Chevron

Chevron

93 OCT 28 AM 11:10

October 27, 1993

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

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 work plan to perform remedial and assessment activities dated October 27, 1993, prepared by our consultant Pacific Environmental Group for the above referenced site. This work plan summarizes the scope of work agreed upon in our meeting of July 27, 1993, with Mr. Rich Hiett of the RWQCB, Mr. Gil Jensen of the Alameda County District Attorney's Office, Mr. Thomas Peacock of Alameda County Health Care Services, Mr. John Gibson, and Mr. Robert Falaschi. The work plan also addresses comments by the RWQCB in their letter dated September 27, 1993.

Chevron will proceed with the work plan following your review and formal concurrence. Currently, Chevron is moving forward with procuring services for the demolition of the existing building and facilities at the site.

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

Sincerely,
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
Ms. B.C. Owen
File (GULF6 LTR1)

Mr. John C. Gibson
Adams, Gibson & MacPhee
22 Battery Street, 10th Floor
San Francisco, CA 94111

PACIFIC
ENVIRONMENTAL
GROUP, INC.

93 OCT 28 AM 11:10

October 27, 1993
Project 325-31.02

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

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

Dear Mr. Miller:

This letter presents a work plan to perform remedial and assessment activities, by Pacific Environmental Group, Inc. (PACIFIC), at the site referenced above. This work is being conducted in accordance to plans discussed in a meeting on July 27, 1993. The following parties were in attendance: Mr. Mark Miller of Chevron U.S.A. Products Company (Chevron), Mr. Rich Hiett of the Regional Water Quality Control Board (RWQCB), Mr. Gil Jensen of the Alameda District Attorney's Office, Mr. Thomas Peacock of the Alameda County Health Care Services (ACHCS), and Mr. John Gibson and Mr. Robert Falaschi (property owner representatives). In addition, this letter responds to comments by the RWQCB San Francisco Bay Region in their letter, dated September 27, 1993. In this letter, the RWQCB requested a technical report discussing the lateral and vertical extent of contamination of the former underground storage tanks (USTs), product piping, dispenser island, hydraulic hoists, and oil/water separator.

+ JE

This report includes a discussion of site background, previous investigations, regional hydrogeologic setting, a response to RWQCB comments, proposed scope of work, and a schedule. Field and laboratory procedures are presented as Attachment A.

SITE BACKGROUND

The site is a former Gulf Oil Service Station and is located at the northeast corner of the intersection of Grand Avenue and Bellevue Avenue in Oakland, California (Figure 1). The site lies within a residential and light commercial area. A small

business and apartment building are located across Bellevue Avenue to the northwest, an apartment building lies adjacent to the site to the east, and Lake Merritt lies approximately 250 feet south and downgradient of the site. Grand Avenue is a major street comprised of four to six lanes.

The station was initially built in the late 1940s. In 1961, the site was purchased and remodeled by Gulf Oil Corporation (Gulf) who subsequently replaced the existing fuel storage tanks with three new underground fuel storage tanks. The property was then purchased from Gulf by Falaschi Brothers in August 1978, the fuel storage tanks were emptied of product, and the fuel dispensers were removed. Since 1978, the Falaschi Brothers have operated the property as a parking facility. Fuel products and oils have not been stored or sold at the facility since their ownership.

In November and December 1990, in response to a letter from ACHCS, the Falaschi Brothers had the three fuel storage tanks and one waste oil tank removed as documented in *Removal of Inactive Underground Storage Tanks* report by Treadwell and Rollo, Inc., dated January 29, 1991. The three former underground fuel storage tanks were of 10,000-gallon volume each, and the waste oil storage tank located behind the station building was 280-gallons in volume.

In March 1993, the former tank complex was backfilled and the former waste oil area was overexcavated.

PREVIOUS INVESTIGATIONS

Soil and groundwater investigations at the site have been conducted by Treadwell and Associates (Treadwell, 1990), PACIFIC (PACIFIC, 1992), and Touchstone Developments (Touchstone, 1993). A brief discussion of the findings of these investigations are summarized below.

Treadwell and Associates, 1990

- Four single walled steel USTs, including three 10,000-gallon fuel storage tanks, one 280-gallon waste oil storage tank, and associated piping were removed from the property between November and December 1990.
- The gasoline tank excavation measured approximately 30 feet long, 30 feet wide, and extended approximately 13 feet below ground surface (bgs). Approximately 250 to 300 cubic yards were removed from the tank complex. At the time of excavation, groundwater was encountered at approximately 11 feet bgs. The ACHCS

records show that at least two small holes were found on the centrally located tank.

- Soil samples were collected from the sidewalls of the fuel tank complex excavation, at approximately 1-foot above the existing water level of 11 feet bgs, and at the end of each tank. The six samples were analyzed for total volatile petroleum hydrocarbons (TVPH), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds), and total lead. Only benzene was detected at 0.019 parts per million (ppm) in only one sample collected from the southeast sidewall of the former tank complex.

- A "grab" groundwater sample was collected from standing water in the fuel tank complex and analyzed for TVPH, total extractable petroleum hydrocarbons (TEPH), and BTEX compounds. Total petroleum hydrocarbons calculated as gasoline (TPH-g) and benzene were detected in the "grab" groundwater sample at 2,300 and 53 parts per billion (ppb), respectively.

- The waste oil tank excavation area measured approximately 12 feet wide by 5 feet long and extended to a depth of approximately 6 feet bgs. Approximately 15 cubic yards were removed from the waste oil tank excavation. The ACHCS records show that numerous small corrosion holes were found on the waste oil tank.

- During the initial excavation work performed in December 1990, one sample was collected at the base of the waste oil tank excavation and analyzed for TVPH, TEPH, BTEX compounds, oil and grease, halogenated volatile organic compounds (HVOCs), and metals. TVPH and benzene were detected at 400 and 1.2 ppm, respectively. Diesel was detected at 7,100 ppm. Oil and grease was detected at 24,000 ppm. Tetrachloroethene (PCE) and 1,1,1-trichloroethane (1,1,1-TCA) were detected at 1.0 and 0.25 ppm, respectively.

- The product islands and product lines were removed from the site. Field observations during product line removal appear to indicate leakage occurred at the pipeline joints located between the pump islands (Treadwell, 1991).

- Four soil samples were collected from the product line trench and analyzed for TVPH and BTEX compounds. TPH-g was detected at 1,700 ppm in sample P-1 collected below the product lines and

between the two product islands. TPH-g was detected at 90 ppm in sample P-2 collected below the product lines at the western end of the product islands. Benzene was detected at 0.0066 ppm in sample P-3 also collected below the product piping (Treadwell and Rollo, 1990).

Pacific Environmental Group, Inc., 1992

- o A soil and groundwater investigation at the site was conducted by PACIFIC in December 1992. Soil Borings C-1, C-2, C-3, and EB-1 were drilled to depths of approximately 20, 16-1/2, 15, and 7 feet bgs, respectively. Soils were sampled from Boring EB-1 at the depth of 6-1/2 to 7 feet bgs. Soil samples were collected at the 5- to 6-1/2-, and 8-1/2- to 10-foot depth intervals from the borings of Wells C-1 through C-3. The soil samples were analyzed for TPH-g and BTEX compounds.
- o Borings encountered a primarily silty/clay profile to their depths of 7 to 20 feet. Sand was found as: (1) a surficial lense of apparently limited extent in the area of Well C-3, and (2) across the area explored as a thin layer below a depth of approximately 10 feet.
- o Three groundwater monitoring wells designated C-1, C-2, and C-3 were installed in three of the borings. These wells were screened from a depth of 5 to 15 feet bgs. Groundwater samples were collected from the three site wells and analyzed for TPH-g, total semi- and non-volatile hydrocarbons calculated as diesel, and TPH calculated as motor oil (TPH-mo), BTEX compounds, HVOCs (EPA Method 8010), and cadmium, chromium, lead, nickel, and zinc (ICAP metals).
- o Groundwater in site wells is at approximately 5-1/2 feet for Wells C-1 and C-3, and at 7-1/2 feet bgs for Well C-2. Groundwater flow direction on December 16, 1992, was south-southwest with a gradient ranging from 0.08 to 0.10.
- o Detectable concentrations of petroleum hydrocarbons were detected only in the shallowest soil samples collected from Borings EB-1, C-1, C-2, and C-3. TPH-g and benzene were detected at 3.3 and 0.094 ppm, respectively, in soil sample EB-1, collected from between the two former product and approximately 6-1/2- to 7-foot bgs. TPH-g ranged in concentrations from 0.6 to 8.6 ppm in soil samples collected from C-1 and C-3 at the 5- to

6-1/2-foot depth intervals. Benzene concentrations were detected at non-detectable and 8.6 ppm in samples collected from Wells C-1 and C-3 at the 5- to 6-1/2-foot depth intervals. TPH-g and benzene were detected at concentrations of 2,300 and 13 ppm, respectively, in a soil sample collected from C-2 at the 5- to 6-1/2-foot depth interval. No detectable concentrations of TPH-g and benzene were encountered at the 8-1/2- to 10-foot depth interval in samples collected from Borings C-1, C-2, and C-3.

- Groundwater samples collected from Wells C-1 and C-3 did not contain detectable concentrations of TPH-g, TPH calculated as diesel (TPH-d), TPH-mo, or BTEX compounds. The groundwater sample from Well C-2 contained TPH-g at a concentration of 640 ppb and benzene at 63 ppb. The groundwater sample from Well C-2 contained the only detection of HVOCs at 3.5 ppb 1,2-dichloroethane. Groundwater samples from Wells C-2 and C-3 contained chromium ranging from 0.05 to 0.19 ppm, nickel ranging from 0.08 to 0.36, and zinc ranging from 0.08 to 0.38. Groundwater collected from Well C-3 contained lead at a concentration of 0.07 ppm.

Touchstone Developments, 1993

- The area around the former waste oil tank excavation was reexcavated by Touchstone. The reexcavation measured approximately 15 feet long, 9 feet wide, and extended approximately 8 feet bgs. Approximately 40 cubic yards of soil were overexcavated. The extent of the overexcavation was limited in the northern direction by a retaining wall, and in the western direction by the station building.

- During the waste oil tank area overexcavation work four discreet sidewall soil samples (WN, WE, WS, and WW) were collected.

- Samples WW and WE were analyzed for TPH-g, BTEX compounds, TPH-d, HVOCs, and metals. The full scan of analysis was run due to the existing retaining wall and building limiting excavation activities in these directions. TPH-g and benzene concentrations were detected in soil sample WE at 730 and 2.1 ppm, respectively. Total oil and grease (TOG) and a hydrocarbon heavier than TPH-d were detected in soil sample WE at 21,000 and 3,200 ppm, respectively. Concentrations of 1,1,1-TCA, PCE,

and 1,2-dichlorobenzene were detected in sample WE at 320, 610, and 65 ppb, respectively. TPH-g and benzene were detected in soil sample WW at 34 and 0.081 ppm, respectively. TOG and a hydrocarbon heavier than TPH-d were detected in soil sample WW at 1,600 and 440 ppm, respectively.

- o Soil sample WS was analyzed for TPH-g, BTEX compounds, TPH-d, and TOG with the anticipation excavation would be complete in this direction. TPH-d and benzene were detected in soil sample WS at 1.0 and 0.008 ppm, respectively.
- o Soil sample WN was analyzed for TOG only. TOG in sample WN was detected at 270 ppm.

RESPONSE TO REGIONAL WATER QUALITY CONTROL BOARD COMMENTS

This section responds to a request by the RWQCB regarding definition of the lateral and vertical extent of hydrocarbons beneath the former USTs, product piping, product dispensers, hydraulic hoists, and oil/water separator. A summary of the lateral and vertical extent of hydrocarbons beneath these areas and as these areas pertain to the proposed scope of work in this work plan are discussed below.

Former Underground Storage Tank - Gasoline

The results of the soil analytical data collected from the sidewalls of the gasoline UST excavation indicate that hydrocarbon-affected soils are of very limited extent. Soil samples were collected approximately 1-foot above the existing water level of the tank excavation at a depth of 11 feet bgs, and at the end of each tank. The six samples were analyzed for TVPH, BTEX compounds, and total lead. Only benzene was detected at 0.019 ppm in only one sample collected from the southeast sidewall of the former tank complex. Additional investigation of soils beneath the gasoline USTs appears not warranted, and is not proposed in this work plan. OK

Former Underground Storage Tank - Waste Oil

The results of the soil analytical data collected from the sidewalls of the waste oil UST excavation indicate that hydrocarbon-affected soils occur along the north and south walls of the excavation. These areas were not excavated during previous work at the site due to a retaining wall north of the former waste oil tank excavation and the station building south of the excavation. Excavation of soils south of the building are proposed in this work plan pending removal of the building. Excavation

also West
270 ppm
O+G

~~north of the retaining wall is not proposed at this time. The retaining wall is a significant structural feature in the area and is not practical to remove at this time.~~ hmm

Product Dispensers

During the removal of the product dispensers, soil samples were collected beneath the product piping adjacent the product islands; however, soil samples were not collected directly beneath the product islands. The results of soil analysis from these samples indicate very limited hydrocarbon-affected soils of very low hydrocarbon concentrations. These areas; however, based on the RWQCB letter, will be further investigated as part of the work proposed in this work plan. OK

Product Piping

Hydrocarbon-affected soils underlying the product piping, based on soil analytical data collected during product line removal and PACIFIC's investigation indicate that hydrocarbon-affected soils are of very limited extent and are very low concentration. These areas; however, will be further investigated as part of the work proposed in this work plan.

Hydraulic Hoists

The hydraulic hoists have previously not been investigated. These areas will be investigated as part of the work proposed in this work plan.

Oil/Water Separator

The oil/water separator has previously not been investigated. These areas will be investigated as part of this investigation.

REGIONAL HYDROGEOLOGIC SETTING

The site area is underlain by poorly sorted gravels, sands, silts, and clays of the Upper member of the San Antonio Formation which were deposited in alluvial fan, flood plain, and bay swamp depositional environments. These sediments are the main source of groundwater in the region. The upper member of the San Antonio Formation has been deposited principally by coalescing alluvial fans adjacent to mountain highlands and by meandering streams in the gently sloping western portion of the east bay (USGS, 1969).

Regional groundwater flows from east-northeast to west-southwest, toward the San Francisco Bay.

SCOPE OF WORK

The scope of work to be performed during this investigation primarily includes: (1) further excavation adjacent the waste oil tank, (2) further investigation and excavation where necessary beneath the product piping and dispenser islands, (3) investigation of the soils beneath the hydraulic hoists and oil/water separator, (4) soils disposal and soil backfill, and (5) well installation downgradient of the former tank complex and downgradient of the site. The existing station building will be removed prior to initiating soil excavation activities.

The specific scope of work is discussed below. Field and analytical procedures are presented as Appendix A.

Soil Excavation - Former Waste Oil Tank Excavation

- Further excavation of soils in the area of the former waste oil area is anticipated to consist of the removal of approximately 40 cubic yards. Excavation will be completed vertically to a depth of approximately 10 feet, 2 feet below the anticipated depth to groundwater. The result of soil analysis will be used to determine the lateral extent of excavation in all but the northern direction. The extent of excavation is limited in the northern direction by the retaining wall as discussed in the previous section. The excavation will continue to the south. The excavation will occur after the station building is removed.

- Soils sampled from the excavation sidewalls at approximately 7 feet bgs (1 foot above the anticipated of groundwater) will be analyzed for TPH-g, BTEX compounds, TPH-d, TOG, and HVOCs.

- Stockpiled soil generated during the previous and proposed overexcavation activities will be sampled according to the ACHCS and landfill requirements. Soils with elevated levels of hydrocarbons will be aerated on site in accordance to Bay Area Air Quality Management District (BAAQMD) requirements prior to disposal.

Former Product Dispensers, Product Piping, Hydraulic Lifts, and Oil/Water Separator Investigation

- The area of the former product dispensers, product piping, hydraulic hoists, and oil/water separator will be further investigated utilizing the backhoe in conjunction with the waste oil tank overexcavation.

After overex? confirmatory samples?

- o Soil samples will be collected from locations beneath the former product dispensers and product piping. These soil samples will be analyzed for TPH-g and BTEX compounds. Soil samples collected beneath the hydraulic lifts will be analyzed for appropriate analysis for hydraulic oil. Soil samples collected beneath the oil/water separator will be analyzed for TPH-g, BTEX compounds, TPH-d, TOG, and HVOCs. + metals?

good

- o Stockpiled soil generated from the product island area excavation will be and sampled according the ACHCS and landfill requirements. If necessary, stockpiled soils will be aerated on site prior to disposal.

Backfill Operations

- o Backfilling of the waste oil tank excavation and other required excavations will consist of clean imported fill or ACHCS approved site generated soils. If soil at the bottom of the excavation is water saturated, a layer of 3/4-inch crushed rock will be placed on the bottom to provide bridging between the saturated soil and backfill material. Filter fabric will be placed between crushed rock and backfill material.
- o Fill placement will be field tested to ensure optimum moisture content and relative compaction.

Groundwater Monitoring Well Installation

- o Groundwater monitoring wells are proposed downgradient of the waste oil tank and downgradient of the site. A separate work plan was prepared by PACIFIC for the well proposed downgradient of the site well (PACIFIC, 1993).

Specifics? Location?

- o The wells will be developed and surveyed prior to sampling.
- o Groundwater samples will be analyzed for TPH-g and BTEX compounds. The samples collected from the well installed downgradient of the waste oil tank will also be analyzed for TPH-d, oil and grease, and HVOCs.

SCHEDULE AND REPORTING

Chevron is currently negotiating a contract to remove the on-site station building. The scope of work described above will be performed upon securement of a

contract to remove the station building. After building demolition, field work will take approximately 3 to 4 weeks. A report documenting these activities will be submitted to the ACHCS 6 weeks after completion of the field work.

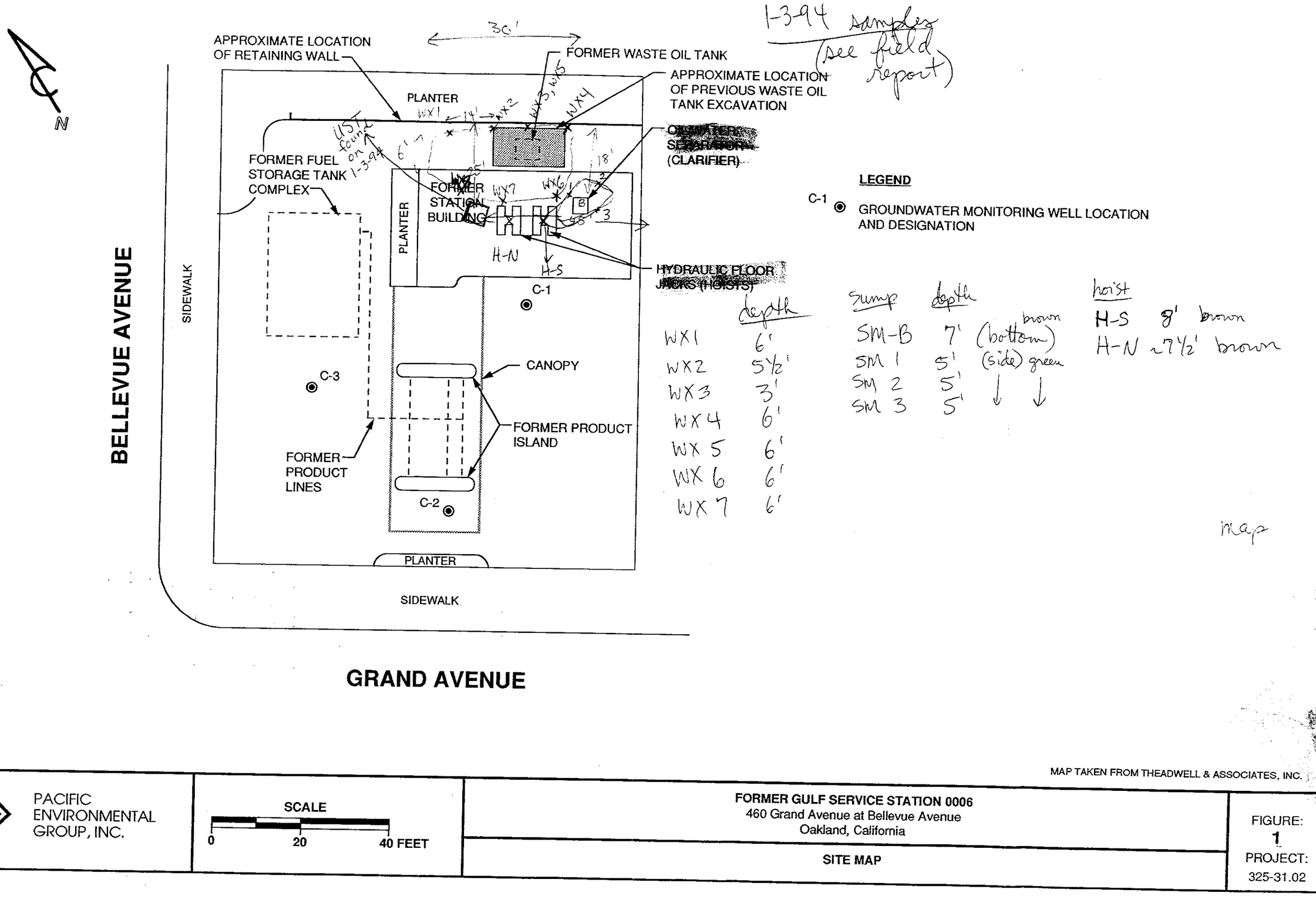
If there are any questions regarding the contents of this letter, please do not hesitate to call.

Sincerely,

Pacific Environmental Group, Inc.

Steven E. Krcik
Senior Geologist
RG 4976

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



1-3-94 samples (see field report)

	depth
WX1	6'
WX2	5½'
WX3	3'
WX4	6'
WX5	6'
WX6	6'
WX7	6'

sump	depth		
SM-B	7'	(bottom)	brown
SM 1	5'	(side)	green
SM 2	5'		
SM 3	5'		

hoist		
H-S	8'	brown
H-N	~7½'	brown

map

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

SITE MAP

FIGURE: 1
PROJECT: 325-31.02

APPENDIX A

FIELD AND LABORATORY PROCEDURES

ATTACHMENT A
FIELD AND LABORATORY PROCEDURES

Soil Boring and Well Installation Procedures

Exploratory soil borings will be drilled using hollow-stem auger drilling equipment and logged by a geologist using the Unified Soil Classification System and standard geologic techniques. Soil samples for logging and possible chemical analysis will be collected at 5-foot minimum depth intervals by advancing a California-modified split-spoon sampler with brass liners into undisturbed soil beyond the tip of the auger. The sampler will be driven a maximum of 18 inches using a 140-pound hammer with a 30-inch drop. Soil samples for possible chemical analysis will be retained in brass liners, capped with sheets of Teflon and plastic end caps, sealed with Teflon tape, and contained in clean zip lock bags. The samples will be placed on ice for transport to the laboratory, accompanied by chain-of-custody documentation. All down-hole drilling and sampling equipment will be steam-cleaned following the completion of the soil boring. Down-hole sampling equipment will be washed in a TSP solution between samples.

Selected soil borings may be converted to groundwater monitoring wells by the installation of Schedule 40 PVC casing with factory slotted screen. The annular space was packed with sand across the entire screened interval, extending approximately 0.5 foot above the top of the screen. The well will then be sealed with approximately 1 foot of bentonite above the sand pack, and neat cement to the ground surface. A locking, watertight cap and protective vault box will installed at the top of each well.

Organic Vapor Analysis Procedures

Selected soil samples will be analyzed in the field for ionizable organic compounds using a photo-ionization detector with a 10.2 eV lamp. The test procedure involves measuring approximately 30 grams from an undisturbed soil sample, placing this sub-sample 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 head-space within the jar is tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument will be previously

calibrated using a 100-ppm isobutylene standard (in air) and a sensitivity factor of 0.55, which relates the photo-ionization sensitivity of benzene (10.0 ppm) to the ionization potential of isobutylene (5.5 ppm). The results of these tests will be used to assist in selection of samples for laboratory analysis.

Groundwater Well Development Procedures

A minimum of 10 casing volumes of groundwater will be purged from each well during development. Initially a well will be purged of sediment and debris. After the initial removal of debris, the well screen will be surged at 2-foot intervals along the full screen length with a vented surge block. The sequence of surging and purging will be repeated at least three times during the 10 casing evacuation. If the well dries out during the purging, deionized water will be added to the well to complete purging and surging the well screen. During purging, the well will be monitored for temperature, pH, electrical conductivity (EC), and turbidity. The well will be considered "developed" when the temperature, pH, and EC parameters have stabilized.

Groundwater Sampling Procedures

The sampling procedure will consist of first measuring the water level in the well with an electronic water-level indicator, and checking the well for the presence of SPH using a clear Teflon bailer or an oil/water interface probe. The well will then be purged of approximately four casing volumes of water (or until dry) using a bailer or centrifugal pump, during which time temperature, pH, and EC will be monitored to indicate that a representative sample may be obtained. After purging, the water levels in the wells will be allowed to restabilize. Groundwater samples will then be collected using a Teflon bailer, placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to a state-certified laboratory.

Purge Water Disposal Procedures

Water removed from the wells during the sampling event will be placed in a 500-gallon water transportation trailer. Upon completion of the work on site, the purge water contained within the trailer will be transported to a treatment facility and injected into the treatment system.

Excavation Procedures

Spot excavations will be performed using a conventional backhoe. Excavations are anticipated to be extended to a maximum depth of approximately 10 feet bgs. Soil samples for chemical analysis will be collected by driving a clean brass ring into a

backhoe bucket of soil excavated from the area to be sampled. The brass ring will then be capped with sheets of Teflon and plastic end caps, sealed with Teflon tape, and contained in clean zip lock bags. The samples will be placed on ice for transport to the laboratory, accompanied by chain-of-custody documentation.

Excavated soil will be segregated by source area and stockpiled on and covered by visquene pending laboratory analysis. A minimum of on sample will be collected and analyzed for every 20 yards of excavated soil. The samples will be collected at random locations in order to characterize the stockpile.

If the stockpiled soil contains elevated levels of hydrocarbons, and cannot be aerated to levels acceptable to Alameda County Health Care Services (ACHCS), the excavated soil will be disposed of at a Class I or Class III landfill, as appropriate. If acceptable to ACHCS, some or all of the stockpiled soil will be used to backfill the excavations.

Laboratory Procedures

Groundwater samples collected from site monitoring wells will be analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g) as modified EPA Methods 8015 and 5030, for benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) by EPA Method 8020, TPH calculated as diesel (TPH-d) by EPA Methods 8015 and 3510, and for soluble toxicity limit concentration (STLC) lead by Method 7420. The TPH-g and BTEX compound samples will be examined using the purge and trap technique, with final detection by gas chromatography. The TPH-d samples will be examined using the extraction technique with final detection determined by gas chromatography. All analyses will be performed by a state-certified laboratory.

Soil samples collected from the product line excavations will be analyzed for TPH-g and BTEX compounds. In addition to these analysis, soil samples collected from the waste oil tank excavation, the hydraulic lift excavation, and the oil/water separator excavation will be analyzed for total oil and grease (TOG) by EPA Method 5520, for TPH-d and TPH calculated as motor oil (TPH-mo) by EPA Method 8015. Selected samples may also be analyzed for halogenated volatile organic compounds (HVOCS) by EPA Method 8240. Soil stockpiles will be analyzed for the same parameters as the respective sidewall samples.