

MAY 21 2002

May 17, 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 at 9750 Golf Links Road, 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,

Stephen Berk (Cambridge)

for

Karen Petryna
Sr. Environmental Engineer

C A M B R I A

May 17, 2002

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

Re: **Well Installation Work Plan**
Shell-branded Service Station
9750 Golf Links Road
Oakland, California
Incident # 98995744
Cambria Project # 244-0735



Dear Mr. Hwang:

Effective March 1, 2002, Equiva Services LLC 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 *Well Installation Work Plan* in response to a March 29, 2002 Alameda County Health Care Services (ACHCSA) letter. Presented below are the site summary and our proposed scope of work.

BACKGROUND

Site Location: This operating Shell-branded service station is located at the intersection of Golf Links Road and Mountain Boulevard in Oakland, California (Figure 1). Residential and commercial properties surround the site. Highway 580 runs near the northern boundary of the site.

1995 Waste Oil Underground Storage Tank (UST) Removal: On March 7, 1995, Weiss Associates of Emeryville, California (WA) observed the removal of a 550-gallon, single-walled, steel waste-oil UST and collected soil samples from the tank excavation floor and sidewalls. The highest hydrocarbon concentrations were 12,000 parts per million (ppm) total oil and grease (TOG), 190 ppm total petroleum hydrocarbons as gasoline (TPHg) and 3,900 ppm total petroleum hydrocarbons as diesel (TPHd), detected at 7 feet below grade (fbg). After excavation, soil samples from a depth of 11 fbg at the site contained 62 ppm TOG, and no TPHg or TPHd. No benzene was detected in any of the excavation samples.

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
Technology, Inc.**

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1995 Subsurface Investigation: On December 15, 1995, WA advanced one soil boring to 48 fbg in the vicinity of the former waste oil UST. Hydrocarbons detected were 2.8 ppm TPHd at 30.5 fbg and 56 ppm TOG at 40.5 fbg. No groundwater was encountered.

1998 Dispenser Upgrade: On February 4, 1998, Cambria observed station upgrade activities and collected soil samples from beneath one dispenser. The highest hydrocarbon concentrations were 7,800 ppm TPHg and 37 ppm benzene beneath dispenser D-4 at 4.0 fbg (Figure 2). No field indications of hydrocarbons were observed beneath the other dispensers.

1998 Subsurface Investigation: On July 6 and 31, 1998, Cambria installed one soil boring (SB-1) to a depth of 30 fbg in the vicinity of dispenser sample D-4. Hydrocarbons were detected at a maximum concentration of 14,000 ppm TPHg and 100 ppm benzene at 13 fbg. A maximum concentration of 91 ppm of methyl tertiary butyl ether (MTBE) was reported at 9 fbg by EPA Method 8020. This detection was confirmed by EPA Method 8260 at a concentration of 23 ppm. Low concentrations of TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX) and MTBE by EPA Method 8020 were reported in the deepest sample collected at approximately 26 fbg. Cambria was unable to collect a groundwater sample, as the only water encountered was an apparent thin perched zone at approximately 12 fbg.

1999 Subsurface Investigation: On August 25, 1999, Cambria installed five soil borings (SB-1b and SB-2 though SB-5) to depths ranging from 16 to 30 fbg. A perched water zone was encountered at approximately 12 fbg in boring SB-2 and approximately 20 fbg in boring SB-3. Groundwater was not encountered in the remaining soil borings. The maximum TPHg concentration detected in soil was 243 ppm at approximately 10 fbg in boring SB-2. The maximum MTBE concentration detected in soil was 2.23 ppm (by EPA Method 8260) at approximately 10 fbg in boring SB-4. No benzene was reported in any of the analyzed soil samples collected. Grab water samples collected from the perched water encountered in borings SB-2 and SB-3 contained a maximum of 256 parts per billion (ppb) TPHg, 11,800 ppb MTBE (by EPA Method 8020) and 2.42 ppb benzene.

2000 Sensitive Receptor Survey: In 2000, Cambria conducted a sensitive receptor survey for a ¼-mile radius of the site. Results of the survey are shown on Figure 1. The only well identified within the ¼-mile survey radius was a cathodic protection well located approximately 1,150 feet north-northwest of the site. Arroyo Viejo Creek was the only identified surface water body within the survey radius. Arroyo Viejo Creek is located aboveground southeast of the site and is diverted into an underground storm drain culvert which runs beneath the west portion of the site. The culvert outlet to Arroyo Viejo Creek is located approximately 575 feet northwest of the site.

2000 Conduit Study: In 2000, Cambria reviewed storm drain and sanitary sewer maps from the City of Oakland Public Works Department and the California Department of Transportation. Locations, depths and pipe diameters for the sanitary sewer and storm drain lines in the site vicinity are shown on Figure 2.



PROPOSED SCOPE OF WORK

The March 29, 2002 ACHCSA letter requests characterization of groundwater contamination and sampling of Arroyo Viejo Creek in the site vicinity. Groundwater has not been encountered at the site to a total explored depth of approximately 48 fbg. Cambria proposes to advance three soil borings at the site and complete the borings as groundwater monitoring wells. Cambria also recommends collecting grab water samples from Arroyo Viejo Creek in three locations. Our scope of work for this investigation will include the following tasks.

Monitoring Well Installation

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

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

Permits: We will obtain the necessary monitoring well installation permits.

Soil Borings: Assuming the absence of subsurface and overhead obstructions, Cambria will advance three borings in the approximate locations shown on Figure 2 using a drill rig equipped with hollow-stem augers. The borings will be advanced to approximately 10 feet below the groundwater table and converted to 4-inch diameter groundwater monitoring wells. Soil samples will be collected at 5-foot intervals. All collected soil samples will be transported under chain-of-custody to a State-approved analytical laboratory. Our standard field procedures for soil borings are included as Attachment A.

Groundwater Monitoring Well Installation: The three groundwater monitoring wells will be constructed of PVC and screened with 0.010-inch machined slot. Screen intervals will be determined based upon field conditions. A filter pack consisting of No. 2/12 sand will be installed to 2 feet above the top of the well screen, which will be overlain by 2 feet of bentonite and bentonite-cement grout to the surface. Traffic-rated vault-boxes will be installed to protect the wells. The groundwater monitoring wells will be developed by surging and purging at least 10 casing volumes of water. Our standard field procedures for soil borings and monitoring well installation are included in Attachment A.

Chemical Analysis: Selected soil samples will be analyzed by a State-certified analytical laboratory using EPA Method 8260 for TPHg, BTEX and MTBE.

Arroyo Viejo Creek Sampling

Water Sampling: Grab water samples will be collected from Arroyo Viejo Creek in three locations. The creek will be sampled south of the site across Golf Links Road prior to diversion into the storm drain culvert. A manhole to the storm drain culvert is located north of the site (Figure 2), and, if accessible, a sample will be collected from the storm drain at that point. In addition, a grab water sample will also be collected where the culvert outlets to a surface stream, approximately 575 feet northwest of the site (Figure 1). Cambria's standard field procedures for creek sampling are presented as Attachment B.

Chemical Analysis: Grab water samples will be analyzed by a State-certified analytical laboratory using EPA Method 8260 for TPHg, BTEX and MTBE.



Reporting

Upon receipt of analytical results, we will prepare a report that, at a minimum, will contain:

- A summary of the site background and history;
- Descriptions of the drilling and sampling methods;
- Boring logs;
- Tabulated soil analytical results;
- Descriptions of creek sampling;
- Tabulated grab water analytical results;
- Analytical reports and chain-of-custody forms;
- An updated site conceptual model for the site; and
- Cambria's conclusions and recommendations.

Quarterly Monitoring

Following installation of the proposed monitoring wells, a groundwater monitoring program will be initiated at the site. Groundwater samples will be collected from the site well on a quarterly basis for a minimum of one year. Groundwater samples will be analyzed for TPHg, BTEX and MTBE by EPA Method 8260.

Schedule

Upon receiving written work plan approval, permits will be acquired and the fieldwork will be scheduled. An investigation report will be submitted approximately 60 days after completing the field activities. Quarterly monitoring reports will be submitted approximately 60 days after each sampling event.

C A M B R I A

CLOSING

Mr. Don Hwang
May 17, 2002

We appreciate the opportunity to work with you on this project. Please call Jacquelyn Jones at (510) 420-3316 if you have any questions or comments.

Sincerely,

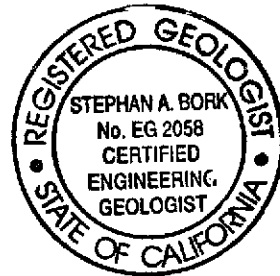
Cambria Environmental Technology, Inc.



Jacquelyn L. Jones
Project Geologist



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

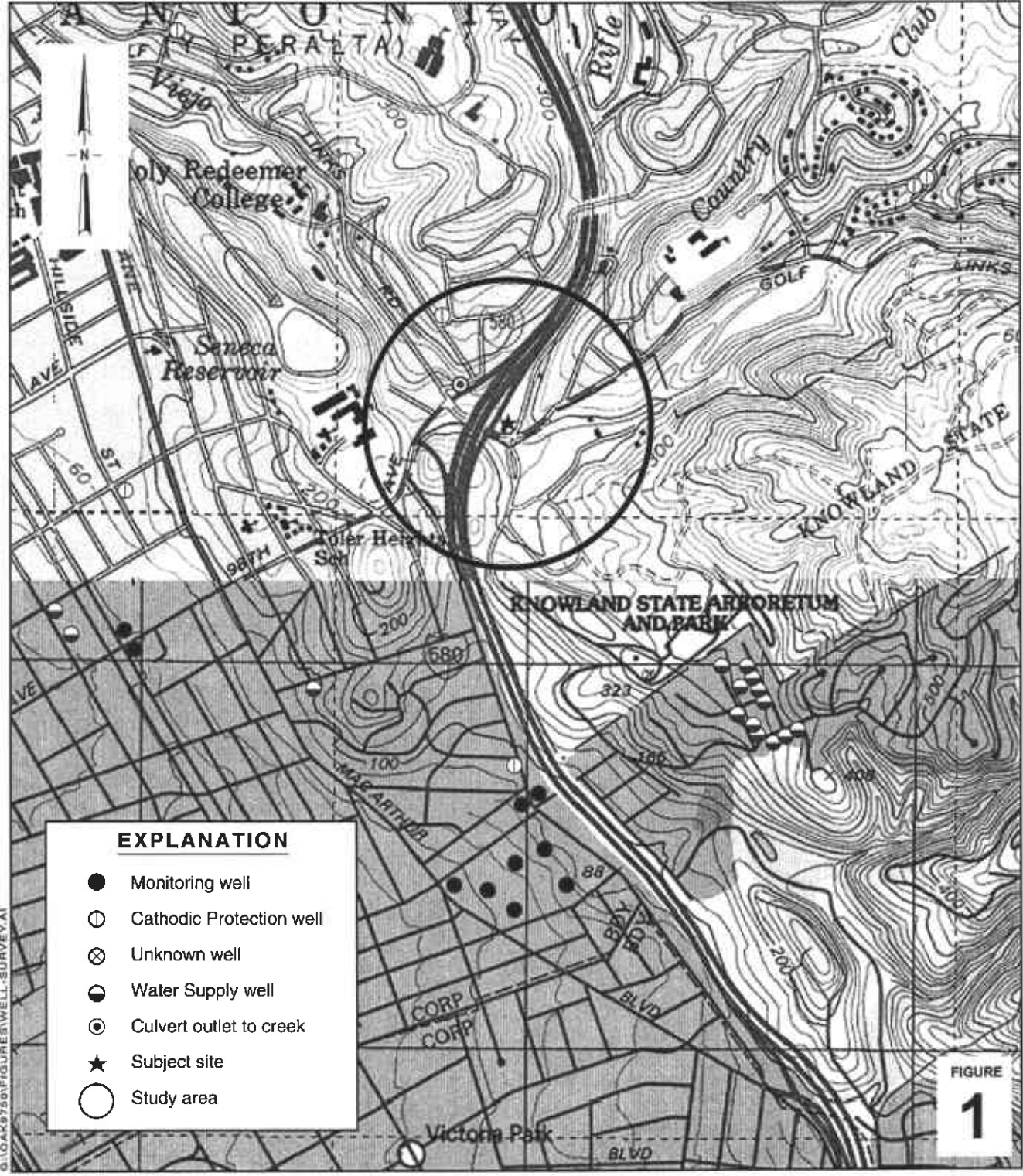


Figures: 1 - Site Vicinity Map with Area Well Survey
 2 - Proposed Monitoring Well Location Map

Attachments: A - Standard Field Procedures for Monitoring Well Installation
 B - Standard Field Procedures for Creek Sampling

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

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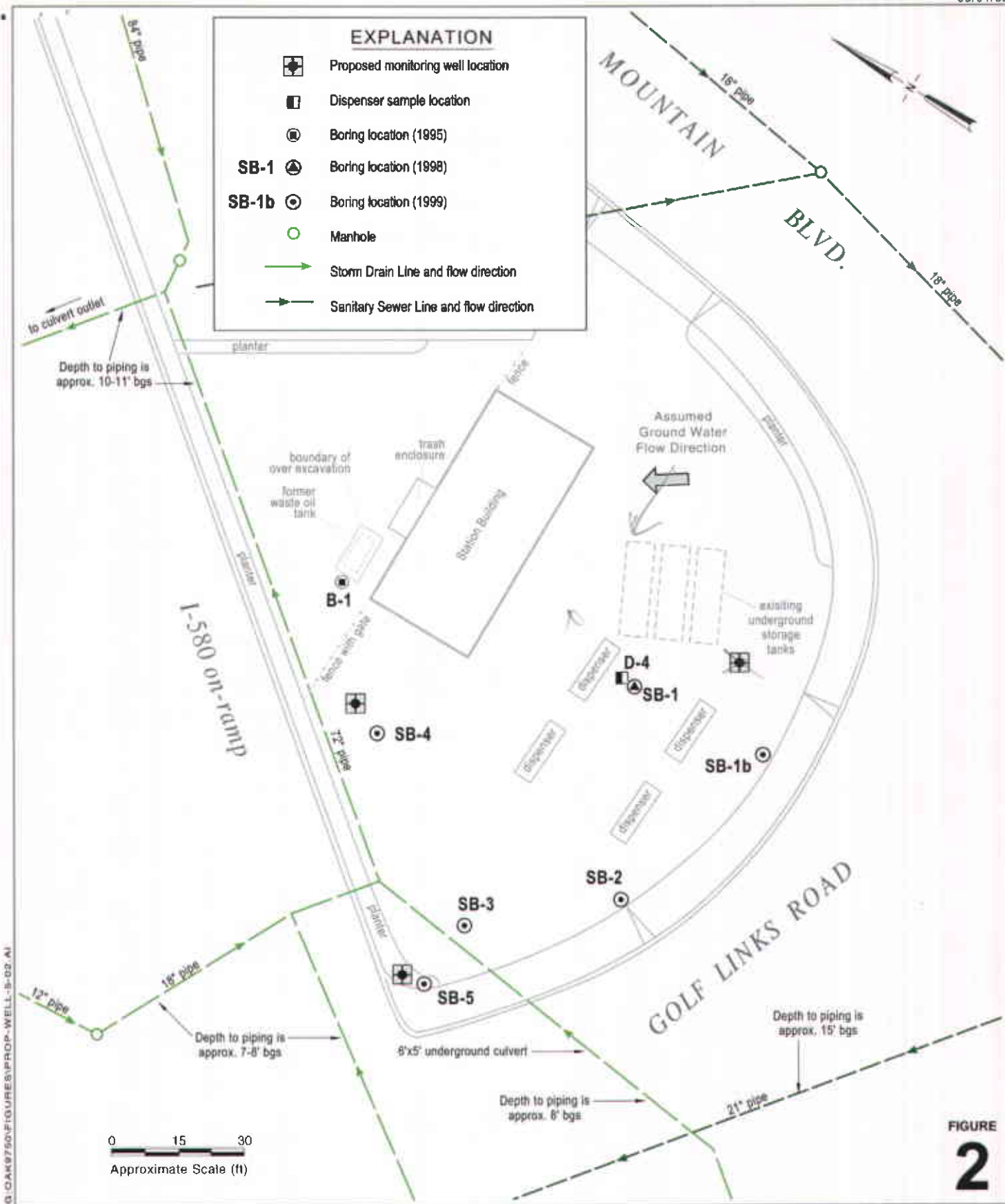
FIGURE
1

Shell-branded Service Station
 9750 Golf Links Road
 Oakland, California
 Incident #98995744



C A M B R I A

**Site Vicinity Map with
 Area Well Survey**
 (1/4-Mile Radius)



Shell-branded Service Station

9750 Golf Links Road
Oakland, California
Incident #98995744



CAMBRIA

Proposed Monitoring Well Location Map

ATTACHMENT A

Standard Field Procedures for Monitoring Well Installation

CAMBRIA

STANDARD FIELD PROCEDURES FOR MONITORING WELL INSTALLATION

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater 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 groundwater depth to select soil samples for analysis.

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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 groundwater 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

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet 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 feet 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 feet above the well screen. A two feet 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.

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Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater 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 groundwater are extracted and the sediment volume in the groundwater 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.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater 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.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

ATTACHMENT B

Standard Field Procedures for Creek Sampling

STANDARD FIELD PROCEDURES FOR CREEK SAMPLING

This document describes Cambria Environmental Technology's standard field methods for creek sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Creek samples are collected and analyzed to characterize constituent distribution in water and to assess whether water contaminants pose a threat to human health or the environment.

Creek Sampling

A creek sample is collected by inserting a container under or down current of a discharge with the container opening facing upstream. Generally, simplified equipment and procedures can be used. In most cases, the sample container itself may be used to collect the sample. To ensure that the creek samples are representative of the flow in the channel, the following procedures are followed.

- Label sample containers before sampling event,
- Take a cooler with ice to the sampling point,
- Take the sample from the horizontal center and two-thirds of the depth of the channel when possible,
- Take the sample from a relatively straight section of the creek channel,
- Avoid stirring up bottom sediments in the channel,
- Hold the container so the opening faces downstream,
- Avoid touching the inside of the container to prevent contamination,
- Keep the sample free from uncharacteristic floating debris,
- Wash sampling equipment before, during, and after sampling activities with an EPA-approved detergent,
- If taking numerous samples, keep the samples separate and labeled clearly, and
- Use safety precautions.

Sample Storage, Handling and Transport

Samples are stored out of direct sunlight in coolers at or below 4° C on either crushed or dry ice, and transported under chain-of-custody to a state-certified analytic laboratory.