Chevron U.S.A. Products Company
2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address P.O. Box 5004, San Ramon, CA 94583-0804

Operations

February 22, 1993

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Gulf Service Station #0006
460 Grand Avenue, Oakland, CA

Dear Ms. Eberle:

Enclosed is the proposal prepared by our consultant Pacific Environmental Group dated February 17, 1993, to install one ground water monitor well at the above referenced site. The additional well will be installed across Grand Avenue to define the downgradient extent of the dissolved hydrocarbon plume.

Chevron will proceed with this work plan following your review and formal concurrence.

If you have any questions or comments, please do not hesitate to call me at (510) 842-8134.

Very truly yours,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB - Bay Area
Mr. Jon Robbins - CHVPKV/V1156

Mr. John C. Gibson
Adams, Gibson & MacPhee
100 Pine Street, 21st Floor
San Francisco, CA 94111

File (GULF6 WP1)

PACIFIC
ENVIRONMENTAL
GROUP, INC.

FEB 22 '93 J.M.M.

February 17, 1993
Project 325-31.01

Mr. Mark Miller
Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon, California 94583-0804

Re: Former Gulf Service Station 0006
460 Grand Avenue
Oakland, California

Dear Mr. Miller:

This letter presents a brief proposal by Pacific Environmental Group, Inc. (PACIFIC) to install one groundwater monitoring well at the site referenced above (Figure 1). This work is proposed to define the downgradient extent of hydrocarbons in groundwater. The proposed groundwater monitoring well will be located across Grand Avenue approximately 100 feet to the south-southwest adjacent to Lake Merritt. The downgradient well location was determined by using the results of data collected and a groundwater contour map presented in a PACIFIC report dated January 15, 1993 (Figure 2).

This work is being performed at the request the Alameda County Health Care Services. Field and analyitical procedures are presented in Attachment A.

Please do not hesitate to call with questions.

Sincerely,

Pacific Environmental Group, Inc.

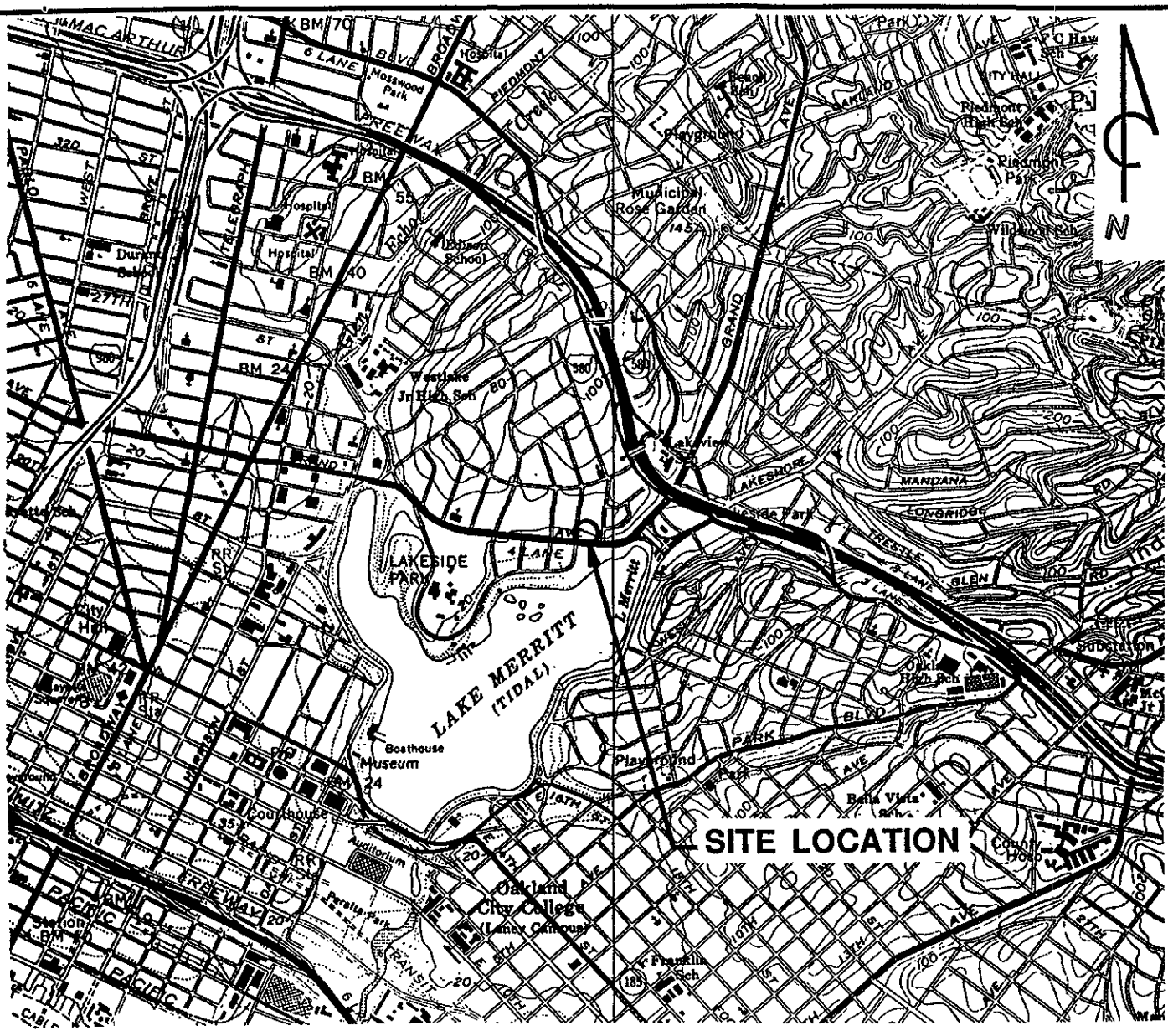
Steven E. Krcik
Senior Geologist
RG 4976

REGISTERED GEOLOGIST
EXP. 6/94
STEVEN E. KRCIK
No. 4976
STATE OF CALIFORNIA

Attachments: Figure 1 - Site Location Map
Figure 2 - Site Map

Attachment A - Field and Analytical Procedures

2025 Gateway Place, Suite 440, San Jose, California 95110 (408) 441-7500 FAX (408) 441-7539
620 Contra Costa Blvd., Suite 209, Pleasant Hill, California 94523 (510) 825-0855 FAX (510) 825-0882



QUADRANGLE LOCATION

REFERENCES:
USGS 7.5 MIN. TOPOGRAPHIC MAP
TITLED: OAKLAND WEST, CALIFORNIA
DATED: 1959 REVISED: 1980
TITLED: OAKLAND EAST, CALIFORNIA
DATED: 1959 REVISED: 1980

SCALE IN FEET
2000 0 2000

PACIFIC ENVIRONMENTAL GROUP, INC.

FORMER GULF SERVICE STATION 0006
460 Grand Avenue at Bellevue Avenue
Oakland, California

SITE LOCATION MAP

FIGURE: **1**
PROJECT: 325-31.01

N

BELLEVUE AVENUE

GRAND AVENUE

SIDEWALK

SIDEWALK

PLANTER

PLANTER

FORMER UNDERGROUND STORAGE TANK COMPLEX

FORMER PRODUCT LINES

C-3 (17.34)

CANOPY

PLANTER

EB-1

C-2 (13.00)

13.00

14.00

15.00

16.00

17.00

C-1 (16.80)

FORMER STATION BUILDING

FORMER PRODUCT ISLAND

FORMER WASTE OIL TANK

LEGEND

C-1 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

EB-1 EXPLORATORY SOIL BORING LOCATION AND DESIGNATION

PROPOSED GROUNDWATER MONITORING WELL LOCATION

(16.80) GROUNDWATER ELEVATION IN FEET - MSL, 12-16-92

14.00 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 12-16-92

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

MAP TAKEN FROM THEADWELL & ASSOCIATES, INC

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE

0 20 40 FEET

FORMER GULF SERVICE STATION 0006
460 Grand Avenue at Bellevue Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE: 2

PROJECT: 325-31.01

ATTACHMENT A

FIELD AND ANALYTICAL PROCEDURES

ATTACHMENT A
FIELD AND ANALYTICAL PROCEDURES

Exploratory Soil Boring and Monitoring Well Installation

The soil boring will be drilled using hollow-stem auger drilling equipment, and logged by a PACIFIC geologist using the Unified Soil Classification System and standard geologic techniques. Soil samples for logging and chemical analysis from Well C-4 will be collected at a maximum depth interval of 5 feet by advancing a California modified split-spoon sampler with brass sample liners into relatively undisturbed soil beyond the tip of the auger. The sampler was driven a maximum of 18 inches using a 140-pound hammer with a 30-inch drop. Soil samples for chemical analysis will be retained in the brass liners, capped with Teflon squares and plastic end caps, and sealed in zip-lock bags. The samples will be placed on ice and transported to the laboratory accompanied by the appropriate chain-of-custody documentation. The drilling equipment will be steam-cleaned after each boring.

The soil boring will be converted to a groundwater monitoring well by the installation of 2-inch diameter flush-threaded Schedule 40 PVC casing with 0.020-inch factory-slotted screen. Graded 2/12 sand pack will be placed in the annular space across the screened interval, and the wells will be surge-blocked to remove void spaces in the sand pack. A bentonite and concrete seal will be placed from the top of the sand pack to the ground surface. A locking cap and protective vault box will be installed on the top of ~~each~~ the well. Well elevation will be surveyed by a licensed surveyor to an accuracy of 0.01 foot, relative to the USGS mean sea level datum.

Organic Vapor Analysis

Soil samples collected during drilling will be analyzed in the field for ionizable organic compounds using the HNU Model PI-101 photo-ionization detector with a 10.2 eV lamp. The test procedure involves measuring approximately 30 grams from an undisturbed soil sample, placing this subsample in a clean glass jar, and sealing the jar with aluminum foil secured under a ring-type threaded lid. The jar is warmed for approximately 20 minutes, then the foil is pierced and the headspace within the jar is tested for

total organic vapor, measured in parts per million as benzene (ppm). The instrument was previously calibrated using a 100-ppm isobutylene standard (in air) and a sensitivity factor of 0.7, which relates the photo-ionization sensitivity of benzene (10.0 ppm) to the ionization potential of isobutylene (7.0 ppm). Results of these tests are used to assist in selection of samples for laboratory analysis.

Groundwater Sampling

The groundwater sampling will be performed using techniques approved by the Regional Water Quality Control Board (RWQCB). The sampling procedure consists of first measuring the water level in each well and checking each well for the presence of floating petroleum product using an optic probe or a clear Teflon bailer. If no free product is detected, the wells are purged of a minimum of four casing volumes of water (or until dryness). During purging, temperature, pH, and electrical conductivity are monitored until stable in order to ensure that a representative sample was obtained. After the water levels partially recover, groundwater samples are collected using a Teflon bailer and placed into appropriate EPA-approved containers. The samples are labeled, logged onto chain-of-custody documents, and transported on ice to the laboratory using appropriate chain-of-custody documentation.

Laboratory Analysis

Selected soil and groundwater samples will be analyzed in the laboratory for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). Groundwater samples will also be analyzed for total semi- and non-volatile hydrocarbons calculated as diesel (TPH-d), and motor oil (TPH-mo), halogenated volatile organics, and ICAP Metals. The method of analysis for TPH-g is by modified EPA Methods 8015, 8020, and 5030. Final analysis is performed by the purge-and-trap technique with final detection by gas chromatography using a flame-ionization detector and a photo-ionization detector. The method of analysis for TPH-d and TPH-mo is by modified EPA Method 8015. This method involves extracting the samples with solvent and examining the extract by gas chromatography using a flame ionization detector. The method of analysis for halogenated volatile organics is by EPA Method 8010 and the method of analysis for ICAP Metals is by EPA Method 2007. All analyses will be performed by a state-certified laboratory.