

ENVIRONMENTAL  
PROTECTION  
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**Chevron**

**Chevron U.S.A. Products Company**  
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San Ramon, CA 94583-0804

**Marketing - Northwest Region**  
Phone 510 842 9500

March 27, 1996

Ms. Eva Chu  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, CA 94502

Re: Chevron Station # 9-5542, 7007 San Ramon Valley Rd., Dublin, CA  
Attached Workplan for Limited Subsurface Investigation (Gettler-Ryan, 3/26/96)

Dear Ms. Chu:

Please find attached, a workplan dated March 26, 1996 that was prepared by Chevron's consultant, Gettler-Ryan, to describe field and analytical procedures that will be associated with the proposed subsurface investigation.

The acquired results from the proposed investigation will be used to define the downgradient extent of dissolved hydrocarbons in groundwater. The acquired results will also provide site specific soil data which will be used to enhance soil vapor modeling as part of our planned Tier 2 evaluation. *2 SBS proposed*

A separate workplan will be submitted to describe procedures and analytical methodologies for obtaining indoor air samples at the subject site.

If you have any questions or comments, I can be reached at (510) 842-8695.

Sincerely,

Brett L. Hunter  
Environmental Engineer  
Site Assessment and Remediation

*MW 3 w/ clay sand at 13-18', silty sand gravel  
at 22-28'  
MW 4 w/ silty sand at 8-22' bgs  
B-1 w/ silty sand at 15-20'*

Attachment

cc: Kevin Graves, San Francisco Bay RWQCB, Oakland, CA  
Mary Diamond, See's Candy, 3423 S. La Cienega Blvd., Los Angeles, CA 90016-4401  
See's Real Estate, 210 El Camino Real, S. San Francisco, CA 94080 (w/o attachment)  
Mark Hayashi, Chevron Products Company, 1712 Linda Dr., Pleasant Hill, CA 94523 (w/o att.)



# GETTLER-RYAN INC.

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## WORK PLAN FOR LIMITED SUBSURFACE INVESTIGATION

at

Chevron Service Station No. 9-5542  
7007 San Ramon Road  
Dublin, California

Report No. 5290.01-1

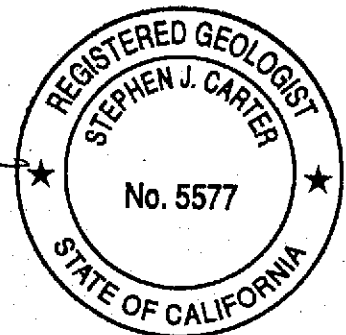
Prepared for:

Mr. Brett Hunter  
Chevron USA Products Company  
P. O. Box 5004  
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Prepared by:

Gettler-Ryan Inc.  
3164 Gold Camp Drive, Suite 240  
Rancho Cordova, California 95670

Stephen J. Carter  
Senior Geologist  
R.G. 5577



Greg A. Gurss  
Project Manager

March 26, 1996

916 631-1314

## TABLE OF CONTENTS

INTRODUCTION .....	1
SITE DESCRIPTION .....	1
Hydrogeologic Conditions .....	2
PROPOSED SCOPE OF WORK .....	2
Task 1.    Pre-Field Activities. ....	2
Task 2.    Soil Borings and Well Installation .....	2
Task 3.    Wellhead survey .....	3
Task 4.    Well Development and Sampling .....	4
Task 5.    Laboratory Analyses .....	4
Task 6.    Report Preparation .....	4
PROJECT STAFF .....	4
SCHEDULE .....	4

### FIGURES

Figure 1.	Vicinity Map
Figure 2.	Site Plan
Figure 3.	Proposed Well Construction Detail

### APPENDICES

Appendix A:	G-R Field Methods and Procedures
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# WORK PLAN FOR LIMITED SUBSURFACE INVESTIGATION

at

Chevron Service Station No. 9-5542  
7007 San Ramon Road  
Dublin, California

Report No. 5290.01-1

## INTRODUCTION

At the request of Chevron USA Products Company (Chevron), Gettler-Ryan Inc. (G-R) has prepared this Work Plan for the drilling of two soil borings and the installation of one groundwater monitoring well. The proposed work includes: preparing a site safety plan; obtaining the necessary well installation and encroachment permits; installing one off-site groundwater monitoring well; drilling two exploratory soil borings; collecting and submitting selected soil samples for chemical analysis; developing and sampling the newly installed well; surveying the newly installed well to mean sea level (MSL); and preparing a report presenting the results and observations associated with the field work.

The scope of work described in this report is intended to comply with the State of California Water Resources Control Board's *Leaking Underground Fuel Tanks (LUFT) Manual* and *California Underground Storage Tank Regulations, 1994*, the Regional Water Quality Control Board's (RWQCB) *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and Alameda County Health Care Services Agency (ACHCSA) guidelines.

## SITE DESCRIPTION

The site is currently an operating Chevron service station situated on the northeastern corner of San Ramon Road and Dublin Boulevard in Dublin, California (Figure 1). The service station consists of a station building and two product dispenser islands. Three gasoline underground storage tanks (USTs) are located in a common pit adjacent to the dispenser islands. One waste oil UST was located east of the northernmost dispenser island. Locations of the pertinent site features are shown on the Site Plan (Figure 2).

To date, nine groundwater monitoring wells have been installed on- and off-site. Groundwater monitoring and sampling at the site began in 1990.

### Hydrogeologic Conditions

The subject site is located in the San Ramon Valley, a down-dropped block within the Diablo Range bounded to the west by the Calaveras Fault and to the east by the Pleasanton Fault (California Department of Water Resources, Bulletin 118-2). The subject site is situated in the Dublin Subbasin, and is underlain by unconsolidated Quaternary-age alluvial deposits composed of interbedded clay, silt, sand, and gravel to a depth of several hundred feet below ground surface (bgs). In the vicinity of the subject site, the alluvial deposits overlie the Pliocene-age Tassajara Formation. Data from groundwater monitoring at the site indicate that shallow groundwater is currently encountered at approximately 24 to 26 feet bgs. Currently groundwater flows toward the east with a gradient of 0.007.

### **PROPOSED SCOPE OF WORK**

At the request of Chevron, G-R will drill two exploratory soil borings and install one groundwater monitoring well. One soil boring will be drilled east of the station building on the subject site, and one boring will be drilled north of the station building on the adjacent property. The groundwater monitoring well will be installed south of the Grand Auto in Dublin Boulevard, approximately 250 feet east of the subject site. Proposed locations of the soil borings and groundwater monitoring well are shown on Figure 2. To perform this scope of work, G-R proposes the following specific tasks:

#### **Task 1. Pre-Field Activities.**

Prepare a site-specific safety plan. Obtain the necessary drilling permit from the Alameda county Flood Control and Water Conservation District Zone 7. Obtain the required encroachment permit from the City of Dublin for the proposed well. Notify Underground Service Alert (USA) a minimum of 48 hours prior to drilling. It is our understanding that Chevron will obtain the right-of-entry agreement for the proposed soil boring to be drilled on the parcel immediately north of subject site.

#### **Task 2. Soil Borings and Well Installation.**

Drill two soil borings and install one off-site groundwater monitoring well at the locations shown on Figure 2. Drilling and well construction activities will be performed by a California licensed well driller. A G-R geologist will monitor the

drilling activities and prepare a log of each boring. The exploratory soil borings and well boring will be drilled with eight-inch-diameter hollow-stem augers using a truck-mounted drill rig.

The two exploratory soil borings will be drilled to groundwater (approximately 25 feet bgs). Both borings will be sampled continuously. Grab groundwater samples will be collected from each boring with a new, disposable teflon bailer.

The well will be installed to a maximum anticipated depth of 35 feet bgs, and will be constructed of two-inch-diameter Schedule 40 polyvinyl chloride (PVC) well casing and 0.01-inch machine-slotted PVC well screen, as shown on Figure 3. Based on data obtained during previous subsurface investigations at the site, we anticipate the screen interval in each well will extend from approximately 15 to 35 feet bgs.

Sample handling procedures are described in Appendix A. Although the actual number of samples submitted for chemical analysis will depend on site conditions and field screening data, we anticipate two samples from each exploratory soil boring will be submitted for chemical analysis as described in Task 5. Because the off-site well boring is being installed immediately adjacent to Geoprobe boring SB-3, soil samples will not be collected for logging or chemical analyses.

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. Field screening procedures are described in Appendix A.

Drill cuttings will be stockpiled on-site pending receipt of chemical analytical data for disposal. The stockpiled cuttings will be placed on and covered with plastic sheeting. Four soil samples from the drill cuttings will be collected as described in Appendix A. These samples will be submitted to the laboratory for compositing into one sample, and then analyzed as described in Task 5. Steam cleaning rinsate waste water will be stored on-site in properly labelled drums and removed after well development and sampling.

### **Task 3. Wellhead survey.**

Following installation, the elevations of the well vault box and top of the well casing will be surveyed to MSL by a California licensed surveyor.

**Task 4. Well Development and Sampling.**

Develop the newly installed groundwater monitoring well after it has been allowed to stand a minimum of 72 hours. Groundwater samples will be collected upon completion of well development. Groundwater removed from the well during development and sampling and steam cleaning rinsate water will be transported to Chevron's refinery in Richmond, California. Groundwater samples will be analyzed as described in Task 5. Development and sampling procedures are described in Appendix A.

**Task 5. Laboratory Analyses.**

Submit selected soil samples for chemical analyses by a California state-certified Hazardous Material Testing Laboratory. The drill cutting sample, selected soil samples from the two exploratory soil borings, and groundwater samples will be analyzed for TPHg by Environmental Protection Agency (EPA) Method 8015 (Modified), and for gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020. Soil samples from the exploratory soil borings will also be analyzed for fraction of organic carbon (Watley Black Method), bulk density, and porosity.

**Task 6. Report Preparation.**

Following receipt of the analytical data, a report will be prepared which summarizes the procedures and the results associated with this investigation. This report will be submitted to Chevron for their use and distribution.

**PROJECT STAFF**

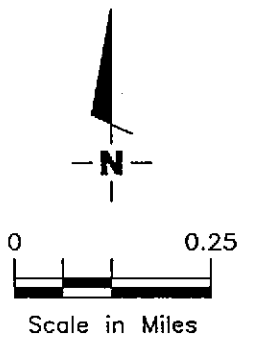
Mr. Stephen J. Carter, a Registered Geologist in the State of California (No. 5577), will provide technical oversight and review of the work. Mr. Greg Gurss, Project Manager, will supervise implementation of field and office operations. GSI employs a staff of geologists, engineers, and technicians who will assist with the project.

**SCHEDULE**

Implementation of the proposed scope of work will commence upon receipt of regulatory approval and the required encroachment permit, drilling permit, and right-of-entry agreement.



Source: Street Atlas USA, Delorme (1995).



**Gettler - Ryan Inc.**

6747 Sierra Ct., Suite J (510) 551-7555  
 Dublin, CA 94568

VICINITY MAP  
 Chevron Service Station No. 9-5542  
 7007 San Ramon Road  
 Dublin, California

FIGURE

1

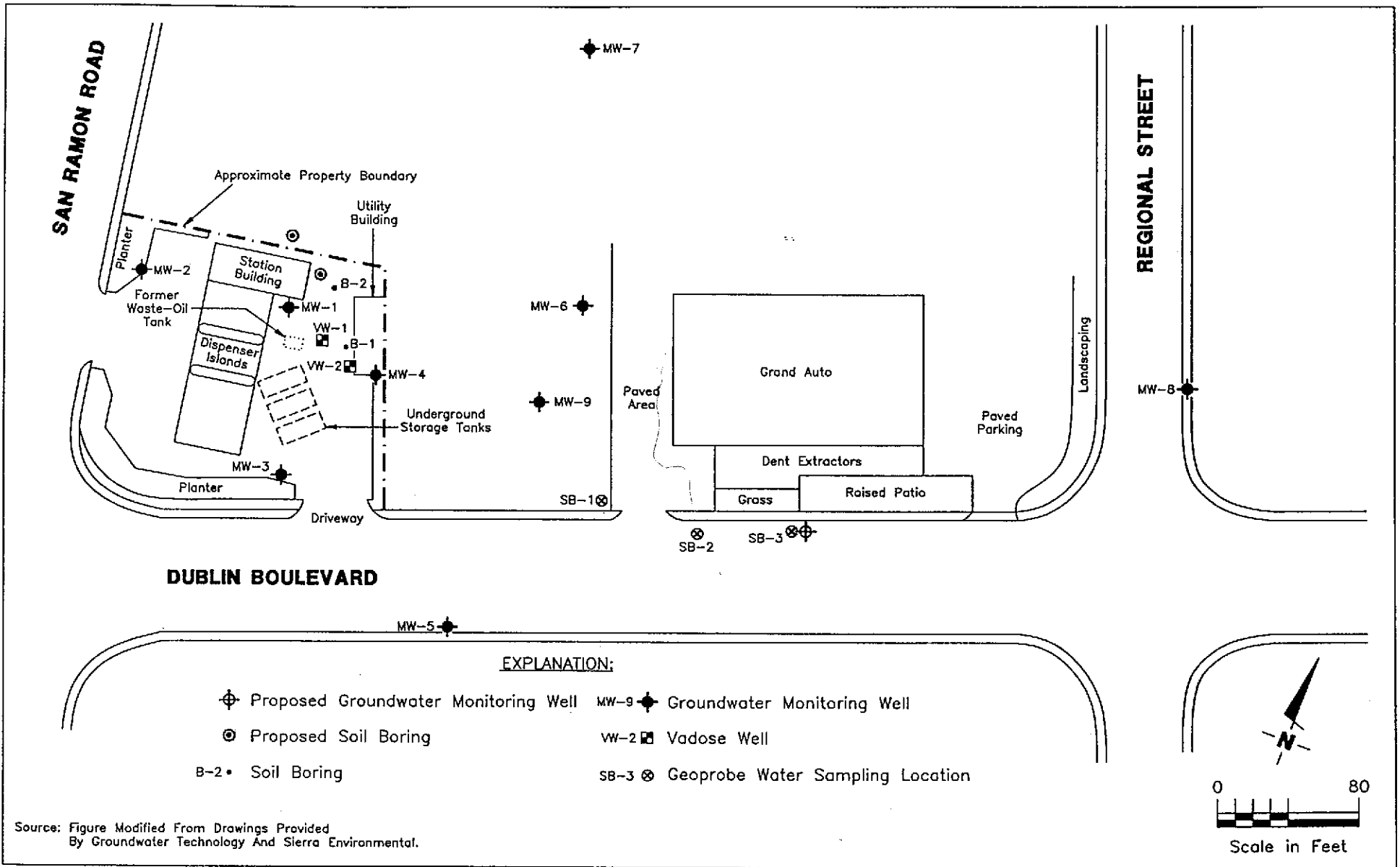
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DATE  
 3/96

REVISED DATE





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**SITE PLAN**  
Chevron Service Station No. 9-5542  
7007 San Ramon Road  
Dublin, California

FIGURE  
**2**

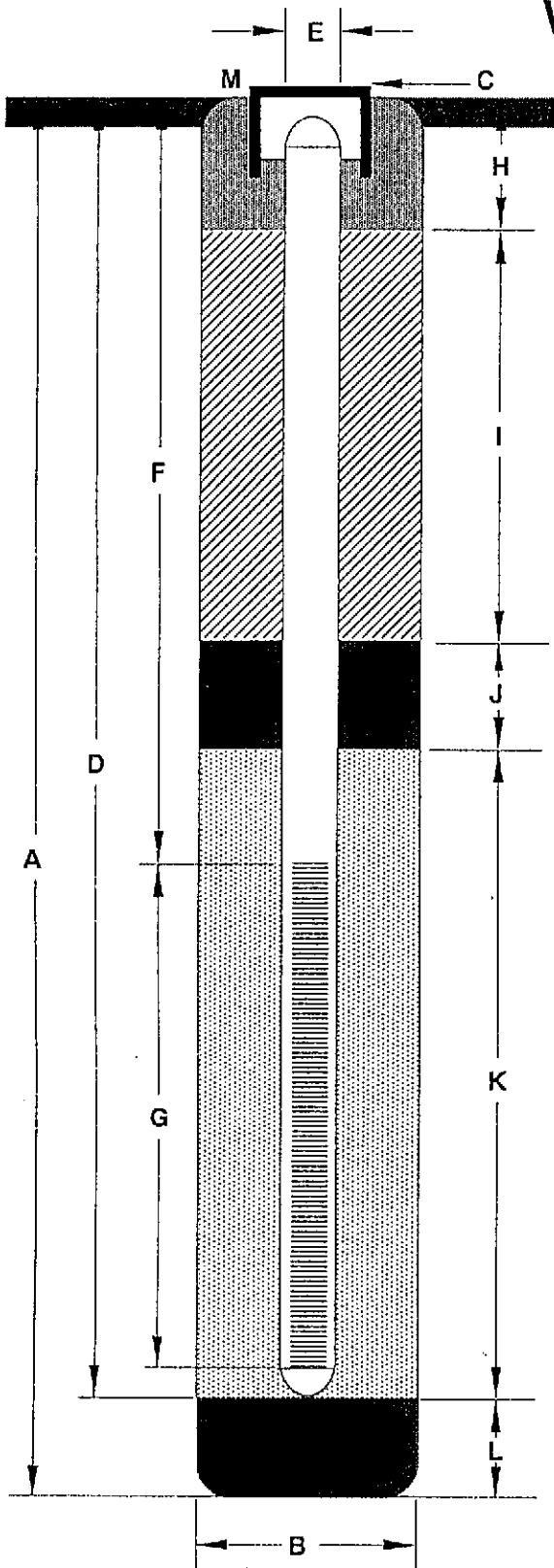
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# WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 35 ft.
- B Diameter of Boring 8 in.  
Drilling Method hollow-stem auger
- C Top of Box Elevation \_\_\_\_\_ ft.  
 Referenced to Mean Seal Level  
 Referenced to Project Datum
- D Casing Length 35 ft.  
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 15 ft.
- G Perforated Length 20 ft.  
Perforated Interval from 15 to 35 ft.  
Perforation Type machine-slotted  
Perforation Size 0.01 in.
- H Surface Seal from 0 to 1 ft.  
Seal Material concrete
- I Backfill from 1 to 11 ft.  
Backfill Material neat cement
- J Seal from 11 to 13 ft.  
Seal Material bentonite
- K Gravel Pack from 13 to 35 ft.  
Pack Material Lonestar #2/12
- L Bottom Seal \_\_\_\_\_ none ft.  
Seal Material \_\_\_\_\_
- M Water-resistant vault box, locking waterproof well cap, and lock

Note: Depths measured from initial ground surface.



**Gettler - Ryan Inc.**

6747 Sierra Ct., Suite J (510) 551-7555  
Dublin, CA 94568

Proposed Well Construction Detail  
Chevron Service Station #9-5542  
7007 San Ramon Road  
Dublin, California

Figure

3

JOB NUMBER  
5290.01

REVIEWED BY RG/CEG  
*Gettler* RG.5577

DATE  
3/26/96

REVISED DATE

REVISED DATE

## **APPENDIX A**

# GETTLER-RYAN INC.

## FIELD METHODS AND PROCEDURES

### Site Safety Plan

Field work performed by Gettler-Ryan Inc. (G-R) is conducted in accordance with G-R's Health and Safety Plan and the Site Safety Plan. G-R personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The G-R geologist or engineer at the site when the work is performed acts as the Site Safety Officer. G-R 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 G-R 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 generally 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 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. Samples are selected for chemical analysis based on:

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

### Field Screening of Soil Samples

A PID is used to measure the levels of organic vapors given off the soil samples. A plastic cap is placed over the end of a sample tube that will not be saved for later chemical analysis. The PID probe is placed through a hole in the cap, and the concentrations of organic vapors in the headspace between the plastic cap and the soil is tested. PID screening results are recorded on the boring log as reconnaissance data. G-R 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 extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular adjacent to the entire screened interval. A bentonite 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 alternately surging the well with a bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized. After the

wells have been developed, groundwater samples will be collected. Well development and sampling is performed by Gettler-Ryan Inc. of Dublin, California.

### Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on plastic sheeting or stored in drums depending on site conditions and regulatory requirements. Stockpile samples are collected and analyzed on the basis of one composite sample per 50 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 then 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.