

24 October 1989**Ref: NC222.05**

P. O. Partners
6475 Christie Avenue, Suite 500
Emeryville, California 94608

Attention: Mr. Walt Kaczmarek

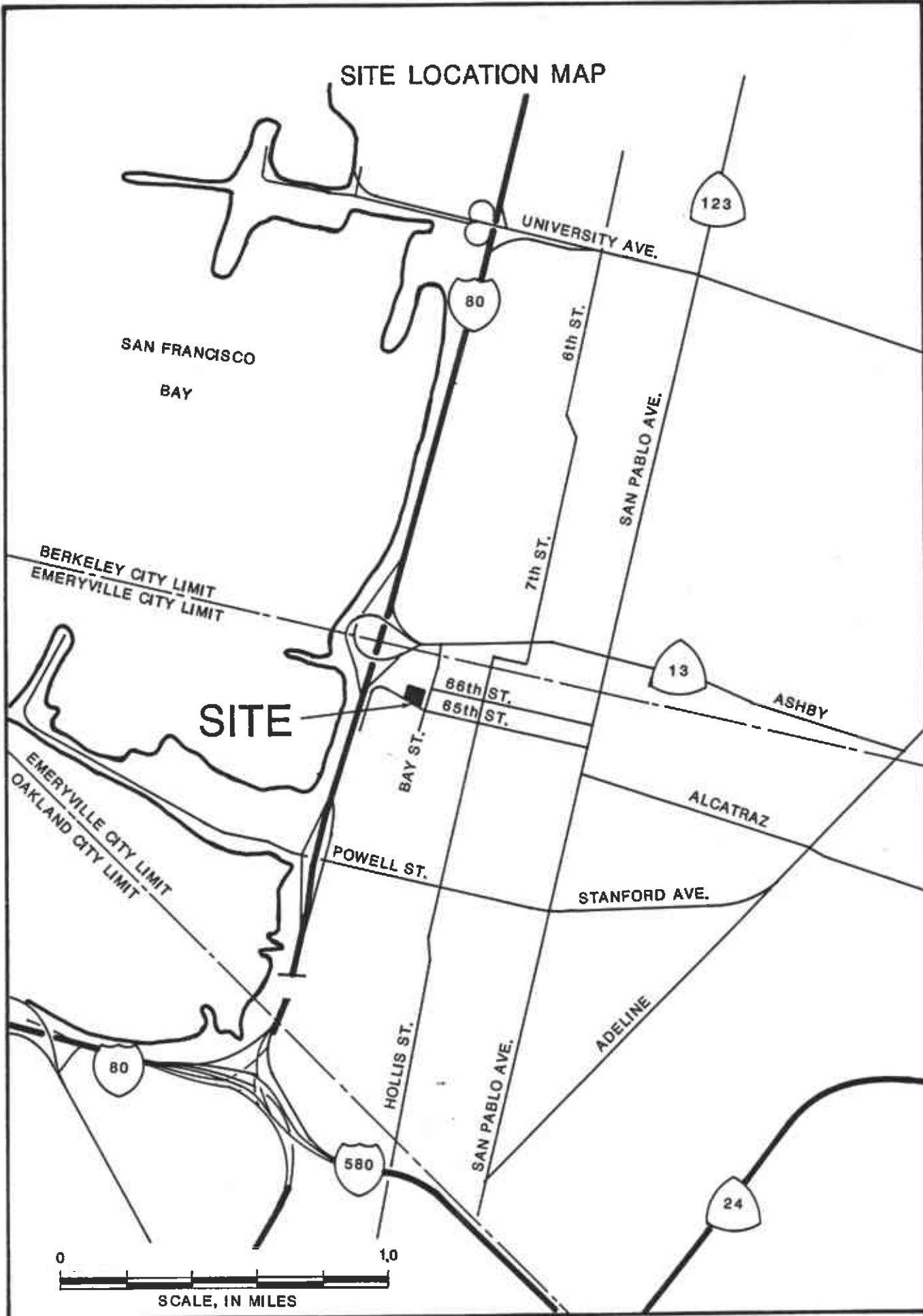
Subject: **October 1989 Quarterly Groundwater Monitoring Results for the
1650 65th Street Site in Emeryville, California**

INTRODUCTION

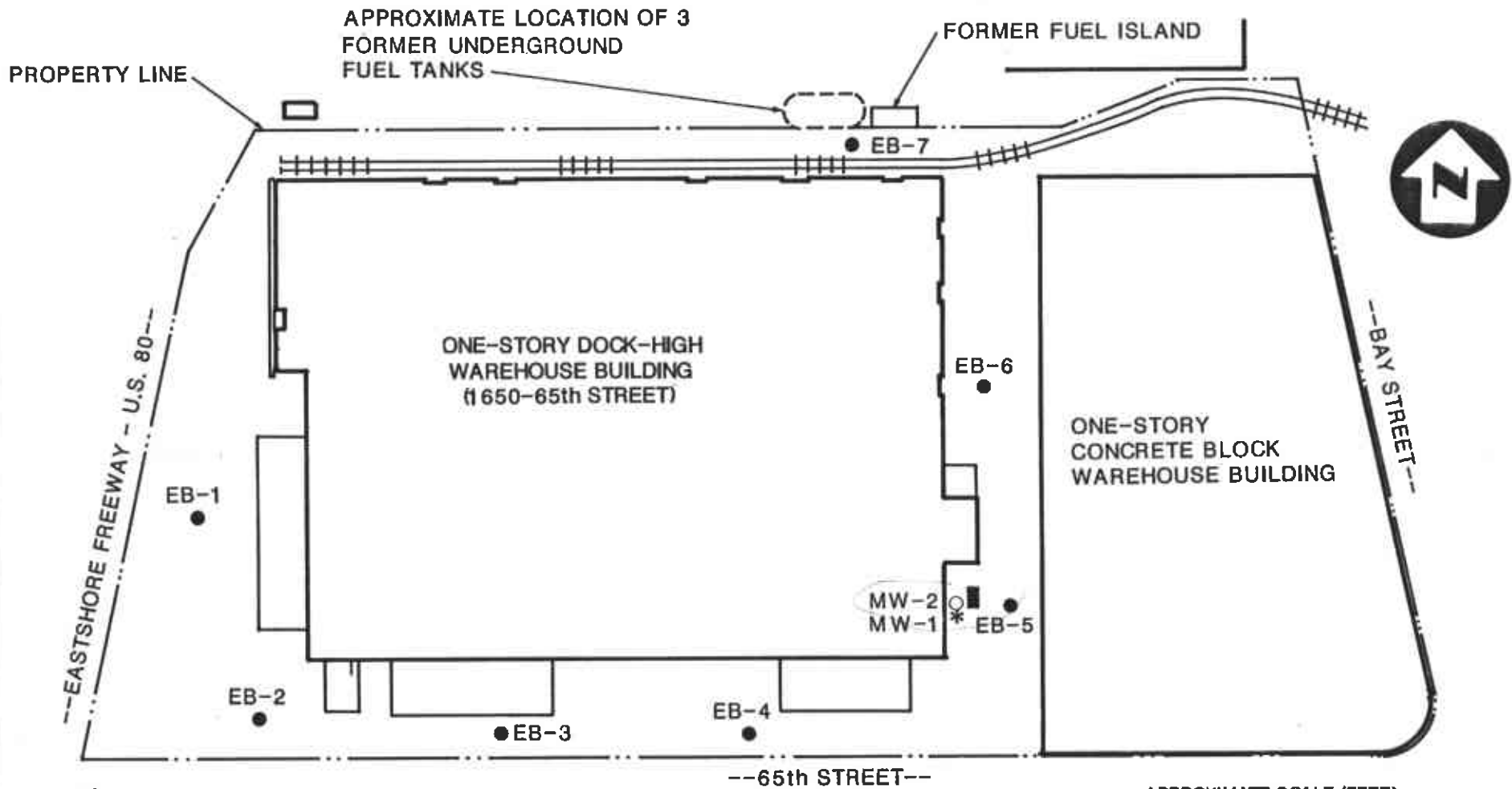
This letter report presents the hydrologic and hydrochemical results of the October 1989 groundwater sampling events conducted at the 1650 65th Street property in Emeryville, California (Figures 1 and 2). Elevated levels of hydrocarbon contamination were detected in the groundwater sample collected on 2 October 1989 and an additional unscheduled sampling event was conducted on 16 October 1989 to confirm the initial results. Engineering Science (ES) has been retained by P. O. Partners to install one monitoring well (MW-2) and perform quarterly groundwater monitoring for one year. The purpose of this project is to evaluate whether residual hydrocarbon soil contamination has impacted groundwater underlying the site and to comply with Regional Water Quality Control Board (RWQCB) guidelines for leaking underground fuel storage tanks (UFST).

SITE HISTORY

Hydrocarbon contamination was detected in soil underlying the leaking 2,000 - gallon UFST on the southeast corner of the property in April 1987. Monitoring Well MW-1 was installed by ES after the removal of the UFST in July 1987. A total petroleum hydrocarbon (TPH) concentration of 6,600 mg/kg was detected in a soil sample (MW-10) collected at a depth of 10 feet in well MW-1. A TPH concentration of 33 mg/l was detected in a groundwater sample collected from MW-1 in July 1987. Well MW-1 was abandoned in January 1988, prior to the excavation of hydrocarbon contaminated soils underlying the UFST. Contaminated soils were excavated to a depth of 16.5 where a TPH concentration of 390 mg/kg was detected in a soil sample (BW-2) collected from the western base of the excavation. Groundwater entering the excavation was pumped into a vacuum truck for disposal by M & M Ship Service in San Francisco. Excavated soils were transported to a Class I landfill for disposal. The excavation was backfilled with clean gravel and sand, which was subsequently



SITE PLAN



LEGEND

- MW-1 * FORMER MONITORING WELL (ENGINEERING-SCIENCE)
- MW-2 ○ MONITORING WELL (ENGINEERING-SCIENCE)
- EB-6 ● APPROXIMATE LOCATION OF EXPLORATORY BORINGS, PETER KALDVEER AND ASSOCIATES 1987
- EXCAVATED TANK



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compacted. The upper eight inches of the backfill were paved with Class 2 Aggregate Base and the surface was covered with 2 inches of asphalt and concrete.

In September/October 1989 three UFSTs on the adjacent property immediately north of the site (Figure 2) were excavated and removed. These tanks are reported to contain diesel, unleaded gasoline, and regular gasoline. As requested by Mr. Walt Kaczmarek of P. O. Partners on October 1989, ES conducted a brief inspection of the tank excavations on 12 October 1989. A hydrocarbon odor was detected and an oily film was observed on the groundwater in one of the excavation pits. Leakage from one or more of the UFSTs is indicated, however, the extent of contamination is presently unknown. Photodocumentation of the excavations is contained in Appendix B.

GROUNDWATER SAMPLING PROTOCOL

The groundwater monitoring program, which will entail quarterly sampling events, was initiated in October 1989. The results of this first monitoring event are reported herein and involved the measurement of water level and collection of groundwater samples from Monitoring Well MW-2. Prior to sampling, the static water level in the well was measured using an electronic water level indicator.

Groundwater sampling protocol followed recommended RWQCB guidelines for sampling "free-phase" floating product. A quartz Teflon bailer was used to collect a sample from the upper 6-inches of the water table. The sample was field-inspected for free product thickness and the presence of any odor or sheen. A strong hydrocarbon odor and a sheen were detected, but floating product was not present during both sampling events.

The collection of dissolved product samples also followed recommended RWQCB guidelines. A minimum of three (3) well volumes were purged from the well prior to sampling. During the purging of the well, water temperature (T), hydrogen ion index (pH) and electric conductivity (EC) were monitored. These parameters were considered stabilized when the last two consecutive readings fell within the following ranges: ± 0.5 degrees C for T; ± 0.10 for pH; for electric conductivity, measurements should stabilize within ± 5.0 uhmos in the 0 to 500 uhmos range, ± 50 uhmos in the 0 to 5,000 range, and ± 500 uhmos in the 0 to 50,000 range. These parameters did not stabilize prior to the purging of the required 3 well volumes during the confirmation sampling event on 16 October 1989, therefore, purging continued until 10 well volumes were removed.

Purging and sample collection was performed with a quartz Teflon bailer. Groundwater samples were transferred to appropriate containers, labelled, refrigerated and transported to a State of California, Department of Health Services (DOHS) certified hazardous waste laboratory.

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All sampling equipment was rinsed with Alconox solution (a detergent) and deionized water before and after the well was sampled. Purge-water was containerized on-site in clearly labeled, 55-gallon drums. Disposal of the purge water will be the responsibility of P.O. Partners. Groundwater sampling field notes and chain-of-custody records are contained in Appendix A.

LABORATORY ANALYSES

Groundwater samples were collected and analyzed for lead by EPA Method 7420/7421, purgeable halocarbons by EPA Method 601, purgeable aromatics by EPA Method 602, and total petroleum hydrocarbons by EPA Method Modified 8015. Analysis of these groundwater samples was performed at Curtis & Tompkins Laboratories in Berkeley, California.

GROUNDWATER LEVELS

The groundwater level in former Monitoring Well MW-1 on 17 August 1987 was approximately 12.3 feet below ground surface. On 2 and 16 October 1989, the groundwater level was approximately 12.0 feet below ground surface. Well MW-2 recharged quickly, with the groundwater level remaining approximately constant throughout purging and sampling.

ANALYTICAL RESULTS

Table 1 contains a summary of the contaminants detected and Appendix A contains the complete analytical record during the two sampling events. The results of the total petroleum hydrocarbon (as gasoline) analysis show concentrations of 120 mg/l and 77 mg/l were detected during the 2 October and 16 October 1989 samplings, respectively. At present, enforceable state or federal standards do not exist for gasoline. Evaluations of gasoline impacts on groundwater and/or public health are conducted by the RWQCB on a case-by-case basis considering such factors as the potential beneficial uses of the affected groundwater.

A 1,2-dichloroethane (DCA) concentration of 22 $\mu\text{g/l}$ was detected in the groundwater sample collected from MW-2 on 2 October 1989. This concentration of DCA is above the California Department of Health Services (DHS) Maximum Contaminant Level (MCL) of 0.5 $\mu\text{g/l}$. State MCL's, however, are only applicable where drinking water supplies are potentially impacted. No municipal drinking water wells are known to exist downgradient of the site. DCA was not detected during the 16 October 1989 sampling event, however the detection limit (50 $\mu\text{g/l}$) was higher than the DCA concentration detected during the first sampling event. The detection limits for EPA Method 601, as well as EPA Method 602, are much lower than the limits used for analysis of groundwater from Well MW-2 during both sampling events. Dilution of the MW-2 groundwater samples, which produced a proportional

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increase in the detection limit, was necessary for analyzing the high contaminant concentrations present. Other purgeable halocarbons were not detected above the detection limits used for both sampling events, however, they may be present in concentrations that exceed regulatory limits.

Benzene (6,300 $\mu\text{g/l}$), toluene (2,400 $\mu\text{g/l}$), xylenes (3,800 $\mu\text{g/l}$), and ethylbenzene (1,800 $\mu\text{g/l}$) were detected in groundwater sampled from MW-2 on 2 October 1989. Concentrations of benzene (7,300 $\mu\text{g/l}$), toluene (5,600 $\mu\text{g/l}$) and xylenes (9,400 $\mu\text{g/l}$) were significantly higher during the 16 October sampling event. The concentration of ethylbenzene decreased to 1,600 $\mu\text{g/l}$ during the second sampling event. The DHS Maximum Contaminant Levels for benzene, xylenes, and ethylbenzene are 1.0 $\mu\text{g/l}$, 1,750 $\mu\text{g/l}$, and 680 $\mu\text{g/l}$, respectively. The DHS State Action Level for toluene is 100 $\mu\text{g/l}$. Concentrations of benzene, toluene, xylenes, and ethylbenzene in groundwater sampled from Well MW-2 on 2 and 16 October 1989 are significantly higher than the regulatory limits established by DHS. However, these regulatory concentration limits are only applicable where drinking water is concerned.

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
MONITORING WELL MW-2
1650 65th Street Property

Contaminant	10/2/89	10/16/89	Regulatory Limits 10-19-89
<u>Organics</u>			
Gasoline ¹	120	77	NA
Benzene ²	6,300	7,300	1.0 ³
Toluene ²	2,400	5,600	100 ⁴
Xylenes ²	3,800	9,400	1,750 ³
Ethyl benzene ²	1,800	1,600	680 ³
1,2-dichloroethane ²	22	<50	0.5 ³
<u>Inorganics</u>			
Lead ¹	<0.05	<0.05	0.05 ⁵

¹Results expressed in mg/l.

²Results expressed in $\mu\text{g/l}$.

³DHS Maximum Contaminant Level (MCL) in drinking water: California Administrative Code, Title 22, 6/1/89. Results expressed in $\mu\text{g/l}$.

⁴DHS Recommended Drinking Water State Action Level (SAL), 6/1/89. Results expressed in $\mu\text{g/l}$.

⁵USEPA Maximum Contaminant Level - 40 CFR Parts 141, 142, and 143; National Primary and Secondary Drinking Water Regulations, 4/10/89. Results expressed in mg/l.

"NA" indicates not applicable.

"<" indicates nothing detected above the action limit of the analysis.

Lead was not detected in the groundwater samples collected from Well MW-2 on 2 and 16 October 1989.

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CONCLUSIONS

Based on the results of the October 1989 groundwater monitoring, significant groundwater contamination is present in the vicinity of Monitoring Well MW-2. Concentrations of TPH detected during the 2 October (120 mg/l) and 16 October 1989 (77 mg/l), are approximately two to four times greater than in the groundwater sample collected from MW-1 (33 mg/l) in July 1987. This dramatic increase in TPH levels is unexpected because soils containing the highest concentrations of TPH were removed in February/March 1988. The highest concentration of residual TPH soil contamination was 390 mg/kg, which is unlikely to produce the significantly elevated levels detected in the Well MW-2 groundwater samples. Possible explanations for the high TPH concentrations detected in 2 and 16 October 1989 groundwater samples are as follows:

- Previously undetected soil with a high concentration of TPH exists near the former excavation and continues to degrade the local groundwater;
- The TPH contamination is migrating on-site in the groundwater from an off-site source; and
- The sand and gravel backfill are acting as a low pressure zone for the collection and concentration of TPH components desorbed from the surrounding silt- and clay-rich native fill, thus representing an anomalously high concentration and not groundwater quality in native material.

RECOMMENDATIONS

The elevated contaminant levels detected in groundwater sampled from Well MW-2 will probably be of regulatory concern to Alameda County Environmental Health Department (ACEHD) and the RWQCB. Additional site characterization work will likely be required. ES recommends implementing a site characterization program to determine the vertical and lateral extent of contamination at the 1650 65th Street property. The program would consist of a soil gas and groundwater "grab" sample survey (Survey) to evaluate the geometry of the contaminant plume and determine the optimum locations for future monitoring wells. The survey could also be used to determine if contaminants are migrating on-site from off-site sources like the former UFSTs north of the project site. Based on the results of the survey, two or three additional wells would be installed to monitor the contaminant plume and define the local groundwater gradient. ES understands that P.O. Partners plans to renovate the present 120,000 square foot building, which is situated downgradient from the contaminant source area. The Survey would not require the emplacement of permanent monitoring points and therefore, should not affect renovation plans.

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Engineering-Science appreciates the opportunity to provide technical services to P.O. Partners. Should you have any questions regarding this submittal, please call.

Very truly yours,

Marcus L. Pierce
Project Manager

Richard S. Makdisi, R.G.
Manager, Hazardous Waste
Management Department

MLP/dcn/dae/tmk/139-48.R3

Attachment

cc: Mr. Dennis Byrne

GROUNDWATER SAMPLING FIELD NOTES

PROJECT/LOCATION 1650 65th Street

PROJ. NO. NC222.03 DATE 10/2/89

WELL ID	SAMPLE DATE, TIME AND SAMPLER	WATER LEVEL BEFORE*, WELL DIAMETER AND DEPTH	WATER LEVEL AFTER*	GALLONS PER CASING PER WELL PURGING METHOD **	PUMP ON	PUMP OFF	FLOW RATE/ GALLONS PURGED	TEMPERATURE °C	SPECIFIC CONDUCTIVITY (UMHOS / CM)	PH	TOTAL WATER PURGE (GALLONS)	SAMPLE COLLECTION METHOD **	ANALYSIS AND PRESERVATIVE	NO. AND TYPE OF CONTAINERS	COMMENT (SAMPLE TURBIDITY, SAMPLE ODOOR WEATHER CONDITIONS, ETC.)
MW-2	10/2/89 13:38 AS	12.0' 2" 27.0'	12.0'	2.40	B			20.0 19.6 19.4	3400 3380 3350	8.15 8.13 8.11	8	B	EPA Methods 601,602, Modified 8015, and 7420/7421	4-40ml VOAs 1-500ml Plas 1-1L Glass	No floating product, Hydr carbon sheen, strong gasoli odor, turbid.

* WATER LEVEL FROM GROUND SURFACE
 ** WW-WELL WIZARD; G-GRUNDFOS PUMP; B-BAILER

**ENGINEERING - SCIENCE, INC.
CHAIN OF CUSTODY RECORD**

CLIENT: ENGINEERING-SCIENCE, INC. BERKELEY		PROJECT MANAGER: MARCUS L. PIERCE		PROJ. NO.:		NO. OF CONTAINERS	ANALYSES REQUIRED				PRESERVED TO BE COMPOSITED BY LAB TURNAROUND TIME	REMARKS		
PROJECT NAME / LOCATION: MARINE 1650, 65 th Street Property							EPA 601	EPA 602	LEAD (7421)	COBALT (TPH)				
SAMPLER(S): (SIGNATURE) Ajay Singh														
SAMPLE ID	DATE	TIME	MATRIX	SAMPLE LOCATION										
MW-7	10/2/89	14:00	Water	Well MW-7			✓	✓	✓	✓		2WKS		
RELINQUISHED BY: (SIGNATURE) Ajay Singh		DATE/TIME 10/2/89 1436		RECEIVED BY: (SIGNATURE)		RELINQUISHED BY: (SIGNATURE)		DATE/TIME		RECEIVED BY: (SIGNATURE)				
RELINQUISHED BY: (SIGNATURE)		DATE/TIME		RECEIVED FOR LABORATORY BY: (SIGNATURE) Belinda Peters		DATE/TIME 10/2/89 2:40pm		REMARKS						



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2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 10/02/89
DATE REPORTED: 10/12/89
PAGE 1 OF 5

LAB NUMBER: 18403

CLIENT: ENGINEERING-SCIENCE

REPORT ON: 1 WATER SAMPLE

JOB NAME: 1650 65th ST. PROPERTY

RESULTS: SEE ATTACHED

QA/QC Officer

Laboratory Director

LABORATORY NUMBER: 18403
 CLIENT: ENGINEERING-SCIENCE
 PROJECT NAME: 1650 65th ST. PROPERTY

DATE RECEIVED: 10/02/89
 DATE ANALYZED: 10/11/89
 DATE REPORTED: 10/12/89
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Extractable Petroleum Hydrocarbons in Aqueous Solutions
 EPA 8015 (Modified)
 Extraction Method: EPA 3510

LAB ID	CLIENT ID	GASOLINE (mg/L)	KEROSENE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
18403-1c	WELL MW-2	120	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

RPD, %	17
Spike: % Recovery	86

LABORATORY NUMBER: 18403-1a
 CLIENT: ENGINEERING-SCIENCE
 PROJECT NAME: 1650 65th ST. PROPERTY
 SAMPLE ID: WELL MW-2

DATE RECEIVED: 10/02/89
 DATE ANALYZED: 10/03/89
 DATE REPORTED: 10/12/89
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EPA 601
 Purgeable Halocarbons in Water

Compound	Result ug/L	LOD ug/L
chloromethane	ND	5
bromomethane	ND	5
vinyl chloride	ND	5
chloroethane	ND	5
methylene chloride	ND	5
trichlorofluoromethane	ND	5
1,1-dichloroethene	ND	5
1,1-dichloroethane	ND	5
1,2-dichloroethene (total)	ND	5
chloroform	ND	5
freon 113	ND	5
1,2-dichloroethane	22	5
1,1,1-trichloroethane	ND	5
carbon tetrachloride	ND	5
bromodichloromethane	ND	5
1,2-dichloropropane	ND	5
cis-1,3-dichloropropene	ND	5
trichloroethylene	ND	5
1,1,2-trichloroethane	ND	5
cis-1,3-dichloropropene	ND	5
dibromochloromethane	ND	5
2-chloroethylvinyl ether	ND	5
bromoform	ND	5
tetrachloroethylene	ND	5
1,1,2,2-tetrachloroethane	ND	5
chlorobenzene	ND	5
1,3-dichlorobenzene	ND	5
1,2-dichlorobenzene	ND	5
1,4-dichlorobenzene	ND	5

ND = None Detected. Limit of detection (LOD) in last column.

QA/QC:

Duplicate: Relative % Difference
 Average Spike Recovery %

8
 81

LABORATORY NUMBER: 18403-1a
 CLIENT: ENGINEERING-SCIENCE
 JOB NAME: 1650 65th ST. PROPERTY
 SAMPLE ID: WELL MW-2

DATE RECEIVED: 10/02/89
 DATE ANALYZED: 10/03/89
 DATE REPORTED: 10/12/89
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EPA 602: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
Benzene.....	6,300	5
Toluene.....	2,400	5
Ethyl Benzene.....	1,800	5
Total Xylenes.....	3,800	5
Chlorobenzene.....	ND	5
1,4-Dichlorobenzene.....	ND	5
1,3-Dichlorobenzene.....	ND	5
1,2-Dichlorobenzene.....	ND	5

ND = None Detected

QA/QC SUMMARY

RPD %	8
SPIKE RECOVERY %	81



LABORATORY NUMBER: 18403
CLIENT: ENGINEERING-SCIENCE
PROJECT NAME: 1650 65th ST. PROPERTY

DATE RECEIVED: 10/02/89
DATE ANALYZED: 10/03/89
DATE REPORTED: 10/12/89
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=====
ANALYSIS: LEAD
METHOD REFERENCE: EPA 7420
=====

LAB ID	SAMPLE ID	RESULT	UNITS	DETECTION LIMIT
18403-1b	WELL MW-2	ND	mg/L	0.05

ND = NOT DETECTED.

QA/QC:

=====
RPD, % <1
RECOVERY, % 101
=====

GROUNDWATER SAMPLING FIELD NOTES

PROJECT/LOCATION 1650 65th Street

PROJ. NO. NC222.03 DATE 10/16/89

WELL ID	SAMPLE DATE, TIME AND SAMPLER	WATER LEVEL BEFORE* WELL DIAMETER AND DEPTH	WATER LEVEL AFTER*	GALLONS PER CASING VOLUME	WELL PURGING METHOD **	PUMP ON	PUMP OFF	FLOW RATE/ GALLONS PURGED	TEMPERATURE °C	SPECIFIC CONDUCTIVITY (UMHOS / CM)	PH	TOTAL WATER PURGE (GALLONS)	SAMPLE COLLECTION METHOD **	ANALYSIS AND PRESERVATIVE	NO. AND TYPE OF CONTAINERS	COMMENTS (SAMPLE TURBIDITY, SAMPLE ODOR, WEATHER CONDITIONS, ETC.) *
MW-2	10/16/89 1510 HR	12.0' 2" 27.0'	12.0'	2.4	B			19.5 19.0 19.0 18.9	2900 3070 2990 3030	7.24 7.51 7.53 7.58	26	B	EPA Methods 601,602, Modified 8015, and 7420/7421	4-40ml VOAs 1-500ml Plas. 1-1L glass	No floating product, Hydrocarbon sheen, strong gasoline odor turbid, sunny warm.	

WATER LEVEL FROM GROUND SURFACE
 MW-WELL WIZARD; G-GRUNDEOS PUMP; B-BAILER



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DATE RECEIVED: 10/16/89
DATE REPORTED: 10/17/89
PAGE 1 OF 5

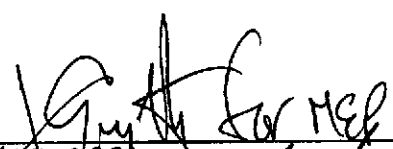
LAB NUMBER: 18509

CLIENT: ENGINEERING-SCIENCE

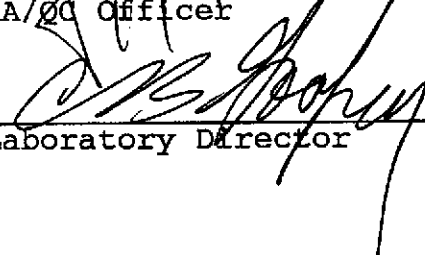
REPORT ON: 1 WATER SAMPLE

JOB #: NC222.03
LOCATION: 1650 65th STREET

RESULTS: SEE ATTACHED



QA/QC Officer



Laboratory Director

LABORATORY NUMBER: 18509
 CLIENT: ENGINEERING SCIENCE
 PROJECT #: NC222.03
 LOCATION: 1650 65th STREET

DATE RECEIVED: 10/16/89
 DATE ANALYZED: 10/17/89
 DATE REPORTED: 10/17/89
 PAGE 2 OF 5

Extractable Petroleum Hydrocarbons in Aqueous Solutions
 EPA 8015 (Modified)
 Extraction Method: EPA 3510

LAB ID	CLIENT ID	GASOLINE (mg/L)	KEROSENE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
18509-1	MW-2	77	ND(10)	ND(10)	ND(10)

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

RPD, %	<1
Spike: % Recovery	101

LABORATORY NUMBER: 18509
 CLIENT: ENGINEERING SCIENCE
 PROJECT #: NC222.03
 LOCATION: 1650 65th STREET

DATE RECEIVED: 10/16/89
 DATE ANALYZED: 10/16/89
 DATE REPORTED: 10/17/89
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 ANALYSIS: LEAD
 METHOD REFERENCE: EPA 7420
 =====

LAB ID	SAMPLE ID	RESULT	UNITS	DETECTION LIMIT
18509-1	MW-2	ND	mg/L	0.05

ND = NOT DETECTED.

QA/QC:

=====
 RPD, % <1
 RECOVERY, % 101
 =====



LABORATORY NUMBER: 18509-1
CLIENT: ENGINEERING SCIENCE
PROJECT #: NC222.03
LOCATION: 1650 65th STREET
SAMPLE ID: MW-2

DATE RECEIVED: 10/16/89
DATE ANALYZED: 10/17/89
DATE REPORTED: 10/17/89
PAGE 4 OF 5

EPA 601
Purgeable Halocarbons in Water

Compound	Result ug/L	LOD ug/L
chloromethane	ND	50
bromomethane	ND	50
vinyl chloride	ND	50
chloroethane	ND	50
methylene chloride	ND	50
trichlorofluoromethane	ND	50
1,1-dichloroethene	ND	50
1,1-dichloroethane	ND	50
1,2-dichloroethene (total)	ND	50
chloroform	ND	50
freon 113	ND	50
1,2-dichloroethane	ND	50
1,1,1-trichloroethane	ND	50
carbon tetrachloride	ND	50
bromodichloromethane	ND	50
1,2-dichloropropane	ND	50
cis-1,3-dichloropropene	ND	50
trichloroethylene	ND	50
1,1,2-trichloroethane	ND	50
cis-1,3-dichloropropene	ND	50
dibromochloromethane	ND	50
2-chloroethylvinyl ether	ND	50
bromoform	ND	50
tetrachloroethylene	ND	50
1,1,2,2-tetrachloroethane	ND	50
chlorobenzene	ND	50
1,3-dichlorobenzene	ND	50
1,2-dichlorobenzene	ND	50
1,4-dichlorobenzene	ND	50

ND = None Detected. Limit of detection (LOD) in last column.

QA/QC:

Duplicate: Relative % Difference
Average Spike Recovery %

19
80

LABORATORY NUMBER: 18509-1
 CLIENT: ENGINEERING SCIENCE
 JOB #: NC222.03
 LOCATION: 1650 65th STREET
 SAMPLE ID: MW-2

DATE RECEIVED: 10/16/89
 DATE ANALYZED: 10/17/89
 DATE REPORTED: 10/17/89
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EPA 602: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
Benzene.....	7,300	50
Toluene.....	5,600	50
Ethyl Benzene.....	1,600	50
Total Xylenes.....	9,400	50
Chlorobenzene.....	ND	50
1,4-Dichlorobenzene.....	ND	50
1,3-Dichlorobenzene.....	ND	50
1,2-Dichlorobenzene.....	ND	50

ND = None Detected

QA/QC SUMMARY

RPD %	19
SPIKE RECOVERY %	80

ENGINEERING-SCIENCE

Client P.O. PARTNERS Job No. NC222 Sheet 1 of 2
Subject 1650 65TH STREET By MLP Date 10/12/89

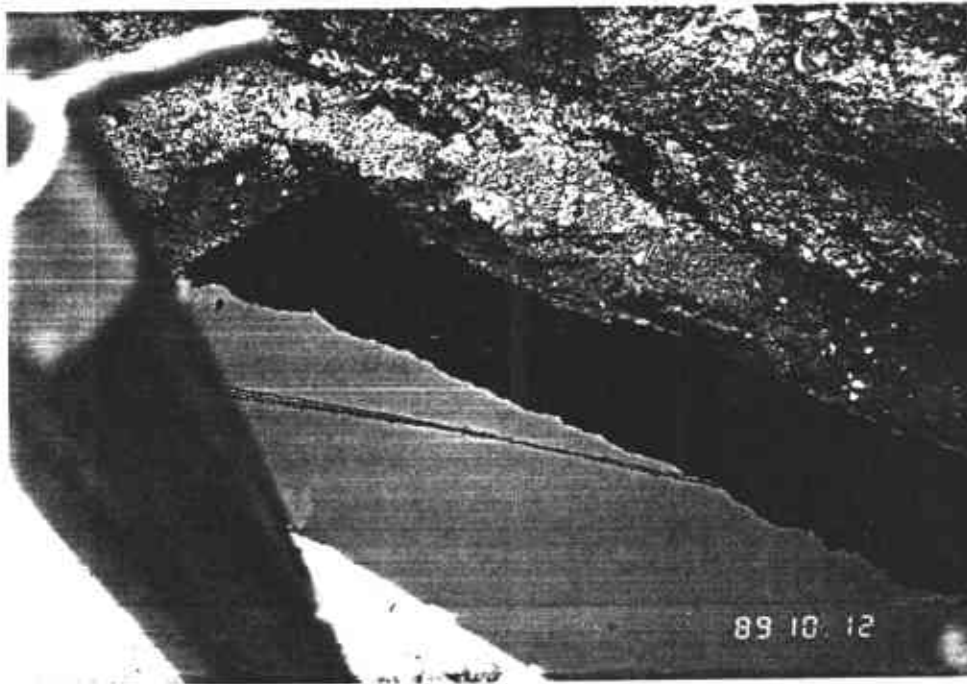


PHOTO 1

LOCATION: FORMER UFST EXCAVATION PIT
NORTH OF 1650 65TH STREET PROPERTY
VIEW: DOWN TOWARDS BLACK OILY FILM ON GROUNDWATER



PHOTO 2

LOCATION: NORTH SIDE OF 1650 65TH STREET PROPERTY
VIEW: WEST TOWARDS TANK EXCAVATION AND EXCAVATED SOIL

ENGINEERING-SCIENCE

Client P.O. PARTNERS

Job No. NC222

Sheet 2 of 2

Subject 1650 65TH STREET

By MLP

Date 10/12/89



PHOTO 3

LOCATION: NORTH SIDE OF 1650 65TH STREET PROPERTY
VIEW: WEST TOWARDS BACKFILL MATERIAL AND DRUMS
CONTAINING MW-1 PURGE WATER OR SOIL CUTTINGS