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3164 Gold Camp Drive
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September 15, 2000

Mr. Don Hwang
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-5577

Subject: **Addendum to *Work Plan for Soil and Groundwater Investigation*, dated June 14, 2000 for Chevron Service Station # 9-3415, 4500 Park Boulevard, Oakland, California**

Mr. Hwang:

At the request of Chevron Products Company (Chevron), Delta Environmental Consultants/Gettler-Ryan Inc. (GR) has prepared this work plan addendum. This addendum was prepared in response to your letter dated August 30, 2000. GR proposed the original scope of work for this investigation in our *Work Plan for Soil and Groundwater Investigation* dated June 14, 2000. In your letter you requested that the proposed Geoprobe® boring locations along Park Blvd. and next to the service station building be omitted. You also requested that GR advance one Geoprobe® soil boring adjacent to the location of soil sample P-1, near the station Kiosk, to evaluate soil conditions there. The attached amended Site Plan (Figure 2) reflects these changes. This boring will be drilled as detailed GR's original work plan. Should you have any further questions please call me at 916-631-1300.

Sincerely,
Gettler-Ryan Inc.

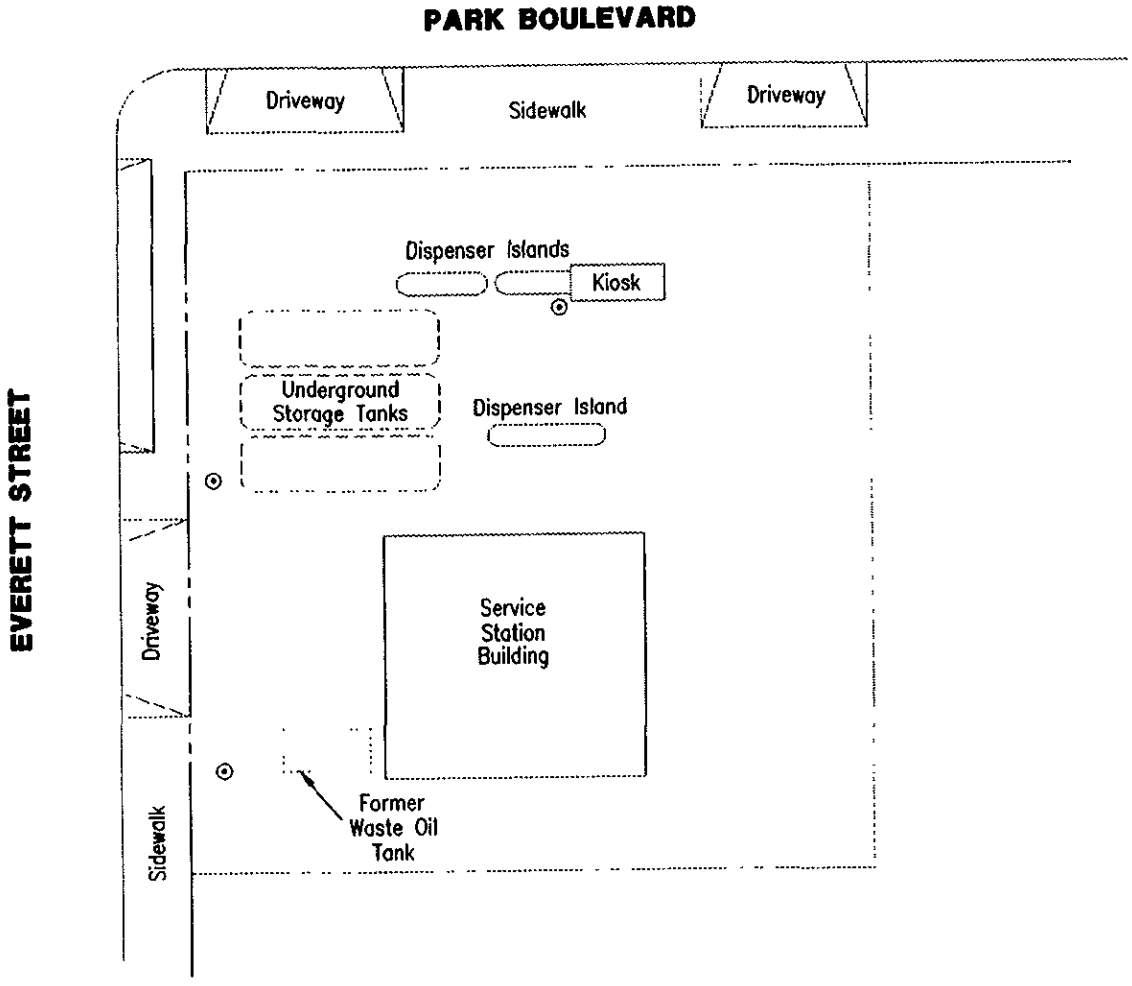
Michael E. Mitchener
Project Geologist

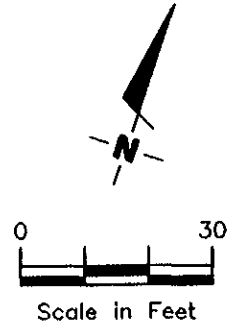
Attachment: Figure 2: Site Plan

cc: Mr. Tom Bauhs, Chevron Products Company, P.O. Box 6004, San Ramon, California 94583.
Mr. James R. Brownell, Delta Environmental Consultants, 3164 Gold Camp Drive, Suite 200, Rancho Cordova, California 95670.

EXPLANATION

⊙ Proposed soil boring





Source: Figure Modified From Drawing Provided By Groundwater Technology

FIGURE 2

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

SITE PLAN
Chevron Service Station No. 9-3415
4500 Park Boulevard
Oakland, California

JOB NUMBER 346519.01
REVIEWED BY
DATE 02/00
REVISED DATE 09/00

Delta Environmental Consultants, Inc.

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TRANSMITTAL

TO: Mr. Tom Bauhs
Chevron Product Company
P.O. Box 6004
San Ramon, California 94583

DATE: June 14, 2000
PROJ. #: 346519.01
SUBJECT: Chevron #9-3415
4500 Park Blvd.
Oakland, California

FROM:
Michael E. Mitchener
Project Geologist
Gettler-Ryan Inc.
3164 Gold Camp Drive, Suite 240
Rancho Cordova, California 95670

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	June 14, 2000	Work Plan For Soil and Groundwater Investigation

THESE ARE TRANSMITTED as checked below:

[ ] For review and comment [ ] Approved as submitted [ ] Resubmit _ copies for approval

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[ ] For approval [ ] Return for corrections [ ] Return _ corrected prints

[X] For Your Files

COMMENTS:

Please call Gettler-Ryan at 916.631.1300 if you have questions.

cc: Mr. Don Hwang, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250, Alameda CA 94502-5577.
Mr. James R. Brownell, Delta Environmental Consultants, 3164 Gold Camp Drive, Suite 200, Rancho Cordova, CA 95670.

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WORK PLAN FOR SOIL AND GROUNDWATER INVESTIGATION

at

Chevron Service Station #9-3415
4500 Park Boulevard
Oakland, California

Report No. 346519.01

Prepared for:

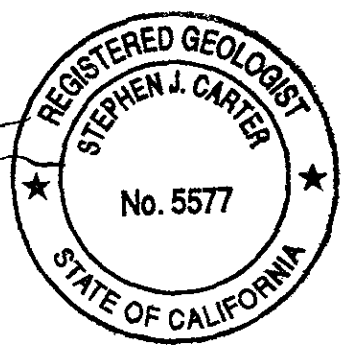
Tom Bauhs
Chevron Products Company
P.O. Box 6004
San Ramon, California 94583

Prepared by:

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

Michael E. Mitchener
Project Geologist

Stephen J. Carter
Senior Geologist
R.G. 5577



June 14, 2000

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WORK PLAN FOR SOIL AND GROUNDWATER INVESTIGATION

at

Chevron Service Station #9-3415
4500 Park Boulevard
Oakland, California

Report No. 346519.01

INTRODUCTION

At the request of Chevron Products Company (Chevron), Delta Environmental Consultants/Gettler-Ryan Inc. (GR) has prepared this Work Plan for a soil and groundwater investigation at the subject site. The purpose of this investigation is to determine whether or not groundwater flows beneath the site, and if so, determine if it has been impacted by a petroleum hydrocarbon release. Soil samples to evaluate Methyl tertiary-Butyl Ether impact will also be collected. This work was requested by the Alameda County Health Care Services Agency (ACHCS) in their letter dated October 5, 1999. The proposed scope of work includes: obtaining the required boring permits; advancing four soil borings to approximately 25 feet below ground surface (bgs); collecting soil and possibly grab groundwater samples for chemical analysis; analyzing the soil and grab groundwater samples; 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 State of California Water Resources Control Board's *Leaking Underground Fuel Tanks (LUFT) Manual,* the California Regional Water Quality Control Board's (CRWQCB) *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and ACHCS guidelines.

SITE DESCRIPTION

The site is located on the southeast corner of the intersection of Park Boulevard with Everett Street in the City of Oakland in eastern Alameda County, California (Figure 1). The site is currently an operating Chevron service station with three 10,000-gallon single-wall fiberglass underground product storage tanks (USTs), three product dispenser islands, a service building with two repair bays, and a kiosk. Pertinent site features are shown on Figure 2.

The surface elevation at the site is approximately 300 feet above mean sea level. The nearest surface water is Sausal Creek, which flows from northeast to southwest through Diamond Canyon and is located approximately 0.15 miles east of the site. Lake Merritt is located approximately 1.7 miles west of the site. The site is situated in the East Bay hills approximately one mile southwest of the Hayward fault zone. Weathered Mesozoic Franciscan sandstone occurs at the surface or is covered by a thin veneer of unconsolidated sediments in the vicinity of the site. The major groundwater producing area in the East Bay region of Alameda County is the Bay Plain west of the site. Regional groundwater flow is generally west toward San Francisco Bay (Alameda County Flood Control and Water Conservation District, June 1988).

PREVIOUS ENVIRONMENTAL ACTIVITIES

In August and September 1994, Touchstone Developments removed product piping and one 1,000-gallon single walled fiberglass waste oil UST. Analytical results from soil samples collected from the waste oil UST pit indicated Total Petroleum Hydrocarbon as gasoline (TPHg) and Total Petroleum Hydrocarbon as diesel (TPHd) impact. Additionally, analytical results from soil samples collected from the vicinity of the northern pump islands indicated TPHg and benzene impact. No groundwater was encountered during facility removal activities (Touchstone Developments, November 3, 1994).

On May 3 and 4, 1995, Groundwater Technology, Inc. (GTI) drilled four soil borings (MW-1 through MW-4) at the subject site. Soil borings MW-1, MW-2, and MW-4 were terminated at a maximum explored depth of 30 feet below ground surface (bgs) due to auger refusal when bedrock was encountered. Soil boring MW-3 was terminated at a depth of approximately 2 feet bgs when UST backfill material was encountered. Groundwater was not encountered in any of the borings during drilling activities on May 3. The soil borings (MW-1, MW-2, and MW-4) were then allowed to remain open for approximately 24 hours. Groundwater was not detected in the boreholes on May 4, 1995, and the borings were subsequently abandoned. TPHg and benzene was not detected in any of the soil samples analyzed from the soil borings. TPHd and Total Petroleum Hydrocarbon as Motor Oil were detected (maximum concentrations of 1.8 parts per million [ppm] and 20 ppm, respectively) in boring MW-2 (near the former waste oil UST). Following this investigation, GTI concluded that no further action was required.

SCOPE OF WORK

To investigate the occurrence of groundwater beneath the subject site and evaluate the presence of MtBE impact in soil, GR proposes to advance four soil borings to a maximum of 30 feet bgs. The boring will be advanced hydraulically using a Geoprobe® or similar direct-push technology. GR's Field Methods and Procedures are included in Appendix A. To implement this scope of work, GR proposes the following four tasks:

Task 1. Pre-field Activities

GR will prepare a site-specific safety plan and obtain the necessary soil boring permits from ACHCS. USA will be notified at least 48 hours prior to initiating fieldwork. A private utility locator will be contracted to clear the boring locations.

Task 2. Soil Borings

GR will advance four soil borings at the locations shown on Figure 2. The borings will be cleared to 5 feet by hand auger, then advanced to a maximum of 30 feet bgs by a California-licensed well driller using a Geoprobe Advanced 6600 subsurface sampling system or similar equipment that advances the boring equipment hydraulically without generating soil cuttings. A GR geologist will monitor the field activities, but the borings will not be logged since they are located within 5-feet of the GTI borings drilled in May 1995. Soil samples for possible chemical analysis will be collected at 5-foot intervals. Soil samples will be collected with a 1-inch diameter split spoon sampler lined with clean acrylic or brass tubing. Soil from each sampled interval will be screened in the field for the presence of petroleum hydrocarbons. A grab groundwater sample will also be collected if groundwater is encountered. Soil and grab groundwater samples will be submitted for chemical analysis as described in Task 3. Upon completion the borings

will be filled to ground surface with neat cement to approximately 5 feet bgs. The auger cuttings generated during clearing will then be placed back in the boring and compacted. The borings will be completed at the surface with a concrete patch.

Task 3. Laboratory Analyses

Soil samples and grab groundwater samples will be submitted for chemical analysis at Sequoia Analytical, a California state-certified Hazardous Material Testing Laboratory. Soil samples will be analyzed only if groundwater is not encountered in any borings. Selected soil samples, if required, will be analyzed for MtBE by EPA Method 8020. Detectable concentrations of MtBE will be confirmed by EPA Method 8260A. Grab groundwater samples will be analyzed for TPHg, benzene, ethylbenzene, toluene, and xylenes (BTEX), and MtBE by EPA Methods 8015 Modified and 8020. Detectable concentrations of MtBE will be confirmed by EPA Method 8260A. The groundwater grab sample collected from the boring near the area of the former waste oil UST will be analyzed for TPHd by DHS Luft Methodology, oil and grease by EPA Method 5520 E&F, and purgeable hydrocarbons by EPA Method 8010.

Task 4. Report Preparation

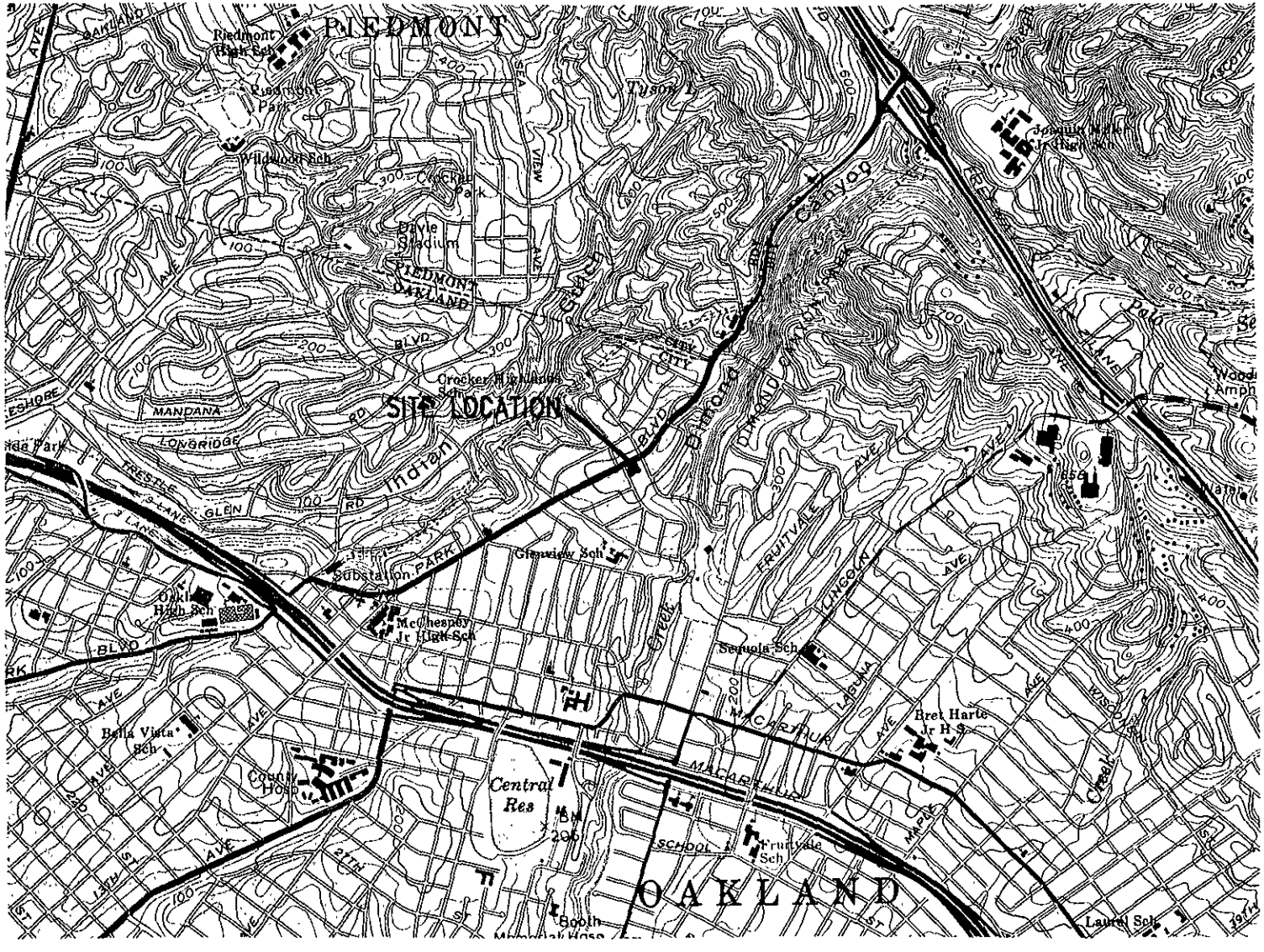
Following receipt and analysis of all data, a report will be prepared which summarizes the procedures and findings associated with this investigation. This report will be submitted to Chevron for its use and distribution.

PROJECT STAFF

Mr. Stephen J. Carter, a Registered Geologist in the State of California (R.G. No. 5577), will provide technical oversight and review of the work. Mr. Greg Gurss, Senior Project Manager, will supervise implementation of field and office operations. GR 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.



Base Map: USGS Topographic Map

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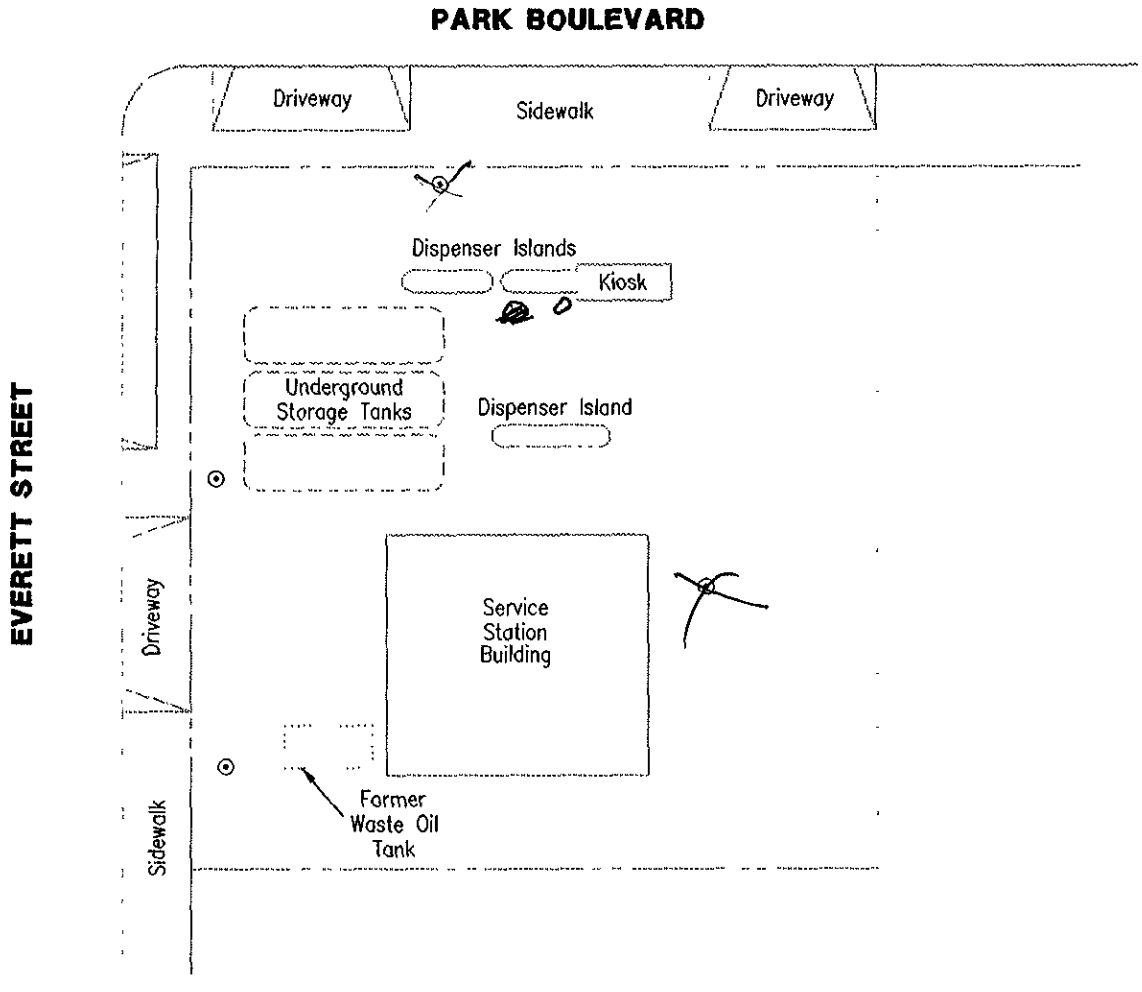
VICINITY MAP
Chevron Service Station No. 9-3415
4500 Park Boulevard
Oakland, California

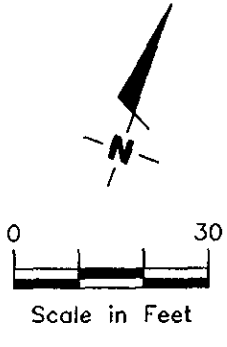
FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
346519		02/00	

EXPLANATION

⊙ Proposed soil boring





Source: Figure Modified From Drawing Provided By Groundwater Technology

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Dublin, CA 94568

SITE PLAN
Chevron Service Station No. 9-3415
4500 Park Boulevard
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
346519.01		02/00	

GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES

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 obtained with a Geoprobe® rig are collected from the soil boring with a split-barrel sampling device fitted with 1.5-inch-diameter, clean brass tubes. The Geoprobe® drives the sampling device approximately 24 inches, and the filled sampler is then retrieved from the boring. The encountered soils are described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart or GSA Rock Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting, 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 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 perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves placing a plastic cap over the end of the tube and allowing the sample to sit for several minutes. The PID probe is then inserted through a hole in the cap and the atmosphere within tested. 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.

Grab Groundwater Sampling

Grab samples of groundwater are collected from the boring using a parastaltic pump or micro-bailer. With

the parastaltic pump, new Tygon® tubing is placed in the pump prior to collection of each sample. The tubing is lowered into the boring through the GeoProbe equipment after groundwater has been allowed to collect. The parastaltic pump is used to evacuate water from the boring where it is discharged to laboratory-supplied containers appropriate for the anticipated analyses. With the micro-bailer, the cleaned bailer is lowered through the GeoProbe equipment into the groundwater. The bailer is allowed to fill, then is brought to the surface where the water is decanted into the sample container. The micro-bailer may also consist of a clean piece of tubing with a check valve at the bottom. The tubing is pumped up and down to bring the water sample to the surface and discharge the sample to the appropriate container.

Following collection of the groundwater sample, the sample bottles are then labeled and placed in chilled storage for transport to the analytical laboratory. A chain-of-custody form is initiated in the field and accompanies the groundwater samples to the analytical laboratory.

Soil Vapor Sampling

Soil vapor samples are collected by advancing the Geoprobe® to a discrete depth. Once the desired depth is attained, a 1/4-inch polyethylene tubing is threaded through the inside diameter of the drive rods and connected either to a tedlar bag or summa canister. The bottom portion of the drive rod is retracted and a vacuum is induced to purge a soil vapor sample. Used tubing is discarded after each sample.