P & D ENVIRONMENTAL
4020 Panama Court
Oakland, CA 94611
Telephone (510) 658-6916

June 14, 1995
Report 0067.R2

vapor extraction may be good for this site, contam. mostly in silty sands

Mr. Edward T. Simas
2307 Pacific Ave.
Alameda, CA 94501

SUBJECT: SUBSURFACE INVESTIGATION REPORT
Former Service Station
5330 Foothill Blvd.
Oakland, CA

Dear Mr. Simas:

P&D Environmental (P&D) is pleased to present this report documenting the drilling of three exploratory boreholes, designated as B7 through B9, for the collection of soil samples at the subject site. This work was performed in accordance with a letter dated November 16, 1994 from Ms. Eva Chu of Alameda County Department of Environmental Health (ACDEH), P&D's Subsurface Investigation Work Plan (Work Plan 0067.W1) dated January 19, 1995, a letter from Ms. Eva Chu dated February 3, 1995 approving the work plan, and P&D's proposal 030995.P1 dated March 9, 1995. A Site Location Map (Figure 1) and a Site Plan showing the soil boring locations are attached with this report.

All work was performed under the direct supervision of an appropriately registered professional. This report is prepared in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

BACKGROUND

The site is presently used as a parking lot for a transmission repair shop. It is P&D's understanding that prior to the inheritance of the site by Mr. Edward T. Simas, the site was operated as a gasoline station. It is also P&D's understanding that the site was acquired by Mr. Edward T. Simas in February, 1983, for a period of six months. Based on conversations with Mr. Simas, the service station was not operating at the time that the site was inherited, and the service station was not put into service during the six months that it was owned by Mr. Simas. The property was subsequently sold to Mr. Hue Crosby. It is P&D's understanding that the tanks were subsequently removed by Mr. Crosby. Based upon conversations with Ms. Eva Chu of the ACDEH, it is P&D's understanding that the site is presently owned by Mr. Miguel Flores of Redwood City, California and Mr. Jorge Del Rio of Palo Alto, California.

Review of the ACDEH file for the site reveals only one report dated May 19, 1989, prepared by Polymatrix Associates (Polymatrix) of Hayward, California which documents previous investigation activities at the site. Review of the Polymatrix report indicates that three gasoline underground storage tanks were removed from the site in June, 1988. At the time of tank removal, soil and groundwater samples were reported to have been collected. A detailed evaluation of documentation provided by others is provided in P&D's Soil Investigation Report 0067.R1 dated September 26, 1994.

On August 10, and 12, 1994 P&D personnel oversaw the drilling of boreholes B1 through B6 at the subject site by Exploration Geoservices, Inc. of San Jose, California. All of the boreholes were drilled to a depth of 20.5 or 25.5 feet with the exception of boring B4, which was drilled to a depth of 50.5 feet. Soil samples were collected at various depths in the boreholes for laboratory analysis based upon photoionization detector readings. Groundwater was not encountered in any of the boreholes, and the laboratory analysis indicated that diesel fuel

was not a contaminant at the site. The soil boring locations are shown in Figure 2, and the sample results are summarized in Table 1. Documentation of the investigation and sample results is provided in P&D's Soil Investigation Report 0067.W1 dated September 26, 1994.

FIELD ACTIVITIES

On March 28 and 29, 1995 P&D personnel oversaw the drilling of three boreholes at the subject site, designated as B7 through B9, by Exploration Geoservices, Inc. of San Jose, California. Following sample collection, all of the boreholes were backfilled with neat cement by Exploration Geoservices, Inc. The locations of the soil borings are shown on the attached Site Plan, Figure 2.

Prior to performing field work, a permit was obtained from the Alameda County Water Agency, Zone 7; notification was provided to the ACDEH of the scheduled drilling date; Underground Safety Alert was notified for buried utility location; and a site health and safety plan was prepared.

Soil Boring and Sample Collection

The soil borings were drilled using truck-mounted 8-inch outside diameter hollow stem auger drilling equipment. Borings B7, B8 and B9 were drilled to total depths of 50.5, 75.5 and 39.0 feet, respectively. Groundwater was not encountered in boreholes B7 or B8. However, groundwater was encountered in borehole B9 initially at a depth of 34.5 feet below grade the morning after an overnight temporary cessation of drilling activities. The water level later was measured at a depth of approximately 24.5 feet below grade approximately 6 hours after withdrawal of the augers from the borehole. The borehole had been advanced to a total depth of 39 feet before the temporary overnight cessation of drilling activities.

Soil samples were collected in all of the boreholes at a maximum of five foot intervals. Soil samples were collected using a California modified split spoon sampler lined with brass tubes driven by a 140 pound hammer falling 30 inches. Blow counts were recorded every six inches. The soil samples were classified lithologically in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. In addition, the soil samples were evaluated in the field using a Model 580B OVM Photoionization Detector (PID) equipped with a 10.0 eV bulb and calibrated against a 100 ppm isobutylene standard. PID readings were recorded on the boring logs.

Detectable concentrations of organic vapors and petroleum hydrocarbon odors were recorded in borings B8 and B9. However, organic vapors and petroleum hydrocarbon odors were not detected in boring B7, and were not detected in the lower-most 15 feet of boring B8.

Based upon PID readings and lithologic changes, soil samples were collected from the borings for laboratory analysis at the following depths. In boring B7, three soil samples were retained from the 30, 40 and 50 foot depths. In boring B8, four soil samples were retained from the 35, 40, 65 and 75 foot depths. In boring B9, three soil samples were retained from the 20, 25 and 35 foot depths.

Soil samples collected from the boreholes were retained for laboratory analysis in the following manner. After sample collection, the ends of the brass tubes were sealed in aluminum foil, covered with plastic endcaps, labeled, and placed in ziplock baggies. The capped brass tubes were then placed into a cooler with ice pending delivery to McCampbell Analytical Laboratory in Pacheco, California. McCampbell Analytical Laboratory is a State-certified hazardous waste testing laboratory. Chain of custody procedures were followed for all sample handling. Copies of the boring logs for boreholes B7 through B9 are attached with this report.

Prior to removal of the augers from borehole B9 on the morning of March 29, 1995, one groundwater sample was collected from the borehole using a Teflon bailer. The water samples were transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials containing hydrochloric acid preservative which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to assure that no air bubbles were present.

The VOA vials were then transferred to a cooler with ice, and were subsequently transported to McCampbell Analytical, Inc. Chain of custody documentation accompanied the samples to the laboratory.

The hollow stem augers were steam cleaned prior to use in each borehole. Soil cuttings were stockpiled onsite on a sheet of visqueen and covered with visqueen at the end of each day. Steam cleaning water generated during drilling activities was placed into DOT-approved 55-gallon drums and stored onsite pending appropriate disposal.

GEOLOGY AND HYDROGEOLOGY

Based on review of regional geologic maps from U.S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E.J. Helley and K.R. Lajoie, 1979 the subject site is underlain by Holocene coarse-grained alluvium (Qhac). The alluvium is described as unconsolidated, moderately sorted permeable sand and silt with coarse sand and gravel. The site borders on subsurface materials identified on the geologic maps as Late Pleistocene alluvium (Qpa). The alluvium is described as typically consisting of weakly consolidated slightly weathered poorly sorted irregularly interbedded clay, silt, sand and gravel and is considered to overlie bedrock on the alluvial plain marginal to San Francisco Bay.

Based on review of the regional geologic map from U.S. Geological Survey Miscellaneous Field Studies Map MF-2196, "Map of Recently Active Traces of the Hayward Fault, Alameda and Contra Costa Counties, California," by J.J. Lienkaemper, 1992 the subject site is located approximately 6,800 feet to the southwest of the active Hayward Fault.

The subsurface materials encountered in boreholes B7 through B9 indicate that the site is underlain predominantly by fine-grained materials (silty clay, clayey silt or silt) with occasional lenses of sand. However, in boring B7, a significant sand and gravel layer was encountered between the depths of approximately 37 and 50 feet, and in borehole B9, a significant silty sand layer was encountered between the depths of approximately 7 and 24.5 feet. In addition, in borehole B8, silt was encountered between the depths of approximately 12 and 37 feet, and a significant sand layer was encountered between the depths of approximately 38 and 50 feet.

Based upon review of the six borings from the previous subsurface investigation performed by P&D in 1994 (B1 through B6), and the three borings drilled during this most recent investigation performed by P&D (B7 through B9), in boreholes B1 and B9, sand layers containing variable amounts of silt and clay were encountered between the depths of approximately 12 and 24 feet. These sand layers are interpreted to be connected, and are also interpreted to be continuous with the sand layer encountered in boring B2 between the depths of approximately 9 and 16 feet.

In borehole B7, sand and gravel were encountered between the depths of approximately 37 feet and the total depth explored of 50.5 feet. Similarly, in borehole B8, silty sand and sand were encountered between the depths of approximately 38 and 50 feet. The sand layers encountered in boreholes B7 and

B8 are interpreted to be interconnected, and interpreted to not be connected to the sand layers encountered in borings B1, B2 and B9.

Below a depth of approximately 28 feet in boring B4, silt was encountered to the total depth explored of 50.5 feet. In borehole B5, silt was encountered between the depths of approximately 12 and 17 feet. In borehole B8, silt was encountered between the depths of approximately 12 and 38 feet.

Based upon review of boring logs B1 through B9, geologic cross-sections were prepared. The locations of the geologic cross-sections are shown on Figure 2. Review of geologic cross-section A-A', (Figure 3) shows that an extensive sand body appears to be present to the west of the southern portion of the tank pit between the depths of approximately 10 and 24 feet. Review of geologic cross-sections B-B' (Figure 3) and C-C' (Figure 4) shows that this sand body is limited in extent to the west of the tank pit, and appears to pinch out to the north. Review of geologic cross-section D-D' shows that the sand body observed in cross section A-A' to the west of the tank pit is not present to the north of the tank pit.

Groundwater was encountered in borehole B9 initially at a depth of 34.5 feet below grade on March 29, 1995, the morning after an overnight temporary cessation of drilling activities. The borehole had been advanced to a total depth of 39 feet on March 28, 1995, before the temporary overnight cessation of drilling activities. Following withdrawal of the augers from the borehole, the water level later stabilized on March 29, 1995 at a depth of approximately 24.5 feet below grade.

The groundwater encountered in borehole B9 is interpreted to be representative of perched groundwater and appears to be associated with the sand body encountered in borehole B9. The absence of groundwater to the total depth explored of 75.5 feet in boring B8 indicates that the depth to regional water at the site is unknown. In addition, the groundwater flow direction at the site is unknown.

LABORATORY ANALYTICAL RESULTS

The soil samples from boreholes B7 through B9 were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G) using EPA Method 5030 in conjunction with Modified EPA Method 8015 (GC/FID); and for benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8020.

The laboratory analytical results of the soil samples collected from borehole B7 show that TPH-G and BTEX were not detected. In borehole B8, TPH-G was detected in the samples collected at the depths of 35 and 40 feet at concentrations of 130 and 14 ppm, respectively. However, TPH-G and BTEX were not detected in the samples collected in borehole B8 at the depths of 65 and 75 feet. In borehole B9, TPH-G was detected in the samples collected at the depths of 20, 25 and 35 feet at concentrations of 2,600, 130 and 11 ppm, respectively.

The laboratory analytical results of the groundwater grab sample collected from borehole B9 show that TPH-G was detected at a concentration of 260 ppm.

The laboratory analytical results of the soil samples are summarized in Table 2. The laboratory analytical results of the groundwater grab sample collected from borehole B9 are summarized in Table 3. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

The TPH-G soil sample results for samples collected from boreholes B1 through B9 are plotted on geologic cross-sections A-A' and B-B' in Figure 5, and

on geologic cross-sections C-C' and D-D' in Figure 6. Contours for TPH-G concentrations of 100 and 1,000 ppm have been plotted on these figures.

DISCUSSION AND RECOMMENDATIONS

Review of the site geology indicates that the site is underlain predominantly by silty clay to the total depth explored of 75.5 feet, with sand or silt layers encountered at various depths in several of the boreholes. Review of the geologic cross-sections in Figures 3 and 4 shows that a sand body appears to be present to the west of the tank pit between the depths of approximately 12 and 24 feet. Sand layers encountered in borings B7 and B8 are not interpreted to be continuous with the sand body encountered in borings B1, B2 and B9. The tank pit appears to be underlain by silty clay and silt, with the silt layer in boring B4 extending from a depth of approximately 30 feet to the total depth explored in this boring of 50.5 feet.

Groundwater was encountered in boring B9 at a depth of approximately 34.5 feet, and later appeared to stabilize at a depth of approximately 24.5 feet. The groundwater encountered in boring B9 is interpreted to be perched water. Groundwater was not encountered in any of the other boreholes to the total depth explored at the site of 75.5 feet. The depth to regional groundwater and the groundwater flow direction at the site is not known.

The interpreted subsurface extent of petroleum hydrocarbons is shown on geologic cross-sections A-A' through D-D' in Figures 5 and 6.

Based on the absence of petroleum hydrocarbons in the lower 15 feet of silty clay in borings B7 and B8, boring was terminated in these boreholes at the depths of 50.5 and 75.5 feet respectively. Based on the presence of groundwater in boring B9, boring was terminated in this borehole at a depth of 39 feet following the collection of a groundwater sample from the borehole.

Review of the groundwater grab sample results indicate that the perched groundwater encountered in boring B9 has been impacted by petroleum hydrocarbons.

It is P&D's understanding that Mr. Ted Simas has requested that the California State Water Resources Control Board (SWRCB) release Mr. Simas from responsibility for investigation and remediation at this site because of the short duration of his ownership of the site. It is also P&D's understanding that this request is presently under consideration with the SWRCB. P&D recommends that no further investigatory work be performed until the SWRCB renders a determination concerning responsibility for further investigation at the site.

DISTRIBUTION

Copies of this report should be distributed to Ms. Eva Chu at the ACDEH, and to Mr. Kevin Graves at the San Francisco Bay Regional Water Quality Control Board. Copies of the report should be accompanied by a transmittal letter signed by Mr. Edward T. Simas.

LIMITATIONS

This report was prepared solely for the use of Mr. Edward T. Simas. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgement based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may

not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly-revealed conditions must be evaluated and may invalidate the findings of this report.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgement based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

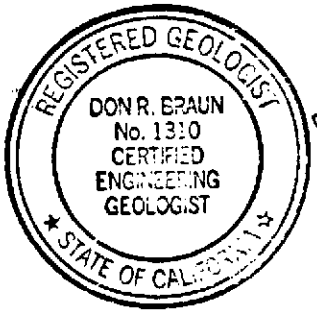
Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

Sincerely,

P&D Environmental

Paul H. King

Paul H. King
Hydrogeologist



Don R. Braun

Don R.Braun
Certified Engineering Geologist
Registration No. : 1310
Expires: 6/30/96

PHK
0067.R2

Attachments: Tables 1, 2 & 3
Site Location Map (Figure 1)
Site Plan (Figure 2)
Geologic Cross-Sections A-A' and B-B' (Figure 3)
Geologic Cross-Sections C-C' and D-D' (Figure 4)
Geologic Cross-Sections A-A' and B-B' Showing TPH-G (Figure 5)
Geologic Cross-Sections C-C' and D-D' Showing TPH-G (Figure 6)
Boring Logs
Laboratory Analytical Reports
Chain of Custody Documentation

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL SAMPLES
(Samples collected from soil borings by P&D on August 10 and 12, 1994)

Sample No.	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total Lead
B1-10.0	NA	ND	ND	ND	ND	ND	2.5
B2-15.0	860*	1,700	5.9	38	23	110	2.4
B2-20.0	ND	ND	0.11	0.0080	ND	0.014	3.2
B3-20.0	NA	180	4.0	6.0	2.7	14	9.3
B4-15.0	2,500*	8,600	77	630	170	1,100	9.5
B4-25.0	NA	51	2.5	3.7	0.88	4.6	5.2
B4-35.0	NA	12	1.5	2.1	0.22	1.2	5.9
B4-50.0	NA	11	1.5	2.0	0.020	1.1	5.0
B5-25.0	1,200*	3,700	27	150	63	360	7.0
B6-10.0	NA	25	0.045	0.011	0.040	0.14	10
B6-20.0	NA	2,600	10	74	37	180	11

TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
NA = Not Analyzed.
ND = Not Detected.
* Review of the laboratory analytical reports indicates that the results reported as TPH-D consist of diesel-range gasoline compounds.
Results are in parts per million (ppm), unless otherwise indicated.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL SAMPLES
(Samples collected from soil borings by P&D on March 28 and 29, 1995)

Sample No.	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total Lead
B7-30.0	NA	ND	ND	ND	ND	ND	NA
B7-40.0	NA	ND	ND	ND	ND	ND	NA
B7-50.0	NA	ND	ND	ND	ND	ND	NA
B8-35.0	NA	130	0.86	3.7	2.0	10	NA
B8-40.0	NA	14	0.92	2.0	0.43	2.3	NA
B8-65.0	NA	ND	ND	ND	ND	ND	NA
B8-75.0	NA	ND	ND	ND	ND	ND	NA
B9-20.0	NA	2,600	18	93	48	230	NA
B9-25.0	NA	130	3.0	6.3	2.0	11	NA
B9-35.0	NA	11	1.5	2.3	0.25	1.3	NA

TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
NA = Not Analyzed.
ND = Not Detected.
Results are in parts per million (ppm), unless otherwise indicated.

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
WATER SAMPLE
(Sample collected from soil boring B9 by P&D on March 29, 1995)

Sample No.	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total Lead
B9-WATER	NA	260	20	32	4.8	24	NA

TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
NA = Not Analyzed.
Results are in parts per million (ppm), unless otherwise indicated.

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Base Map From
U.S. Geological Survey
Oakland East, Calif.
7.5 Minute Quadrangle
Photorevised 1980

N

Scale in Feet
0 1000 2000 3000

Figure 1
SITE LOCATION MAP
Former Service Station
5330 Foothill Blvd.
Oakland, California

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Oakland, CA 94611
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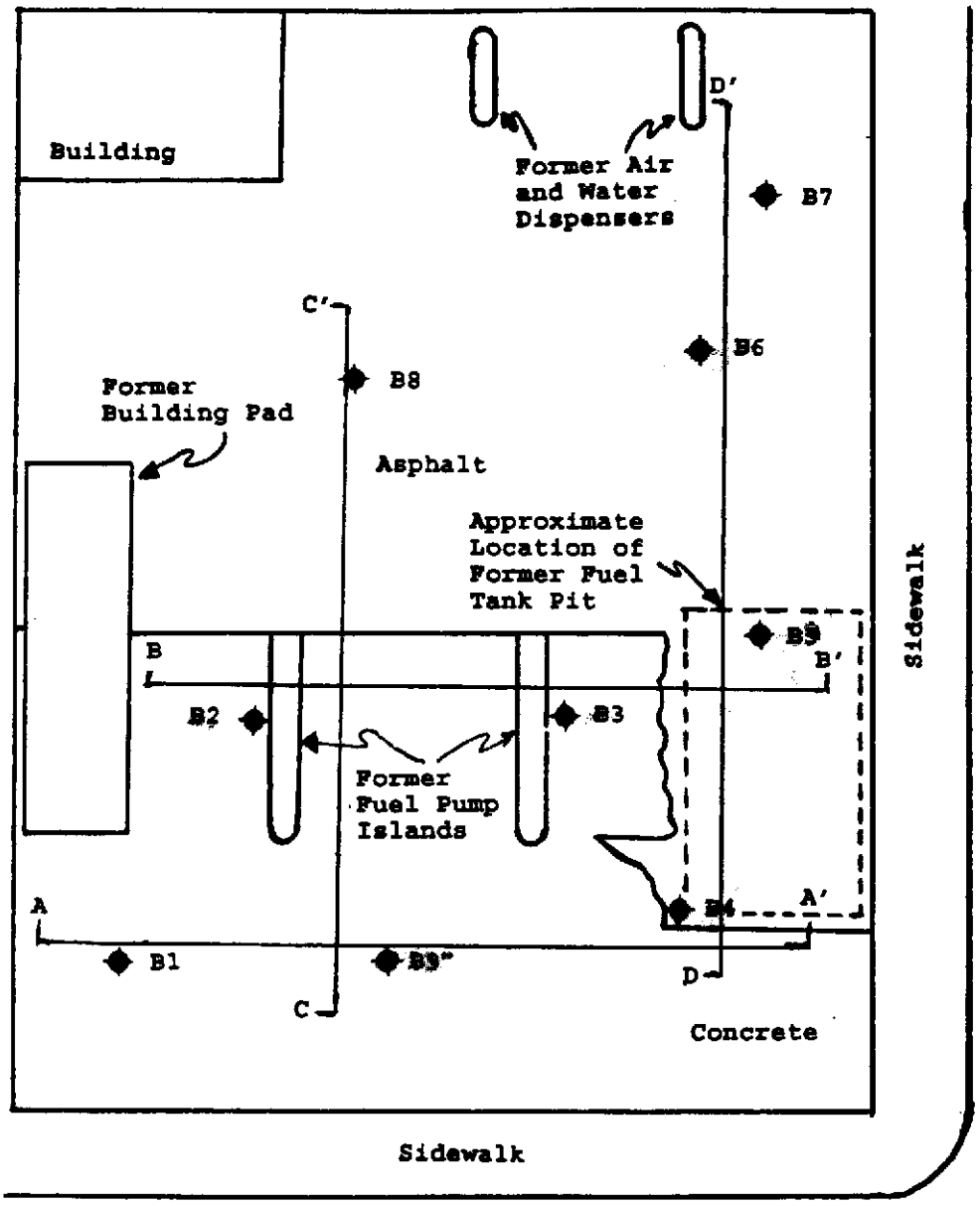

LEGEND
◆ Soil Boring Location
Geologic Cross-Section Location

Base Map From
P&D Environmental
August, 1994

N

0 10 20
Scale in Feet

Figure 2
SITE PLAN
Former Service Station
5330 Foothill Blvd.
Oakland, California

P & D Environmental

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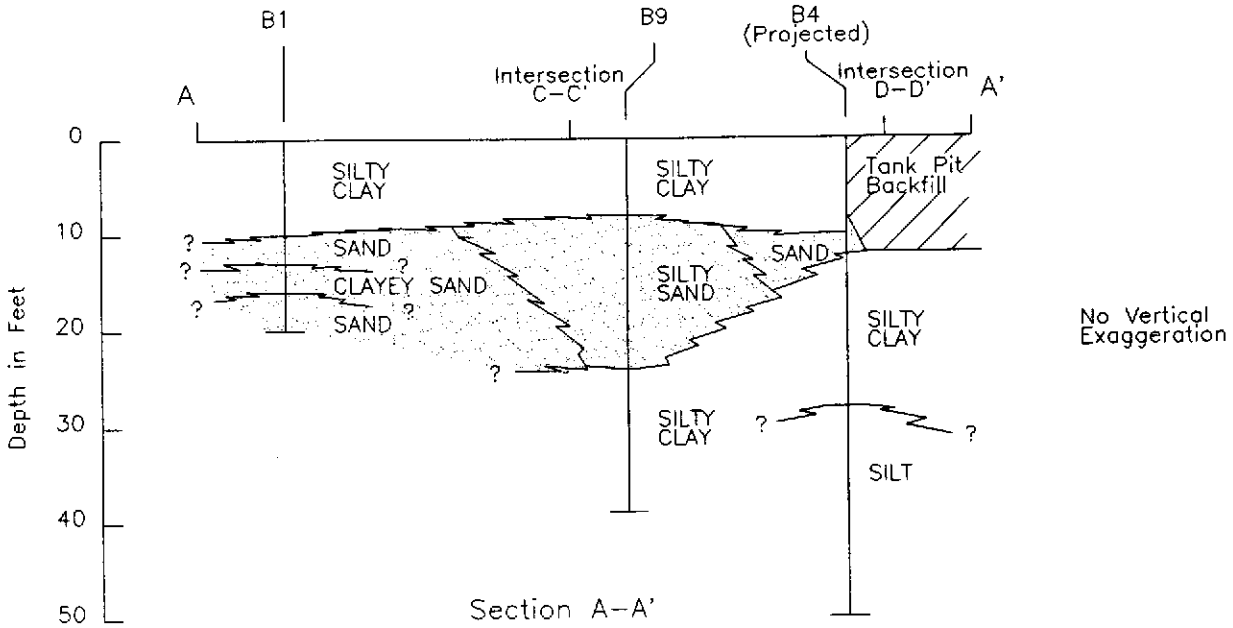
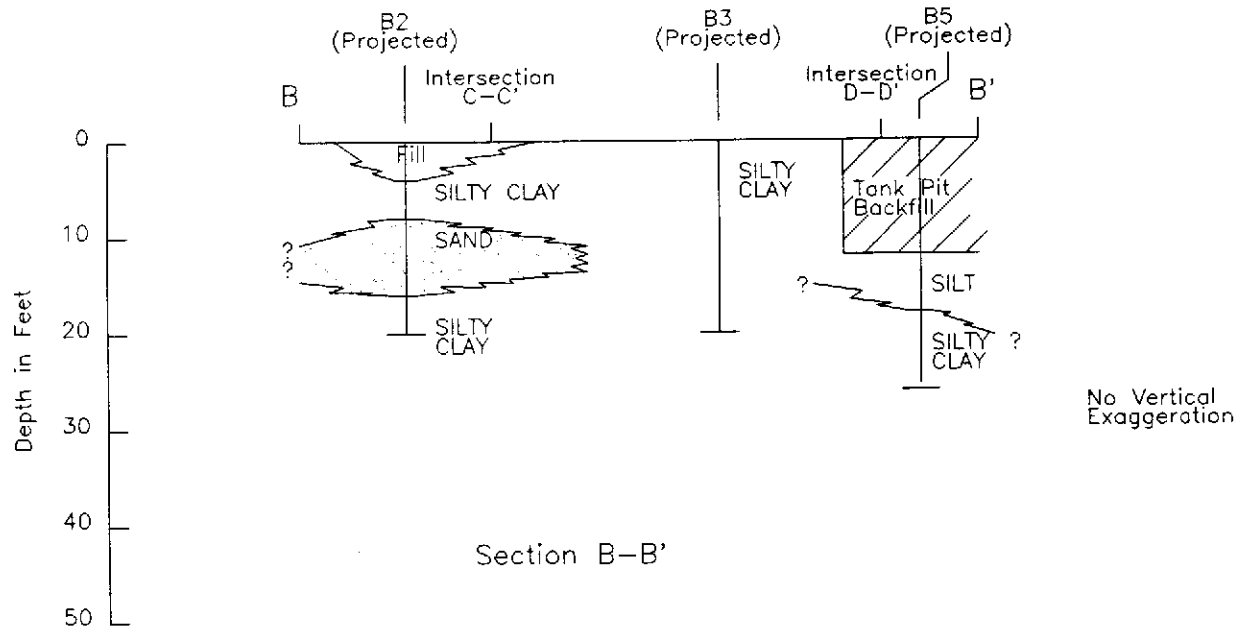
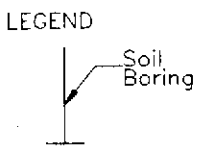
Oakland, CA 94611
Telephone (510) 658-6916



Section A–A'



Section B–B'



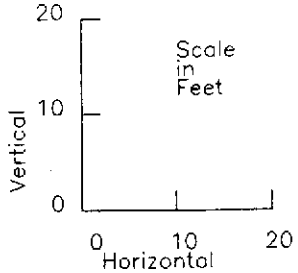


Figure 3
Geologic Cross–Sections
A–A' And B–B'

Former Service Station
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Oakland, California

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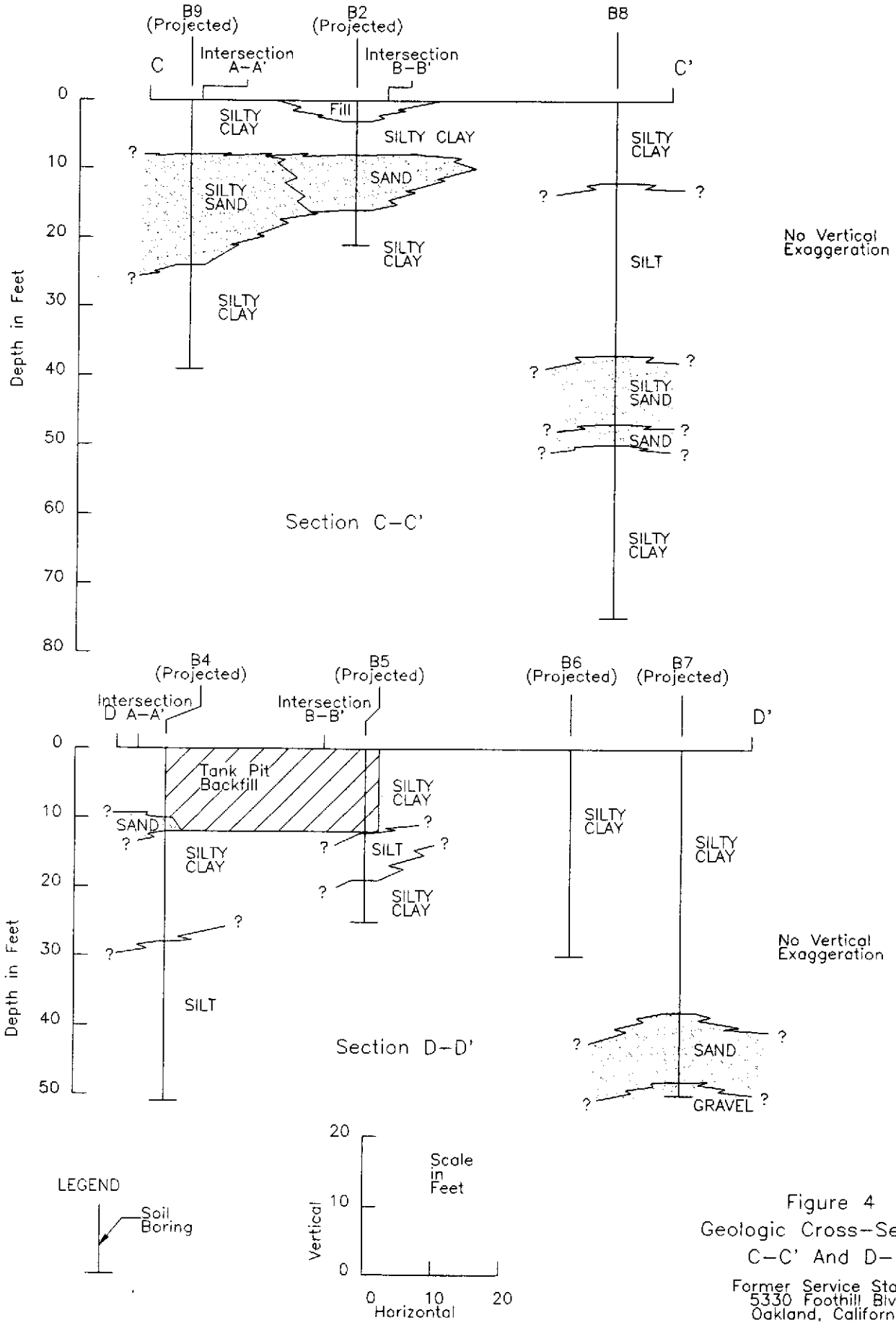

Figure 4
Geologic Cross–Sections
C–C' And D–D'

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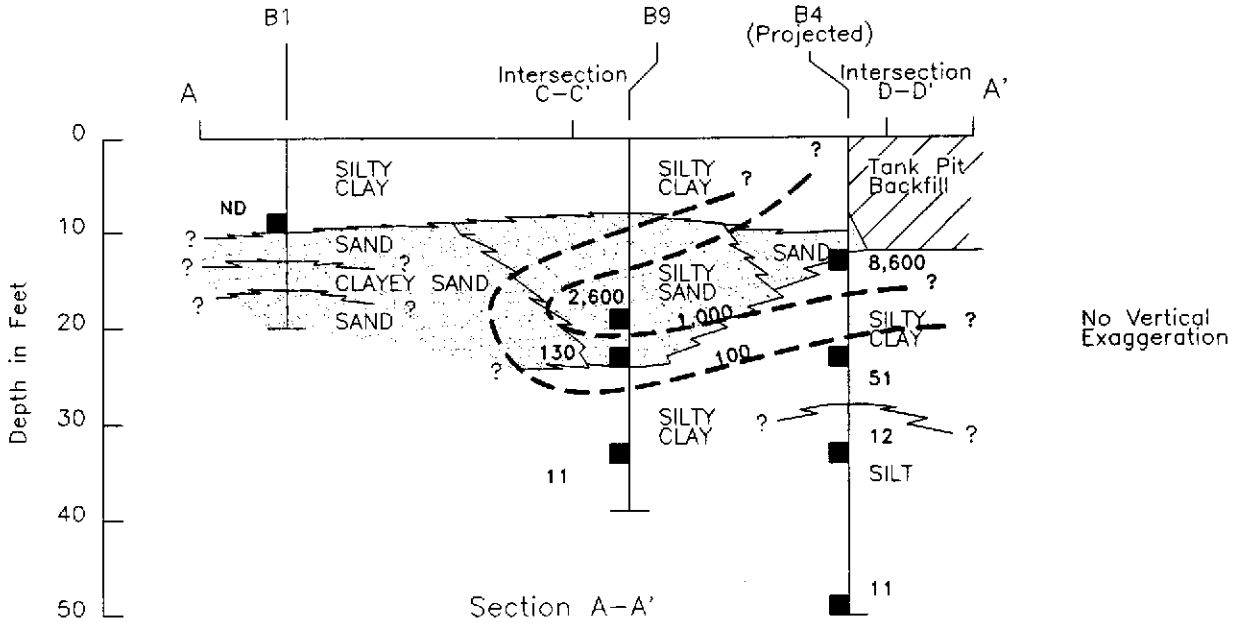

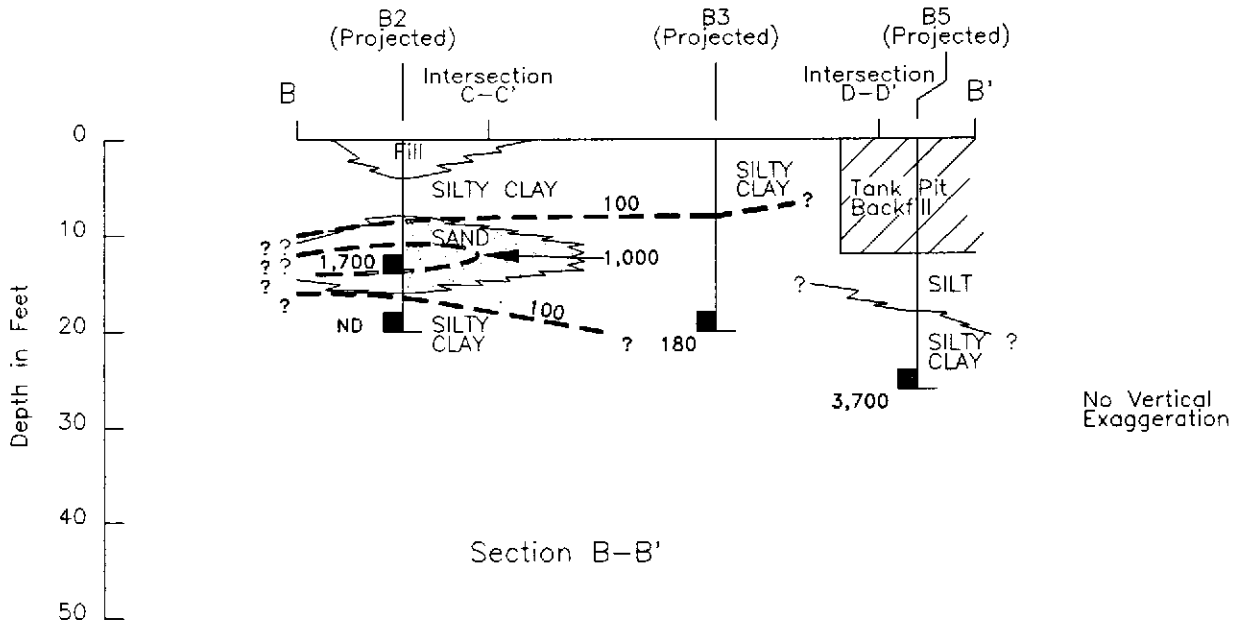

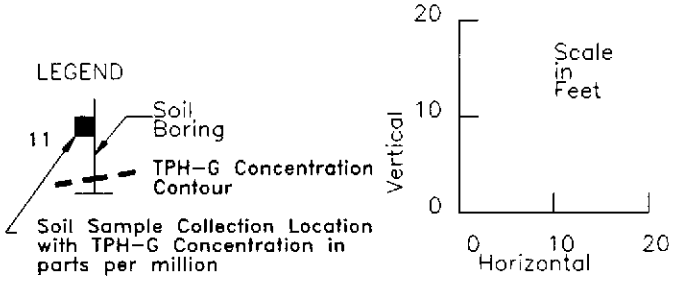

Figure 5
Geologic Cross–Sections
A–A' And B–B'

Showing TPH–G Concentrations
in Parts per Million

Former Service Station
5330 Foothill Blvd.
Oakland, California

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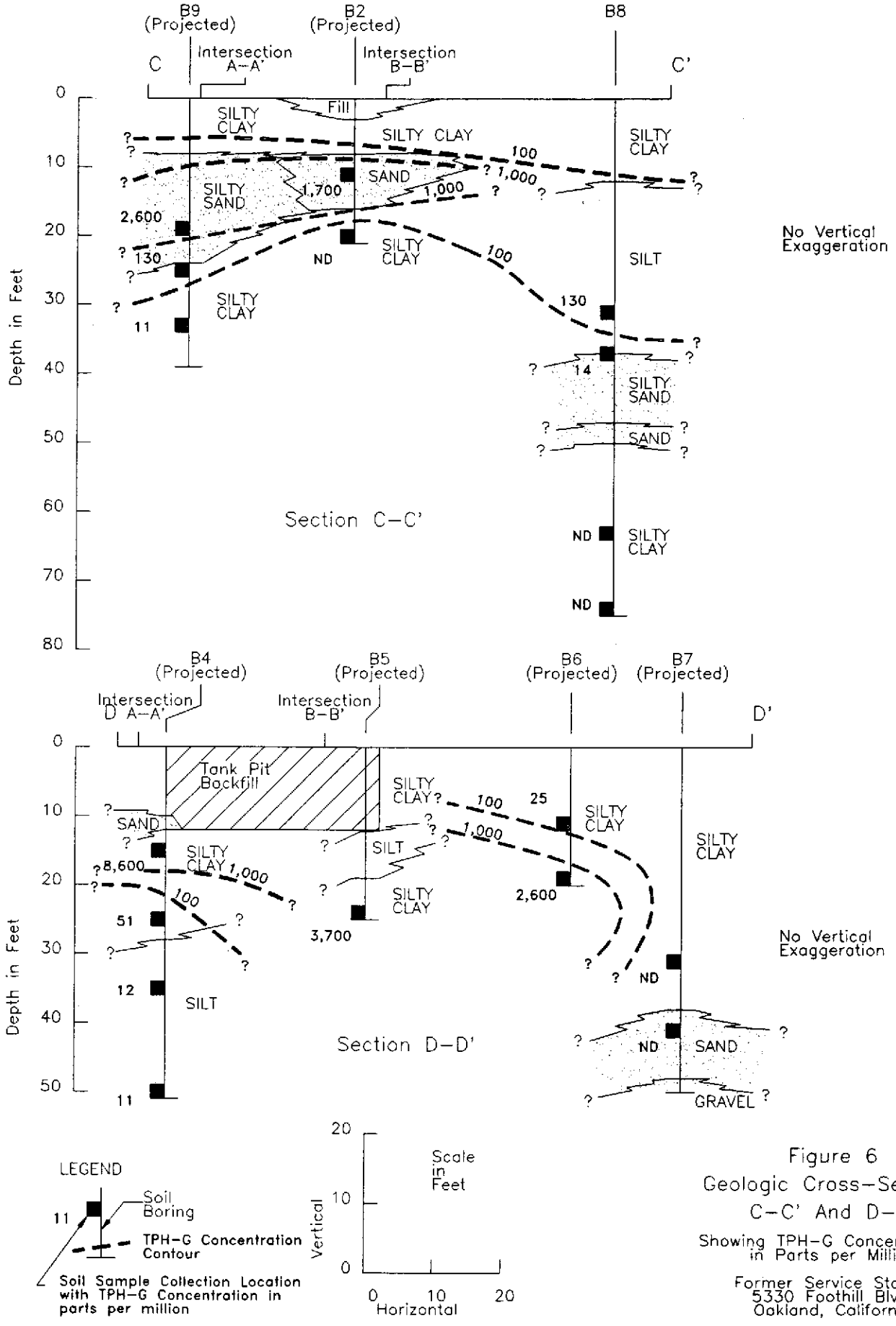

Figure 6
Geologic Cross–Sections
C–C' And D–D'

Showing TPH–G Concentrations in Parts per Million

Former Service Station
5330 Foothill Blvd.
Oakland, California

P & D ENVIRONMENTAL

BORING NO: B7	PROJECT NO: 0067	PROJECT NAME: Former Service Station, Oakland	
BORING LOCATION: Northeastern property corner		ELEVATION & DATUM: N/A	
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: Dave and Howard	DATE & TIME STARTED: 3/29/95 / DATE & TIME FINISHED: 3/29/95
DRILLING EQUIPMENT: Mobile B61 Hollow Stem Auger Rig			
COMPLETION DEPTH: 50.5		BEDROCK DEPTH: None Encountered	LOGGED BY: P.H.King / CHECKED BY:
FIRST WATER DEPTH: None Encountered		NO. OF SAMPLES: 3	

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
0	Asphalt		No well constructed				Borehole drilled using 8" O.D. hollow stem augers. Samples collected using 2-1/2" O.D. California Modified split spoon sampler lined with brass tubes driven by a 140 lb hammer falling 30". Samples evaluated using an OVM Model 580B Photo-ionization detector equipped with a 10.3 eV bulb and calibrated with a 100 ppm isobutylene gas.
	BROWN SILTY CLAY (CL); trace fine sand, minor black mottling in fractures, moist, very stiff. No Petroleum Hydrocarbon (PHC) odor.	CL				6	
5				0		9	
						14	
	BROWN SILTY CLAY (CL); fine to medium sand, extensive orange and gray mottling, minor green mottling, moist, very stiff. No PHC odor.					5	
						9	
10				0		12	
	LIGHT BROWN SILTY CLAY (CL); black mottling, minor green mottling, moist, very stiff. No PHC odor.					6	
						9	
15				0		14	
	BROWN SILTY CLAY (CL); black mottling, extensive gray and light brown mottling, moist, very stiff. No PHC odor.					5	
						8	
20				0		12	
	BROWN SILTY CLAY (CL); black mottling, gray mottling, moist, very stiff. No PHC odor					7	
						9	
25				0		14	
	BROWN SILTY CLAY (CL); black mottling, gray mottling, moist, very stiff. No PHC odor.					3	
						5	
				0		7	
30							

P & D ENVIRONMENTAL

BORING NO: B7	PROJECT NO: 0067	PROJECT NAME: Former Service Station, Oakland	
BORING LOCATION: Northeastern property corner		ELEVATION & DATUM: N/A	
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: Dave and Howard	DATE & TIME STARTED: 3/29/95
DRILLING EQUIPMENT: Mobile B61 Hollow Stem Auger Rig			DATE & TIME FINISHED: 3/29/95
COMPLETION DEPTH: 50.5		BEDROCK DEPTH: None Encountered	LOGGED BY: P.H.King
FIRST WATER DEPTH: None Encountered		NO. OF SAMPLES: 3	CHECKED BY:

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
30			No well constructed				
		CL					
	BROWN SILTY CLAY (CL); black mottling, gray mottling, moist, very stiff.					5	
						7	
35	No PHC odor			0		12	
	BROWN FINE SAND (SP); moist, very dense. No PHC odor	SP				18	
						28	
40				0		38	
	BROWN FINE SAND (SP); orange mottling, moist, medium dense.					6	
						11	
45	No PHC odor.			0		13	Driller reports gravel from 46.5 to 48 ft.
		GW					Borehole terminated at 50.5 ft. No groundwater encountered. Borehole backfilled with neat cement grout on 3/29/95.
	BROWN SANDY GRAVEL (GW); fine to coarse sand, silt, moist.					16	
						25	
50	No PHC odor.			0		31	
55							
60							

P & D ENVIRONMENTAL

BORING NO: ~~B8~~	PROJECT NO: 0067	PROJECT NAME: Former Service Station, Oakland	
BORING LOCATION: Near center of site		ELEVATION & DATUM: N/A	
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: Dave and Howard	DATE & TIME STARTED: 3/28/95 / DATE & TIME FINISHED: 3/28/95
DRILLING EQUIPMENT: Mobile B61 Hollow Stem Auger Rig			
COMPLETION DEPTH: 75.5'		BEDROCK DEPTH: None Encountered	LOGGED BY: P.H.King / CHECKED BY:
FIRST WATER DEPTH: None Encountered		NO. OF SAMPLES: 4	

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
0	Asphalt		No well constructed				Borehole drilled using 8" O.D. hollow stem augers. Samples collected using 3" O.D. California Modified split spoon sampler lined with brass tubes driven by a 140 lb hammer falling 30". Samples evaluated using an OVM Model 580B Photo-ionization detector equipped with a 10.3 eV bulb and calibrated with a 100 ppm isobutylene gas.
	GREEN GRAY SILTY CLAY (CL); fine to coarse sand, moist, stiff. No Petroleum Hydrocarbon (PHC) odor.	CL					
	BROWN SILTY CLAY (CL); fine to medium sand, minor black mottling,					9	
						10	
5	moist, very stiff. No PHC odor.			0		18	
	LIGHT BROWN SILTY CLAY (CL); fine to medium sand, moist, very stiff.					9	
						10	
10	No PHC odor.			0		14	
	LIGHT BROWN CLAYEY SILT (ML); minor brown mottling, trace black mottling,	ML				5	
						8	
15	moist, very stiff. No PHC odor.			44		11	
	LIGHT BROWN CLAYEY SILT (ML);					8	
	moist, very stiff. Slight PHC (gasoline) odor.					10	
20				206		16	
	LIGHT BROWN CLAYEY SILT (ML);					8	
	moist, very stiff. Slight PHC (gasoline) odor.					9	
25				342		11	
	LIGHT BROWN CLAYEY SILT (ML);					4	
	moist, stiff. Slight PHC (gasoline) odor.					6	
				109		9	
30							

P & D ENVIRONMENTAL

BORING NO: B8	PROJECT NO: 0067	PROJECT NAME: Former Service Station, Oakland	
BORING LOCATION: Near center of site		ELEVATION & DATUM: N/A	
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: Dave and Howard	DATE & TIME STARTED: 3/28/95
DRILLING EQUIPMENT: Mobile B61 Hollow Stem Auger Rig			DATE & TIME FINISHED: 3/28/95
COMPLETION DEPTH: 75.5'		BEDROCK DEPTH: None Encountered	LOGGED BY: P.H.King
FIRST WATER DEPTH: None Encountered		NO. OF SAMPLES: 4	CHECKED BY:

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
30			No well constructed				
	LIGHT BROWN CLAYEY SILT (ML); very stiff, moist. Moderate PHC (gasoline) odor.	ML				7 12	
35				551		16	
	BROWN SILTY SAND (SM); fine to coarse sand, hard, moist. Slight PHC (gasoline) odor.	SM				14 18	Driller reports harder drilling at 38 ft.
40				106		25	
	BROWN SILTY SAND (SM); fine to coarse sand, minor gravel 1/4 to 1/2" diameter, moist, hard. Slight PHC (gasoline) odor.					18 24	
45				90		27	
	BROWN FINE SAND (SP); moist, dense. Slight PHC (gasoline) odor.	SP					Driller reports some gravel at 48 ft.
						16 25	
50				86		29	
	BROWN SILTY CLAY (CL); minor fine to medium sand, minor light brown mottling, trace black mottling, moist, hard. No PHC odor.	CL				14 16	
55				14		20	
	BROWN SILTY CLAY (CL); minor fine to medium sand, minor light brown mottling, trace black mottling, moist, hard. No PHC odor.			13		8 11	
60				0		14	

P & D ENVIRONMENTAL

BORING NO: B8	PROJECT NO: 0067	PROJECT NAME: Former Service Station, Oakland	
BORING LOCATION: Near center of site		ELEVATION & DATUM: N/A	
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: Dave and Howard	DATE & TIME STARTED: 3/28/95
DRILLING EQUIPMENT: Mobile B61 Hollow Stem Auger Rig			DATE & TIME FINISHED: 3/28/95
COMPLETION DEPTH: 75.5'		BEDROCK DEPTH: None Encountered	LOGGED BY: P.H.King
FIRST WATER DEPTH: None Encountered		NO. OF SAMPLES: 4	CHECKED BY:

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
60			No well constructed				
	BROWN SILTY CLAY (CL); minor light brown mottling, trace black mottling,	CL				12	
						16	
65	moist, hard. No PHC odor.			0		19	
	BROWN SILTY CLAY (CL); minro light brown mottling, trace black mottling,					6	
						8	
70	moist, very stiff. No PHC odor.			0		12	
	DARK BROWN SILTY CLAY (CL); trace fine sand, minor red-orange mottling,					17	Borehole terminated at 75.5 ft on 3/28/95. No groundwater encountered. Borehole backfilled with neat cement on 3/29/95.
						24	
75	moist, hard. No PHC odor.			0		30	
80							
85							
90							

P & D ENVIRONMENTAL

BORING NO: B9	PROJECT NO: 0067	PROJECT NAME: Former Service Station, Oakland	
BORING LOCATION: Near Foothill Blvd.		ELEVATION & DATUM: N/A	
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: Dave and Howard	DATE & TIME STARTED: 3/28/95 / DATE & TIME FINISHED: 3/29/95
DRILLING EQUIPMENT: Mobile B61 Hollow Stem Auger Rig			
COMPLETION DEPTH: 39'		BEDROCK DEPTH: None Encountered	LOGGED BY: P.H.King / CHECKED BY:
FIRST WATER DEPTH:		NO. OF SAMPLES: 3	

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
0	Concrete		No well constructed				Borehole drilled using 8" O.D. hollow stem augers. Samples collected using 3" O.D. California Modified split spoon sampler lined with brass tubes driven by a 140 lb hammer falling 30". Samples evaluated using an OVM Model 580B Photo-ionization detector equipped with a 10.3 eV bulb and calibrated with a 100 ppm isobutylene gas.
	BROWN SILTY CLAY (CL); minor fine sand, orange mottling, moist, hard. No Petroleum Hydrocarbon (PHC) odor.	CL		0		12 18 23	
5							
	BROWN SILTY SAND (SM); fine to coarse sand, gravel 1/4 to 1" diameter, red-orange mottling, moist, very stiff. No PHC odor.	SM		0		6 10 13	
10							
	BROWN SILTY SAND (SM); fine to coarse sand, gravel 1/4" to 1" diameter, red-orange mottling, moist, hard. Very strong PHC odor.			387		14 20 22	
15							
	BROWN SILTY SAND (SM); fine to coarse sand, gravel 1/4 to 1" diameter, red-orange mottling, moist, hard. Very strong PHC odor.			382		14 16 20	
20							
		▼				8 12	Water measured at 24 ft. 1:30 pm 3/29/95.
25	BROWN SILTY CLAY (CL); minor black mottling, moist, very stiff. Very strong PHC odor.	CL		407		16	
	LIGHT BROWN SILTY CLAY (CL); extensive orange mottling, black mottling, minor fine sand, moist, very stiff. Strong PHC odor.			74		6 8 15	
30							

P & D ENVIRONMENTAL

BORING NO:	PROJECT NO:	PROJECT NAME:
B9	0067	Former Service Station, Oakland

BORING LOCATION:	ELEVATION & DATUM:
Near Foothill Blvd.	N/A

DRILLING AGENCY:	DRILLER:	DATE & TIME STARTED	DATE & TIME FINISHED
Exploration Geoservices Inc.	Dave and Howard	3/28/95	3/29/95

DRILLING EQUIPMENT			
Mobile B61 Hollow Stem Auger Rig			
COMPLETION DEPTH: 39'	BEDROCK DEPTH: None Encountered	LOGGED BY: P.H.King	CHECKED BY:
FIRST WATER DEPTH:	NO. OF SAMPLES: 3		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
30		CL	No well constructed				Driller reports very moist conditions at 35 to 39 ft.
	LIGHT BROWN SILTY CLAY (CL); black mottling, minor fine sand, very moist, very stiff. Moderate PHC odor.	▽		45		6 12 17	Stop at 39 ft. at end of 3/28/95. On 3/29/95 at 07:00 am, water was at 34.5 ft. Remove augers from borehole. Borehole terminated at 39 ft. on 3/28/95. Borehole backfilled with neat cement grout on 3/29/95.
35							
40							
45							
50							
55							
60							

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0067; Former Service Station-Oakland	Date Sampled: 03/28-03/29/95
		Date Received: 03/30/95
	Client Contact: Paul King	Date Extracted: 03/30-03/31/95
	Client P.O:	Date Analyzed: 03/30-03/31/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
51218	B7-30.0	S	ND	ND	ND	ND	ND	103
51219	B7-40.0	S	ND	ND	ND	ND	ND	100
51220	B7-50.0	S	ND	ND	ND	ND	ND	102
51221	B8-35.0	S	130,a	0.86	3.7	2.0	10	103
51222	B8-40.0	S	14,a	0.92	2.0	0.43	2.3	97
51223	B8-65.0	S	ND	ND	ND	ND	ND	99
51224	B8-75.0	S	ND	ND	ND	ND	ND	100
51225	B9-20.0	S	2600,a	18	93	48	230	108
51226	B9-25.0	S	130,a	3.0	6.3	2.0	11	99
51227	B9-35.0	S	11,a	1.5	2.3	0.25	1.3	105
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/31/95 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	1.711	1.690	2.03	84	83	1.3
Benzene	0.000	0.188	0.190	0.2	94	95	1.1
Toluene	0.000	0.188	0.188	0.2	94	94	0.0
Ethylbenzene	0.000	0.188	0.186	0.2	94	93	1.1
Xylenes	0.000	0.578	0.574	0.6	96	96	0.7
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

1950

F & D ENVIRONMENTAL
4020 Panama Court
Oakland, CA 94611
Telephone (510) 658-6916

CHAIN OF CUSTODY RECORD

PROJECT NUMBER: 0067

PROJECT NAME: Farmer Service Station-Oakland

SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King / Paul H. King

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-Gas/BTEX	PRESERVATIVE	REMARKS
B7-30.0	3/29/95		Soil		1	X	ICE	Normal Turn Around
B7-40.0	"		"		1	X	"	"
B7-50.0	"		"		1	X	"	"
B8-35.0	3/28/95		"		1	X	"	"
B8-40.0	"		"		1	X	"	"
B8-65.0	"		"		1	X	"	"
B8-75.0	"		"		1	X	"	"
B9-20.0	"		"		1	X	"	"
B9-25.0	"		"		1	X	"	"
B9-35.0	"		"		1	X	"	"

51218
51219
51220
51221
51222
51223
51224
51225
51226
51227

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Paul H. King	3/29/95	2:50 PM	R Yang - 701
R Yang - 701	3/29/95	9:20	M H W - 03
M H W - 03	3/29/95	9:20	RECEIVED FOR LABORATORY BY: (SIGNATURE) Linda Ruiz

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 10
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 10

LABORATORY: McCa[illegible]

LABORATORY CONTACT: Ed Hamilton

LABORATORY [illegible]: (510) 798-1620

SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

REMARKS:

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0067; Former Service Station-Oakland	Date Sampled: 03/29/95
		Date Received: 03/30/95
	Client Contact: Paul King	Date Extracted: 03/30-04/01/95
	Client P.O:	Date Analyzed: 03/30-04/01/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
51217	B9-Water	W	260,000,a,h	20,000	32,000	4800	24,000	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/30/95 Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	96.8	98.5	100	96.8	98.5	1.7
Benzene	0	9.6	9.5	10	96.0	95.0	1.0
Toluene	0	9.4	9.3	10	94.0	93.0	1.1
Ethyl Benzene	0	9.2	9.2	10	92.0	92.0	0.0
Xylenes	0	29.1	28.8	30	97.0	96.0	1.0
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

[illegible] ENVIRONMENTAL
4020 Panama Court
Oakland, CA 94611
Telephone (510) 658-6916

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NUMBER:	PROJECT NAME:
0067	Former Service Station - Oakland

SAMPLED BY: (PRINTED AND SIGNATURE) Paul H. King Paul H. King

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSES: TPH-G	TPH-D	BTEX	PRESERVATIVE	REMARKS
B9-water	3/26/95		water	Borehole B9	2	X			ICE	Normal Turn Around
										5121

ICE/T° GOOD CONDITION HEAD SPACE ABSENT PRESERVATIVE APPROPRIATE CONTAINERS VOC [illegible] other

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Paul H. King	3/26/95	2:57 PM	Peggy - ZDL
RELINQUISHED BY: (SIGNATURE) Peggy - ZDL	DATE 3/27/95	TIME 9:21	RECEIVED BY: (SIGNATURE) [illegible]
RELINQUISHED BY: (SIGNATURE) [illegible]	DATE 3/27/95	TIME 9:21	RECEIVED FOR LABORATORY BY: (SIGNATURE) Heidi Rice

REMARKS: VOAs pressurized with HCl

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 1
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 2

LABORATORY: McCampbell Analytical
LABORATORY CONTACT: Ed Hamilton
LABORATORY PHONE NUMBER: (510) 798-1620
SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

TOTAL P.03