Tasks**	
6.1	Continued quarterly monitoring	
6.2	Continue joint monitoring with Thrifty	
6.3	Complete screening level risk evaluation vs ESLs and Oakland RBSLs for appropriate exposure pathways	
6.4	If the screening level risk evaluation indicates unacceptable soil or groundwater conditions at the Shell site, conduct a feasibility study and corrective action plan to establish appropriate cleanup levels and goals, and to evaluate appropriate remedial alternatives	
6.5	If the screening level risk evaluation indicates acceptable risks to human health and the environment, discontinue groundwater monitoring and proceed with case closure.	
6.6	Investigate on-site water use/leaks for source of groundwater mounding	

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SITE CONCEPTUAL MODEL
Former Shell-branded Service Station
3420 San Pablo Avenue, Oakland, California

4.1	Designated Beneficial Water Use	Groundwater is designated as having potential municipal, industrial and agricultural beneficial uses; however, no known or anticipated uses of groundwater in the area are known.
4.2	Shallow Groundwater Use	None
4.3	Deep Groundwater Use	None
4.4	Well Survey Results	In 2001 and again in 2004, Cambria conducted a ½-mile radius California Department of Water Resources well survey for the site. No surface water bodies were identified within the survey radius. No active water producing wells were found. For the nearest identified well, in January 2002, a representative for the property owner indicated to Cambria that the well had not been used in decades and was scheduled for destruction.
4.5	Likelihood of Impact to Wells	Low - no groundwater users are known.
4.6	Likelihood of Impact to Surface Water	No surface water bodies are identified within a 2000-ft radius of the site.
5	**Risk Assessment**	
5.1	Site Conceptual Exposure Model (current and future uses)	The site is currently an active fuel station. The area surrounding the site is predominantly commercial and residential. Future use of the parcel is assumed to be similar to current use.
5.2	Exposure Pathways	Potential exposure pathways include indoor and outdoor vapor inhalation by on-site commercial and off-site residential occupants, and direct exposure to soil and/or groundwater by construction workers.
5.3	Risk Assessment Status	In June 1998, Cambria prepared a RBCA analysis for the site to determine the potential risk that residual hydrocarbons pose on soil and groundwater underlying the site. Cambria's Tier 2 risk assessment demonstrated that the risk associated with exposure to hydrocarbons in soil and groundwater beneath the new on-site building were acceptable. Specifically, benzene concentrations in soil and groundwater beneath the vicinity of the building are below the Tier 2 California EPA SSTLs.
5.4	Identified Human Exceedances	None
5.5	Identified Ecological Exceedances	None

SITE CONCEPTUAL MODEL
Former Shell-branded Service Station
3420 San Pablo Avenue, Oakland, California

2.7	MTBE Plume Stability and Concentration Trends	Groundwater monitoring results indicate that MTBE has generally decreased in all wells. Therefore, the plume appears to be stabilizing with decreasing concentrations.
2.8	Groundwater Flow Direction, Depth Trends and Gradient Trends	Groundwater generally flows to the southwest; however, a periodically observed hydraulic mound near the center of the site is sometimes observed.
2.9	Stratigraphy and Hydrogeology	The site is underlain primarily by silty clay, sandy clay and gravelly sand to the total explored depth of 31.5 feet below grade (fbg).
2.10	Preferential Pathways Analysis	Cambria conducted a utility conduit survey to determine the location of potential preferential pathways beneath the site vicinity. Based on the survey, the back-filled trenches of the sanitary sewer, storm drain and water lines may at times be deeper than the groundwater surface and may potentially affect groundwater flow.
2.11	Other Pertinent Issues	None
3	**Remediation Status**	
3.1	Remedial Actions Taken	In January 1985, the steel underground storage tanks (USTs) and the product lines were replaced with double-walled fiberglass tanks and product lines. Excavated soil volumes were not reported. In 1997, the station was renovated. As part of the site renovation, the station building, a 550-gallon waste oil UST, and two gasoline dispensers and associated piping were removed from the site. SPH was recovered by skimming and bailing from 1991 to 1993.
3.2	Area Remediated	The areas beneath the former USTs, the dispensers, and product-line sampling locations were excavated to an unknown extent.
3.3	Remediation Effectiveness	The excavation and disposal of soil potentially eliminated a potential secondary source. Impacted soil may still remain based on the recent subsurface investigation results. SPH appears to be only infrequently present.
4	**Well and Sensitive Receptor Survey**	

SITE CONCEPTUAL MODEL
Former Shell-branded Service Station
3420 San Pablo Avenue, Oakland, California

Site Address:	3420 San Pablo Avenue	**Incident Number:**	98995748
City:	Oakland, California	**Regulator:**	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
1	**Hydrocarbon Source**	
1.1	Identify/Describe Release Source and Volume (if known)	In December 1984, gasoline-saturated soil was discovered beneath the pump island. All product lines and USTs were tested with the regular and super unleaded systems failing. A review of inventory records indicated a loss of 2,500 gallons of super unleaded and 1,500 gallons of regular gasoline. Soil samples collected from five exploratory borings advanced adjacent to USTs and dispensers in 1988 contained TPHg and BTEX. The highest TPHg concentration (1,400 ppm) and benzene (1,900 ppb) were detected at 1 fbg in boring SB-1, adjacent to and northwest of the USTs.
1.2	Discuss Steps Taken to Stop Release	In January 1985, steel USTs and product lines were replaced with double-walled, fiberglass tanks and product lines.
2	**Site Characterization**	
2.1	Current Site Use/Status	The site is currently an active former Shell-branded service station.
2.2	Soil Definition Status	Hydrocarbons in soils are defined laterally by MW-2, MW-6, MW-8, MW-9, and MW-11 to the north, MW-4, MW-7 and MW-10 to the west, and MW-3R, MW-5 and borings B-5 to the south.
2.3	Separate-Phase Hydrocarbon Definition Status	Separate-phase hydrocarbons (SPH) have previously been reported in wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-6R, and MW-7, primarily from 1991 until 1997. Trace amounts of SPH were detected in well MW-6R in 2003 and 2004. No SPH has been reported in groundwater since October 2004.
2.4	Groundwater Definition Status (BTEX)	BTEX in groundwater is defined laterally by MW-2, MW-6, MW-8, MW-9, and MW-11 to the north, MW-4, MW-7 and MW-10 to the west, and MW-3R, MW-5 and borings B-5 to the south.
2.5	BTEX Plume Stability and Concentration Trends	Based on quarterly monitoring reports, BTEX concentrations appear to be stable to decreasing.
2.6	Groundwater Definition Status (MTBE)	3rd quarter groundwater monitoring reported MTBE was detected in all wells except MW-8 at concentrations ranging from 2.7 ppb in MW-3R to 900 ppb in MW-4.

ATTACHMENT E

Shell Conceptual Site Model

Table. **Groundwater Analytical Data -Oxygenates Groundwater Data** -Thrifty Service Station, 3400 San Pablo Avenue, Oakland, California

DATE SAMPLED	DIPE	ETBE	TAME	TBA	1,2-DCA
	← (ug/L) →				
01/29/03	-	-	-	-	-
04/23/03	-	-	-	-	-
07/10/03	<0.29	<0.17	<0.28	<10	-
10/20/03	-	-	-	-	-
01/14/04	-	-	-	-	-
04/08/04	-	-	-	-	-

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 butyl methyl ether, analyzed by EPA Method 8260B
TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane

DIPE, ETBE, TAME, TBA analyzed by EPA Method 8260B

Table. **Groundwater Analytical Data -Oxygenates Groundwater Data** -Thrifty Service Station, 3400 San Pablo Avenue, Oakland, California

DATE SAMPLED	DIPE	ETBE	TAME	TBA	1,2-DCA
	←		(ug/L)		→
11/14/02	<2.0	<1.2	106	281	<1.3
01/29/03	-	-	-	-	-
04/23/03	-	-	-	-	-
07/10/03	<2.9	<1.7	35	<100	-
10/20/03	-	-	-	-	-
01/14/04	WELL ABANDONED 01/2004				
11/14/02	<0.2	<0.12	<0.16	<10	<0.13
01/29/03	-	-	-	-	-
04/23/03	-	-	-	-	-
07/10/03	<0.29	<0.17	<0.28	<10	-
10/20/03	-	-	-	-	-
01/14/04	-	-	-	-	-
04/08/04	-	-	-	-	-
11/14/02	<0.2	<0.12	<0.16	<10	<0.13
01/29/03	-	-	-	-	-
04/23/03	-	-	-	-	-
07/10/03	<0.29	<0.17	2.1	38	-
10/20/03	-	-	-	-	-
01/14/04	-	-	-	-	-
04/08/04	-	-	-	-	-
11/14/02	<0.2	<0.12	<0.16	<10	<0.13

Table. **Groundwater Analytical Data -Oxygenates Groundwater Data -** Thrifty Service Station, 3400 San Pablo Avenue, Oakland, California

DATE SAMPLED	DIPE	ETBE	TAME	TBA	1,2-DCA
	← (ug/L) →				
[redacted]					
11/14/02	<0.2	<0.12	<0.16	<10	<0.13
01/29/03	-	-	-	-	-
04/23/03	-	-	-	-	-
07/10/03	<0.29	<0.17	<0.28	<10	-
10/20/03	-	-	-	-	-
01/14/04	-	-	-	-	-
04/08/04	-	-	-	-	-
[redacted]					
11/14/02	<2.0	<1.2	111	341	<1.3
01/29/03	-	-	-	-	-
04/23/03	-	-	-	-	-
07/10/03	<2.9	<1.7	59	449	-
10/20/03	-	-	-	-	-
01/14/04	WELL ABANDONED 01/2004				
[redacted]					
11/14/02	<0.2	<0.12	<0.16	<10	<0.13
01/29/03	-	-	-	-	-
04/23/03	-	-	-	-	-
07/10/03	<0.29	<0.17	<0.28	<10	-
10/20/03	-	-	-	-	-
01/14/04	-	-	-	-	-

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

SAMPLE ID	TPH (G)	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	MTBE *	DEPTH TO WATER (feet)	DEPTH TO WATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
07/07/05	6,490	410	74	84	620	2,560	-	-	-	-	-	-
07/20/05	4,900	133	52	<2.4	750	465	6.32	19.07	NP	0.00	-	-

NOTE:

* MTBE 8020 / 8260

ND = Nondetectable

NP = No free hydrocarbon product

" - " = Not analyzed / Not available

Benzene, toluene, ethlybenzene, and xylene analyzed by EPA method 8020.

Total petroleum hydrocarbons (TPH) analyzed by EPA method 8015 modified for gasoline

Methyl-tert Butyl Ether (MTBE) analyzed by EPA method 8020 or 8260

On 7/21/04, 4/08/04, 7/10/03 & 11/14/02, BTEX and MTBE done by 8260B

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

SAMPLE DATE	TPH-G (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYLBENZENE (ug/L)	TOTAL XYLENES (ug/L)	MTBE (ug/L)	DEPTH TO GROUNDWATER (feet)	DEPTH OF BOTTOM (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
10/05/92	-	-	-	-	-	-	15.05		NP	0.00	-	-
01/06/93	-	-	-	-	-	-	5.43		NP	0.00	-	-
04/26/93	-	-	-	-	-	-	13.20		NP	0.00	-	-
0104/94	-	-	-	-	-	-	14.30		NP	0.00	-	-
04/05/94	-	-	-	-	-	-	14.13		NP	0.00	-	-
01/08/96	-	-	-	-	-	-	14.22		NP	0.00	-	-
04/08/96	-	-	-	-	-	-	14.33		NP	0.00	-	-
07/22/96	8,100	530	84	120	860	-	14.27		NP	0.00	-	-
10/16/96	-	-	-	-	-	-	13.10		NP	0.00	-	-
01/22/97	-	-	-	-	-	-	16.97		NP	0.00	-	-
10/07/97	-	-	-	-	-	-	14.20		NP	0.00	-	-
01/15/98	-	-	-	-	-	-	15.60		NP	0.00	-	-
04/23/98	81,000	0.72	1.4	3.2	5.7	270,000	14.20		NP	0.00	-	-
07/20/98	-	-	-	-	-	-	14.30		NP	0.00	-	-
10/14/98	-	-	-	-	-	-	11.20		NP	0.00	-	-
01/21/99	-	-	-	-	-	-	-		-	-	-	-
04/15/99	-	-	-	-	-	-	13.10		NP	0.00	-	-
07/26/99	4,400	<3	<3	<3	<5	*6,800 / 9,000	13.83		NP	0.00	-	-
10/13/99	-	-	-	-	-	-	-		-	-	-	-
01/20/00	-	-	-	-	-	-	13.22		NP	0.00	-	-
04/05/00	-	-	-	-	-	-	-		-	-	-	-
07/19/00	-	-	-	-	-	-	13.25		NP	0.00	-	-
10/18/00	-	-	-	-	-	-	11.14		NP	0.00	-	-
01/17/01	-	-	-	-	-	-	11.12		NP	0.00	-	-
04/19/01	-	-	-	-	-	-	-		-	-	-	-
07/18/01	-	-	-	-	-	-	11.20		NP	0.00	-	-
10/10/01	-	-	-	-	-	-	11.20		NP	0.00	-	-
01/30/02	-	-	-	-	-	-	12.30		NP	0.00	-	-
04/17/02	-	-	-	-	-	-	14.30		NP	0.00	-	-
07/31/02	-	-	-	-	-	-	14.21		NP	0.00	-	-
11/14/02	-	-	-	-	-	-	14.13		NP	0.00	-	-
01/29/03	-	-	-	-	-	-	13.12		NP	0.00	-	-
04/23/03	-	-	-	-	-	-	No Access		-	-	-	-
07/10/03	-	-	-	-	-	-	No Access	-	-	-	-	-
10/20/03	-	-	-	-	-	-	No Access	-	-	-	-	-
01/14/04	WELL ABANDONED 01/2004											
MONITORING WELL #RW-1R												
04/08/04	6,740	42	32 J	<3.1	1,160	239	4.76	19.08	NP	0.00	-	-
07/21/04	118	<0.22	<0.32	<0.31	<0.4	107	6.85	19.08	NP	0.00	-	-
10/20/04	29,900	3,850	4,010	381	1,920	103	4.28	19.07	NP	0.00	-	-
01/19/05	13,400	272	243	24 J	2,230	2,110	4.54	19.07	NP	0.00	-	-
04/20/05	1,220	<0.22	<0.32	<0.31	<0.4	1,580	4.95	19.10	NP	0.00	-	-

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DEPTH TO WATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
01/14/04	<15	<0.04	<0.02	<0.02	<0.06	<0.03		4.38	13.56	NP	0.00	99.02	94.64
04/08/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18		4.86	13.56	NP	0.00	99.02	94.16
07/21/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18		6.82	13.56	NP	0.00	99.02	92.20
10/20/04	<15	<0.22	<0.32	<0.31	<0.4	<0.18		5.71	13.56	NP	0.00	99.02	93.31
01/19/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18		4.77	13.56	NP	0.00	99.02	94.25
04/20/05	<15	<0.22	<0.32	<0.31	<0.4	<0.18		5.54	13.56	NP	0.00	99.02	93.48
07/20/05	<2.9	<0.32	<0.10	<0.24	<0.30	<0.63		6.80	13.54	NP	0.00	99.02	92.22
[illegible]													
01/09/92	-	-	-	-	-	-		14.00		NP	0.00	-	-
04/13/92	-	-	-	-	-	-		14.00		NP	0.00	-	-

SITE CONCEPTUAL MODEL
Former Thrifty Station #049,
3400 San Pablo Avenue, Oakland, California

Site Address:	3400 San Pablo Avenue	**Incident Number:**	
City:	Oakland, CA	**Regulator:**	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
1	**Hydrocarbon Source**	
1.1	Identify/Describe Release Source and Volume (if known)	Free product, TPHg and BTEX were first detected in 1986 in soil and groundwater samples collected at or downgradient of the former UST complex. Volume of release is unknown.
1.2	Discuss Steps Taken to Stop Release	According to a Pacific Environmental Group report, four 10,000-gallon USTs and associated piping were removed and replaced by two 20,000-gallon USTs in August 1998.
2	**Site Characterization**	
2.1	Current Site Use/Status	The site is adjacent to an active former Shell-branded station located at the southeast corner of the intersection of 34th Street and San Pablo Avenue in Oakland, California. The area surrounding the site is of mixed commercial and residential use. The Bay is located approximately 1.25 miles to the east.
2.2	Soil Definition Status	TPHg and BTEX in soil are not defined laterally.
2.3	Separate-Phase Hydrocarbon Definition Status	SPH was reported in monitoring wells MW-1 and MW-4 from 1986 until 1992. However, no SPH has been reported in groundwater since 1998.
2.4	Groundwater Definition Status (BTEX)	The highest BTEX concentrations in groundwater have been detected downgradient of the USTs. The BTEX plume is not defined in the downgradient direction to the west; in the cross-gradient direction by MW-1 and MW-7 to the south and north, respectively; and in the up-gradient direction to the east by MW-5 and MW-6. In general, BTEX concentrations have decreased since first discovery in 1986, with the most notable decrease following UST removal in March 1998.
2.5	BTEX Plume Stability and Concentration Trends	BTEX concentrations are increasing in MW-4. Recently the maximum benzene concentration at the site was 819 µg/L in replacement well MW-4R, adjacent to abandoned well MW-4.
2.6	Groundwater Definition Status (MTBE)	The MTBE plume in groundwater is not defined. Significant MTBE concentrations in groundwater have been detected in all site wells with the highest in downgradient wells MW-2 (and replacement wells) and MW-4 (and replacement wells).

SITE CONCEPTUAL MODEL
Former Thrifty Station #049,
3400 San Pablo Avenue, Oakland, California

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2.7	MTBE Plume Stability and Concentration Trends	MTBE concentrations continue to fluctuate site-wide with the greatest increase in wells downgradient of the USTs.
2.8	Groundwater Flow Direction, Depth Trends and Gradient Trends	Groundwater flow direction is variable but generally flows to the west. Depth to groundwater is approximately 5 fbg.
2.9	Stratigraphy and Hydrogeology	The soil at the site consists of alternating units of silty clay, clay, sandy clay, gravelly clay and silty sand to the maximum explored depth of 25 fbg.
2.10	Preferential Pathways Analysis	A utility and well survey were performed for the Thrifty site; however, no conclusions were made by Thrifty's consultant.
2.11	Other Pertinent Issues	
3	**Remediation Status**	
3.1	Remedial Actions Taken	Woodward-Clyde conducted free product removal activities beginning in August 1987 with an unknown termination date. A groundwater extraction system has reporedly operated from 1991 until 2003, but no records of current operation were found.
3.2	Area Remediated	
3.3	Remediation Effectiveness	Remediation is ongoing.
4	**Well and Sensitive Receptor Survey**	
4.1	Shallow Groundwater Use	There is no known use of shallow groundwater in the area.
4.2	Deep Groundwater Use	There is no known use of deep groundwater in the area.
4.3	Well Survey Results	Thrifty's well survey found well records similar to those found by Shell. No known active groundwater producing wells are known.
4.4	Likelihood of Impact to Wells	Unlikely.
4.5	Likelihood of Impact to Surface Water	No surface water bodies are identified within a 2000-ft radius of the site.
5	**Risk Assessment**	
5.1	Site Conceptual Exposure Model (current and future uses)	The site is an active gasoline station surrounded by mixed commercial, residential, and industrial properties.

SITE CONCEPTUAL MODEL
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5.2	Potential Exposure Pathways	Potential exposure pathways include indoor and outdoor vapor inhalation by on-site commercial and off-site residential occupants, and direct exposure to soil and/or groundwater by construction workers.
5.3	Risk Assessment Status	No formal risk assessment has been performed.
5.4	Identified Human Exceedances	None identified or evaluated.
5.5	Identified Ecological Exceedances	None identified or evaluated.
6	**Additional Recommended Data or Tasks**	
6.1	Survey monitoring wells to common datum referenced to mean sea level.	
6.2	Complete off-site assessment	
6.3	Report investigation results on Geotracker	
6.4	Continued quarterly monitoring	
6.5	Continue joint monitoring with Shell	