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Dana Thurman
Project Manager

R0368

October 17, 2005
(date)

ChevronTexaco

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

Re: Chevron Service Station # 9-8139

Address: 16304 Foothill Boulevard, San Leandro, California

I have reviewed the attached report titled Investigation Workplan and dated October 17, 2005.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Cambria Environmental Technology, Inc., upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

Dana Thurman
Project Manager

Enclosure: Report

CAMBRIA

October 17, 2005

Mr. Barney Chan
Alameda County Health Care Services Agency (ACHCS)
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: **Investigation Workplan**
Chevron Service Station 9-8139
16304 Foothill Boulevard
San Leandro, California

Dear Mr. Chan:

Cambria Environmental Technology, Inc. (Cambria) has prepared this workplan on behalf of Chevron Environmental Management Company (ChevronTexaco) in response to ACHCS's September 13, 2005 letter requesting upgradient confirmation of the hydrocarbon at the above referenced site. The site background and Cambria's proposed scope of work are presented below.

SITE BACKGROUND

The site is located on the eastern side of Foothill Boulevard in San Leandro, California (Figure 1). The site is currently an active Chevron-branded Service Station with a convenience store. The station is owned and operated by Mr. Harv Dahliwal. Chevron ceased operation of its station in 1998, and removed the existing facilities including a station building, three gasoline-underground storage tanks (USTs), two dispenser islands, and associated product piping. The site's current facilities include two gasoline USTs and two dispenser islands. Current and former site facilities are illustrated in Figure 1.

The site is located on the western edge of the San Leandro Hills approximately four miles east of San Francisco Bay and approximately 1.25 miles south of Lake Chabot. The site is located approximately 125 ft above mean sea level (msl).

Previous Investigations

April 1982 Leak Confirmation, Tank Replacement, and Well Installation: In early 1982, a tank integrity test confirmed that a leak existed on a corroded vapor line for the regular fuel product piping. Chevron records indicate that this piping and the associated UST were removed and replaced. Tank

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backfill piezometers W-1 and W-2 were installed. There are no records indicating that groundwater was encountered in the tank field during their installation.

December 1986 Leak, UST Repair and Testing: In December 1986, the station reported petroleum inventory losses. A tightness test was performed and a leak in the regular gasoline system was confirmed. The leak was subsequently repaired. The system was retested tight on January 30, 1986 by Gettler-Ryan, Inc. (GR).

June 1989 Soil Vapor Survey: In response to the two releases mentioned above, EA Science, Engineering and Technology (EA) conducted a soil vapor survey at the site. Benzene was reported in one vapor sample, V4/C, collected from the west end of the south pump island at 1 ppm.

November and December 1989 Subsurface Investigation: In November1989, Chemical Processors, Inc. (Chempro) installed two-inch diameter monitoring wells MW-1 through MW-4. The highest concentration of benzene reported in soil was 1.1 milligrams per kilogram (mg/kg) from MW-4 at 15 feet below grade (fbg). The highest total petroleum hydrocarbons as gasoline (TPHg) was reported MW-4 at 24 mg/kg at a depth of 15 fbg.

May and August 1990 Subsurface Investigation: In May 1990, Chempro installed two-inch diameter monitoring wells MW-5 through MW-7 and six-inch extraction well E-1. In August 1990, Chempro installed offisite monitoring well MW-8. The highest concentrations of TPHg and benzene reported from soil samples were 130 and 0.29 mg/kg, respectively, in MW-5 at 15 fbg. No benzene or TPHg were detected in soil samples from MW-7.

Hydraulic tests were performed at the site by pumping well E-1 and monitoring the response at wells MW-3, MW-5, and MW-7. Chempro calculated the average hydraulic gradient conductivity at the site as 4.3×10^{-3} centimeters per second (cm/s) with an average groundwater flow velocity as 5.2×10^{-4} cm/s and the radius of influence from E-1 to be 100 ft.

June 1991 Subsurface Investigation: In June 1991, Burlington Environmental, Inc. (BE) installed offsite monitoring well MW-9 and converted two-inch monitoring wells MW-4 and MW-5 into four-inch extraction wells E-3 and E-2, respectively. A groundwater treatment system was started up in August 1991 and was operated through April 1994. The system was shut off due to low influent concentrations.

Wells E-1 through E-3 are currently designated EW-1 through EW-3 in quarterly monitoring reports. These designations will be changed to the E-1 through E-3 in future groundwater monitoring reports.

April and May 1992 Subsurface Investigation: In April 1992, BE installed offsite monitoring wells MW-10 and MW-11. No Benzene or TPHg were detected in any soil samples.

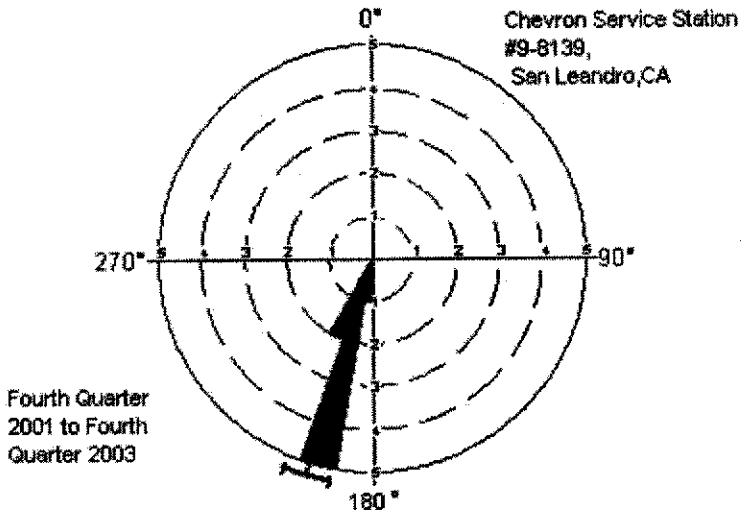
September 1998 Well Destruction: In September 1998, GR destroyed wells MW-1, MW-2, MW-3, MW-6, and MW-7 prior to site renovation.

October and November 1998 UST and Product Line Removal: In October and November 1998, three 10,000-gallon fuel USTs, one 1,000-gallon used oil UST, associated product piping, three hoists, and one clarifier were removed by Touchstone Developments (Touchstone). Groundwater was encountered at 12 fbg during the UST removal. A sheen was noted and 2,500 gallons of water were pumped out of the excavation prior to backfilling. Soil in the vicinity of the former used-oil UST and the product trenches were over-excavated.

August 2000 Subsurface Investigation: In August 2000, GR installed monitoring wells MW-12 through MW-14. Methyl tert-butyl ether (MTBE) was reported in soil samples from MW-14 at 16 and 21 fbg at 2.9 and 0.13 mg/kg, respectively. No TPHg, benzene, toluene, ethylbenzene, or xylenes (BTEX) were detected in these samples. No TPHg, BTEX, or MTBE were detected in any soil sample collected from MW-12 or MW-13.

Quarterly Monitoring: Wells at this site have been monitored and sampled since December 1989 to present. Wells are currently being monitored and sampled quarterly. Groundwater samples are analyzed for TPHg, BTEX, MTBE, tert-butyl alcohol (TBA), tert-amyl methyl ether (TAME).

Groundwater Flow Direction, Depth Trends and Gradient Trend: Historically, depth to groundwater has varied from 8.71 fbg (MW-2, 1/95) to 22.42 fbg (MW-7, 1/92). Groundwater flows predominately toward the south at a gradient of 0.01 to 0.03 ft/ft.



Stratigraphy and Hydrogeology: Soils encountered beneath the subject site consist primarily of sandy clays interbedded with clayey and gravelly sands to a total explored depth of 41.5 fbg.

PROPOSED SCOPE OF WORK

To confirm the extent of groundwater impact upgradient of the existing USTs, in the area of the former USTs, Cambria proposes the installation of one monitoring well (Figure 1). The specific scope of work is discussed below.

Underground Utility Location: Cambria will review the as-built site plans and piping diagrams to assist in well placement. We will also contact an underground utility locator to clear the well location prior to drilling. The boring will be cleared to 8 fbg before drilling begins.

Site Health and Safety Plan: Cambria will prepare a site safety plan to inform site workers of known hazards and to provide health and safety guidance. The plan will be kept on site at all times and signed by all site workers.

Permits: Cambria will obtain boring/well installation permits from the ACHCS prior to beginning field operations. A minimum of 72-hours notice will be given to the ACHCS prior to field work.

Monitoring Well Installation: One groundwater monitoring well will be installed to evaluate groundwater conditions upgradient of the existing USTs at the site. The well boring will be advanced to approximately 25 fbg using 8-inch diameter hollow-stem augers and converted to a 2-inch diameter groundwater monitoring well. The screened interval of the well casing will be constructed from approximately 10 to 25 fbg, using 0.020-inch slotted screen and number 2/12 filter sand. Actual well construction will be based on boring lithology and groundwater elevations. Cambria's standard field procedures for well installation are presented in Attachment A.

Soil Sampling: At a minimum, soil samples will be collected at five foot intervals beginning at 5 fbg, at obvious lithologic changes, and immediately above the water table. Samples will be collected using split-barrel samplers lined with clean brass sampling tubes driven into undisturbed sediments ahead of the drill bit. Soil encountered will be recorded in a boring/well log.

Soil Screening: Soil samples will be screened using a photoionization detector (PID). PID readings, evidence of discoloration, stratigraphic location, the depth to groundwater, and the collection depth of previous samples containing hydrocarbons will be used to select soil samples for laboratory analysis.

Well Development and Groundwater Sampling: The new well will be developed using surge block or stainless steel bailer agitation and evacuation. Gettler-Ryan (GR) will include the well in the routine quarterly monitoring and sampling program for this site. Groundwater analytical results will be presented under separate cover in the routine quarterly report.

Chemical Analysis: The groundwater and select soil samples will be analyzed for:

- TPHg by EPA Method 8015M, and
- BTEX, MTBE, TAME, and TBA by EPA Method 8260B.

Well Elevation Survey: The top of casing elevation will be surveyed to mean sea level datum by a California licensed land surveyor. Horizontal well coordinates will be measured in compliance with AB2886 (GeoTracker), and uploaded into Geotracker. The results of the survey and depth to groundwater measurements will be used to estimate the groundwater gradient and flow direction.

Soil and Water Disposal: Soil cuttings will be temporarily stockpiled and covered with plastic or placed in sealed DOT-approved drums on-site. Rinsate water will be stored in drums pending proper disposal. These wastes will be transported to an appropriate Chevron-approved disposal facility following receipt of sample analytical results.

Reporting: Upon completion, Cambria will document all field activities and analytical results in a report that, at a minimum, will contain:

- A brief summary of the site background and history,
- A description of the drilling technique,
- Sampling methodology and well location,
- Boring log,
- Tabulated soil sample analytic results,
- A figure illustrating the location of borings and wells, and former site features,
- Analytic reports and chain-of-custody forms,
- Soil/water disposal methods,
- A discussion of hydrocarbon and MTBE distribution at the site, and
- Conclusions and recommendations.

CLOSING

Cambria will coordinate and perform the above activities after receiving written approval of this work plan from the ACHCS. We will submit our investigation report approximately six to eight weeks after completion of field activities. Please contact me at (916) 630-1855 (ext 112), if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

David W. Herzog, PG
Senior Project Geologist

cc: Mr. Dana Thurman, Chevron Environmental Management Company, P.O. Box 6012, San Ramon, CA 94583
Cambria File Copy

Figures: Figure 1 –Site Plan

Attachments: A - Standard Field Procedures for Soil Borings and Monitoring Well Installations

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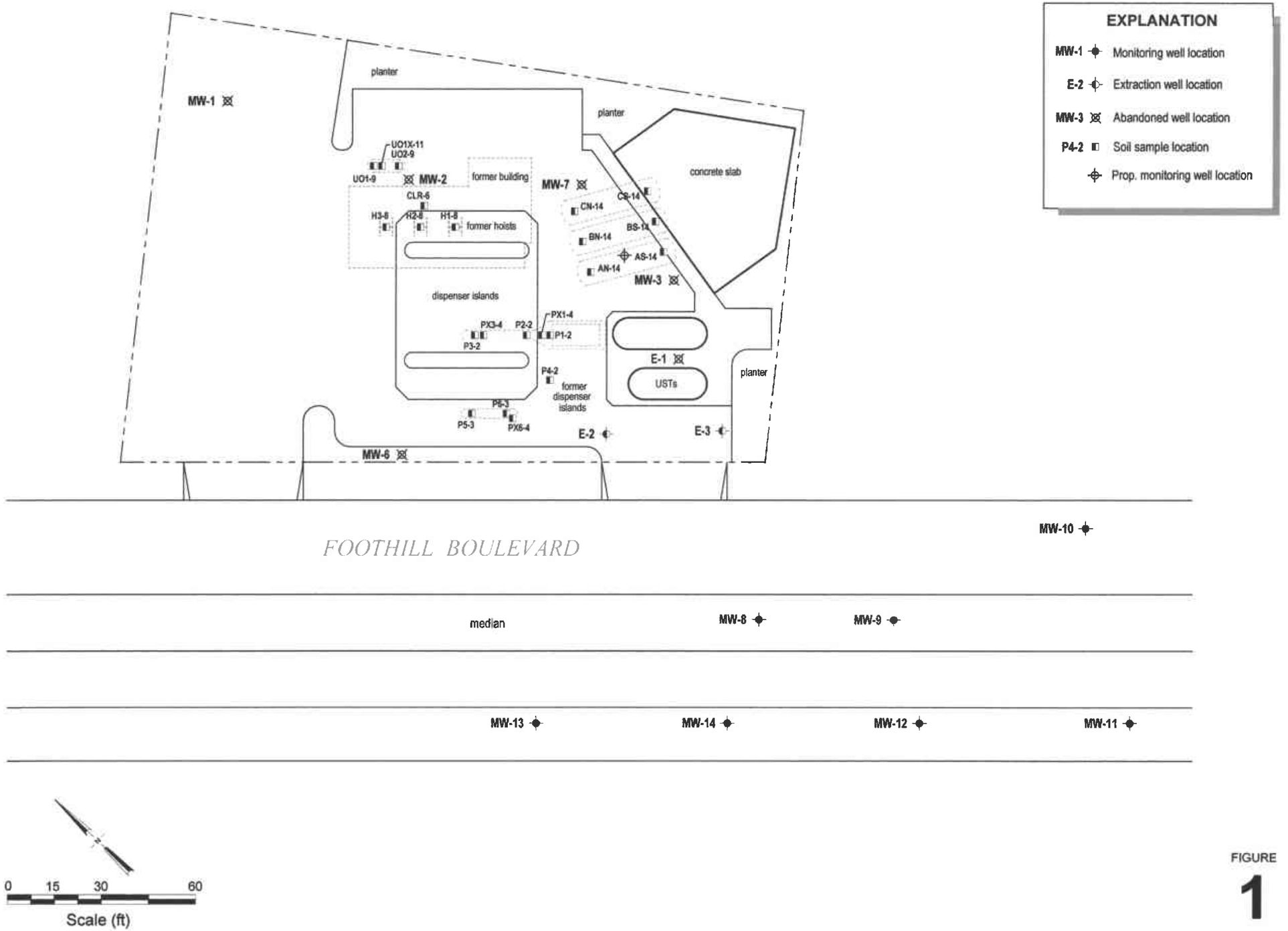

EXPLANATION

- MW-1 — Monitoring well location
- E-2 — Extraction well location
- MW-3 — Abandoned well location
- P4-2 — Soil sample location
- Prop. monitoring well location

Site Plan

CAMBRIA

Chevron Service Station 9-8139
16304 Foothill Boulevard
San Leandro, California

FIGURE
1

119-8139 SAN LEANDRO\FIGURES\SITEPLAN.DWG

ATTACHMENT A

Standard Field Procedures for Soil Borings and Monitoring Well Installations

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.

DRILLING AND SAMPLING

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 Professional Geologist (PG).

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Prior to drilling, the first 8 feet of the boring are cleared using an air or water knife and vacuum extraction. This minimizes the potential for impacting utilities.

Soil samples are collected at least every five feet 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. Following sample collection, if the boring is not being converted to a monitoring well, then the boring will be abandoned by backfilling with neat cement placed by tremie pipe if necessary and finished to grade with concrete, asphalt patch, or native material to match surface.

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 analytical 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.

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 foot 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 analytical 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 analytical 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.