Chevron U.S.A. Inc.
2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500
Mail Address: PO Box 5004, San Ramon, CA 94583-0804

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Dennis

Marketing Operations

D. Moller
Manager, Operations
S. L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

January 7, 1991

Mr. Rafat Shahid
Alameda County Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Chevron Service Station #9-4587
609 Oak Street
Oakland, CA 94607

Dear Mr. Shahid:

Enclosed we are forwarding the Interim Remediation Report dated January 4, 1991, prepared by our consultant GeoStrategies, Inc. for the above referenced site.

The Interim Remediation Report describes the current interim remediation being conducted at the above referenced site. Presently, all monitoring wells are being examined for the presence of separate phase hydrocarbons on a weekly basis. Monitoring wells which exhibit separate-phase hydrocarbons are bailed during this inspection. Based on the relatively flat gradient and the low permeable geology that exists beneath the site it is GeoStrategies, Inc. opinion that plume migration is surmised to be slow.

Based on this information, it is GeoStrategies, Inc. recommendation to continue weekly monitoring and quarterly chemical analysis of the wells to collect data and build a site database. When sufficient data has been collected it will be evaluated and the appropriate remedial action will be implemented.

If you have any questions or comments please do not hesitate to call Nancy Vukelich at (415) 842-9581.

Very truly yours,
C.G. Trimbach

By _____
Nancy Vukelich

NLV/jmr
Enclosure

cc: Mr. Lester Feldman
RWQCB - Bay Area
1800 Harrison Street
Suite 700
Oakland, CA 94612

Mr. Ken Betts
770 Wesley Way
Oakland, CA 94610

Mr. W.T. Scudder
Chevron Property Management Specialist

GeoStrategies Inc.

INTERIM REMEDIATION

Chevron Service Station No. 4587
609 Oak Street
Oakland, California

719102-5

January 4, 1991

GeoStrategies Inc.
2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545

(415) 352-4800

January 4, 1991

Gettler-Ryan Inc.
2150 West Winton Avenue
Hayward, California

Re: INTERIM REMEDIATION
Chevron Service Station No. 4587
609 Oak Street
Oakland, California

Gentlemen:

This letter describes the interim remediation being conducted at the above referenced location (Plates 1 and 2). Currently, separate-phase hydrocarbons are being bailed from the wells on a weekly schedule.

SITE BACKGROUND

Three ground-water monitoring wells (C-1, C-2 and C-3) were installed by Gettler-Ryan Inc. (G-R) in July 1983. G-R prepared a letter dated July 19, 1983, documenting the monitoring well installations. Three tank backfill monitoring wells (A, B and C) are also on the site.

In July 1986, monitoring of the ground-water and tank backfill wells was implemented at the site.

In December 1989, G-R conducted ground-water sampling at the site. Results were presented in a G-R Groundwater Sampling Report dated December 21, 1989.

In September 1990, GeoStrategies Inc. (GSI) installed three off-site ground-water monitoring wells at the site designated C-4, C-5 and C-6. In addition, a soil boring was drilled on-site. GSI issued a Well Installation report dated November 30, 1990 presenting the results of this investigation.

SUMMARY OF SUBSURFACE CONDITIONS

A clay unit was encountered in Boring CR-1 from ground surface to approximately 7.5 feet below ground surface. This unit was also observed on-site in previously drilled borings. The lithology beneath the clay unit appears to consist of interbedded sand and clayey sand. Groundwater was first encountered at depths of approximately 13 to 15 feet below ground surface and was observed to stabilize between 9.5 and 11.5 feet. The observed rise in water levels is attributed to slow groundwater entry into the monitoring well. These water-bearing strata are considered to be semi-confined.

Ground-water elevation data collected prior to ground-water sampling indicate an approximate hydraulic gradient of 0.006. Groundwater flows toward the southeast beneath the site.

Monitoring data collected prior to ground-water sampling in October 1990, indicate that Wells C-1, B and tank backfill Well C contained 0.02, 0.01 and 0.03 feet in measured thickness of separate-phase hydrocarbons, respectively. TPH-Gasoline and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) have been observed in Wells C-2, C-3, CR-1 and tank backfill well A. Monitoring wells C-4, C-5 and C-6 have been reported as none detected (ND) for TPH-Gasoline. Benzene was reported as ND for wells C-4 and C-6 and at 0.8 ppb from Well C-5. A quarterly groundwater sampling program has been implemented at the site. The location of the monitoring wells is presented on Plate 2.

Currently, the monitoring network is inspected for separate-phase hydrocarbons and depth to groundwater on a weekly schedule using an electronic oil-water interface probe. A clean, clear acrylic bailer is used to confirm interface probe results and check for the presence of a product sheen. Separate-phase product is bailed from the monitoring wells by Gettler-Ryan Inc. (G-R) during the weekly inspections.

As a result of the calculated, relatively flat gradient and the low permeable aquifer material, it is our opinion that the hydrocarbon plume is currently positioned in the vicinity of the subsurface tanks, and off-site immediately downgradient. Separate-phase hydrocarbons are present onsite in the vicinity of the subsurface tank excavation.

CONCLUSIONS

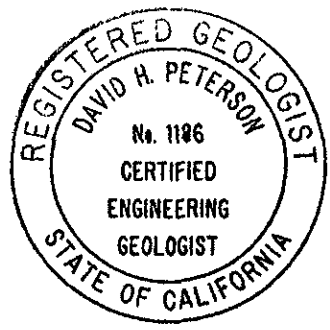
The contaminant plume is located onsite and offsite immediately downgradient of the property. In our opinion, plume migration is suspected to be slow given the ground-water flow gradient and the high percent of fine-grained aquifer materials. Current weekly well monitoring and quarterly chemical analysis of the monitoring well network is considered to be adequate at this time. As site monitoring and evaluation of chemical data continues, the frequency for well bailing and of monitoring will be re-evaluated. Field and chemical data will be used to develop, select, and implement the appropriate type of remediation for the site.

If you have any questions, please call

GeoStrategies Inc. by,

Randall S. Young
Project Geologist

David H. Peterson
Senior Geologist
C.E.G. 1186

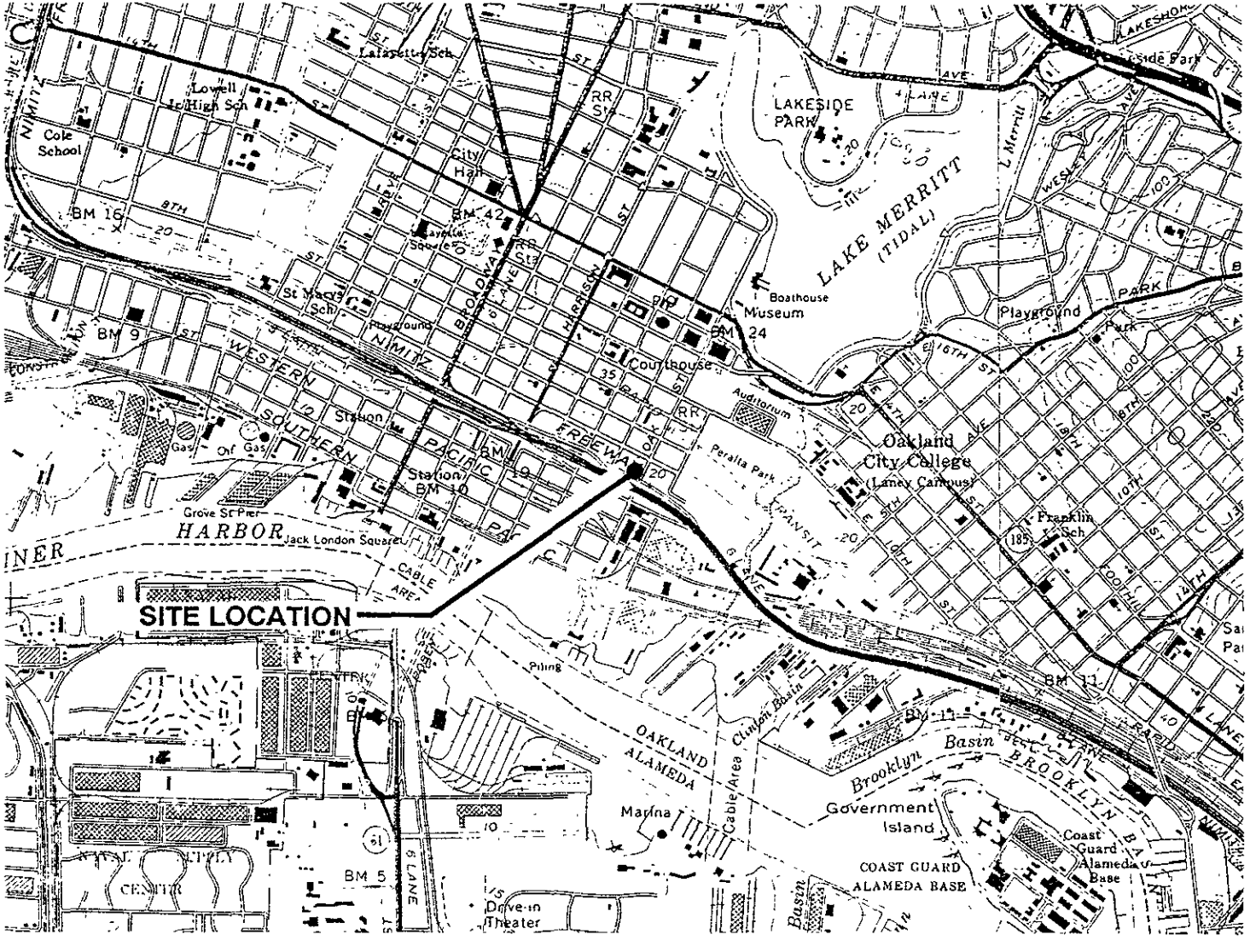


RSY/DHP/mlg

Attachments

Plate 1. Vicinity Map
Plate 2. Site Plan

QC Review: JLP/dhp



Base Map: USGS Topographic Map

GeoStrategies Inc.

VICINITY MAP
Chevron Service Station #4587
609 Oak Street
Oakland, California

PLATE 1

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE
7191		10/90	

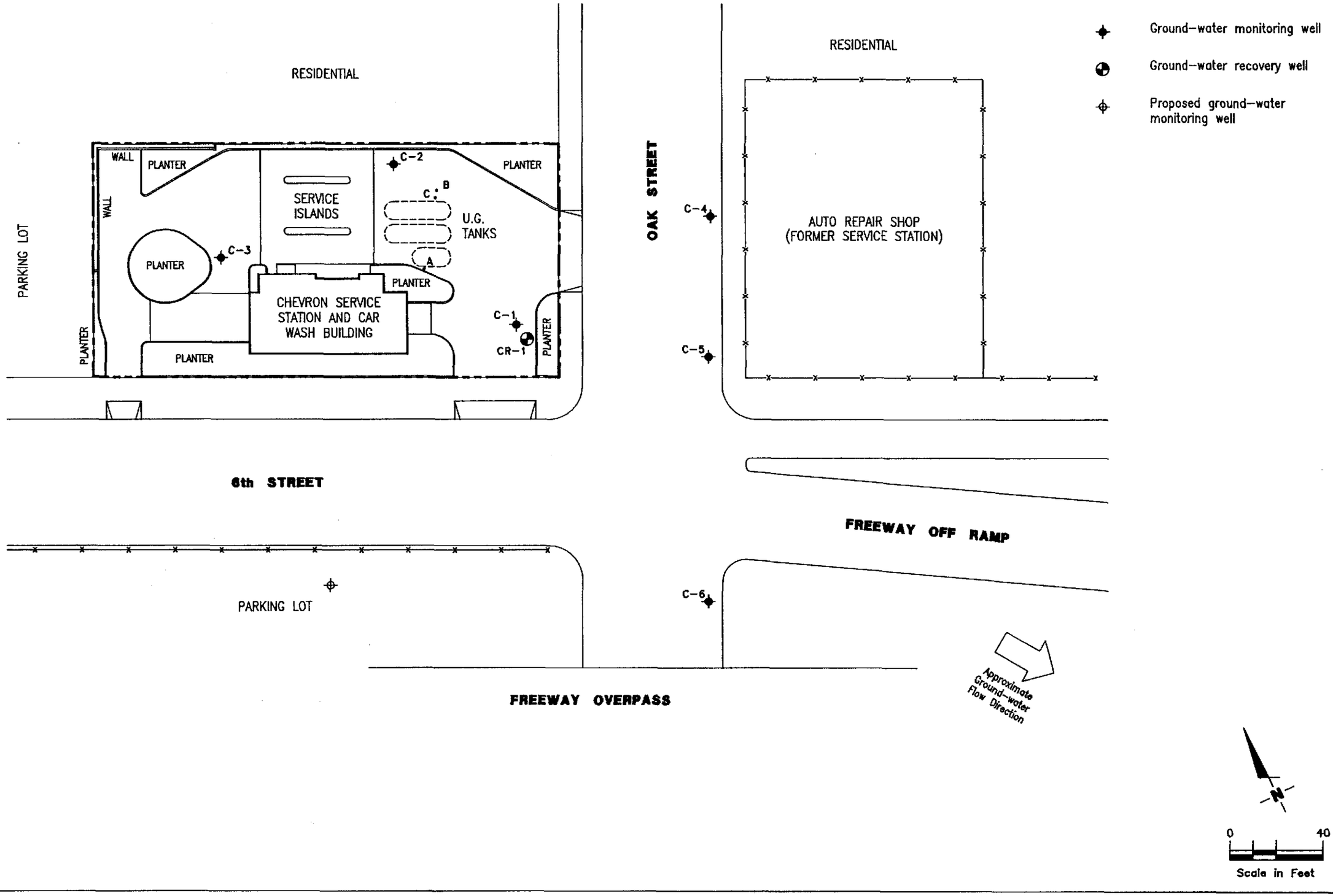


PLATE 2

SITE PLAN
Chevron Service Station #4587
609 Oak Street
Oakland, California

DATE 11/90

REVISED DATE

REVIEWED BY RG/CEG
DHP

GeoStrategies Inc.

GSI

JOB NUMBER 7191