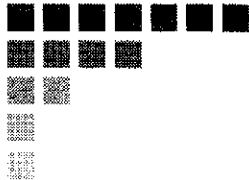


ALCO
HAZMAT

94 JUN 10 PM 4: 05



Ms. Susan Hugo
Alameda County Health Care
Services Agency
Division of Hazardous Materials
80 Swan Way, #200
Oakland, CA 94612

■ Subsurface Consultants, Inc.

171 12th Street • Suite 201 • Oakland, California 94607

ENVIRONMENTAL
PROTECTION

95 MAR -2 PM 1:47

R. William Rudolph, Jr., PE
Thomas E. Cundey, PE
Jerriann N. Alexander, PE

March 1, 1995
SCI 820.001

Ms. Susan Hugo
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

**Groundwater Monitoring
February 1995 Event
6707 Bay Street
Emeryville, California**

RECEIVED

MAR 02 1995

ENVIRONMENTAL HEALTH SERVICES
NORTH COUNTY

Dear Ms. Hugo:

This letter records the results of a groundwater monitoring event performed by Subsurface Consultants, Inc. (SCI) at the referenced site in February 1995.

Three underground tanks which previously stored methyl isobutyl ketone and possibly methyl ethyl ketone were removed from the site in October 1989 by others. Studies conducted following tank removal indicated that soil and groundwater adjacent to the previous tanks had been impacted by past organic chemical releases. Soil vapor extraction and groundwater treatment systems were subsequently installed in 1990 to remediate contaminated soil and groundwater. The treatment systems were in operation until early 1991. Since 1991, no additional remediation has been performed. SCI implemented groundwater monitoring on a quarterly basis from May 1993 to August 1994. Monitoring well locations are shown on the attached Site Plan, Plate 1.

For this event, Wells 1, 8, 9 and 10 were sampled. Prior to sampling, water levels were measured and then these wells were purged with a clean disposable bailer until measurements of water pH, conductivity and temperature stabilized. A minimum of 4 well volumes were removed from each well. The purged water was placed in 55 gallon drums and left on-site.

After the wells had recharged to within 80 percent of the initial volume they were sampled using a pre-cleaned sampling device. The water samples were retained in pre-cleaned containers, placed in an iced

■ **Subsurface Consultants, Inc.**

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

Ms. Susan Hugo
Alameda County Health Care Services Agency
March 1, 1995
SCI 820.001
Page 2

cooler, and kept refrigerated until delivery to the analytical laboratory. Chain-of-Custody documents accompanied the samples to the laboratory.

As requested by Ms. Susan Hugo of Alameda County Health Care Services Agency (ACHCSA), groundwater levels were measured simultaneously with wells at the adjacent site. The groundwater level measurements are presented in Table 1. Groundwater surface contours for the February 1995 event are shown on Plate 1.

Analytical testing was performed by Curtis & Tompkins, Ltd., a California Department of Health Services certified analytical laboratory for the test performed. The samples were analytically tested for the following.

1. Volatile organic chemicals - EPA 8240, and
2. Total volatile hydrocarbons - EPA 8015/5030
3. Total extractable hydrocarbons - EPA 8015/3550

A summary of the current and previous analytical test results are presented in Tables 2 and 3. Analytical test reports and Chain-of-Custody documents are attached.

Conclusions

The groundwater level data indicate that groundwater flow direction is toward the south at a gradient of approximately 2 to 2.5 percent throughout both sites. Water levels are approximately 3 to 4 feet higher than levels recorded during the October 1994 event. Previous and current water levels are summarized in the Table 1.

As shown in Table 2, volatile organic chemical concentrations during the current event are consistent with previous results. As presented in the Table 3, petroleum hydrocarbon concentrations are generally lower than the October 1994 event.

■ Subsurface Consultants, Inc.

Ms. Susan Hugo
Alameda County Health Care Services Agency
March 1, 1995
SCI 820.001
Page 3

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/96)

MK:RWR:sld

Attachments: Table 1 - Groundwater Elevation Data
Table 2 - Volatile Organic Chemical Concentrations in Groundwater
Table 3 - Petroleum Hydrocarbon Concentrations in Groundwater
Plate 1 - Site Plan
Analytical Test Reports
Chain-of-Custody Records
Groundwater Sampling Forms

cc: Brian Berger, Pettit & Martin
James McClay, Scenic Art - MRCP

**Table 1
Groundwater Elevation Data**

Well	Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	
SCI MW-1	9/7/89	20.61	11.60	9.01	
	5/20/93		10.25	10.36	
	6/4/93		11.45	9.16	
	8/25/93		11.20	9.41	
	11/18/93		11.65	8.96	
	2/25/94		10.04	10.57	
	4/20/94		10.54	10.07	
	4/22/94		10.56	10.05	
	4/26/94		20.39	10.38	10.01
	8/8/94		11.02	9.37	
	2/9/95	7.48	12.91		
SCI MW-3	9/7/89	20.09	9.83	10.26	
	5/20/93		8.55	11.54	
	6/4/93		9.36	10.73	
	8/25/93		9.42	10.67	
	11/18/93		10.03	10.06	
	2/25/94		7.29	12.80	
	4/20/94		8.56	11.53	
	4/22/94		8.65	11.44	
	4/26/94		8.21	11.88	
	8/8/94		9.31	10.78	
	2/9/95	7.15	12.94		
SCI MW-5	9/7/89	18.06	10.27	7.79	
	4/22/94		9.26	8.80	
	4/26/94		9.24	8.82	
	8/8/94		9.96	8.10	
	2/9/95		6.68	11.38	
SCI MW-7	6/4/93	20.36	12.67	7.69	
	8/25/93		12.44	7.92	
	11/18/93		13.13	7.23	
	2/25/94		11.80	8.56	
	4/20/94		12.21	8.15	
	4/22/94		12.26	8.10	
	4/26/94		12.21	8.15	
	8/8/94		12.65	7.71	
	2/9/95		10.20	10.16	
SCI MW-8	5/20/93	20.72	9.55	11.17	
	6/4/93		10.81	9.91	
	8/25/93		10.93	9.79	
	11/18/93		11.72	9.00	
	2/25/94		9.05	11.67	
	4/20/94		10.18	10.54	
	4/22/94		10.48	10.24	
	4/26/94		10.13	10.59	
	8/8/94		10.99	9.73	
	2/9/95		7.85	12.87	
SCI MW-9	4/20/94	20.69	10.26	10.43	
	4/22/94		10.31	10.38	
	4/26/94		10.26	10.43	
	8/8/94		11.24	9.45	
	2/9/95		7.55	13.14	

Well	Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
SCI MW-10	4/20/94	20.42	10.72	9.70
	4/22/94		10.73	9.69
	4/26/94		10.72	9.70
	8/8/94		11.60	8.82
	2/9/95		7.10	13.32
PES MW-2	2/9/95	15.79	10.64	5.15
PES MW-3	2/9/95	12.43	6.86	5.57
PES MW-4	2/9/95	12.24	8.11	4.13
PES MW-5	2/9/95	12.82	5.68	7.14
PES MW-6	2/9/95	12.03	7.66	4.37
PES MW-7	2/9/95	12.90	7.57	5.33
PES MW-8	2/9/95	15.01	10.23	4.78

1 Reference Elevation: MSL

Table 2
Volatile Organic Chemical Concentrations in Groundwater

Reference No.	Well	Date	4-Methyl-2 Pentanone (µg/l) ¹	Vinyl Chloride (µg/l)	Acetone (µg/l)	2-Butanone (µg/l)	4-Methyl-2 Pentanol (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl benzene (µg/l)	Xylene (µg/l)	Trans-1,2 Dichloro-ethene (µg/l)	Other EPA 8240 Compounds (µg/l)
3	Sump-Well	8/21/89	<20	<4	<20	<20	NR ²	<2	<2	<3	<3	<3	ND ³
5	MW1	7/6/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND
5		9/7/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND
8		1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND
10		9/5/91	<10	<10	<20	<20	NR	7	8	<5	3	<5	ND
12		5/20/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
12		8/25/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
12		11/18/93	<10	<10	<40	<10	NR	<5	<5	<5	<5	<5	ND
12		2/25/94	<10	<10	<10	<10	NR	<5	<5	<5	<5	<5	ND
	8/8/94	<10	<10	<10	<10	NR	<5	<5	<5	<5	<5	ND	
	2/9/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
5	MW3	9/7/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND
8		1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND
10		9/5/91	<10	<10	<20	<20	NR	<5	<5	<5	<5	<5	ND
12		5/20/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
12		8/25/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
12		11/18/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
12		2/25/94	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
		8/8/94	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
8	MW8	1/10/90	160,000 ⁴	<6,000	NR	NR	NR	2,100	<1,000	<1,000	<1,000	<1,000	ND
9		12/10/90	47,000 ⁴	<150	3,200 ⁴	10,000 ⁴	130,000 ⁴	160	<25	<25	<25	<25	ND
10		9/5/91	150,000	<10,000	<5,000	<20,000	NR	<10,000	<10,000	<5,000	<5,000	<5,000	ND
12		5/20/93	100,000	<5,000	<10,000	<5,000	NR	<3,000	<3,000	<3,000	<3,000	<3,000	ND
12		8/25/93	48,000	<3,000	<5,000	<3,000	NR	<1,000	<1000	<1000	<1000	<1000	ND
12		11/18/93	840	<50	<100	<50	NR	<25	<25	<25	<25	<25	ND
12		2/25/94	14,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
12		4/21/94	19,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
12		5/11/94	140,000	<5,000	<10,000	<3,000	NR	<3,000	<3,000	<3,000	<3,000	<3,000	ND
		8/8/94	61,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
	2/9/95	62,000	<10	40	78	NR	64	<5	<5	<5	<5	7.9 ⁵ , 10 ⁶	
12	MW9	4/21/94	120	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
		8/8/94		<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
		2/9/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
12	MW10	4/21/94	23	<10	<20	<10	NR	22	<5	<5	<5	<5	ND
		8/8/94		<10	<20	<10	NR	14	<5	<5	<5	<5	ND
		2/9/95	<10	<10	<20	<10	NR	6.6	<5	<5	<5	<5	3.2 ⁶

¹ micrograms per liter

² Not reported

³ Not detected at concentrations above the reporting limits

⁴ Tentatively identified compound concentrations

⁵ 2-Hexanone

⁶ Chlorobenzene (Reporting Limit = 5.0 µg/l)

Table 3
Petroleum Hydrocarbon Concentrations in Groundwater

Reference No.	Date	Well	Total Recoverable Hydrocarbons (mg/l)	Oil and Grease (mg/l)	TEH (mg/l)	TVH (mg/l)
5	7/6/89	MW-1	--	--	<0.5	<0.5
5	9/7/89		--	<10	<0.5	<0.5
8	1/10/90		0.5	--	<10	<10
12	5/20/93		--	≤5	--	--
12	8/25/93		--	≤5	--	--
12	11/18/93		--	≤5	--	--
12	2/25/94		--	≤5	--	--
	8/8/94		--	--	<0.05	<0.05
	2/9/95		--	--	1.0**	<50
5	9/7/89	MW-3	--	<10	<0.5	<0.5
8	1/10/90		0.6	--	<10	<10
12	5/20/93		--	≤5	--	--
12	8/25/93		--	≤5	--	--
12	11/18/93		--	≤5	--	--
12	2/25/94		--	≤5	--	--
12	4/21/94		--	≤5	0.43	0.06
	8/8/94		--	≤5	1.2	<0.05
8	1/10/90	MW-8	103	--	<10	<10
9	12/10/90		10.5	--	--	--
12	5/20/94		--	≤5	--	--
12	8/25/93		--	≤5	--	--
12	11/18/93		--	14	--	--
12	2/25/94		--	≤5	--	--
12	4/21/94		--	≤5	2.8	5.9
	8/8/94		--	≤5	3.6	7.2
	2/9/95		--	--	2.8**	9.1*
12	4/21/94	MW-9	--	≤5	0.68	0.92
	8/8/94		--	≤5	1.2	0.86
	2/9/95		--	--	0.730**	0.400*
12	4/21/94	MW-10	--	≤5	2.1	0.68
	8/8/94		--	≤5	4.4	0.61
	2/9/95		--	--	1.3**	0.150*

TEH = Total extractable hydrocarbons

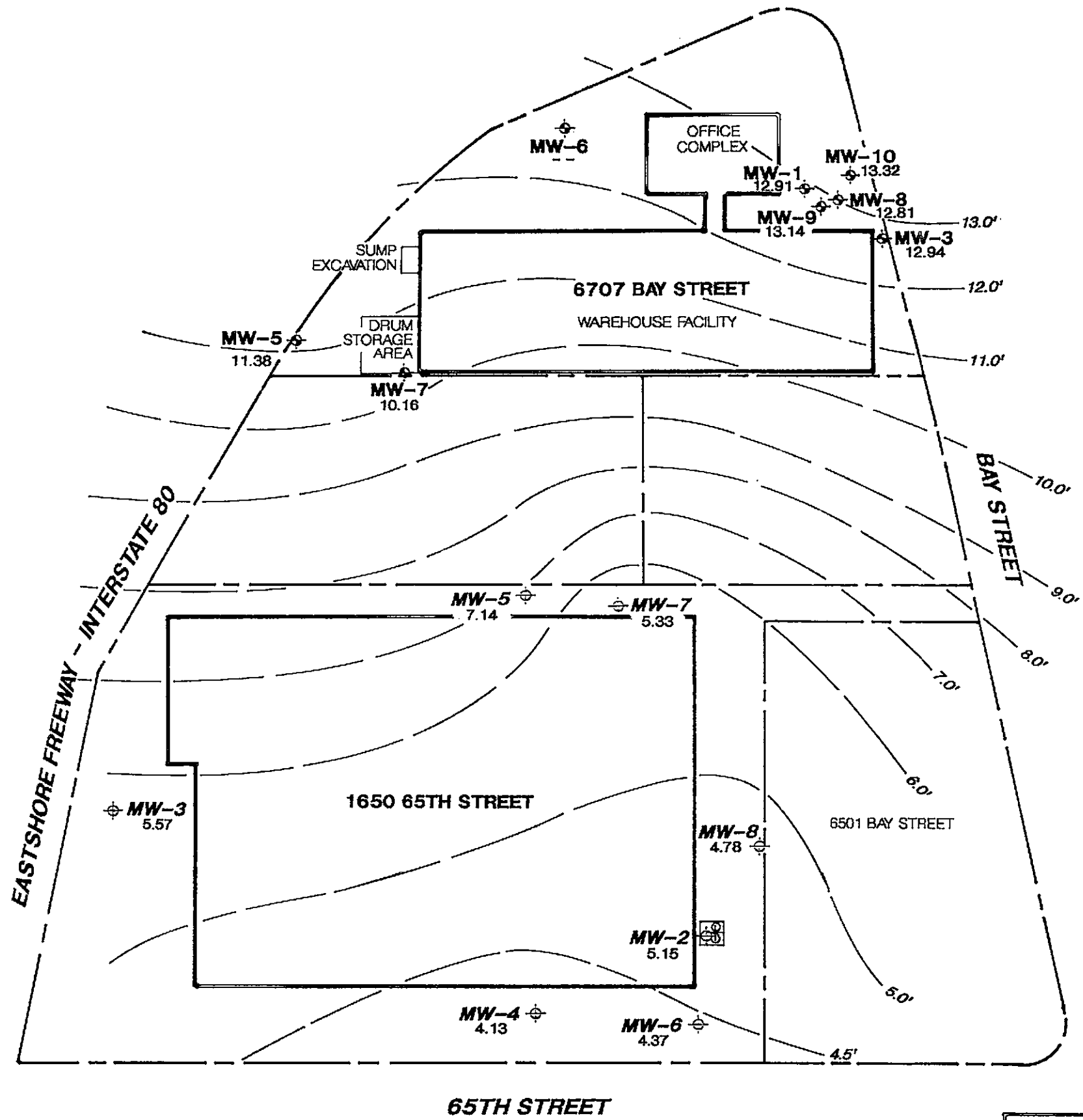
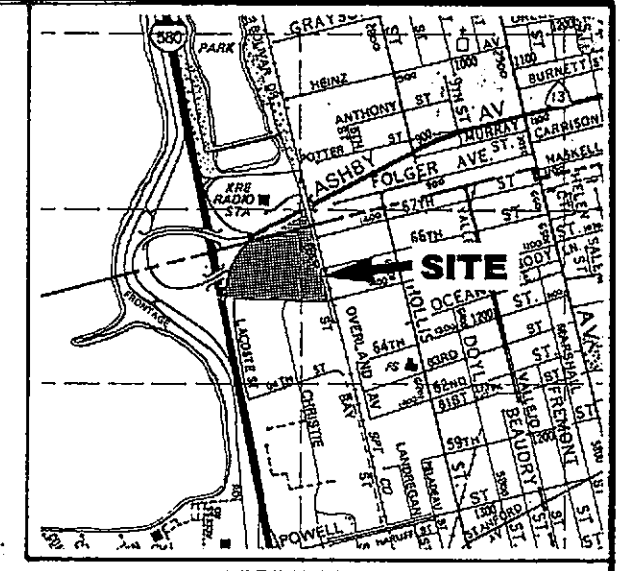
TVH = Total volatile hydrocarbons

mg/l = milligrams per liter

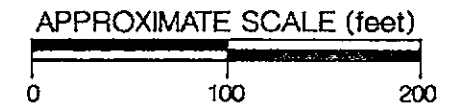
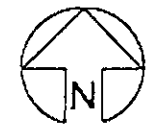
-- = Test not requested

* = Sample chromatogram does not resemble gas standard

** = Sample chromatogram does not resemble diesel standard



- MONITORING WELL BY SCI
- MONITORING WELL BY OTHERS
- GROUNDWATER EXTRACTION WELL BY OTHERS
- PROPERTY LINE
- EXISTING STRUCTURE
- GROUNDWATER ELEVATION CONTOUR (FEET) (MSL)



SITE PLAN		
6707 BAY STREET - EMERYVILLE, CA		PLATE
JOB NUMBER	DATE	APPROVED
820.001	2/23/95	1

Subsurface Consultants



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: 16-FEB-95
Lab Job Number: 119857
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by: _____

Reviewed by: _____

This package may be reproduced only in its entirety.

LABORATORY NUMBER: 119857
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.

DATE SAMPLED: 02/09/95
 DATE RECEIVED: 02/09/95
 DATE ANALYZED: 02/09/95
 DATE REPORTED: 02/16/95
 BATCH NO: 18972

Total Volatile Hydrocarbons as Gasoline in Aqueous Solutions
 California DOHS Method
 LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	REPORTING LIMIT (ug/L)
119857-001	MW-1	ND	50
119857-003	MW-9	400*	50
METHOD BLANK	N/A	ND	50

* Sample chromatogram does not resemble gas standard.

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: BS/BSD

RPD, %	3
RECOVERY, %	98

LABORATORY NUMBER: 119857
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.

DATE SAMPLED: 02/09/95
 DATE RECEIVED: 02/09/95
 DATE ANALYZED: 02/10,11/95
 DATE REPORTED: 02/16/95
 BATCH NO: 18997

Total Volatile Hydrocarbons as Gasoline in Aqueous Solutions
 California DOHS Method
 LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	REPORTING LIMIT (ug/L)
119857-002	MW-8	9100*	100
119857-004	MW-10	150*	50
METHOD BLANK	N/A	ND	50

* Sample chromatogram does not resemble gas standard.

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: BS/BSD

RPD, %	5
RECOVERY, %	98



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119857
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 02/09/95
DATE RECEIVED: 02/09/95
DATE EXTRACTED: 02/13/95
DATE ANALYZED: 02/13/95
DATE REPORTED: 02/16/95
BATCH NO: 19027

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)
119857-001	MW-1	**	1,000*	50
119857-002	MW-8	**	2,800*	50
119857-003	MW-9	**	730*	50
119857-004	MW-10	**	1,300*	50
METHOD BLANK	N/A	ND	ND	50

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

* Sample chromatogram does not resemble diesel standard.

** Kerosene range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY: BS/BSD

RPD, %	11
RECOVERY, %	86

LABORATORY NUMBER: 119857-001
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.
 SAMPLE ID: MW-1

DATE SAMPLED: 02/09/95
 DATE RECEIVED: 02/09/95
 DATE ANALYZED: 02/10/95
 DATE REPORTED: 02/16/95
 BATCH NO: 18995

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	93 %
Toluene-d8	95 %
Bromofluorobenzene	92 %

LABORATORY NUMBER: 119857-002
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.
 SAMPLE ID: MW-8

DATE SAMPLED: 02/09/95
 DATE RECEIVED: 02/09/95
 DATE ANALYZED: 02/10/95
 DATE REPORTED: 02/16/95
 BATCH NO: 18995

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	40	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	78	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	64	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	Detected(7.9)	10
4-Methyl-2-pentanone	62,000	5,000 *
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	10	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

* Result obtained on 02/14/95 from a 1:500 dilution.

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	86 %
Bromofluorobenzene	94 %

LABORATORY NUMBER: 119857-METHOD BLANK
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.
 SAMPLE ID: N/A

DATE ANALYZED: 02/10/95
 DATE REPORTED: 02/16/95
 BATCH NO: 18995

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	100 %
Bromofluorobenzene	91 %

8240 MS/MSD Report

Matrix Sample Number: 119857-001 Date Analyzed: 10-FEB-95
 Lab No: QC84924 QC84924 Spike File: CBA07
 Matrix: WATER Spike Dup File: CBA08
 Batch No: 18995 425041143007 425041150008 425041136006 Analyst: ATR

	Instrdg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	48.9904	50	98 %	61-145%
Trichloroethene	53.4883	50	107 %	71-120%
Benzene	50.7162	50	100 %	76-127%
Toluene	49.9898	50	100 %	76-125%
Chlorobenzene	51.2345	50	103 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	45.2053	50	90 %	75-143%
Toluene-d8	47.573	50	95 %	77-134%
Bromofluorobenzene	46.3343	50	93 %	65-129%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	48.0888	50	96 %	61-145%
Trichloroethene	51.8626	50	104 %	71-120%
Benzene	48.7942	50	96 %	76-127%
Toluene	49.2731	50	99 %	76-125%
Chlorobenzene	51.0416	50	102 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	43.8486	50	88 %	75-143%
Toluene-d8	47.2987	50	95 %	77-134%
Bromofluorobenzene	46.3127	50	93 %	65-129%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	.7285			
Toluene	0			
Chlorobenzene	0			
<u>RPD DATA</u>				
1,1-Dichloroethene	2 %			< 14%
Trichloroethene	3 %			< 14%
Benzene	4 %			< 11%
Toluene	1 %			< 13%
Chlorobenzene	0 %			< 13%

Results within Specifications - PASS

LABORATORY NUMBER: 119857-003
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.
 SAMPLE ID: MW-9

DATE SAMPLED: 02/09/95
 DATE RECEIVED: 02/09/95
 DATE ANALYZED: 02/14/95
 DATE REPORTED: 02/16/95
 BATCH NO: 19037

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	132 %
Toluene-d8	115 %
Bromofluorobenzene	114 %

LABORATORY NUMBER: 119857-METHOD BLANK
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.
 SAMPLE ID: N/A

DATE ANALYZED: 02/14/95
 DATE REPORTED: 02/16/95
 BATCH NO: 19037

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	110 %
Toluene-d8	116 %
Bromofluorobenzene	109 %

8240 MS/MSD Report

Matrix Sample Number: 119857-002 Date Analyzed: 14-FEB-95
 Lab No: QC85151 QC85152 Spike File: DBE10
 Matrix: WATER Spike Dup File: DBE11
 Batch No: 19037 435045155010 435045161011 435045143008 Analyst: TW

	Instrdg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	59.0555	50	118 %	61-145%
Trichloroethene	55.2819	50	111 %	71-120%
Benzene	56.9353	50	112 %	76-127%
Toluene	59.2328	50	119 %	76-125%
Chlorobenzene	57.0796	50	114 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	50.0415	50	100 %	75-143%
Toluene-d8	55.7496	50	111 %	77-134%
Bromofluorobenzene	52.2509	50	105 %	65-129%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	60.9748	50	122 %	61-145%
Trichloroethene	56.3194	50	113 %	71-120%
Benzene	58.7472	50	116 %	76-127%
Toluene	60.9984	50	122 %	76-125%
Chlorobenzene	58.6399	50	117 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	51.6555	50	103 %	75-143%
Toluene-d8	56.1619	50	112 %	77-134%
Bromofluorobenzene	52.3092	50	105 %	65-129%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	1.0096			
Toluene	0			
Chlorobenzene	0			
<u>RPD DATA</u>				
1,1-Dichloroethene	3 %			< 14%
Trichloroethene	2 %			< 14%
Benzene	3 %			< 11%
Toluene	3 %			< 13%
Chlorobenzene	3 %			< 13%

LABORATORY NUMBER: 119857-004
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.
 SAMPLE ID: MW-10

DATE SAMPLED: 02/09/95
 DATE RECEIVED: 02/09/95
 DATE ANALYZED: 02/13/95
 DATE REPORTED: 02/16/95
 BATCH NO: 19032

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	6.6	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	Detected(3.2)	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	111 %
Toluene-d8	103 %
Bromofluorobenzene	102 %

LABORATORY NUMBER: 119857-METHOD BLANK
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 820.001
 LOCATION: 6707 BAY ST.
 SAMPLE ID: N/A

DATE ANALYZED: 02/13/95
 DATE REPORTED: 02/16/95
 BATCH NO: 19032

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	107 %
Toluene-d8	103 %
Bromofluorobenzene	102 %

8240 MS/MSD Report

Matrix Sample Number: 119857-004

Date Analyzed: 13-FEB-95

Lab No: QC85123 QC85124

Spike File: BBD10

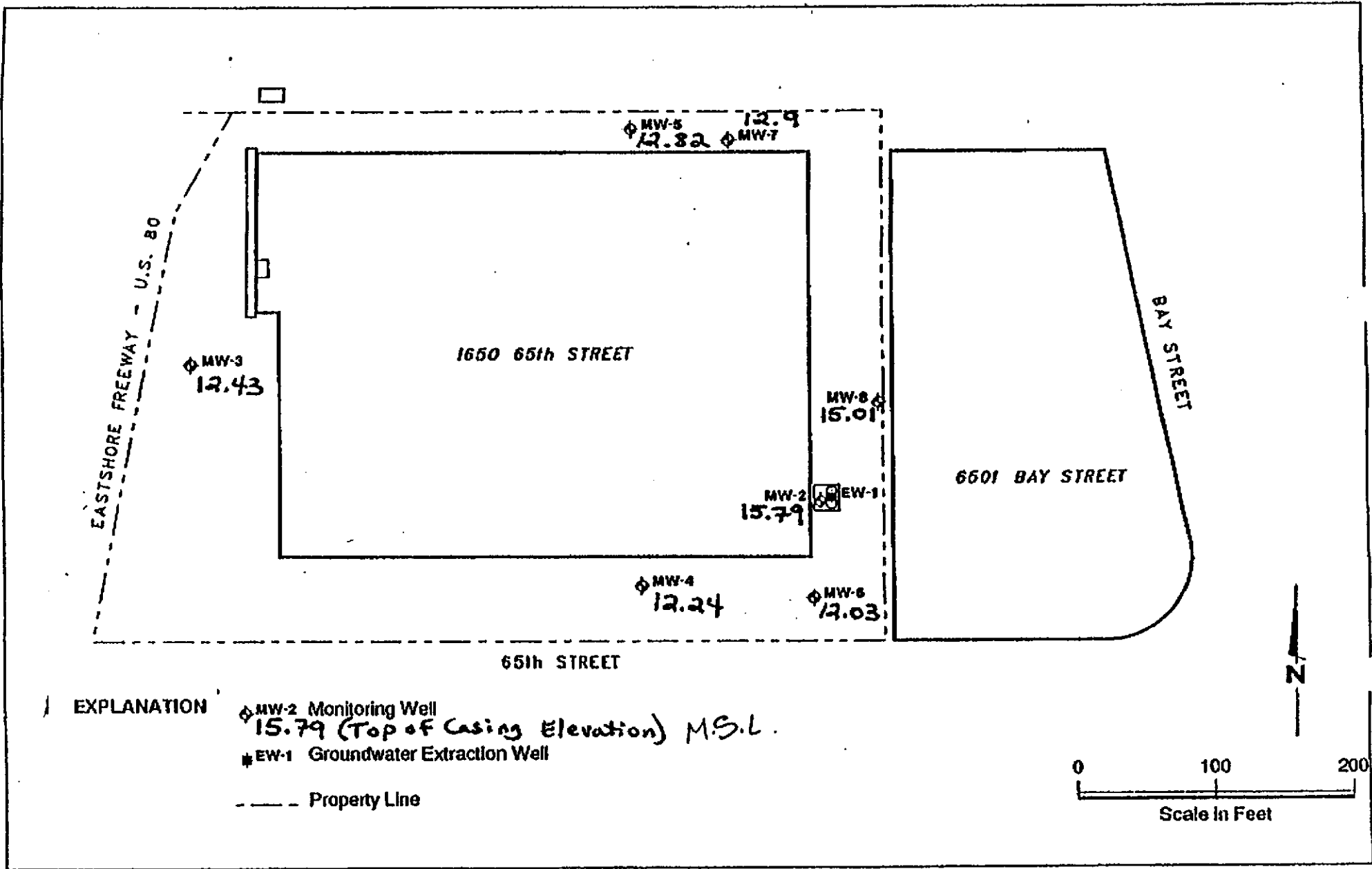
Matrix: WATER

Spike Dup File: BBD11

Batch No: 19032 415044216010 415044223011 415044209009 Analyst: TW

	Instrdg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	58.6819	50	116 %	61-145%
Trichloroethene	55.383	50	109 %	71-120%
Benzene	64.3849	50	116 %	76-127%
Toluene	59.9683	50	119 %	76-125%
Chlorobenzene	61.0804	50	116 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	54.0847	50	108 %	76-114%
Toluene-d8	52.342	50	105 %	88-110%
Bromofluorobenzene	51.7774	50	104 %	86-115%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	66.0779	50	131 %	61-145%
Trichloroethene	55.5301	50	110 %	71-120%
Benzene	66.1835	50	119 %	76-127%
Toluene	62.5349	50	124 %	76-125%
Chlorobenzene	61.0592	50	116 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	54.5033	50	109 %	76-114%
Toluene-d8	51.3056	50	103 %	88-110%
Bromofluorobenzene	51.5372	50	103 %	86-115%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	.6489			
Trichloroethene	.6686			
Benzene	6.6051			
Toluene	.5334			
Chlorobenzene	3.1996			
<u>RPD DATA</u>				
1,1-Dichloroethene	12 %			< 14%
Trichloroethene	0 %			< 14%
Benzene	3 %			< 11%
Toluene	4 %			< 13%
Chlorobenzene	0 %			< 13%

Results within Specifications - PASS



PES Environmental, Inc.
Engineering & Environmental Services

Well Location Map
1650 65th Street
Emeryville, California

DATE

2

JOB NUMBER
131.01.003

REVIEWED BY
[Signature]

DATE
12/94

REVISED DATE

REVISED DATE

TOTAL P. 02



PES Environmental, Inc.
Engineering & Environmental Services

PES ENVIRONMENTAL, INC.
TEL: (415) 899-1600

FAX: (415) 899-1601

TO: Fernando
COMPANY: Subsurface Consultants
FAX NO: (510) 268-0137
PHONE NO: _____
FROM: Mary Williams
JOB NO: _____
RE: _____

DATE: 2/14/95 TIME: 3:00 SENT BY: MW

NUMBER OF PAGES 1 HARD COPY TO FOLLOW: YES ___ NO X
(INCLUDING COVER SHEET)

NOTES: Fernando - Water level ^{depths} elevations for wells at 1650 65th street are as follows:

<u>EW-1</u>	<u>10.61' bgs</u>	<u>MW-7</u>	<u>5.57' bgs</u>
<u>MW-2</u>	<u>10.64' bgs</u>	<u>MW-8</u>	<u>10.23' bgs</u>
<u>MW-3</u>	<u>6.86' bgs</u>		
<u>MW-4</u>	<u>8.11' bgs</u>		
<u>MW-5</u>	<u>5.68' bgs</u>		
<u>MW-6</u>	<u>7.66' bgs</u>		

Please call if you have any questions.
Mary

IF THIS TRANSMITTAL HAS BEEN RECEIVED IN ERROR
PLEASE CONTACT
PES ENVIRONMENTAL AT YOUR EARLIEST CONVENIENCE (415) 899-1600

WELL SAMPLING FORM

Project Name: 6707 BAY ST Well Number: MW-1
 Job No.: 820.001 Well Casing Diameter: 4 inch
 Sampled By: CDI Date: 2/9/95
 TOC Elevation: _____ Weather: Clear

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

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>5</u>	<u>6.12</u>	<u>56.1</u>	<u>1680</u>	_____	_____
<u>10</u>	<u>6.31</u>	<u>56.3</u>	<u>1560</u>	_____	_____
<u>15</u>	<u>6.36</u>	<u>56.6</u>	<u>1580</u>	_____	_____
<u>20</u>	<u>6.35</u>	<u>56.3</u>	<u>1510</u>	_____	_____
<u>25</u>	<u>6.36</u>	<u>56.2</u>	<u>1530</u>	_____	_____

Total Gallons Purged 25 gallons
 Depth to Groundwater Before Sampling (below TOC) _____ feet
 Sampling Method lepton bailer
 Containers Used 4 40 ml 1 liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: 6707 BAY ST Well Number: MW-8
 Job No.: 820.001 Well Casing Diameter: 4 inch
 Sampled By: [Signature] Date: 2/9/95
 TOC Elevation: _____ Weather: Cloudy

Depth to Casing Bottom (below TOC) _____ feet
 Depth to Groundwater (below TOC) _____ feet
 Feet of Water in Well _____ feet
 Depth to Groundwater When 80% Recovered _____ feet
 Casing Volume (feet of water x Casing DIA ² x 0.0408) _____ gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other _____
 Free Product _____
 Purge Method teflon bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>5</u>	<u>6.61</u>	<u>59.9</u>	<u>24300</u>	_____	_____
<u>10</u>	<u>6.65</u>	<u>60.5</u>	<u>2590</u>	_____	_____
<u>15</u>	<u>6.64</u>	<u>62.1</u>	<u>25300</u>	_____	_____
<u>20</u>	<u>6.67</u>	<u>63.2</u>	<u>2590</u>	_____	_____
<u>25</u>	<u>6.63</u>	<u>59.8</u>	<u>2510</u>	_____	_____

Total Gallons Purged 25 gallons
 Depth to Groundwater Before Sampling (below TOC) _____ feet
 Sampling Method _____
 Containers Used 4 40 ml / 1 liter / _____ pint

Subsurface Consultants	JOB NUMBER	DATE	APPROVED	PLATE

WELL SAMPLING FORM

Project Name: 6707 BAY ST Well Number: MW-9
 Job No.: 820.001 Well Casing Diameter: 2 inch
 Sampled By: ADDCU Date: 2/9/95
 TOC Elevation: _____ Weather: Clear

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

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>1</u>	<u>6.44</u>	<u>57.4</u>	<u>1700</u>	_____	_____
<u>2</u>	<u>6.41</u>	<u>57.6</u>	<u>1730</u>	_____	_____
<u>3</u>	<u>6.52</u>	<u>57.6</u>	<u>1770</u>	_____	_____
<u>4</u>	<u>6.43</u>	<u>57.5</u>	<u>1790</u>	_____	_____
<u>5</u>	<u>6.44</u>	<u>57.7</u>	<u>1770</u>	_____	_____

Total Gallons Purged 5 gallons
 Depth to Groundwater Before Sampling (below TOC) _____ feet
 Sampling Method Yellow Bailer
 Containers Used 4 40 ml 1 liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: 6707 BAY ST Well Number: MW-10
 Job No.: 820.001 Well Casing Diameter: 2 inch
 Sampled By: ADJ Date: 2/9/65
 TOC Elevation: _____ Weather: Clear

Depth to Casing Bottom (below TOC) _____ feet
 Depth to Groundwater (below TOC) _____ feet
 Feet of Water in Well _____ feet
 Depth to Groundwater When 80% Recovered _____ feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) _____ gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other _____
 Free Product NONE
 Purge Method to flow builder

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>1</u>	<u>6.57</u>	<u>59.9</u>	<u>1630</u>	_____	_____
<u>2</u>	<u>6.69</u>	<u>60.3</u>	<u>1570</u>	_____	_____
<u>3</u>	<u>6.70</u>	<u>60.8</u>	<u>1540</u>	_____	_____
<u>4</u>	<u>6.69</u>	<u>60.2</u>	<u>1570</u>	_____	_____
<u>5</u>	<u>6.71</u>	<u>60.1</u>	<u>1530</u>	_____	_____

Total Gallons Purged _____ 5 gallons
 Depth to Groundwater Before Sampling (below TOC) _____ feet
 Sampling Method to flow builder
 Containers Used 4 40 ml 1 liter _____ pint

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