GETTLER-RYAN INC.

WELL INSTALLATION WORK PLAN

Can-Am Plumbing
151 Wyoming Street
Pleasanton, California

Report No. 25-948162.7-1
Alameda County Site #RO0002425

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October 16, 2008

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INTRODUCTION

At the request of Can-Am Plumbing, Gettler-Ryan Inc. (GR) has prepared this Well Installation Work Plan to further evaluate the lateral extent of petroleum hydrocarbons in the C groundwater zone to the north and east of the subject site (Figure 1). This Work Plan was prepared in response to an Alameda County Environmental Health (ACEH) letter dated July 31, 2007. The proposed scope of work includes: obtaining the required encroachment and well drilling permits; advancing two soil borings and converting them to groundwater monitoring wells; collecting soil samples from the borings for lithologic description and possible chemical analysis; surveying, developing, and collecting groundwater samples from the newly installed wells; and preparing a report presenting the findings of the investigation.

The scope of work described in this work plan is intended to comply with the California Code of Regulations, Title 23, Division 3, Chapter 16, *Underground Tank Regulations*, the California Regional Water Quality Control Board (CRWQCB) *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and ACEH guidelines and regulations.

SITE DESCRIPTION

The subject site is located at 151 Wyoming Street in Pleasanton, California (Figure 1). Topography in the vicinity of the subject site is relatively flat at an elevation of approximately 361 feet above mean sea level. The closest surface water is Arroyo Del Valle, which is approximately 640 feet south of the site. Below ground facilities consisted of two 1,000-gallon gasoline underground storage tanks (USTs). The USTs were reportedly installed in 1972 and in use until June 1999 when they were removed. Pertinent site features and the location of the former USTs are shown on Figures 2.

PREVIOUS ENVIRONMENTAL WORK

On June 10, 1999, two 1,000 gallon single-wall fiberglass gasoline USTs, one dispenser, and related single-wall piping were removed by GR. GR personnel performed compliance sampling in conjunction with the UST removal.

The existing UST pit monitoring casing (W-1 on Figure 2) was allowed to remain in the UST excavation. Groundwater was encountered in the UST excavation at approximately 3.75 feet below ground surface (bgs). Two soil samples (X-1-3 and X-2-3) were collected from the sidewalls of the UST excavation a depth of 3 feet bgs. The soil samples were reported as not detected for Total Petroleum Hydrocarbons as gasoline (TPHg) by EPA 8015 modified, Benzene, Toluene, Ethylbenzene, and total xylenes (BTEX) by EPA Method 8020, and total lead by EPA Method 6010, except for 0.0050 parts per million (ppm) of benzene detected in X-1-3. Methyl tert-butyl ether (MtBE) by EPA Method 8020 was detected in X-1-3 and X-2-3 at concentrations of 3.3 ppm and 4.1 ppm, respectively.

Soil sample D-1-3 was collected from beneath the dispenser island at a depth of 3 feet bgs. Soil sample D-1-3 was reported as non-detected for TPHg, benzene, and lead and contained 3.6 ppm of MtBE.

One grab groundwater sample was collected from UST pit monitoring casing W-1. The sample contained 39,000 parts per billion (ppb) of TPHg, 1,100 ppb of benzene, and 100,000 ppb of MtBE (GR Report No. 1113.01, *Compliance Soil Sampling Report*, dated July 6, 1999).

Two on-site soil borings were drilled on January 21, 2000 and completed as groundwater monitoring wells MW-1 and MW-2. The wells were installed to a total depth of approximately 32 feet bgs. TPHg, BTEX and MtBE were not detected in the four soil samples collected from well boring MW-1. TPHg and BTEX were not detected in the six soil samples collected from well boring MW-2. MtBE was detected in five of the six samples from well boring MW-2 at concentrations of 0.12 ppm to 3.6 ppm.

Well MW-1 was developed on January 26, 2000. Depth to groundwater in wells MW-1 and MW-2 were measured and each well checked for the presence of floating product prior to development. Well MW-2 was found to be dry, therefore it was not developed. Well MW-1 dewatered during development, yielding only five well volumes. One January 31, 2000, a groundwater sample was collected from MW-1 and well MW-2 was again found to be dry. The two wells and UST pit monitoring casing W-1 were monitored on February 18 and 24, 2000. Groundwater was observed in well MW-2 on February 18, 2000 and the well was developed on February 24, 2000 at which time it dewatered after yielding approximately four well volumes. Wells MW-1 and MW-2 were monitored and sampled again on May 11, 2000. In addition, grab groundwater samples were collected from UST pit monitoring casing W-1 on January 27, February 24, and May 11, 2000.

Groundwater samples collected from well MW-1 on January 31 and May 11, 2000 were reported as not detected for all analytes. Groundwater sample MW-2, collected on May 11, 2000, contained 11,000 ppb of MtBE by EPA Method 8020, 12,000 ppb of MtBE by EPA Method 8260, and TPHg and BTEX were reported as not detected due to elevated detection levels (GR Report No. 948162.02-2, *Well Installation Report*, dated February 1, 2001).

Perched groundwater has been removed intermittently from UST pit monitoring casing W-1, starting on October 12, 1999. A total of 4,625 gallons of groundwater were removed from the former UST excavation on four separate occasions between October 12 and November 8, 1999. As of August 6, 2002, a total of 12,355 gallon of groundwater have been removed from W-1 by Nor Cal Oil and transported under uniform hazardous waste manifest to the Americlean, Inc. facility in Silver Springs, Nevada for disposal.

Three groundwater samples were collected from UST pit monitoring casing W-1 during the course of the pit dewatering activities. The groundwater sample collected on January 27, 2000 contained 8,300 ppb of TPHg, 1,900 ppb of MtBE, and benzene was reported as not detected (with elevated detection limits). The groundwater sample collected on February 24, 2000 contained 7,800 ppb of TPHg, 1,300 ppb of MtBE, and benzene was reported as not detected with an elevated detection limit. The groundwater sample collected on May 11, 2000 contained 130 ppb of TPHg, 3.5 ppb of benzene, 600 ppb of MtBE by EPA Method 8020, and 730 ppb of MtBE by EPA Method 8260 (GR Report No. 948162.02, *Soil Boring, Well Installation and Groundwater Sampling Report,* dated January 12, 2004).

On September 5, 2002, GR advanced one Geoprobe soil boring B-1 to 32 feet (drilling refusal depth). Soil samples B-1-20.5, B-1-23.5 and B-1-27.5 were collected from the soil boring. The soil boring was temporarily sealed with bentonite so it could be redrilled with hollow stem auger drilling equipment. On October 31, and November 1, 2002, GR installed soil borings B-2 and B-3 and groundwater monitoring well MW-3. Soil boring B-1 was overdrilled and deepen to 40 feet bgs. TPHg, BTEX, MtBE, ethanol, tert-butanol (TBA), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert amyl methyl ether (TAME), 1,2-dichloroethane (1,2-DCA) and ethylene dibromide (EDB) were not detected in any of the soil samples collected from soil boring B-1. TPHg, BTEX, ethanol, DIPE, ETBE 1,2-DCA, TAME, and EDB were not detected in soil samples from soil borings B-2, B-3, and well boring MW-3. In soil boring B-2, MtBE and TBA were detected in sample B-2-36 at concentrations 0.28 ppb and 0.067 ppb, respectively, and were in sample B-2-40.5 at concentrations of 0.34 ppb and 0.17 ppb, respectively. MtBE was detected in samples B-3-39 and MW-3-41 at concentrations of 0.0052 ppm and 0.029 ppm, respectively (GR Report No. 948162.02, *Soil Boring, Well Installation and Groundwater Sampling Report,* dated January 12, 2004).

On May 8 through 10, 2006, GR installed groundwater monitoring wells MW-1A, MW-2A, and MW-3A and piezometers PZ-1 through PZ-7. TPHg, BTEX, MtBE, ETBE, DIPE, TAME and TBA concentrations were below laboratory reported method detection limits in soil samples collected from MW-1A. In well MW-2A, MtBE concentrations were detected in each sample collected from 10 feet through 50 feet bgs and ranged in concentrations from 0.12 ppm at 25 and 38.5 feet bgs to 1.3 ppm at 5 feet bgs. In well MW-3A, MtBE was detected at concentrations of 0.026 ppm and 0.0070 ppm at 10 feet bgs and 15 feet bgs, respectively. In soil samples collected at 10 feet bgs from PZ-1 through PZ-7, MtBE concentrations ranged from 0.0015 ppm in PZ-3 to 1.9 ppm in PZ-4.

TPHg, BTEX, DIPE and ETBE concentrations were below laboratory reported method detection limits in groundwater samples collected from wells MW-1A, MW-2A, and MW-3A. MtBE concentrations ranged from 3.9 ppb in groundwater sample PZ-3 to 5,300 ppb in groundwater sample MW-2A. TAME and TBA was detected in groundwater sample MW-2A at concentrations of 61 ppb and 860 ppb, respectively (GR Report No. 25-948162.05, *Site Investigation Report,* dated July 19, 2006).

On April 9, 2007, GR advanced soil borings GP-1 through GP-7. TPHg, BTEX, MtBE, ETBE, DIPE, TAME and TBA concentrations were below laboratory reported method detection limits in soil samples collected from GP-6 and GP-7. In soil samples collected at 10 feet bgs from GP-1 through GP-5, MtBE concentrations ranged from 0.24 ppm in GP-3 to 0.68 ppm in GP-4.

On April 10 and April 11, 2007, GR installed groundwater monitoring wells MW-4 and MW-5. TPHg, BTEX, ETBE, DIPE, and TAME concentrations were below laboratory reported method detection limits in soil samples collected from well borings MW-4 and MW-5. MtBE concentrations were detected in each sample collected from well boring MW-4 from 10 to 50 feet bgs, except at 29.5 feet bgs, and ranged in concentrations from 0.051 ppm at 39.5 feet bgs to 0.14 ppm at 49.5 feet bgs. TAME concentrations of 0.0056 ppm and 0.021 ppm were detected in 20.5 foot sample interval and 49.5 foot sample interval, respectively, of well boring MW-4.

MtBE concentrations were detected in the 30, 40 and 50.5 foot sample intervals of well boring MW-5 at concentrations of 0.0089 ppm, 0.022 ppm, and 0.29 ppm, respectively. With the exception of a TBA concentration of 0.021 ppm in the 50.5 foot sample interval, TBA concentrations were below laboratory reported method detection limits in each sample collected from well boring MW-5.

On April 17, 2007, GR advanced Cone Penetrometer Test (CPT) boring CPT-1 to approximately 80 feet bgs and collected two depth discrete groundwater samples at 70 feet and 80 feet bgs.

TPHg, BTEX, DIPE and ETBE concentrations were below laboratory reported method detection limits in groundwater samples collected from wells MW-4 and MW-5 and depth-discrete groundwater samples collected from boring CPT-1. MtBE concentrations ranged from 1.8 ppb in depth-discrete groundwater sample CPT1-80 to 2,600 ppb in depth discrete groundwater sample CPT1-70. TAME and TBA concentrations were below laboratory reported method detection limits in depth-discrete groundwater sample CPT1-80. TAME concentrations ranged from 22 ppb in groundwater sample MW-5 to 31 ppb in MW-4, respectively. TBA concentrations ranged from 130 ppb in groundwater sample MW-5 to 300 ppb in MW-4, respectively (GR Report No. 25-948162.6, *Site Investigation Report,* dated June 25, 2007).

GR advanced CPT borings CPT-2, CPT-3, and CPT-4 on February 21 and 22, 2008 and CPT-5 on April 11, 2008 at the locations shown on Figure 2.

Boring CPT-2 was advanced to the depth of 46 feet bgs, and was extended beyond the proposed depth of 40 feet bgs due to the stratigraphy encountered. Based upon the soil stratigraphy and hydrogeologic data collected from the first boring of CPT-2, a sample interval of 31 to 45 feet bgs was identified. A hydropunch was advanced in boring CPT2-43 (Figure 2) and opened to collect groundwater from 39 feet to 43 feet bgs. No groundwater was initially encountered in the sample interval of 39 feet to 43 feet bgs. The hydropunch tool was allowed to remain open for one hour to allow groundwater to enter. However, after one hour had elapsed, no water was present in the sample interval and therefore no water sample was collected from CPT2-43.

Boring CPT-3 was advanced to the depth of 65 feet bgs, the depth of CPT rig refusal. Based upon the soil stratigraphy and hydrogeologic data collected from CPT-3, four discrete permeable zones were identified at 26 feet to 29 feet bgs, 33 feet to 41 feet bgs, 47 feet to 51 feet bgs and 61 to 65 feet bgs. No water was initially encountered in the 26 to 30 foot bgs and 33 to 41 feet bgs hydropunch sample intervals accessed in boring CPT3-30, 37 (Figure 2). These two sample intervals remained open for 15 minutes each to allow groundwater to enter. However, no water was present in either sample interval, therefore no water sample was collected from the 26 to 30 foot or 32 to 41 foot sample interval in CPT3-30, 37. Depth discrete groundwater samples CPT3-51 and CPT3-65 were collected from their corresponding hydropunch borings from the 47 to 51 foot and 61 to 65 foot sample intervals, respectively.

Based upon the soil stratigraphy and hydrogeologic data collected from boring CPT-4, three relatively discrete permeable zones were identified at 37 feet to 40.5 feet, 46 feet to 51.5 feet and 56 to 64 feet bgs, the total depth explored due to rig refusal. No water was initially encountered in the 37 to 40.5 foot sample interval accessed in CPT4-40.5. No groundwater sample was collected from CPT4-40.5 as no water was present in this interval after 15 minutes elapsed time. Depth discrete groundwater samples CPT4-51.5 and CPT4-64 were collected their corresponding borings (Figure 2) from the 47.5 to 51.5 foot and 60 to 64 foot sample intervals, respectively.

Boring CPT-5 was advanced to the depth of 80 feet bgs, the depth of CPT rig refusal. Three relatively discrete permeable zones were identified at 26 feet to 30 feet bgs, 34 feet to 52 feet bgs, and 67 to 80 feet bgs. No groundwater was initially encountered in any of three sample intervals accessed in hydropunch borings CPT5-30,52 and CPT5-72.

In the 26 to 30 foot and 48 to 52 foot sample intervals (CPT5-30,52), no water was present in either sample interval after 15 minutes and therefore no groundwater samples were recovered. The 68 to 72 feet hydropunch sample interval (CPT5-72) was allowed to stand open for one hour, during which no groundwater accumulated and no sample was collected.

TPHg, BTEX, DIPE, ETBE, TAME and TBA concentrations were below laboratory reported method detection limits in depth-discrete groundwater samples collected from boring CPT-3 and CPT-4. MtBE was detected at concentrations of 0.98 ppb in depth-discrete groundwater sample CPT4-51.5 and 1.4 ppb in depth discrete groundwater sample CPT3-51 and were below the laboratory method detection reporting limits in depth discrete samples CPT3-65 and CPT4-64 (GR Report No. 25-948162.7, *CPT Investigation Report,* dated May 30, 2008).

WORK PLAN

To further evaluate the lateral extent of petroleum hydrocarbons in the C groundwater zone to the north and east of the subject site, GR proposes to install two groundwater monitoring wells at the locations shown on Figure 2. GR Field Methods and Procedures are included in Appendix A.

To implement the proposed scope of work, GR proposes the following four tasks:

Task 1. Pre-field Activities

GR will update the site safety plan, and will obtain the necessary well drilling and encroachment permits from the Zone 7 Water Agency and the City of Pleasanton, respectively. In addition, Underground Service Alert (USA) will be notified at least 48 hours prior to the proposed subsurface work.

Task 2. Well Installation

Two groundwater monitoring wells will be installed at the locations shown on Figure 2. A California-licensed well driller will install the wells. A GR geologist will monitor the drilling activities and prepare a log of each well boring. Each well boring will be cleared for subsurface utilities to 5 feet bgs by hand auger. GR anticipates encountering groundwater at approximately 30 feet bgs. The well borings will be drilled using a truck mounted drill rig equipped with 8-inch diameter hollow-stem augers up to approximately 50 feet bgs. The wells will be constructed of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) well casing and 0.020-inch machine-slotted well screen. The wells will be installed in 50-foot deep borings with a screened interval extending from 45 to 50 feet bgs. Actual well depth and screen interval will be determined by the field conditions encountered. Proposed well construction details are presented in Figure 3.

Soil samples for description and possible chemical analysis will be obtained from the well borings at five-foot intervals, as a minimum. Soil samples will be collected with a split-spoon sampler fitted with clean brass sample rings. The actual number of samples submitted for chemical analysis will depend on site conditions and field screening data. As a minimum, it is expected that five soil samples from each boring will be submitted for chemical analysis as described in Task 5.

Soil from each sampled interval will be screened in the field for the presence of volatile organic compounds using a photoionization detector (PID). These data will be collected for reconnaissance purposes only, and will not be used as verification of the presence or absence of petroleum hydrocarbons. The field screening data will be recorded on the field boring log.

Drill cuttings will be placed on and covered with plastic and stored at the site pending disposal. Four soil samples of the drill cuttings will be collected for disposal characterization. These samples will be submitted to the laboratory for compositing into one sample, and then analyzed as described in Task 5. Steam cleaning rinsate wastewater will be temporarily stored on site pending disposal.

Task 3. Survey Well Elevations

Following installation, the top of casing elevation for the newly installed wells will be surveyed to mean sea level by a California licensed surveyor. Horizontal coordinates (including latitude and longitude by GPS) of the locations will also be obtained by the surveyor.

Task 4. Well Development and Sampling

The newly installed groundwater monitoring wells will be developed after they have been allowed to stand a minimum of 72 hours following installation. Groundwater removed from the wells during development and sampling will be temporarily stored on site pending disposal. Groundwater samples will be collected from the newly installed wells after they have been allowed to stand 72 hours following development. Prior to sampling, all wells at the site will be monitored, and a potentiometric map will be generated from the data. The groundwater sample from each well will be submitted for chemical analysis as described in Task 5.

Task 5. Laboratory Analyses

Soil and groundwater samples will be submitted for chemical analysis by Kiff Analytical, a California state-certified Hazardous Material Testing Laboratory. Soil and groundwater samples will be analyzed for TPHg, BTEX, MtBE, DIPE, ETBE, TAME, TBA, by EPA Method 8260B. The drill cuttings composite sample will be analyzed for TPHg, TPHd, BTEX, and MtBE by EPA Methods 8260B and modified 8015, and total lead by EPA Method 6010B.

Task 6. Report Preparation

Following receipt and analysis of all data, a report will be prepared that summarizes the procedures and findings associated with this investigation. This report will be submitted to Can-Am Plumbing for their use and distribution.

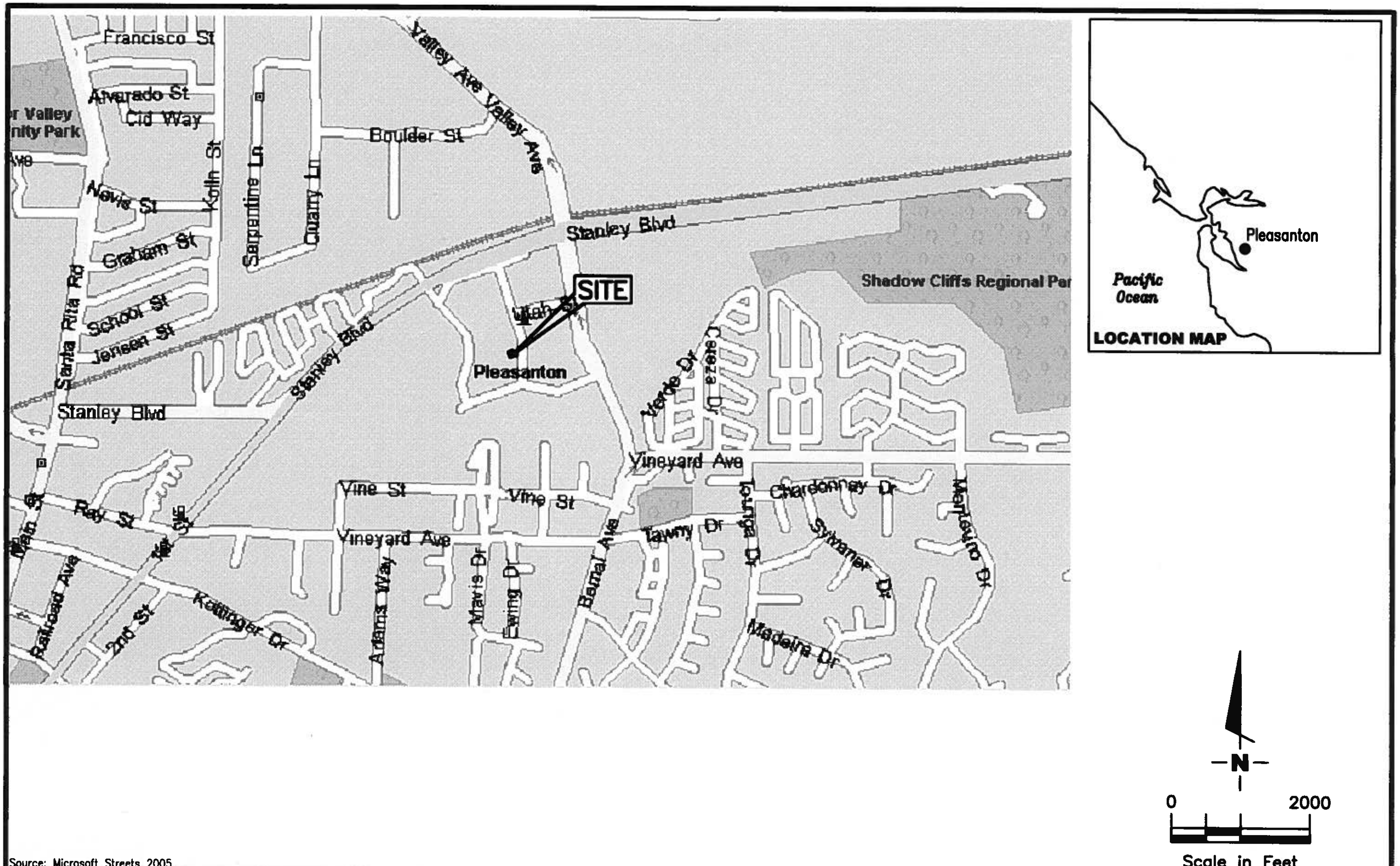
PROJECT STAFF

Mr. Douglas J. Lee, a Professional Geologist in the State of California (P.G. No. 6882), will provide technical oversight and review of the work. Mr. Greg A. Gurss, Senior Project Manager, will supervise implementation of field and office operations. Mr. Geoff Risse, Staff Geologist will manage and conduct all field operations. GR employs a staff of geologists, engineers, and technicians who will assist with the project.

SCHEDULE

GR will implement the proposed scope-of-work upon receipt of regulatory approval.

FIGURES



Source: Microsoft Streets 2005

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VICINITY MAP
Can-Am Plumbing
151 Wyoming Street
Pleasanton, California

FIGURE
1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
948162.04		01/06	

FILE NAME: P:\Enviro\Can-Am Plumbing\VIC-Can-Am Plumbing.dwg | Layout Tab: Vic Map

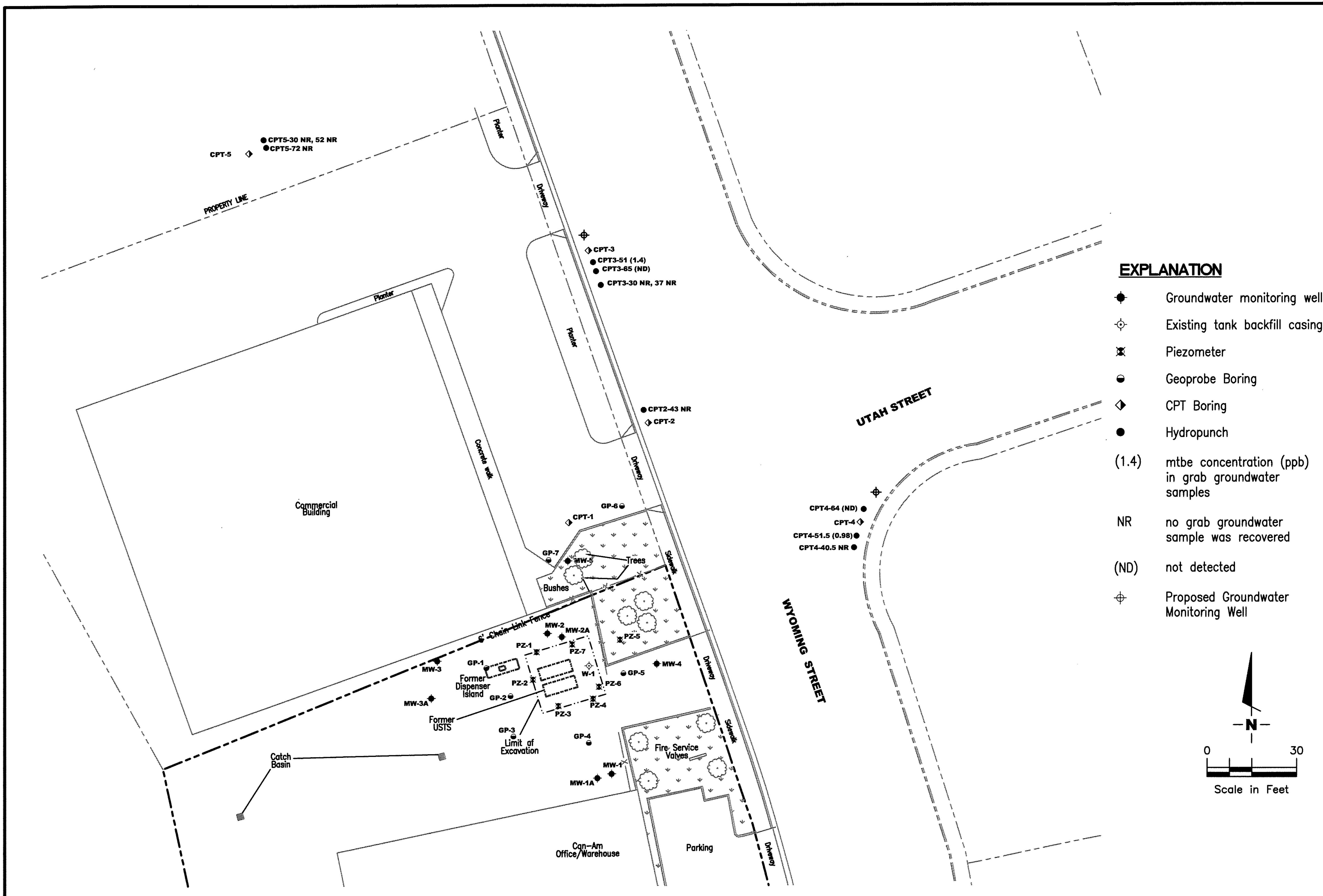

FIGURE 2

EXTENDED SITE PLAN
Can–Am Plumbing
151 Wyoming Street
Pleasanton, California

DATE 2/21–22/08 and 4/11/08

REVISED DATE

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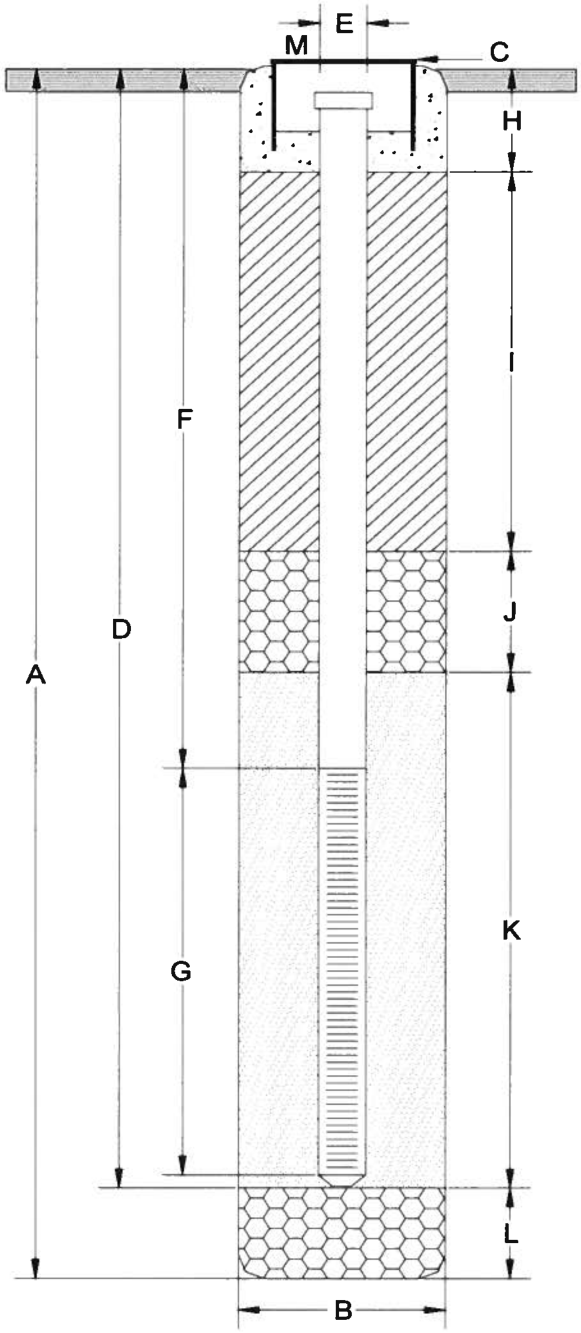
PROJECT NUMBER 25–948162.07

REVIEWED BY GG

.../Environmental/CAD drawings/Can–Am Plumbing/VIC–Can–Am Plumbing 9–20–07.dwg/Ext.SitePlan05–27

WELL CONSTRUCTION DETAIL



A	Total Depth of Boring	50	ft.
B	Diameter of Boring	8	in.
	Drilling Method	Hollow Stem Auger	
C	Top of Casing Elevation		ft.
	☐ Referenced to Mean Sea Level		
	☐ Referenced to Project-Datum		
D	Casing Length	50	ft.
	Material	Schedule 40 PVC	
E	Casing Diameter	2	in.
F	Depth to Top Perforations	45	ft.
G	Perforated Length	5	ft.
	Perforated Interval from	45 to 50	ft.
	Perforation Size	0.01	in.
H	Surface Seal from	0 to 1	ft.
	Seal Material	Cement	
I	Backfill from	1 to 43	ft.
	Backfill Material	Neat Cement	
J	Seal from	43 to 44	ft.
	Seal Material	Bentonite	
K	Gravel Pack from	44 to 50	ft.
	Pack Material	Lonestar #3 Sand	
L	Bottom Seal	None	ft.
	Seal Material		
M	Water-resistent vault box, Locking well cap, and Lock		

Note: Depths measured from initial ground surface.

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Well Construction Detail
Can-Am Plumbing
151 Wyoming Street
Pleasanton, California

FIGURE
3

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
240029.1				

APPENDIX A

GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES
WELL INSTALLATION

Site Safety Plan

Field work performed by Gettler-Ryan Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Soil borings are drilled by a California-licensed well driller. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring. Soil samples are collected from the soil boring with a split-barrel sampling device fitted with 2-inch-diameter, clean brass tube or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soils are described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based in part on:

a. depth relative to underground storage tanks and existing ground surface
b. depth relative to known or suspected groundwater
c. depth relative to areas of known hydrocarbon impact at the site
d. presence or absence of contaminant migration pathways
e. presence or absence of discoloration or staining
f. presence or absence of obvious gasoline hydrocarbon odors
g. presence or absence of organic vapors detected by headspace analysis

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing some soil from one of the sample tubes not retained for chemical analysis and immediately covering the end of the tube with a plastic cap. The PID probe is inserted into the headspace inside the tube through a hole in the plastic cap. Head-space screening results are recorded on the boring log. Head-space screening procedures are performed and results recorded as reconnaissance data. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory soil borings with Schedule 40 polyvinyl chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen, which generally extends from the total well depth to a point above the groundwater. An appropriately sized sorted sand is placed in the annular space adjacent to the entire screened interval. A bentonite transition seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

Wellheads are protected with water-resistant traffic-rated vault boxes placed flush with the ground surface. The top of the well casing is sealed with a locking waterproof cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Measurement of Water Levels

The top of the newly installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL). Depth-to-groundwater in the well is measured from the top of the well casing with an electronic water-level indicator. Depth-to-groundwater is measured to the nearest 0.01-foot, and referenced to MSL.

Well Development and Sampling

The purpose of well development is to improve hydraulic communication between the well and the surrounding aquifer. Prior to development, each well is monitored for the presence of floating product and the depth-to-water is recorded. Wells are then developed by over purging the well with a pump or bailer to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on and covered with plastic sheeting and samples are collected and analyzed for disposal classification on the basis of one composite sample per 100 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis.

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and them driving the stainless steel or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with Teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.