EQUILON ENTERPRISES LLC
Shell & Texaco Working Together

June 12, 2002

JUN 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 3790 Hopyard Road, 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,

(Cambria)

Karen Petryna
Sr. Environmental Engineer

CAMBRIA

June 12, 2002

JUN 17 2002

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

Re: **Subsurface Investigation Work Plan**
Shell-branded Service Station
3790 Hopyard Road
Pleasanton, California
Incident #98995842
Cambria Project #244-0497

Dear Mr. Seery:

Cambria Environmental Technology, Inc. (Cambria) is submitting this *Subsurface Investigation Work Plan* on behalf of Shell Oil Products US (Shell). This work plan was prepared as proposed in our April 9, 2002 *Sensitive Receptor Survey Report* and in response to a May 23, 2002 meeting including representatives from Cambria, Shell, the Alameda County Zone 7 Water Agency (Zone 7), and the Alameda County Health Care Services Agency. The work plan proposes to define the off-site extent of methyl tertiary butyl ether (MTBE) in shallow groundwater and to gather data to assist in determining construction options for future deep well proposals. The site characteristics and proposed scope of work are presented below.

SITE CHARACTERISTICS

Location: This active Shell-branded service station is located on the southwest corner of the intersection at Hopyard Road and Las Positas Boulevard in Pleasanton, California. The site is surrounded by primarily commercial and residential property (Figures 1 and 2). The service station layout includes a station building, two dispenser islands, two waste oil tanks, and a gasoline underground storage tank complex. The site is located in close proximity to several active municipal wells. The locations of these wells in relation to the site are shown on Figure 3.

Groundwater Depth and Flow Direction: Depth to groundwater has ranged from 11.48 to 19.42 feet below grade (fbg) since groundwater monitoring was initiated in March of 1991. The groundwater flow direction, as calculated by the on and off-site groundwater monitoring wells, has ranged from south to southeast.

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Sonoma, CA

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Site Lithology: The site is underlain by interbedded layers of sandy clay, clayey sand, silty clay and clay to the total explored depth of 36 fbg.

PROPOSED SCOPE OF WORK

Assuming the absence of subsurface and overhead obstructions, Cambria proposes installing two groundwater monitoring wells and two cone penetrometer testing (CPT) borings in the approximate locations shown on Figure 2. Proposed groundwater monitoring well S-11 will be installed in the general downgradient direction from current well S-6, and proposed well S-12 will be installed downgradient of the site on the northern bank of the Arroyo Mocho Canal. The CPT borings will be used to determine specific lithology at depth, to identify potential water bearing zones, and to determine construction details for future deep well installation. Our standard field procedures for groundwater monitoring well installation and CPT boring installation are included as Attachments A and B, respectively.

Our scope of work for this investigation includes 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.

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 signed by each site worker

Access Agreement: It is our understanding that Zone 7 controls the property on either side of the Arroyo Mocho Canal in the site vicinity. Cambria will contact Zone 7 for access in order to install the monitoring well and CPT boring on the northern canal bank.

Permits: We will obtain the necessary encroachment permit from the City of Pleasanton for the installation of one groundwater monitoring well in the City of Pleasanton right-of-way. Also, we will obtain the necessary permits from Zone 7 for boring and well installation.

Monitoring Well Installation Activities: Assuming the absence of subsurface and overhead obstruction, Cambria will use a drill rig equipped with 8-inch diameter hollow-stem augers to advance two soil borings in the approximate locations shown on Figure 2. The borings will be advanced to approximately 35 fbg, and soil samples will be collected at 5-foot intervals. All collected soil samples will be transported to a State-approved analytical laboratory. Following installation, the borings will be converted to 2-inch diameter groundwater monitoring wells. The wells will be constructed of PVC and screened using 0.010-inch machined slot. Exact construction details will be determined based on field conditions. A traffic-rated vault box will be installed to protect each well. The groundwater monitoring wells will be developed by surging and purging at least 10 casing volumes of water at least 72 hours following installation and at least 72 hours prior to sampling. Our standard field procedures for monitoring well installation are presented in Attachment A.

CPT Boring Installation: Assuming the absence of subsurface and overhead obstruction, two CPT borings will be advanced in the approximate locations shown on Figure 2. The CPT borings will be advanced to approximately 120 fbg. Tip resistance, sleeve friction, pore water pressure and bulk soil resistivity will be logged continuously to the total depth of each boring to determine potential screen intervals for future deep groundwater monitoring well installation. Because deep wells will be proposed following CPT installation, soil samples will not be collected for laboratory analysis during CPT boring installation, but will be collected during future well installation. Discreet grab groundwater samples will be collected for laboratory analysis at various encountered water bearing zones. Following installation, the borings will be backfilled with grout using a tremie pipe or equivalent means and capped to match the existing grade.

Laboratory Analyses: Selected soil samples from groundwater monitoring well installation and the grab groundwater samples collected during CPT boring installation will be analyzed by a state-certified analytical laboratory for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, xylenes (BTEX), and MTBE using EPA Method 8260.

Subsurface Investigation Report: After the analytical results are received, 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;
- Boring/well logs;
- Tabulated analytical results;
- A figure presenting the new boring and well locations;
- Analytical reports and chain-of-custody forms;
- A discussion of hydrocarbon distribution; and
- A proposal for deep monitoring well installation and additional shallow monitoring well installation, if warranted.

Groundwater Monitoring: Following installation and development, the new monitoring wells will be added to the current groundwater monitoring program at the site. Routine groundwater samples will be collected on a quarterly basis and analyzed for TPHg, BTEX and MTBE by EPA Method 8260.

SCHEDULE

The field activities will be scheduled to begin within approximately 30 days after approval of this work plan. Our report will be submitted approximately 30 days following the completion of field activities.

CLOSING

Please call Jacquelyn Jones at (510) 420-3316 or Diane Lundquist at (510) 420-3334 if you have any questions or comments. Thank you for your assistance.

Sincerely,
Cambria Environmental Technology, Inc.

Jacquelyn L. Jones
Project Geologist

Diane M. Lundquist
Principal Engineer, P.E.

Figures:
1 - Vicinity/Area Well Survey Map
2 - Extended Site Map With Proposed Monitoring Well Locations
3 - Municipal Well Location Map

Attachments:
A - Standard Field Procedures for Monitoring Wells Installation
B - Standard Field Procedures for Cone Penetrometer Testing and Sampling

cc:
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Ted Klenk, Pleasanton Fire Department, 4444 Railroad Street, Pleasanton, CA 94566
Bill Stiles, 516 McGrath Court, Pleasant Hill, CA 94523
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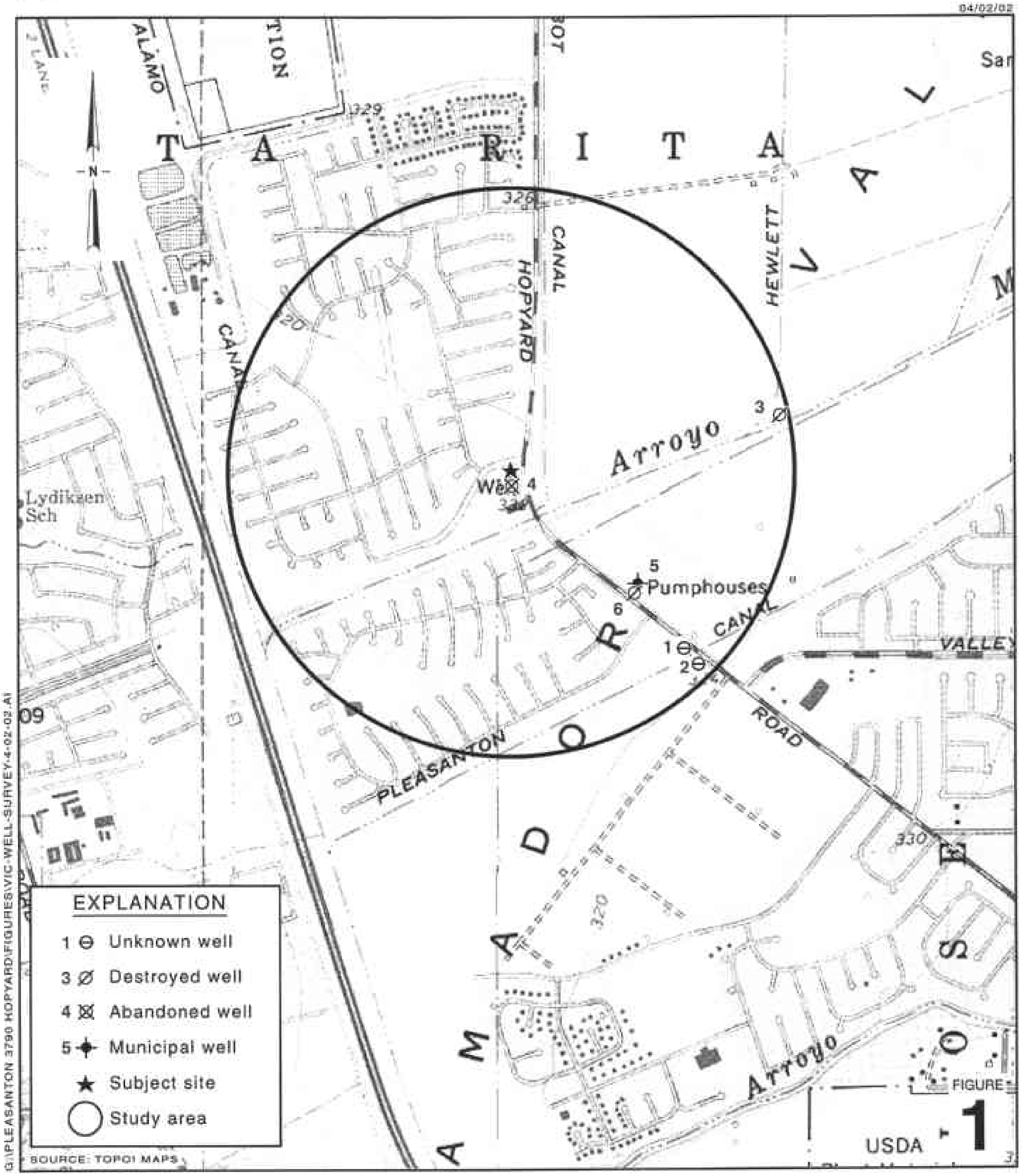

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Shell-branded Service Station

3790 Hopyard Road
Pleasanton, California
Incident #98995842

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Vicinity/Area Well Survey Map

1/2 Mile Radius

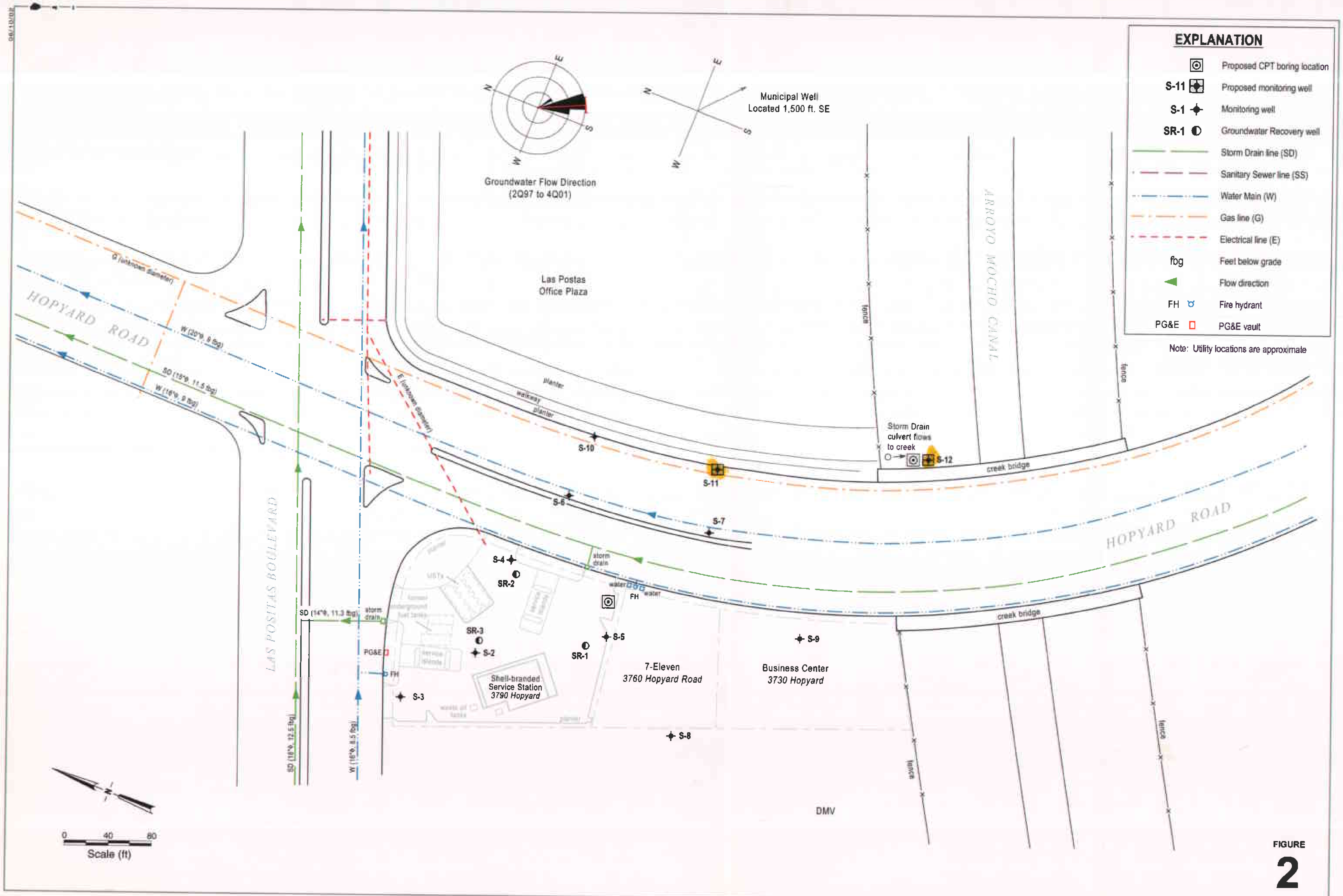

FIGURE
2

Extended Site Map with Proposed Monitoring Well Locations

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Shell-branded Service Station
3790 Hopyard Road
Pleasanton, California
Incident #98995842

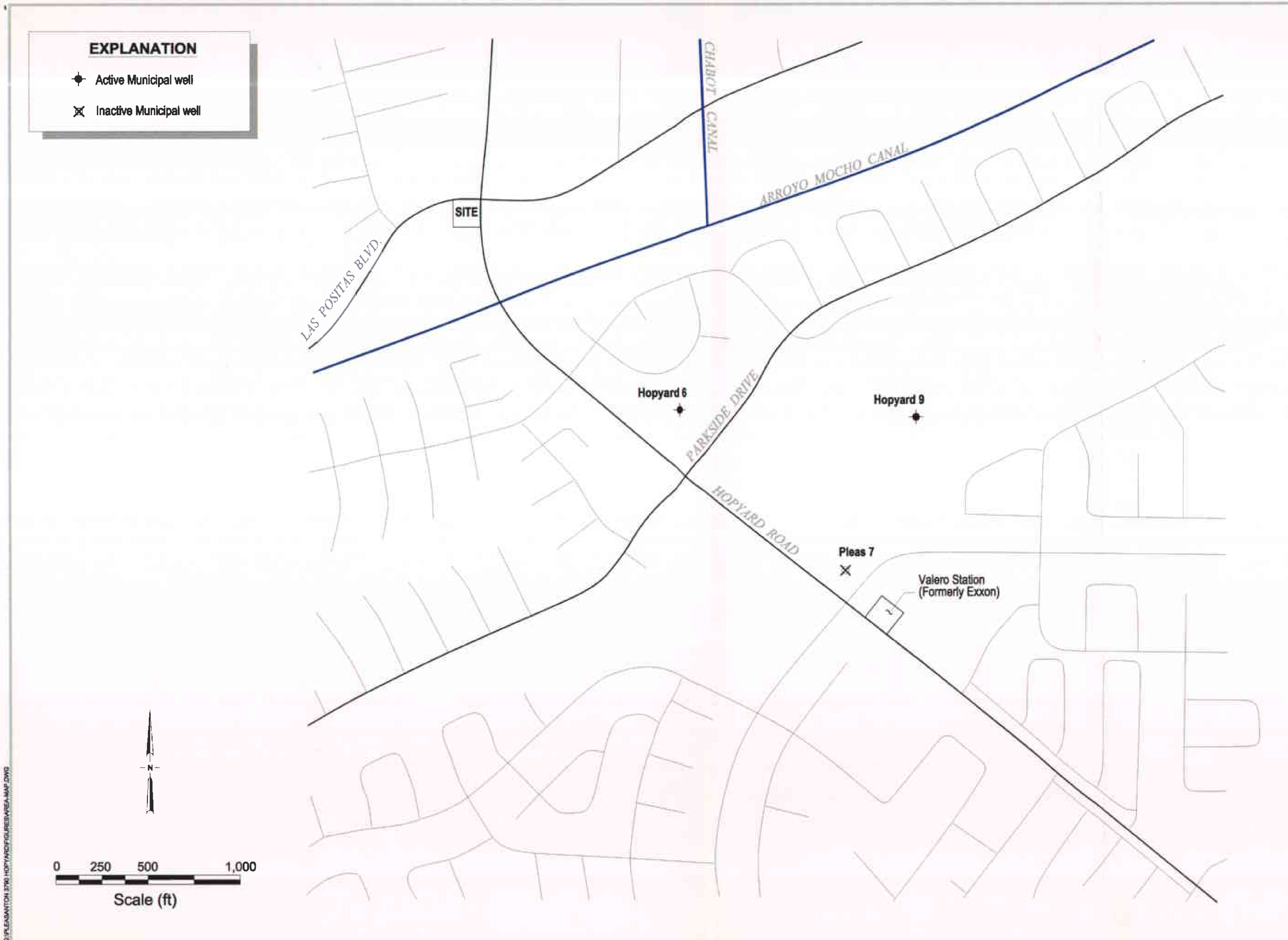

FIGURE
3

Municipal Well Location Map

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Shell-branded Service Station
3790 Hopyard Road
Pleasanton, California

ATTACHMENT A

Standard Field Procedures Monitoring Well Installation

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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.

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 fee 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.

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.

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ATTACHMENT B

Standard Field Procedures for Cone Penetrometer Testing and Sampling

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STANDARD FIELD PROCEDURES FOR CONE PENETROMETER TESTING AND SAMPLING

This document describes Cambria Environmental Technology's standard field methods for Cone Penetrometer Testing (CPT) and direct-push soil and ground water sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines.

Use of CPT for logging and soil and groundwater sampling requires separate borings. Typically an initial boring is advanced to estimate soil and groundwater characteristics as described below. To collect soil samples a separate boring must be advanced using a soil sampling device. If groundwater samples are collected, another separate boring must be advanced using a groundwater sampling device. Specific field procedures are summarized below.

Cone Penetrometer Testing (CPT)

Cone Penetrometer Testing is performed by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). Cone Penetrometer Tests (CPT) are carried out by pushing an integrated electronic piezocone into the subsurface. The piezocone is pushed using a specially designed CPT rig with a force capacity of 20 to 25 tons. The piezocones are capable of recording the following parameters:

Tip Resistance (Qc)
Sleeve Friction (Fs)
Pore Water Pressure (U)
Bulk Soil Resistivity (rho) - with an added module

A compression cone is used for each CPT sounding. Piezocones with rated load capacities of 5, 10 or 20 tons are used depending on soil conditions. The 5 and 10 ton cones have a tip area of 10 sq. cm. and a friction sleeve area of 150 sq. cm. The 20 ton cones have a tip area of 15 sq. cm. and a friction sleeve area of 250 sq. cm. A pore water pressure filter is located directly behind the cone tip. Each of the filters is saturated in glycerin under vacuum pressure prior to penetration. Pore Pressure Dissipation Tests (PPDT) are recorded at 5 second intervals during pauses in penetration. The equilibrium pore water pressure from the dissipation test can be used to identify the depth to groundwater.

The measured parameters are printed simultaneously on a printer and stored on a computer disk for future analysis. All CPTs are carried out in accordance with ASTM D-3441. A complete set of baseline readings is taken prior to each sounding to determine any zero load offsets.

The inferred stratigraphic profile at each CPT location is included on the plotted CPT logs. The stratigraphic interpretations are based on relationships between cone bearing (Qc) and friction ratio (Rf). The friction ratio is a calculated parameter (Fs/Qc) used in conjunction with the cone bearing to identify the soil type. Generally, soft cohesive soils have low cone bearing pressures and high friction ratios. Cohesionless soils (sands) have high cone bearing pressures and low friction ratios. The classification of soils is based on correlations developed by Robertson et al (1986). It is not always possible to clearly identify a soil type based on Qc and Rf alone. Correlation with existing soils information and analysis of pore water pressure measurements should also be used in determining soil type.

CPT and sampling equipment are steam-cleaned or washed prior to work and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent. Groundwater samples are decanted into 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.

After the CPT probes are removed, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Sampling

Soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed 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 Storage, Handling and Transport

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

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Grab Ground Water Sampling

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. 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.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also 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.