

ENVIRONMENTAL
PROTECTION

98 DEC 15 PM 4:08



Chevron

December 11, 1998

- revised
utility survey
work plan

Chevron Products Company
6001 Bollinger Canyon Road
Building L, Room 1110
PO Box 6004
San Ramon, CA 94583-0904

Philip R. Briggs
Project Manager
Site Assessment & Remediation
Phone 925 842-9136
Fax 925 842-8370

Mr. Scott Seery
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

**Re: Former Chevron Service Station #9-0329
340 Highland Avenue
Piedmont, California**

Dear Mr. Seery:

Enclosed is an Addendum Work Plan for Groundwater Investigation, dated November 30, 1998, that was prepared by our consultant Pacific Environmental Group, Inc. for the above noted facility.

This addendum work plan is submitted in response to a meeting with the Alameda County Department of Environmental Health on October 16, 1998. The number and location of the probes were reduced to five from the former six probes, with the probes pushed into the backfill of the trenches as close to the north side of the trench as possible. The site plan was revised for clarity and understanding for the locations of the utility lines at the site.

Upon your approval of the addendum work plan, our consultant will proceed with the investigation, as outlined.

If you have any questions or comments, please call me at (925) 842-9136.

Sincerely,
CHEVRON PRODUCTS COMPANY

Philip R. Briggs
Site Assessment and Remediation Project Manager



December 11, 1998
Mr. Scott Seery
Former Chevron Service Station #9-0329
Page 2

Enclosure

Cc. Mr. Chuck Headlee
RWQCB-San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Mr. Frank Hoffman
Hoffman Investment Company
1760 Willow Road
Hillsborough, CA 94010

Mir Ghafari & Fred Manoucheri
Service Station
340 Highland Avenue
Piedmont, CA 94611

Mr. Jim Perkins, R.G., C.E.M.
Pacific Environmental Group, Inc.
2025 Gateway Place, Suite 440
San Jose, CA 95110-1006 (less report)

Ms. Bette Owen, Chevron (less report)

Ms. Anne Payne, Chevron, ChvPkv/V-1156 (less report)



PACIFIC
ENVIRONMENTAL
GROUP, INC.

AN  COMPANY

November 30, 1998
Project 320-160.1C

Mr. Phillip Briggs
Chevron Products Company
P.O. Box 5004
San Ramon, California 94583

Re: **Addendum Work Plan for Groundwater Investigation**
Former Chevron Service Station 9-0329
340 Highland Avenue at Vista Avenue
Piedmont, California

Dear Mr. Briggs:

This letter, prepared by Pacific Environmental Group, Inc. (PEG) on behalf of Chevron Products Company (Chevron), presents a work plan to determine the extent of methyl tert-butyl ether (MtBE) confirmed in groundwater at the site referenced above and to **evaluate whether utility line trenches are acting as preferential pathways for the migration of MtBE.** The scope of work will propose off-site groundwater sampling locations along utility line trenches and downgradient of the site. The work plan is presented in response to the August 10, 1998 letter from the Alameda County Department of Environmental Health (ACDEH) and the meeting with ACDEH on October 16, 1998.

This work plan includes a site background, discussion, proposed scope of work, and schedule.

SITE BACKGROUND

Site Description

The subject site is an operating service station located at 340 Highland Avenue, Piedmont, Alameda County, California. The site is on a hillside which slopes to the west. Site elevation is approximately 345 feet above mean sea level (MSL). Land use in the site vicinity is residential and commercial. The nearest surface water to the site is a small ephemeral creek located approximately 500 feet south of the site (Figure 1).

Available information indicates that the product facilities include gasoline underground storage tanks (USTs) in a common excavation, one waste oil UST, and one product island.

Hydrogeologic data were obtained from previous investigations and on-going groundwater monitoring. These data indicate that the site is underlain by unconsolidated deposits of silty gravel, silt, silty sand, and weathered sandstone bedrock. During the July 9, 1998 sampling event, groundwater was gauged at depths of approximately 0.5 to 4.25 feet below ground surface (bgs). Off-site groundwater monitoring wells south and east of the site were gauged and reported groundwater to be at 0.0 feet, or 0.2 feet below the top of casing. Historic groundwater flow direction has been generally to the southwest, however during the July 1998 event the flow was to the southeast.

Previous Investigations

In 1983, Gettler-Ryan installed four groundwater monitoring wells (C-1 through C-4) at the site. Total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g) and benzene have been found in Well C-2 (located near the used oil tank) at maximum concentrations of 56,000 and 2,500 parts per billion (ppb), respectively, and at Well C-4 at maximum concentrations of 1,300 and 5.9 ppb, respectively. At groundwater Monitoring Well C-3, TPPH-g has not been detected and benzene has sporadically been detected at a maximum concentration of 4 ppb.

In 1993, Resna Industries installed four shallow off-site borings (B-1 through B-4), installed temporary monitoring wells in the borings, and performed a 1-mile radius off-site source search. Petroleum hydrocarbons were not detected in soil samples collected from the off-site borings. Groundwater was not encountered in Borings B-1 and B-3. Petroleum hydrocarbons were not detected in groundwater collected from Borings B-2 and B-4. Piedmont City Hall was identified as an off-site source of diesel. In May 1995, Canonie drilled off-site Boring B-6 and installed Well MW-6. No petroleum hydrocarbons were detected in soil samples collected from Boring B-6. The day after Well MW-6 was installed artesian conditions were encountered. The well was not suitable for groundwater sampling and was subsequently destroyed.

In November 1996, PEG drilled two soil borings and completed them as Monitoring Wells C-5 and C-6.

In May 1998, PEG performed a water well and surface water survey of the site vicinity. The City of Piedmont Well #4 located 0.11 miles south and the intermittent creek in Piedmont Park, located approximately 360 feet southeast of the site are the nearest sensitive receptors.

SCOPE OF WORK

The proposed scope of work is designed to determine the extent of MtBE in ground-water and to evaluate whether the utility line trenches are acting as preferential pathways for the migration of MtBE.

- **Utilities Survey.** PEG performed a survey to locate the underground utility lines around the site (Figure 1). The survey showed that the utility lines were at depths ranging from 2 to 5 feet bgs.
- **Groundwater Investigation.** PEG proposes that groundwater samples be collected from approximately five locations (Figure 1). Sampling will be performed by advancing a hand driven probe with a retractable screen section to shallow groundwater. The probe will be pushed into the backfill of the trenches or as close to the north side of the trench as possible. A peristaltic pump with nylon tubing or disposal Teflon® bailer will be used to extract the water sample. Probes U-1, U-2, and U-3 will be installed first. If field subjective evidence indicates these areas are impacted, the probes U-4 and U-5 will be installed. Field and laboratory procedures are presented as Attachment A.
- **Report.** A report will be prepared, which presents the findings of the above scope of work, and will make recommendations if any further investigation is required.

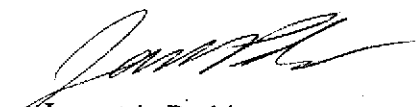
SCHEDULE

Upon approval of the work plan by Chevron and ACDEH, PEG will immediately pursue encroachment permit application with the City of Piedmont. Upon receipt of the encroachment permit, PEG will commence with the investigation.

If you have any questions regarding the contents of this letter, please call.

Sincerely,

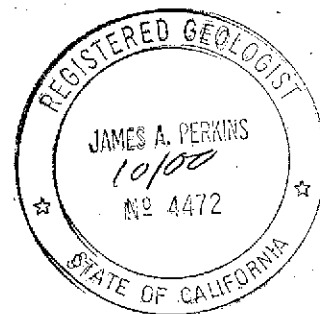
Pacific Environmental Group, Inc.



James A. Perkins

Project Geologist
RG 4472

Attachments: Figure 1 - Site Map
Attachment A - Field and Laboratory Procedures



ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

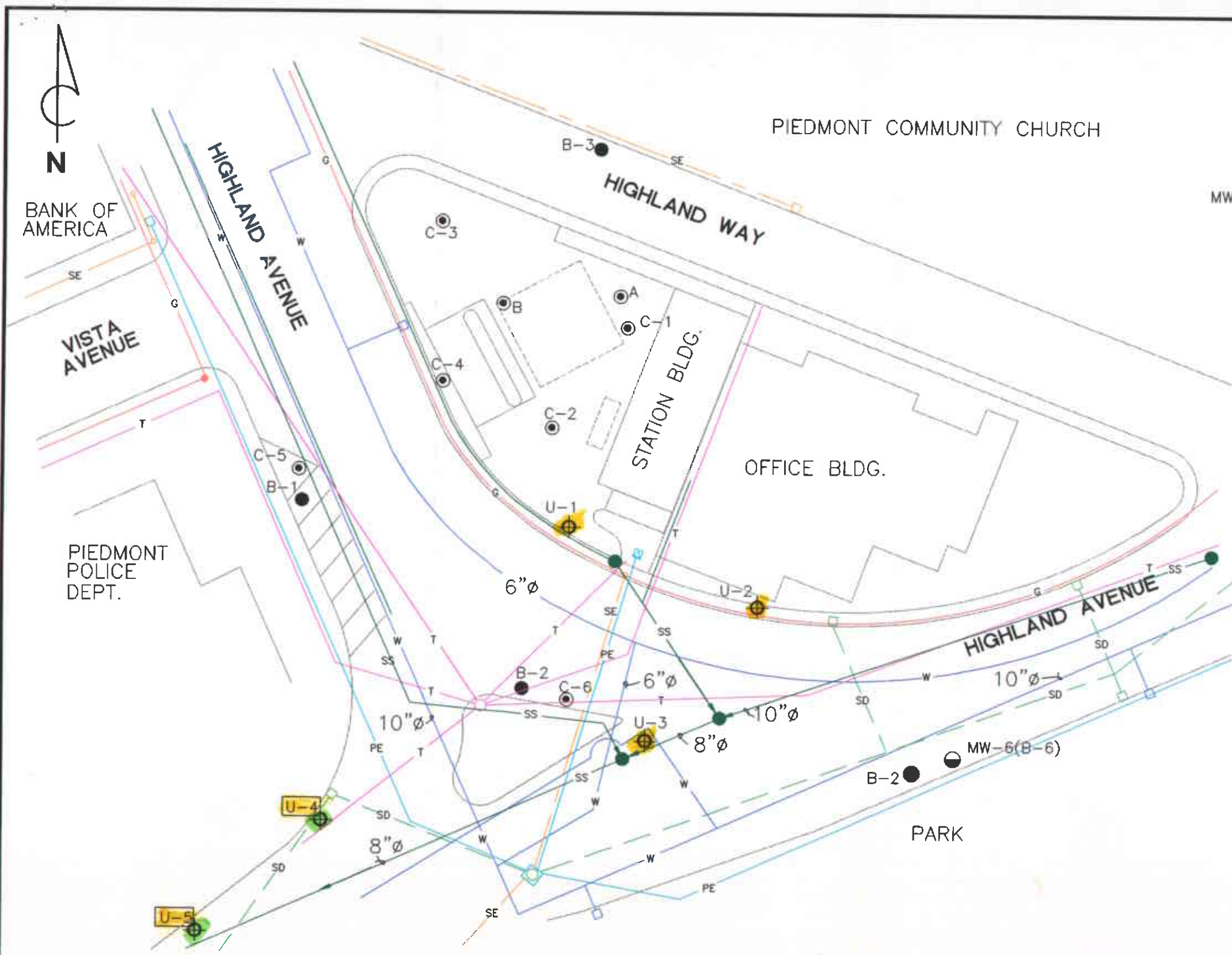
Groundwater Sampling

The AMS Retract-A-Tip Gas Vapor Probe System along with a peristaltic pump will be utilized to collect shallow groundwater samples. The 1-inch diameter probe will be driven to just below first encountered water, and pulled up a few inches to open the Retract-A-Tip. "Grab" groundwater samples will then be collected via a peristaltic pump and plastic tubing, or by retrieving the bailer.

These samples will be placed in a cooler with ice for transport to the laboratory under chain-of-custody protocol. The temperature of the cooler will be recorded upon delivery to the laboratory.


Laboratory Procedures

The analytical methods for determining the presence of total purgeable petroleum hydrocarbons calculated as gasoline, benzene, toluene, ethylbenzene, xylenes, and methyl tert-butyl ether will be taken from EPA Methods 5030 and 8015/8020. Confirmation of MtBE will be performed by EPA Method 8260. The above analytical methods utilize the purge-and-trap technique, with final detection by gas chromatography using a flame-ionization detector and a PID. All analyses will be performed by a California State-certified laboratory.



LEGEND:

- C-1,A ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (GETTLER-RYAN, 1983, AND PACIFIC, 1996)
- MW-6(B-6) ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (RESNA, 1993)
- B-1 ● SOIL BORING LOCATION AND DESIGNATION LOCATION (RESNA, 1983)
- ▣ PADMOUNT TRANSFORMER
- G- GAS LINE (24"-36" DEPTH)
- PE- PRIMARY ELECTIRC LINE (36"-42" DEPTH)
- SE- SECONDARY ELECTRIC LINE (24"-36" DEPTH)
- SD- STORMDRAIN SEWER (36"-60")
- SS- SANITARY SEWER (24"-40")
- MANHOLE COVER
- STORMDRAIN
- T- TELEPHONE LINES (DEPTHS UNKNOWN)
- W- WATER LINES (W/ DEPTH AND DIAMETER)
- U-1 ● PROPOSED HAND AUGER BORING LOCATION- PHASE 1
- U-4 ● PROPOSED HAND AUGER BORING LOCATION- PHASE 2

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|---|---|-------------------------------|----------------------------|---------------------|
|  PACIFIC ENVIRONMENTAL GROUP, INC. | TITLE: <h2 style="text-align: center;">SITE MAP</h2> | | | |
| | PREPARED FOR: FORMER CHEVRON SERVICE STATION 9-0329 340 Highland Avenue at Vista Avenue Piedmont, California | | | |
| | DATE: 9-4-98 | PROJECT: 320-160.1C | SCALE: 1"=40'-0" | FIGURE: 1 |