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February 10, 1995
SCI 406.011

Ms. Vanessa Hawkins
Oakland, Community Housing, Inc.
405 14th Street, #400
Oakland, California 94612

**Quarterly Groundwater Monitoring
December 1994 Event
2530 East 14th Street
Oakland, California**

Dear Ms. Hawkins:

This letter presents the results of the December 1994 groundwater monitoring event for the referenced site. Groundwater monitoring has been performed at the request of the Alameda County Health Care Services Agency (ACHCSA) due to the presence of petroleum hydrocarbon contaminated soils left in-place following on-site remediation. The location of the site is presented on Plate 1.

Groundwater Sampling

On December 20-22, 1994, wells MW-13, MW-15, MW-16 and MW-17 were monitored. In general, the event consisted of (1) measuring groundwater levels using an electric well sounder, (2) checking for free product, (3) purging water from each well until pH, conductivity and temperature had stabilized (approximately 3 well volumes), and (4) after the wells had recovered to at least 80 percent of their initial level, sampling the wells with new disposable bailers. The samples were retained in glass containers pre-cleaned by the supplier in accordance with EPA protocol. The containers were placed in an ice filled cooler and remained iced until delivery to the analytical laboratory. Chain-of-Custody documents accompanied the samples to the laboratory. Well sampling forms are attached.

Subsurface Consultants, Inc.

171 12th Street • Suite 201 • Oakland, California 94607 • Telephone 510-268-0461 • FAX 510-268-0137

Analytical Testing

Analytical testing was performed by Curtis & Tompkins, Ltd., a laboratory certified by the State of California Department of Health Services for hazardous waste and water testing. A sample from each well was analyzed for the following:

1. Total volatile hydrocarbons (TVH), EPA Methods 5030 and 8015 modified,
2. Total extractable hydrocarbons (TEH), EPA Methods 3550 and 8015 modified, and
3. Benzene, toluene, ethylbenzene and xylenes (BTEX), EPA methods 5030 and 8020.

A summary of the current and previous analytical test results are presented in Table 1. Analytical test reports and Chain-of-Custody documents for this event are attached.

Conclusions

The groundwater level data indicates the local groundwater flow direction is toward the west-southwest. A summary of groundwater level data is presented in Table 2.

No free product was observed during this event. Elevated concentrations of petroleum hydrocarbons and BTEX were again detected in well MW-15 situated within the city right-of-way adjacent to the west property boundary. The concentrations were similar to previous events. TEH concentrations in Well MW-16, also situated along the west property boundary were significantly less than those measured previously. No detectable levels of the contaminants of concern were detected in the upgradient well (MW-13) or in the downgradient well (MW-17).

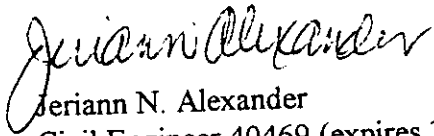
In accordance with the monitoring plan, the next event will be conducted in March 1995. During that event all the wells will be monitored for TVH, TEH and BTEX. If you have any questions, please call.

Ms. Vanessa Hawkins
Oakland Community Housing, Inc.
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Page 3

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Yours very truly,

Subsurface Consultants, Inc.



Jeriann N. Alexander
Civil Engineer 40469 (expires 3/31/95)

MFW:JNA:RWR:sld

Attachments: Table 1 - Contaminant Concentrations in Groundwater
Table 2 - Groundwater Elevation Data
Plate 1 - Site Plan
Analytical Test Report
Chain-of-Custody Document
Well Sampling Forms

cc: Mr. Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94501

Table 1.
Contaminant Concentrations in Groundwater

<u>Well</u>	<u>Sample Date</u>	<u>TVH¹</u> <u>(ug/l)⁴</u>	<u>TEH³</u> <u>(ug/l)</u>	<u>B²</u> <u>(ug/l)</u>	<u>T²</u> <u>(ug/l)</u>	<u>E²</u> <u>(ug/l)</u>	<u>X²</u> <u>(ug/l)</u>
MW-12	3/30/90	-	<50	<1	<1	<1	<1
	8/28/91	-	<50	<0.5	<0.5	<0.5	<0.5
Abandoned 1991							
MW-13	3/30/90	<50	<50	<1	<1	<1	<1
	8/28/91	<50	-	<0.5	<0.5	<0.5	<0.5
	1/24/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	6/10/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	9/23/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	12/21/94	<5	<50	<0.5	<0.5	<0.5	<0.5
MW-14	3/30/90	820	-	<1	<1	<1	89
	8/28/91	230	-	11	6.2	7.2	20
Abandoned in 1991							
MW-15	6/10/94	6,000	440	150	150	26	940
	9/23/94	2,300	330	250	210	170	360
	12/22/94	7,000	340	360	620	350	930
MW-16	6/10/94	3,400	150	28	84	75	560
	9/23/94	1,900	270	38	52	73	350
	12/21/94	680	<50	12	26	34	130
MW-17	6/10/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	9/23/94	<50	<50	<0.5	<0.5	<0.5	1.1
	12/21/94	<50	<50	<0.5	<0.5	<0.5	<0.5

¹ TVH = Total volatile hydrocarbons

² BTEX = Benzene, toluene, ethylbenzene, and xylenes

³ TEH = Total extractable hydrocarbons

⁴ ug/l = Micrograms per liter

Table 2.
Groundwater Elevation Data

<u>Well Number</u>	<u>TOC Elev¹ (feet)</u>	<u>Date</u>	<u>Groundwater Depth² (feet)</u>	<u>Groundwater Elevation (feet)</u>
MW-13	29.51	6/10/94	8.30	21.21
		9/23/94	10.30	19.21
		12/20/94	7.31	22.20
MW-15	26.53	6/10/94	6.45	20.08
		9/23/94	8.29	18.24
		12/20/94	5.51	21.02
MW-16	26.09	6/10/94	6.20	19.89
		9/23/94	7.53	18.56
		12/20/94	5.44	20.65
MW-17	25.52	6/10/94	11.32	14.20
		9/23/94	12.83	12.69
		12/20/94	9.40	16.12

¹ TOC = Top of casing elevations referenced to face of curb, near the southeast corner of the property, with established elevation of 27.66 msl.

² Measured below TOC

MW-13
22.20'

22.0'

2530 E. 14th STREET

DIRECTION OF
GROUNDWATER
FLOW 12/20/94

20.0'

SIDEWALK

20.65'

PARKING LANE

21.02'

FACE OF CURB

MW-16

MW-15

E. 14TH STREET

Q

18.9'

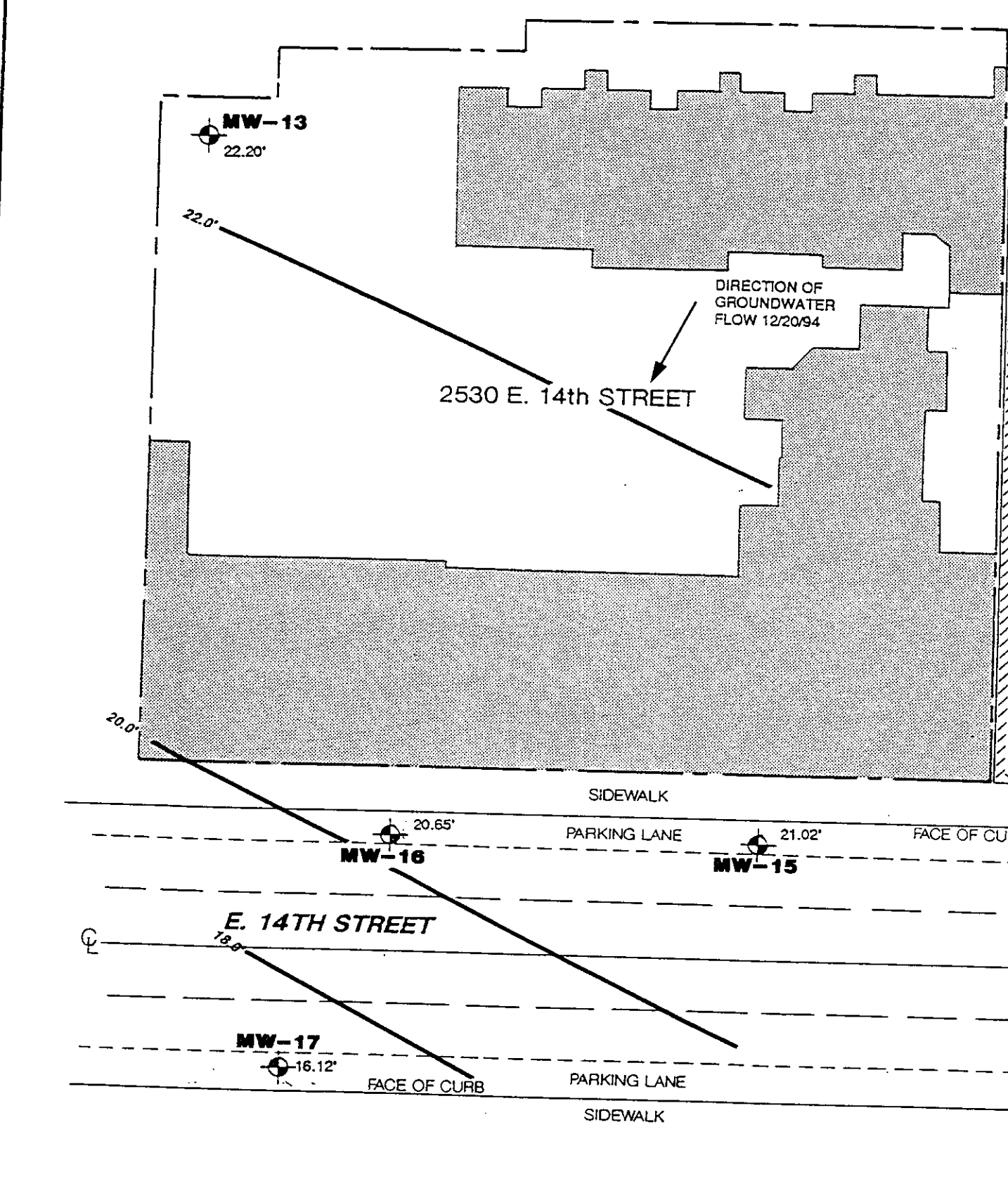
MW-17

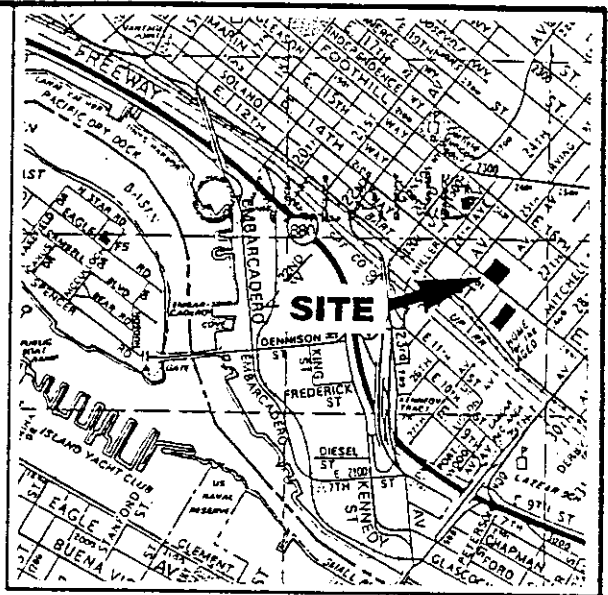
16.12'

FACE OF CURB

PARKING LANE

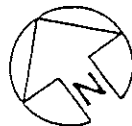
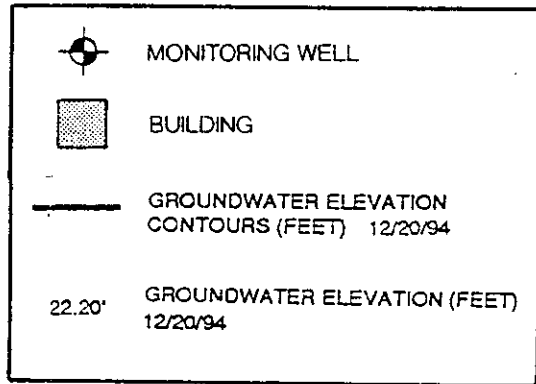
SIDEWALK



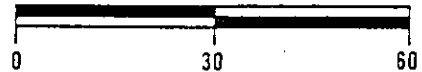


VICINITY MAP

EXISTING
STRUCTURE



APPROXIMATE SCALE (feet)



SITE PLAN

Subsurface Consultants	2530 E. 14TH STREET - OAKLAND, CA		PLATE
	JOB NUMBER 406.011	DATE 2/1/95	APPROVED <i>mm</i>
			1

WELL SAMPLING FORM

Project Name: OCHI Well Number: MW-13
 Job No.: 406.011 Well Casing Diameter: 2 inch
 Sampled By: DWA Date: 12/21/94
 TOC Elevation: _____ Weather: Sunny - cold

Depth to Casing Bottom (below TOC) 15.50 feet
 Depth to Groundwater (below TOC) 7.31 feet
 Feet of Water in Well 8.19 feet
 Depth to Groundwater When 80% Recovered 8.95 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 1.34 gallons
 Depth Measurement Method Electronic Sounder / Other
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>0</u>	<u>6.80</u>	<u>16.0</u>	<u>450</u>		<u>clean/no odor</u>
<u>1</u>	<u>6.63</u>	<u>17.0</u>	<u>475</u>		↓
<u>3</u>	<u>6.48</u>	<u>17.0</u>	<u>480</u>		↓
<u>5</u>	<u>6.43</u>	<u>17.0</u>	<u>490</u>		↓

Total Gallons Purged 5 gallons
 Depth to Groundwater Before Sampling (below TOC) 7.31' feet
 Sampling Method teflon bailer
 Containers Used 3 40 ml 1 liter _____ pint

Subsurface Consultants			PLATE
	JOB NUMBER	DATE	APPROVED

WELL SAMPLING FORM

Project Name: OCHI Well Number: MW-15
 Job No.: 406.011 Well Casing Diameter: 2 inch
 Sampled By: DWA Date: 12/22/94
 TOC Elevation: _____ Weather: sunny-cold

Depth to Casing Bottom (below TOC) 15.50 feet
 Depth to Groundwater (below TOC) 5.51 feet
 Feet of Water in Well 9.99 feet
 Depth to Groundwater When 80% Recovered 7.50 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 1.6 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other _____
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>0</u>	<u>6.61</u>	<u>14.5</u>	<u>575</u>	_____	<u>clean/strong odor</u>
<u>1</u>	<u>6.10</u>	<u>14.5</u>	<u>600</u>	_____	<u>murky</u>
<u>3</u>	<u>5.94</u>	<u>15.0</u>	<u>600</u>	_____	_____
<u>5</u>	_____	<u>16.0</u>	<u>575</u>	_____	_____
_____	_____	_____	_____	_____	_____

Total Gallons Purged 5 gallons
 Depth to Groundwater Before Sampling (below TOC) 7.50 feet
 Sampling Method disposable bailer
 Containers Used 3 40 ml 1 liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: OCHI Well Number: MW-16
 Job No.: 406.011 Well Casing Diameter: 2 inch
 Sampled By: DWA Date: 12/21/94
 TOC Elevation: _____ Weather: Sunny - cold

Depth to Casing Bottom (below TOC) 15.00 feet
 Depth to Groundwater (below TOC) 5.44 feet
 Feet of Water in Well 9.56 feet
 Depth to Groundwater When 80% Recovered 7.35 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 1.6 gallons
 Depth Measurement Method Tape & Paste Electronic Sounder / Other
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>0</u>	<u>7.20</u>	<u>15.0</u>	<u>525</u>		<u>clear/strong odor</u>
<u>1</u>	<u>7.78</u>	<u>16.0</u>	<u>550</u>		<u>Semi-clear</u>
<u>3</u>	<u>8.24</u>	<u>17.0</u>	<u>550</u>		<u>clear</u>
<u>5</u>	<u>8.28</u>	<u>17.0</u>	<u>550</u>		<u>murky-green color</u> <u>decreasing odor</u>

Total Gallons Purged 5 gallons
 Depth to Groundwater Before Sampling (below TOC) 6.80' feet
 Sampling Method disposable bailer
 Containers Used 3 40 ml | liter | pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: OCHI Well Number: MW-17
 Job No.: 406.04 Well Casing Diameter: 2 inch
 Sampled By: DWA Date: 12/21/94
 TOC Elevation: _____ Weather: sunny-cdd

Depth to Casing Bottom (below TOC) 14.50 feet
 Depth to Groundwater (below TOC) 9.40 feet
 Feet of Water in Well 5.10 feet
 Depth to Groundwater When 80% Recovered 10.42 feet
 Casing Volume (feet of water x Casing DIA ² x 0.0408) .83 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other _____
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>0</u>	<u>7.94</u>	<u>15.0</u>	<u>525</u>		<u>clean/no odor</u>
<u>1</u>	<u>7.32</u>	<u>15.0</u>	<u>575</u>		<u>muddy</u>
<u>2</u>	<u>6.59</u>	<u>15.0</u>	<u>550</u>		↓
<u>3</u>	<u>6.51</u>	<u>15.0</u>	<u>500</u>		↓

Total Gallons Purged 3 gallons
 Depth to Groundwater Before Sampling (below TOC) 10.42 feet
 Sampling Method _____
 Containers Used 3 40 ml 1 liter _____ pint

<h1 style="margin: 0;">Subsurface Consultants</h1>	JOB NUMBER	DATE	APPROVED	PLATE



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 06-JAN-95
Lab Job Number: 119241
Project ID: 406.011
Location: Oakland Community Housing

Reviewed by:

Mary Plessner

Reviewed by:

Kurtis OR

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Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119241
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 406.011
LOCATION: OAKLAND COMMUNITY HOUSING

DATE SAMPLED: 12/21/94
DATE RECEIVED: 12/22/94
DATE ANALYZED: 01/04/95
DATE REPORTED: 01/06/95

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
119241-001	MW-13	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
119241-004	MW-17	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
METHOD BLANK	N/A	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, % 3
RECOVERY, % 102



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119241
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 406.011
LOCATION: OAKLAND COMMUNITY HOUSING

DATE SAMPLED: 12/21,22/94
DATE RECEIVED: 12/22/94
DATE ANALYZED: 01/04/95
DATE REPORTED: 01/06/95

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
119241-002	MW-15	7,000	360	620	350	930
119241-003	MW-16	680	12	26	34	130
METHOD BLANK	N/A	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

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=====
RPD, %                               5
RECOVERY, %                           101
=====

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LABORATORY NUMBER: 119241
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 406.011
 LOCATION: OAKLAND COMMUNITY HOUSING

DATE SAMPLED: 12/21,22/94
 DATE RECEIVED: 12/22/94
 DATE EXTRACTED: 12/28/94
 DATE ANALYZED: 12/30/94
 DATE REPORTED: 01/06/95

Extractable Petroleum Hydrocarbons in Aqueous Solutions
 California DOHS Method
 LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
119241-001	MW-13	ND	ND	50
119241-002	MW-15	340*	ND	50
119241-003	MW-16	ND	ND	50
METHOD BLANK		ND	ND	50

ND = Not detected at or above reporting limit. Reporting limit applies to all analytes.

* Sample chromatogram does not resemble kerosene standard. Gasoline range components contributing to kerosene range quantitation.

QA/QC SUMMARY:

RPD, %	12
RECOVERY, %	91



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119241
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 406.011
LOCATION: OAKLAND COMMUNITY HOUSING

DATE SAMPLED: 12/21/94
DATE RECEIVED: 12/22/94
DATE EXTRACTED: 12/29/94
DATE ANALYZED: 01/02/95
DATE REPORTED: 01/06/95

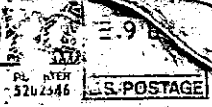
Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
119241-004	MW-17	ND	ND	50
METHOD BLANK		ND	ND	50

ND = Not detected at or above reporting limit. Reporting limit applies to all analytes.

QA/QC SUMMARY:

=====
RPD, % 4
RECOVERY, % 116
=====



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