



**SMITH-EMERY GEOSERVICES**

A MEMBER OF THE SMITH-EMERY COMPANIES, ESTABLISHED 1904

HUNTERS POINT SHIPYARD, BUILDING 114  
P.O. BOX 880550  
SAN FRANCISCO, CALIFORNIA 94188-0550  
PHONE 415/330-3000  
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December 20, 1995

SEG File No. 90404  
SEG Report No. 95-461

Alameda County Department of Environmental Health (ACDEH)  
1131 Harbor Bay Parkway, #250  
Alameda, California 94502-6577

Attn: Mr. Barney Chan

Smith-Emery GeoServices herein submits a copy of our report entitled **"Quarter 4, 1995 Groundwater Monitoring, 3925 Alameda Avenue, Oakland, California."** If there are any questions regarding this report, please contact us.

Respectfully submitted,  
SMITH-EMERY GEOSERVICES

RICK WIDEBROOK  
Project Geologist

KRIS JOHNSON  
C.E.G. 1915, R.E.A. 3965  
Vice President

cc: Smooke and Sons Investment Company  
Mr. Richard Smooke

*1) Δ Laboratory from last qtr.  
Kerosene not reported like past qtr.*

LOS ANGELES

791 EAST WASHINGTON BOULEVARD  
LOS ANGELES, CALIFORNIA 90021  
PHONE 213/745-5333  
FAX 213/746-0744

ANAHEIM

5427 EAST LA PALMA AVENUE  
ANAHEIM, CALIFORNIA 92807  
PHONE 714/693-1026  
FAX 714/693-1034



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Alameda County Department of Environmental Health (ACDEH)  
1131 Harbor Bay Parkway, Suite #250  
Alameda, California 94502-6577

Attn: Mr. Barney Chan

### **REPORT - QUARTER 4, 1995 GROUNDWATER MONITORING 3925 ALAMEDA AVENUE, OAKLAND, CALIFORNIA**

Gentlemen:

#### **INTRODUCTION**

In accordance with your request, Smith-Emery GeoServices is pleased to present this report of quarterly groundwater monitoring for the above referenced site. The location of the site is shown on Vicinity Map, Plate 1. The locations of the monitoring wells and the calculated groundwater gradient are presented on the Plot Plan, Plate 2.

The details of the monitoring well installation previously were presented in Smith-Emery GeoServices Report No. 95-187, dated August 22, 1995.

#### **SCOPE OF SERVICES**

Smith-Emery GeoServices' scope of services for the quarterly groundwater monitoring at 3925 Alameda Avenue, Oakland, California included:

- Groundwater level measurements

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- Monitoring well purging
- Groundwater sampling and analytical testing
- Calculation of groundwater gradient and flow direction
- Interpretation of analytical and groundwater data and presentation of this report of our findings

**WELL MEASUREMENT**

Groundwater level measurements were taken in groundwater monitoring wells MW1, MW2, and MW3 on December 07, 1995. Static water levels and well depths were measured to the nearest one-hundredth of a foot using an electronic groundwater level indicator. The top of the well casings were surveyed by a licensed surveyor and used as reference points from mean sea level during this sampling event. Well measurement and survey data obtained for the three wells are presented in Table 1 on the following page.

The gradient is approximately six tenths of one vertical foot over 100 horizontal feet at a direction of South37°East. A current gradient map showing the surveyed monitoring well locations and flow direction is included as the Plot Plan, Plate 2.

**TABLE 1**  
**Well Measurement Data**

<u>Well I.D.</u>	<u>Date of Measurement</u>	<u>Casing Elevation</u>	<u>Depth to water from top of casing</u>	<u>Water Elevation, Mean Sea Level</u>
MW-1	12-07-95	8.73'	10.32'	-1.59'
MW-2	12-07-95	8.42'	9.83'	-1.41'
MW-3	12-07-95	9.26'	10.64'	-1.38'

**Gradient: 0.6% @ S37°E**

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Note: The benchmark elevation was set referenced to City of Oakland survey monument BM-19NW24 at elevation 9.664 feet above mean sea level. Per the USGS topographical map for the Oakland East Quadrangle, the ground surface elevation at the site is approximately 10 feet above mean sea level.

### WATER PURGING

The monitoring wells were purged and sampled according to established guidelines and the approved workplan (previously submitted). Prior to sampling, the depth to water was measured with respect to a reference point at the top of the casing using an electronic water level meter, accurate to the nearest one-hundredth of a foot. A transparent bailer was then used to sample the surface of the water table in the wells for the purpose of observing any free product. In wells MW1, MW2, and MW3, no visible free product was noticed. In MW1, MW2, and MW3 a slight petroleum odor was noticed in the purge water.

Each well was purged with a one gallon development bailer after checking for free product. A minimum of 3 well volumes had been removed from each well. Measured levels of conductivity, temperature, and pH were monitored prior to taking samples. Detailed records of well purging and sampling data appear in Appendix I - Well Purge Data Sheets.

Groundwater samples were obtained in clean disposable Teflon bailers equipped with a flow control valve. Water samples for EPA Method 8015M/602 were placed in EPA-approved 40 ml vials capped with Teflon backed caps, and 1L glass bottles with Teflon backed caps. No air bubble or headspace was present in the samples taken. All samples were then labeled and placed in zip lock bags, preserved at approximately four degrees Celsius on blue ice, and transported with appropriate chain-of-custody documentation to a state-certified laboratory.

**ANALYTICAL PROGRAM**

Analytical tests on the samples taken for this project were performed by state-certified laboratories of GeoChem in San Jose. The detailed results of all analytical work are contained in Appendix II - Report of Analytical Results.

**Groundwater Samples**

The groundwater samples obtained from the wells MW1, MW2, and MW3 were analyzed by Standard Method EPA 8015M/602 for Gasoline, Diesel, Kerosene, Motor Oil, and BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes). A summary of the analytical results are presented in the following table.

**Table 2 - ANALYTICAL FINDINGS**

**MONITORING WELL SAMPLINGS, sampled 12/07/95, analyzed 12/11/95**

**TEST: BTEX, TPH AS GASOLINE, DIESEL, MOTOR OIL, AND KEROSENE**

<b>Sample</b>	<b>Gasoline (mg/L)</b>	<b>Diesel Fuel (mg/L)</b>	<b>Kerosene (mg/L)</b>	<b>Motor Oil (mg/L)</b>	<b>Benzene (mg/L)</b>	<b>Toluene (mg/L)</b>	<b>Ethyl benzene (mg/L)</b>	<b>Xylenes (mg/L)</b>
<b>MW1</b>	6	ND	ND	ND	0.343	0.032	0.133	0.184
<b>MW2</b>	8	ND	ND	ND	0.240	0.200	0.108	0.402
<b>MW3</b>	ND	ND	ND	ND	ND	ND	0.013	0.013

Note: ND - Not Detected

### HISTORY

Two underground storage tanks, a 10K diesel and a 1K gasoline, were removed from this site in March 1988 by Blaine Tech. Evidence of a hydrocarbon release was found under the tank at that time. Additional soil excavation and soil samplings by Engeo, Inc. in March 1994 have confirmed gasoline, diesel, kerosene, and BTEX contamination of the subsurface soil immediately surrounding the former tank pit. The purpose of this work is to continue to monitor the extent of and concentrations of hydrocarbons in the subsurface downgradient of the former tank location and the adjacent Ekotek site. This quarterly monitoring program has been initiated at the request of the Alameda County Department of Environmental Health.

### CONCLUSIONS

This sampling event occurred during the start of the seasonal rain period. Review of this quarter's data from the monitoring wells indicated that the groundwater beneath the project site is flowing in a direction of S38°E with a slope of approximately 0.6 percent. The groundwater elevations have risen slightly since the last measurement on September 22, 1995, with a flatter slope of 0.6% as compared to the previous 2.2%. In addition, the direction of groundwater flow has shifted about 45 degrees toward the east from the last quarter. The groundwater gradients surrounding the project site may vary due to either natural or man-made influences, such as subsurface recharge zones, tidal influences, subsurface geology, or groundwater extraction wells.

This quarter's analytical results for the three wells show decreases in total hydrocarbon concentrations from the previous quarter's result, especially in diesel and kerosene levels.

**LIMITS OF LIABILITY**

The findings, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our investigation, and we further assume the explorations to be representative of the subsurface conditions throughout the site.

The factual data and interpretations pertain to the specific project described in this report and are solely for the use of **Smooke and Sons Investment Company**, and are not applicable to any other project or site. Any reliance on this document by any other person or entity shall be at that party's sole risk.

Our investigation was performed using the standard of care level of skill ordinarily exercise under similar circumstances by reputable Environmental Assessors and Geologists currently practicing in these or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

The following plates and appendices complete this report.

Plate 1	Vicinity Map
Plate 2	Plot Plan with Groundwater Gradient
Appendix I	Well Purge Data Sheets
Appendix II	Analytical Results Chain of Custody

Respectfully submitted,

SMITH-EMERY GEOSERVICES



RICK WIDEBROOK  
Project Geologist

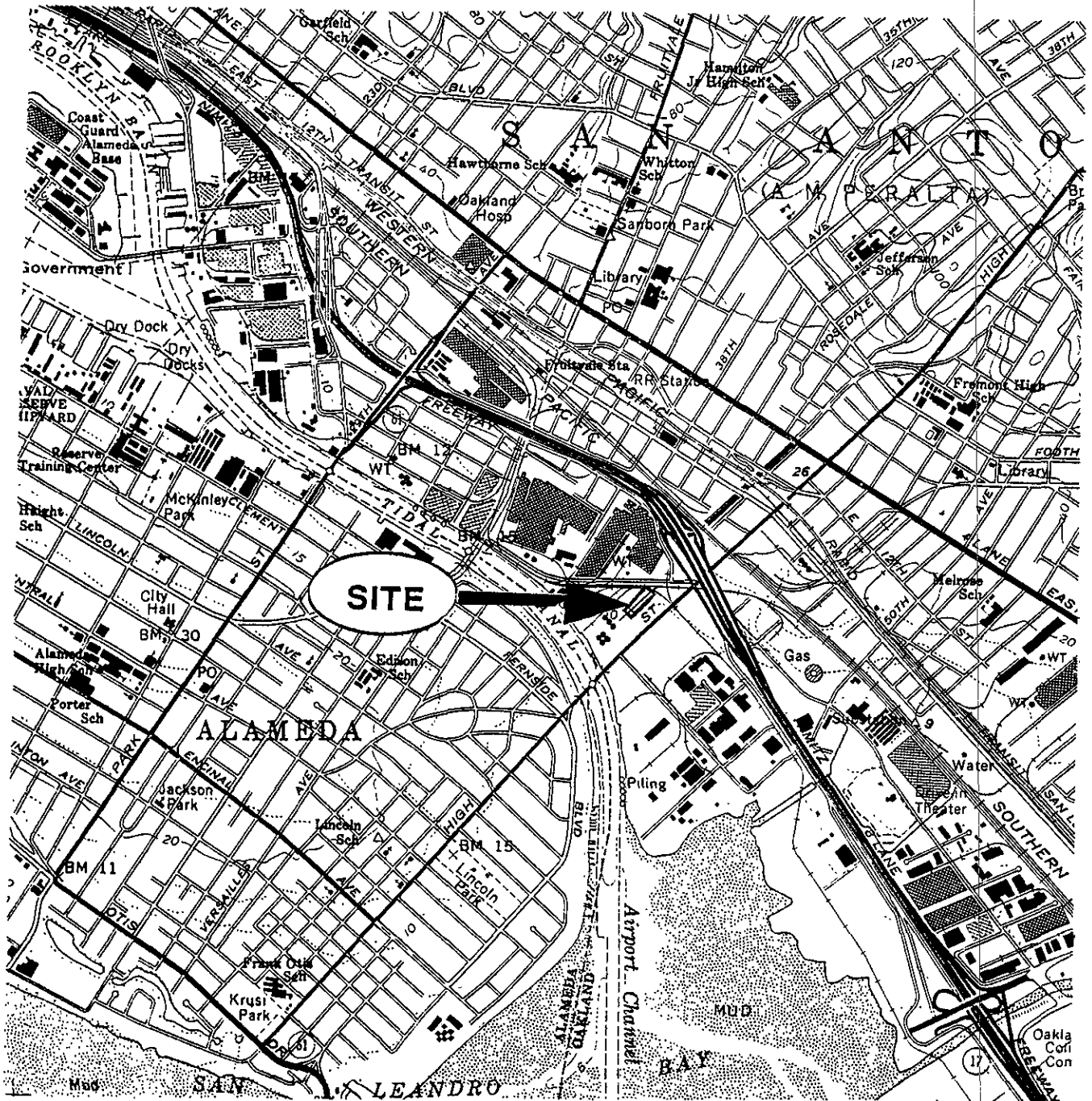
Reviewed and approved by,



KRIS JOHNSON  
C.E.G. 1915, R.E.A. 3965  
Vice President



SCALE: 1" = 2000'



REFERENCE:  
U.S.D.I. - GEOLOGICAL SURVEY  
OAKLAND EAST QUADRANGLE  
ALAMEDA COUNTY, CALIFORNIA

# VICINITY MAP

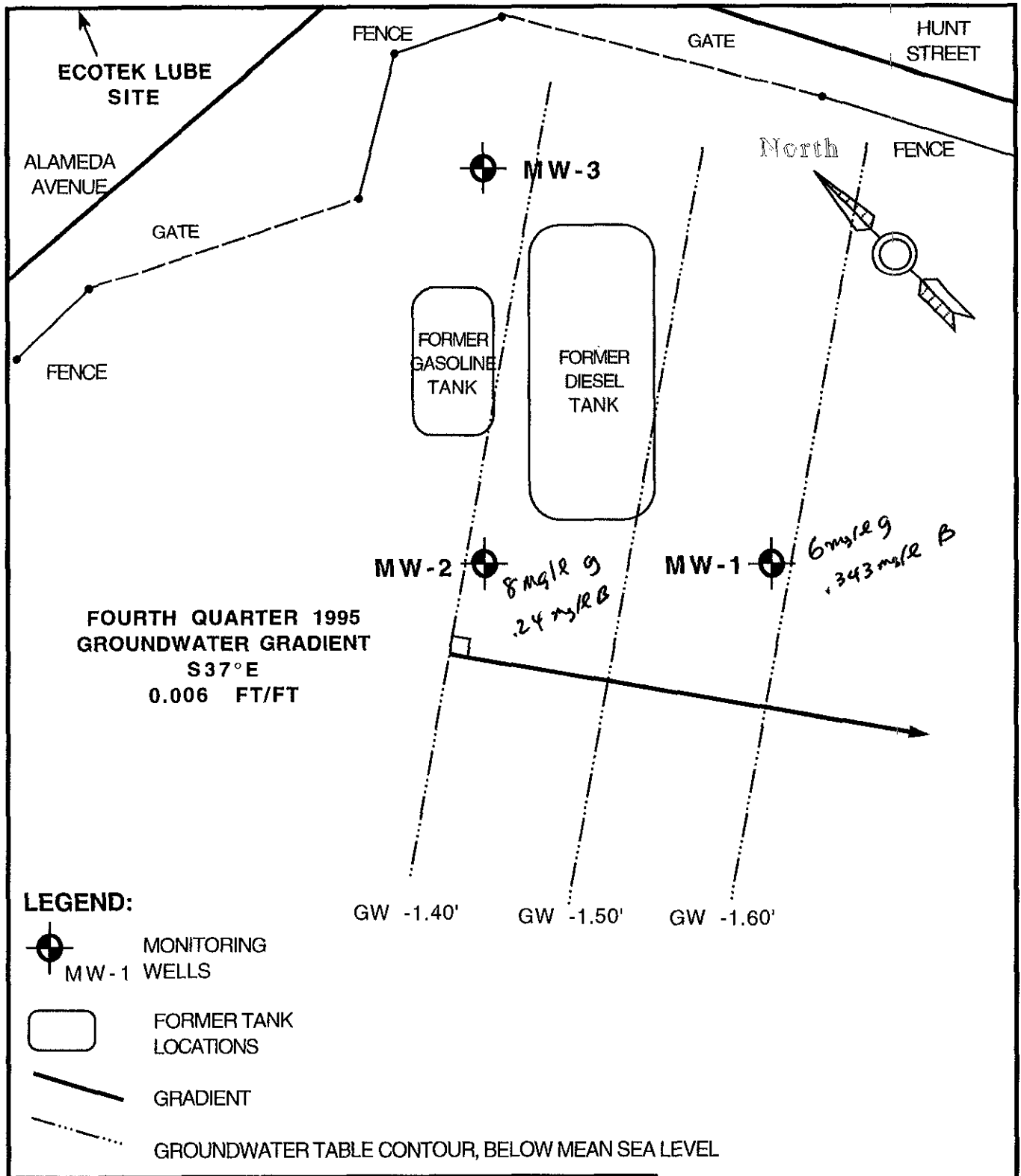
FILE REVIEW  
SMOOKE & SONS  
3925 ALAMEDA AVENUE  
OAKLAND, CALIFORNIA

## SMITH-EMERY GEOSERVICES

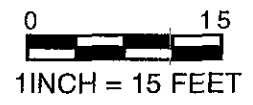
JOB NO: 90404

PLATE 1





**1-STORY WAREHOUSE  
3925 ALAMEDA AVENUE**



SMOOKE & SONS INVESTMENT CO.  
3925 ALAMEDA AVENUE  
OAKLAND, CALIFORNIA

**QUARTERLY MONITORING**

SMITH-EMERY GEOSERVICES

SEG Job No. 90404 **PLATE 2**

**SMITH-EMERY GEOSERVICES**

**APPENDIX I**

**WELL PURGE DATA SHEETS**







**APPENDIX II**

**ANALYTICAL RESULTS**



## Analytical Report

**Client:** Smith Emery  
P.O. Box 880550  
Hunter's Point Shipyard Bldg. 114  
San Francisco, CA 94188

**Date Sampled:** 12/7/95  
**Date Received:** 12/8/95  
**Date Analyzed:** 12/11/95  
**Batch:** SD - 589  
**Matrix:** Water  
**Conc. Unit :** mg/L (ppm)

**Attention:** Rick Widebrook

**Proj. Name:** 90404 Smooke Oakland

p. 1 of 2

ND: not detected at indicated detection limits.

B: benzene, T: toluene, E-B: ethylbenzene, X: total xylenes

Sample ID	8015 M/TPH	602			
	Gasoline	B	T	EB	X
Detection Limit	1 ppm	0.005 ppm	0.005 ppm	0.005 ppm	0.005 ppm
MW1-Q4-95	6	0.343	0.032	0.133	0.184
MW2-Q4-95	8	0.240	0.200	0.108	0.402
MW3-Q4-95	ND	ND	ND	0.013	0.013

**ANALYTICAL PROGRAM**

Analytical tests on the samples taken for this project were performed by state-certified laboratories of GeoChem in San Jose. The detailed results of all analytical work are contained in Appendix II - Report of Analytical Results.

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The groundwater samples obtained from the wells MW1, MW2, and MW3 were analyzed by Standard Method EPA 8015M/602 for Gasoline, Diesel, Kerosene, Motor Oil, and BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes). A summary of the analytical results are presented in the following table.

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**TEST: BTEX, TPH AS GASOLINE, DIESEL, MOTOR OIL, AND KEROSENE**

Sample	Gasoline (mg/L)	Diesel Fuel (mg/L)	Kerosene (mg/L)	Motor Oil (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Xylenes (mg/L)
MW1	6	ND	ND	ND	0.343	0.032	0.133	0.184
MW2	8	ND	ND	ND	0.240	0.200	0.108	0.402
MW3	ND	ND	ND	ND	ND	ND	0.013	0.013

Note: ND - Not Detected



Date	MW1-A				MW2-A				MW3-A			
	g	d	k	BTEX	g	d	k	BTEX	g	d	k	BTEX
6/30/95	81	9	8	11, 972, 1.8, 3.9	16	5	9	4.9	15	12	10	0.0005, 0.005, 0.005
9/2/95	11	5							3/4	1.75	1.29 1.68	0.001, 0.001, 0.012, 0.002
12/7/95	6	10									1.2 1.7 2.4	0.013, 0.13
3/29/96	12	-									1.28 1.0 1.1 1.5 1.2 1.2	0.02, 0.02, 0.015, 0.09

1) Results of B1-B3 in A14 report.  
 2) No standard coverage.  
 however boring, well tanks not hot

Cave Soil  
 MW 1-3  
 1.28  
 1.3  
 1.0  
 1.78  
 1.071

Cave GW  
 MW1+2  
 3/4 1.75  
 1.29  
 1.68  
 1.2  
 1.7  
 2.4  
 1.28  
 1.0  
 1.1  
 1.5  
 1.2  
 1.2

- 1) lone "hot spot" G6  
 4200 ppm G + 15 ppm B
- 2) offsite gran ow found up to 600 panel,  
 8, 7, 18, 420 mg/L BTEX.
- 3) Current MTBE .34 mg/L.

5/20/96 Based on my review, Ekotek site is not the source of TPH, EPHT or BTEX. TPH + BTEX is likely from ~~the~~ release from own site.



Mobile & In-House Laboratories Certified by State of California

Phone: (408) 955-9988 / FAX: (408) 955-9538

## Analytical Report

Client: **Smith Emery**  
P.O. Box 880550  
Hunter's Point Shipyard Bldg. 114  
San Francisco, CA 94188

Date Sampled: 12/7/95  
Date Received: 12/8/95  
Date Analyzed: 12/12/95  
Batch: SD - 589  
Matrix: Water  
Conc. Unit : mg/L (ppm)

Attention: Rick Widebrook

Proj. Name: 90404 Smooke Oakland

ND: not detected at indicated detection limits.

Sample ID	7420 Total Pb
Detection Limit	1ppm
MW1-Q4-95	ND
MW2-Q4-95	ND
MW3-Q4-95	ND

Reviewed and approved by:

*George T...*

Date: 12/12/95



# Geochem ENVIRONMENTAL LABORATORIES

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## Quality Control Status

Client: **Smith Emery**  
P.O. Box 880550  
Hunter's Point Shipyard Bldg. 114  
San Francisco, CA 94188

Date Sampled: 12/7/95  
Date Received: 12/8/95  
Date Analyzed: 12/12/95  
Batch: SD - 589  
Matrix: Water  
Conc. Unit : mg/L (ppm)

Attention: Rick Widebrook

Proj. Name: 90404 Smooke Oakland

TESTS	SP1 % Recovery	SP2 % Recovery	% Diff.	Control	Status
7420-Total Pb	92	92	0	20	PASS

Reviewed and approved by:

*George Tsai*  
George Tsai, Laboratory Director

Date:

12/12/95

CLIENT NAME: SMITH - EMERY

PROJECT NAME: SMOOKE OAKLAND PROJECT NO. 90404 P.O. NO. \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PROJECT MANAGER: \_\_\_\_\_ PHONE NO: 415-330-3000 FAX NO: 330 3030

SAMPLER NAME: Rick WIDEBROOK (Printed) Rick W. Widebrook (Signature)

TAT (Analytical Turn Around Time) 0 = Same Day, 1 = 24 Hour, 2 = 48 Hour, (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, G = Glass, P = Plastic, V = VOA Vial, O = Other:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX				TAT	CONTAINER		ANALYSES REQUESTED
				WATER	SOIL	SLUDGE	OTHER		#	TYPE	
1	12/7/95	3:30	MW1-Q4-1995	/				N	4/1	V/G	8015M - FUEL FINGERPRINT (Diesel, Kerosene, Motor oil) 8015M - GAS/BTEX <del>8015M - METALS</del> TOTAL LEAD
2	"	3:45	MW2-Q4-1995	/				N	4/1	V/G	
3	"	4:00	MW3-Q4-1995	/				N	4/1	V/G	

ANALYSES REQUESTED:

AIRBILL NO: \_\_\_\_\_

COOLER TEMP: \_\_\_\_\_

PRESERVED: \_\_\_\_\_

QC REPORT LEVEL: \_\_\_\_\_

REMARKS: \_\_\_\_\_

SAMPLE CONDITION/  
COMMENTS:

Relinquished By (Signature and Printed Name) Rick WIDEBROOK Received By (Signature and Printed Name) Rick Politzer Date: 12/8/95 Time: 5:50 PM

Relinquished By (Signature and Printed Name) \_\_\_\_\_ Received By (Signature and Printed Name) Brett Politzer Date: 12/8/95 Time: 5:50 PM

Relinquished By (Signature and Printed Name) \_\_\_\_\_ Received By (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

SAMPLE DISPOSITION:  
1. Samples returned to client? YES NO

2. Samples will not be stored over 30 days, unless additional storage time is requested

3. Storage time requested: \_\_\_\_\_ days

By \_\_\_\_\_ Date \_\_\_\_\_

SPECIAL INSTRUCTIONS:



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## Analytical Report

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San Francisco, CA 94188

**Date Sampled:** 12/7/95

**Date Received:** 12/8/95

**Date Analyzed:** 12/11/95

**Batch:** SD - 589

**Matrix:** Water

**Attention:** Rick Widebrook

**Conc. Unit :** mg/L (ppm)

**Proj. Name:** 90404 Smooke Oakland

p. 2 of 2

ND: not detected at indicated detection limits.

Sample ID	8015/TPH	8015/TPH
	Diesel	Kerosene
Detection Limit	0.5 ppm	0.5ppm
MW1-Q4-95	ND	ND
MW2-Q4-95	ND	ND
MW3-Q4-95	ND	ND

Reviewed and approved by:

*George Tsai*  
George Tsai, Laboratory Director

Date:

12/11/95



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Date Received: **12/8/95**  
Date Analyzed: **12/11/95**  
Batch: SD - 589  
Matrix: Water  
Conc. Unit : mg/L (ppm)

Attention: **Rick Widebrook**

Proj. Name: **90404 Smooke Oakland**

TESTS	SP1 % Recovery	SP2 % Recovery	% Diff.	Control	Status
8015/TPH-Gas	94	90	4	20	PASS
Benzene	90	95	5	20	PASS
Toluene	90	100	11	20	PASS
Ethylbenzene	90	100	11	20	PASS
Xylenes	93	95	2	20	PASS
8015/TPH-Diesel	100	90	11	20	PASS

Reviewed and approved by: \_\_\_\_\_

*George Tsai*  
George Tsai, Laboratory Director

Date: \_\_\_\_\_

12/11/95