EQUILON
ENTERPRISES LLC
Shell & Texaco Working Together

APR 05 2002

April 2, 2002

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

RE: EQUILON ENTERPRISES LLC / Equiva Services LLC dba SHELL OIL PRODUCTS US

Dear Sir or Madam:

The Shell purchase of Texaco's interest in Equilon Enterprises LLC and Equiva Services LLC has been approved by government authorities and was completed in early February.

Please be advised that effective March 1, 2002, Equilon Enterprises LLC and Equiva Services LLC will begin doing business as (DBA) "Shell Oil Products US." Since Equilon Enterprises LLC will remain the owner and/or the responsible Party of remediation activities 4411 foothill Boulevard, Oakland, California, no changes are needed or requested for permits.

If you have any questions please contact Ms. Karen Petryna at 559.645.9306.

Yours truly,

Stephan A. Bork - Cambria

for: Karen Petryna
Sr. Environmental Engineer

CAMBRIA

113/RD 415

April 2, 2002

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

Re: **Monitoring Well Installation Work Plan**
Former Shell Service Station
4411 Foothill Boulevard
Oakland, California
Incident #98995756
Cambria Project #244-0897-007

Dear Mr. Chan:

Effective March 1, 2002, Equiva Services LLC (Equiva) and Equilon Enterprises LLC are now doing business as (dba) Shell Oil Products US (Shell). On behalf of Shell, Cambria Environmental Technology, Inc. (Cambria) is submitting this *Monitoring Well Installation Work Plan* in response to a letter from the Alameda County Health Care Services Agency (ACHCSA) dated February 19, 2002. As requested, this work plan proposes to replace tank backfill well BW-A that was destroyed and removed in January 2002 during tank removal activities. The site background and proposed scope of work are presented below.

SITE BACKGROUND

Site Description: The site is a former Shell-branded service station located on the southwest corner of the intersection of Foothill Boulevard and High Street in Oakland, California (Figures 1 and 2). The neighborhood in the vicinity of the site is mixed commercial and residential, with gasoline service stations occupying the northeastern and northwestern corners of the intersection. Fremont High School is located on the southeastern intersection corner.

1992 Waste Oil Tank Removal: The environmental investigation at this site was initiated in November 1992, following the removal of an underground waste-oil tank. A soil sample was collected at the bottom of the excavation at a depth of approximately 11 feet below grade (fbg). No total petroleum hydrocarbons as gasoline (TPHg), diesel (TPHd), benzene, toluene, ethylbenzene, xylenes, oil and grease, halogentated volatile organic compounds or metals were detected in the sample. Total lead was detected at 6.7 parts per million (ppm), which likely represents the background concentration in the local soil. Details of the waste oil tank removal and sampling activities are presented in the GeoStrategies Inc. (GeoStrategies) report dated March 26, 1992.

Oakland, CA
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Sonoma, CA

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1992 Monitoring Well Installation: A single monitoring well (S-1) was installed in the vicinity of the waste-oil tank location. Details of this well installation are presented in GeoStrategies' *Monitoring Well Installation Report* dated January 19, 1993.

1993 Monitoring Well Installations: Monitoring wells S-2 and S-3 were installed by Hydro Environmental Technologies Inc. (HETI) on May 21, 1993. Details of the well installations are presented in HETI's report dated July 22, 1993.

1995 Soil and Groundwater Investigation: Pacific Environmental Group (PEG) of San Jose, California conducted a Geoprobe investigation in June 1995. The investigation consisted of advancing eight onsite soil borings and two offsite borings for the collection of soil and groundwater samples. Details of this investigation are presented in PEG's *Site Investigation* report dated September 12, 1995.

1998 Product Equipment Upgrades: Paradiso Mechanical (Paradiso) of San Leandro, California upgraded the service station in November 1998 by adding secondary containment to the gasoline turbines and dispensers. Details of dispenser upgrade and sampling activities are presented in Cambria's *Dispenser Soil Sampling Report* dated November 30, 1998.

January 1999 Letter Response and Work Plan: In response to the December 7, 1998 ACHCSA letter to Equiva, Cambria prepared a *Letter Response and Work Plan* dated January 11, 1999. In the January 1999 work plan, Cambria proposed an additional onsite groundwater monitoring well (S-4) and enhanced groundwater oxygenation via hydrogen peroxide injection into existing site wells.

March 1999 Work Plan Addendum: In a phone conversation with Cambria on February 1, 1999, the ACHCSA requested additional information regarding the location of proposed well S-4 and the use of hydrogen peroxide. As a result, Cambria submitted a *Work Plan Addendum* dated March 18, 1999. In the March 1999 addendum, Cambria proposed that well S-4 be located between the station building and the nearest dispenser-island to the north. Due to the lack of requested response from the ~~Hayward~~ Oakland Fire Department on the safety of hydrogen peroxide use, Cambria also proposed the application of oxygen releasing compound (ORC) in lieu of hydrogen peroxide.

April 1999 ACHCSA Letter: In an April 30, 1999 letter to Equiva. ACHCSA requested further information regarding the application of ORC. In addition, the ACHCSA requested Cambria perform a feasibility study to evaluate preventative alternatives to the migration of methyl tertiary butyl ether (MTBE). Cambria provided the requested information in the *Letter Response* dated June 15, 1999. In September 1999, ORC socks were subsequently installed in wells S-1, S-2, and BW-A.

December 1999 Letter Response, Work Plan and Conduit Study: In a letter dated November 10, 1999, the ACHCSA requested a site conceptual model and work plan be prepared for the site. Cambria submitted a *Letter Response and Work Plan* dated December 13, 1999. In that work plan, Cambria presented findings of a subsurface conduit study. Several conduits, which may provide limited preferential groundwater flow at times of high groundwater elevations, were identified.

Approximate depths to local sewer and storm drain conduit flowlines are shown on Figure 2. The deepest conduits located near the site are sanitary sewer pipelines with flowlines ranging from approximately 6 to 11 fbg. Although the depth to water in wells S-2 and S-3 along the western perimeter of the site has ranged from approximately 6 to 10.5 fbg, the depth to water is typically 8 to 9 fbg. Therefore, only the deepest sanitary sewer conduit trench has the potential to cause preferential flow of impacted groundwater. However, given that only a small portion of the trench backfill typically intersects groundwater and the fact that gravel lenses exist locally from 10 to 13 fbg, the potential for significant preferential groundwater flow in the utility trench is considered to be low.

January 2000 Site Investigation: Cambria conducted a site investigation in January 2000. Per the ACHCSA request, well S-4 was proposed between the station building and southeastern dispenser-island. However, a conduit was encountered while drilling boring SB-4, and the boring was relocated approximately 50 feet southeast. The second boring (SB-4B) was located adjacent to the southeast corner of the station building, and well S-4 was installed in boring SB-4B to a depth of 20 fbg. In boring SB-4B, the maximum concentrations of TPHd and TPHg were detected in sample SB-4B-5.5 at 27.2 ppm and 28.2 ppm, respectively. The maximum concentration of benzene was detected in sample SB-4B-10.5 at 0.0696 ppm. The maximum concentration of MTBE by EPA Method 8020 was reported in sample SB-4B-19.0 at 0.233 ppm. MTBE was confirmed by EPA Method 8260 in sample SB-4B-19.0 at a concentration of 0.0549 ppm.

November 2001 Corrective Action Plan (CAP): Cambria submitted a CAP in preparation for impending site demolition and fueling facility removal. In the CAP, Cambria discussed remedial alternatives and made recommendations for remedial action. Cambria recommended additional onsite over-excavation, following removal of the underground facilities, to substantially remove residual impacted soils from within the property boundaries. Cambria also recommended removal of groundwater from the excavation, and placing ORC at the base of the excavation to enhance biological degradation of residual impacted soil and groundwater. Continued quarterly groundwater monitoring was recommended to track the subsequent natural attenuation process.

February 2002 Underground Storage Tank (UST) Closure Report: Paradiso removed the gasoline USTs and hydraulic hoists, and over-excavated approximately 1,250 cubic yards of

impacted soil around and beneath the USTs, product dispenser islands, and hydraulic hoists. Phillips Services Corporation extracted approximately 16,000 gallons of groundwater from the excavation pits. Subsequent to over-excavation, Paradiso placed 810 pounds of ORC powder over the excavation bottom. Details of the fuel facilities removal and corrective action are presented in Cambria's *UST Closure Report* dated February 25, 2002.

PROPOSED SCOPE OF WORK

To complete the network of monitoring wells at the site, Cambria proposes installing a monitoring well (S-5) in the former UST pit (Figure 2). The monitoring well will be constructed similar to the other onsite monitoring wells (S-1, S-2, S-3 and S-4) and as described in our standard field procedures for monitoring wells, included as Attachment A.

Upon ACHCSA approval of this work plan, Cambria will complete the following tasks:

Utility Location: Cambria will notify Underground Service Alert (USA) of our drilling activities. USA will have the utilities in the vicinity identified.

Permits: We will obtain the necessary permits for monitoring well installation with the City of Oakland.

Site Health and Safety Plan: We will prepare a comprehensive, site-specific, safety plan to protect site workers. The plan will be kept onsite during field activities, and will be reviewed and signed by each site worker.

Monitoring Well Installation Activities: Using a hollow-stem auger rig, Cambria will install a 4-inch diameter, 20-feet deep well (Figure 2). Since the well will be installed in an area of clean backfill approximately 12 feet deep, soil samples will be collected at depths of 15 and 20 for lithologic logging purposes. Because these soil samples are located beneath the water table, they will not be submitted for chemical analysis. Blaine Tech Services, of San Jose, California will develop the well at least 72 hours following installation and at least 72 hours prior to sampling. Well sampling will be performed during the following quarterly groundwater-monitoring event. Our standard field procedures for monitoring well installation are presented in Attachment A.

Subsurface Investigation Report: After the well is installed, Cambria will prepare a report that, at a minimum, will contain:

- A summary of the site background and history;
- Descriptions of drilling and sampling activities;
- A boring and well log; and
- A figure presenting the new well location.

CLOSING

Please call James Loetterle at (510) 420-3336 if you have any questions or comments. Thank you for your assistance.

Sincerely,
Cambria Environmental Technology, Inc.

James Loetterle
Project Geologist

Stephan A. Bork, C.E.G., C.HG.
Associate Hydrogeologist

REGISTERED GEOLOGIST
STEPHAN A. BORK
No. EG 2058
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Figures: 1 - Vicinity/Area Well Survey Map
2 - Proposed Monitoring Well Location Map

Attachment: A -Standard Field Procedures for Installation of Monitoring Wells

cc: Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank CA 91510-7869

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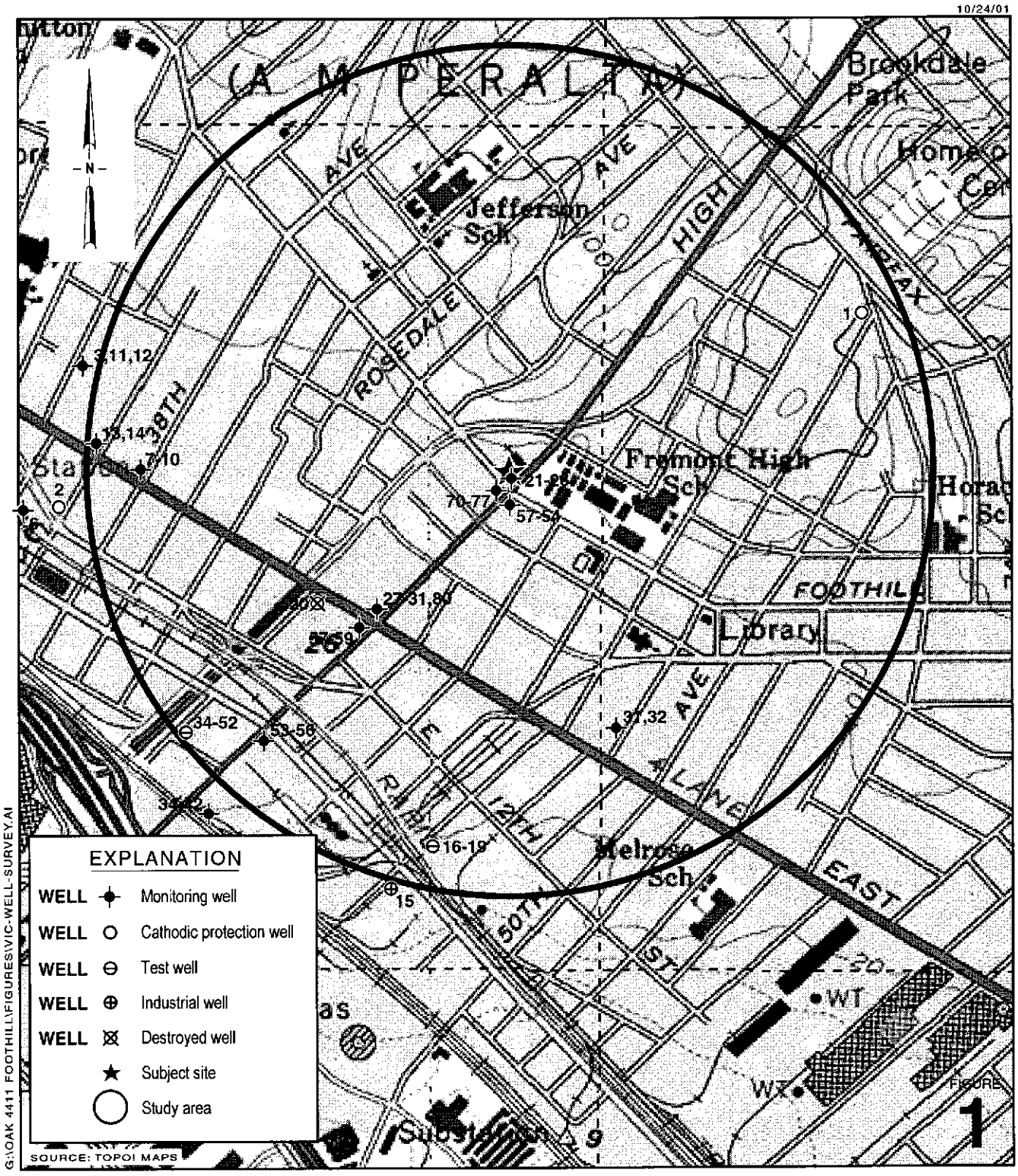

Shell-branded Service Station
4411 Foothill Boulevard
Oakland, California
Incident #98995746

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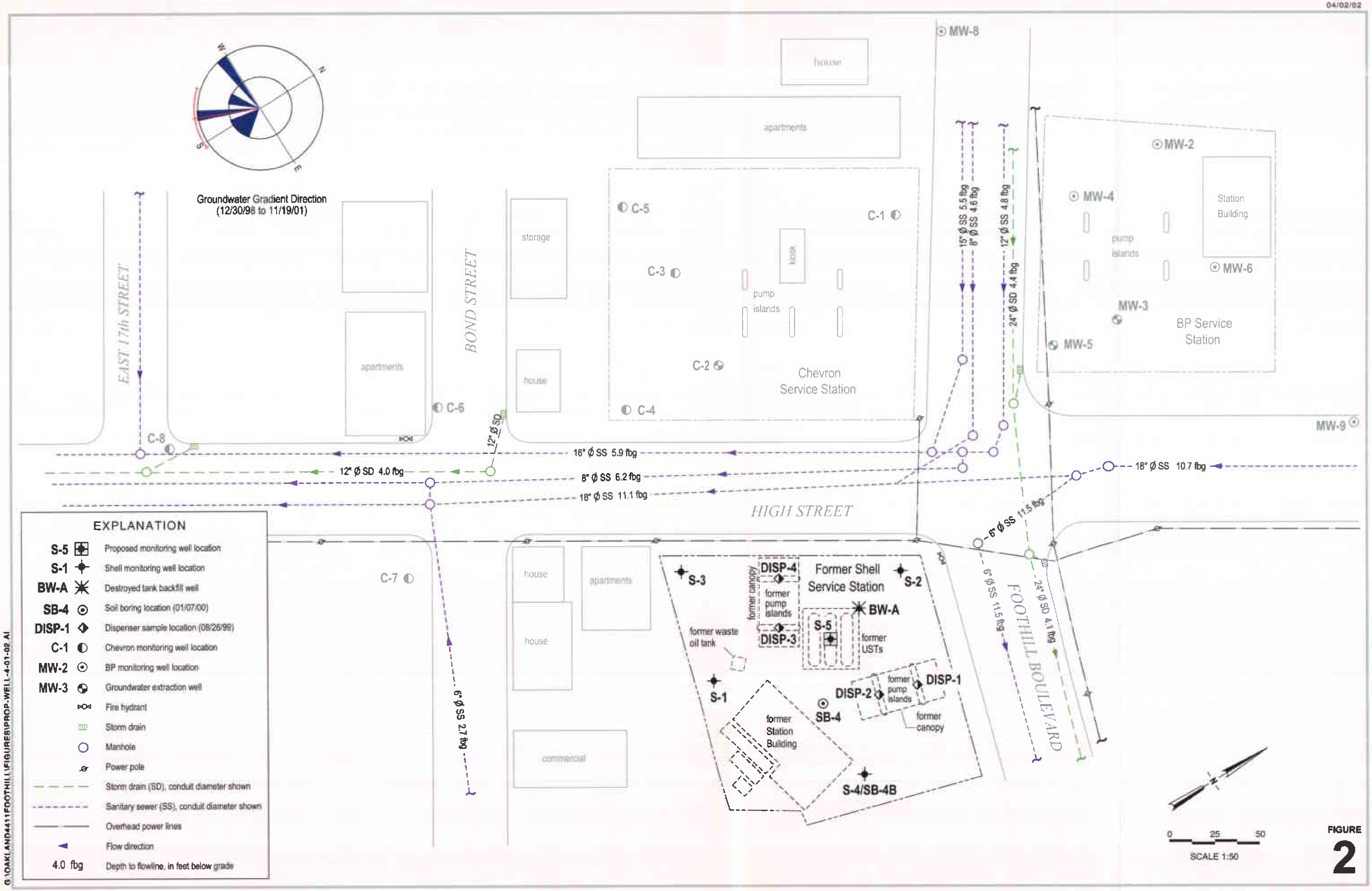
Vicinity / Area Well Survey Map
(1/2-Mile Radius)



04/02/02
Groundwater Gradient Direction (12/30/98 to 11/19/01)
EAST 17th STREET
BOND STREET
HIGH STREET
FOOTHILL BOULEVARD
house
apartments
storage
house
apartments
kiosk
pump islands
Chevron Service Station
Station Building
pump islands
BP Service Station
Former Shell Service Station
former canopy
former pump islands
former waste oil tank
former USTs
former pump islands
former canopy
former Station Building
house
apartments
house
commercial
MW-8
MW-2
MW-4
MW-6
MW-3
MW-5
MW-9
C-1
C-2
C-3
C-4
C-5
C-6
C-7
C-8
S-1
S-2
S-3
S-4/SB-4B
S-5
BW-A
SB-4
DISP-1
DISP-2
DISP-3
DISP-4
16" Ø SS 5.9 fbg
12" Ø SD 4.0 fbg
8" Ø SS 6.2 fbg
18" Ø SS 11.1 fbg
18" Ø SS 10.7 fbg
15" Ø SS 5.5 fbg
8" Ø SS 4.6 fbg
12" Ø SS 4.8 fbg
24" Ø SD 4.4 fbg
12" Ø SD
6" Ø SS 11.5 fbg
6" Ø SS 11.5 fbg
24" Ø SD 4.1 fbg
6" Ø SS 2.7 fbg
EXPLANATION
S-5 Proposed monitoring well location
S-1 Shell monitoring well location
BW-A Destroyed tank backfill well
SB-4 Soil boring location (01/07/00)
DISP-1 Dispenser sample location (08/26/99)
C-1 Chevron monitoring well location
MW-2 BP monitoring well location
MW-3 Groundwater extraction well
Fire hydrant
Storm drain
Manhole
Power pole
Storm drain (SD), conduit diameter shown
Sanitary sewer (SS), conduit diameter shown
Overhead power lines
Flow direction
4.0 fbg Depth to flowline, in feet below grade
0 25 50
SCALE 1:50
FIGURE
2
G:\OAKLAND4411FOOTHILL\FIGURES\PROP-WELL-4-01-02.AI

Proposed Monitoring Well Location Map

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Shell-branded Service Station
4411 Foothill Boulevard
Oakland, California
Incident #98995746

ATTACHMENT A

Standard Field Procedures for Installation of Monitoring Wells

CAMBRIA

STANDARD FIELD PROCEDURES FOR INSTALLATION OF MONITORING WELLS

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling ground water monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

SOIL BORINGS

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Registered Geologist (RG).

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4° C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying

Ground water monitoring wells are installed to monitor ground water quality and determine the ground water elevation, flow direction and gradient. Well depths and screen lengths are based on ground water depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 ft below and 5 ft above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three ft thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two ft above the well screen. A two ft thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of ground water surging and extraction. Surging agitates the ground water and dislodges fine sediments from the sand pack. After about ten minutes of surging, ground water is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of ground water are extracted and the sediment volume in the ground water is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Ground Water Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of ground water are purged prior to sampling. Purging continues until ground water pH, conductivity, and temperature have stabilized. Ground water samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.