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

ENVIRONMENTAL
PROTECTION

95 MAR 14 PM 2:27

March 10, 1995
SCI 609.001

Ms. Marianne Robison
Buttner Properties
600 West Grand Avenue
Oakland, California 94612

Quarterly Groundwater Monitoring
February 1995 Event
4055 Hubbard Street
Oakland, California

Dear Ms. Robison:

This letter presents the results of the February 1995 groundwater monitoring event at the referenced site. Groundwater monitoring is being performed at the request of the Alameda County Health Care Services Agency. The program was modified beginning with the November 1994 event to consist of quarterly monitoring of wells MW-1 and MW-3, and semiannual monitoring of well MW-2. The location of the site is presented on Plate 1.

Groundwater Sampling

On February 17, 1995, wells MW-1, MW-2 and MW-3 were sampled. The groundwater monitoring 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 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.

Analytical Testing

Analytical testing was performed by Curtis and Tompkins, Ltd., a laboratory certified by the State of California Department of Health Services for hazardous waste and water testing. For this event samples from wells MW-1, MW-2, and MW-3 were analyzed for the following:

1. Total volatile hydrocarbons (TVH), sample preparation and analysis using EPA Methods 5030 (purge and trap) and 8015 modified (gas chromatograph coupled to a flame ionization detector),

2. Total extractable hydrocarbons (TEH), sample preparation and analysis using EPA Methods 3550 (solvent extraction) and 8015 modified (gas chromatograph coupled to a flame ionization detector).

A summary of the current and previous analytical test results are presented in Table 1. The groundwater level data are presented in Table 2. Well sampling forms, analytical test reports, and Chain-of-Custody documents are attached.

Conclusions

The groundwater data presented in Table 1 indicates that the groundwater gradient remains generally consistent with previous measurements. The gradient is relatively flat and tends toward the west. The groundwater gradient and flow contours for this event are shown on Plate 1.

Concentrations of TEH were detected in all wells, MW-1, MW-2 and MW-3. Concentrations are consistent with those previously detected. TVH was detected in MW-3.

In accordance with the monitoring program, the next sampling event will be conducted during the month of May 1995. During that event monitoring wells, MW-1 and MW-3 will be monitored for TEH and TVH.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

Jeriann N. Alexander
Civil Engineer 40469 (expires 3/31/99)

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 Form

Distribution:

1 copy: Ms. Marianne Robison
Buttner Properties
600 West Grand Avenue
Oakland, California 94612

✓ 1 copy: Ms. Susan Hugo
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94501

Table 1.
Contaminant Concentrations in Groundwater

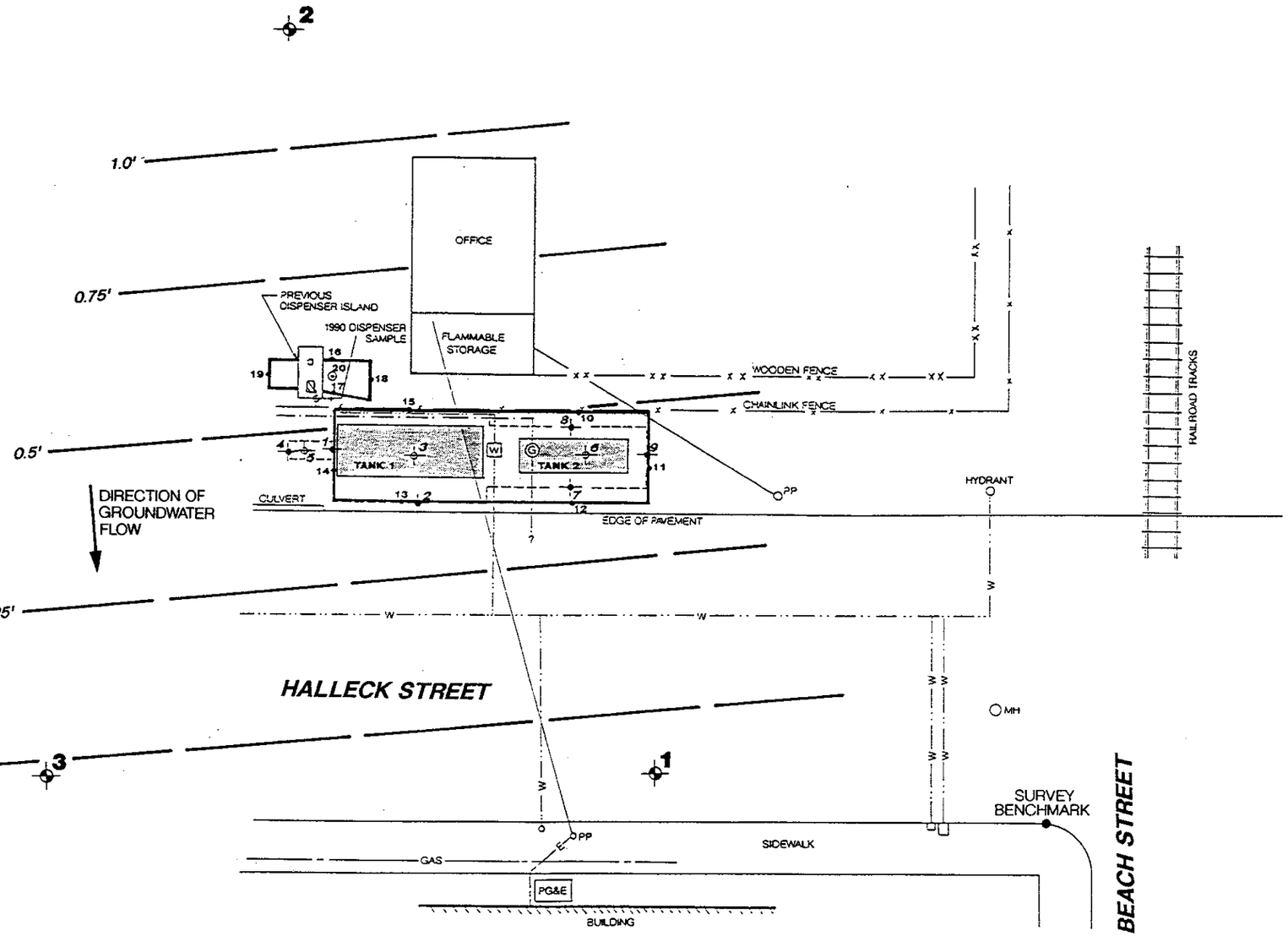
Designation	Date	TVH (ug/l)	TEH (ug/l)	TOG (mg/l)	Benzene (ug/l)	Toluene (ug/l)	Xylene (ug/l)	benzen (ug/l)	Lead (ug/l)
MW-1	6/2/93	160	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	9/15/93	120	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	12/23/93	120	310	<5	<1.5	<1.5	<1.5	<1.5	--
	4/5/94	130	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	8/26/94	74	560	<5	<0.5	<0.5	<0.5	<0.5	--
	11/11/95	140	<50	--	--	--	--	--	<3.0
	2/17/95	<50	230	--	--	--	--	--	--
MW-2	6/2/93	210	150	<5	<0.5	<0.5	<0.5	<0.5	--
	9/15/93	150	50	<5	<0.5	<0.5	<0.5	<0.5	--
	12/23/93	140	220	<5	<1.5	<1.5	<1.5	<1.5	--
	4/5/94	150	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	8/26/94	70	590	<5	<0.5	<0.5	<0.5	<0.5	--
	11/11/95	--	--	--	--	--	--	--	<3.0
	2/17/95	<50	230	--	--	--	--	--	--
MW-3	6/2/93	280	170	<5	<0.5	<0.5	<0.5	<0.5	--
	9/15/93	180	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	12/23/93	190	250	<5	<1.5	<1.5	<1.5	<1.5	--
	4/5/94	240	280	<5	<0.5	<0.5	<0.5	<0.5	--
	8/26/94	130	520	<5	<0.5	<0.5	<0.5	<0.5	--
	11/11/95	170	<50	--	--	--	--	--	<3.0
	2/17/95	120	170	--	--	--	--	--	--

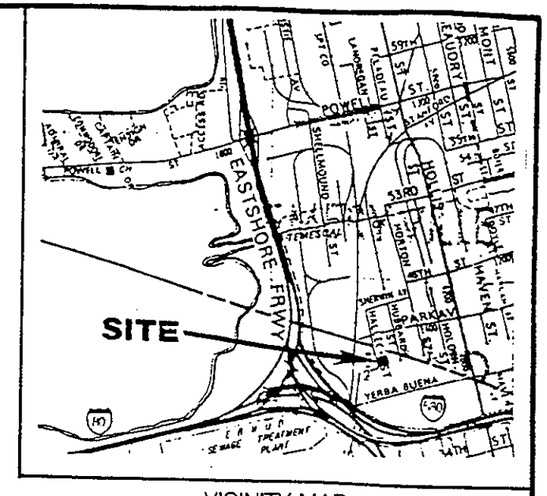
TVH = Total volatile hydrocarbons
TEH = Total extractable hydrocarbons
TOG = Total oil and grease
mg/l = Milligrams per liter = parts per million
ug/l = Micrograms per liter = parts per billion
<0.5 = Chemical not present at a concentration greater than the detection limit stated
-- = Not requested

Table 2.
Groundwater Elevation Data

Well Number	TOC Elev[1] (feet)	Date	Groundwater Depth[2] (feet)	Groundwater Elevation (feet)
MW-1	3.64	6/1/93	3.63	0.01
		9/15/93	4.47	-0.83
		12/23/93	3.47	0.17
		4/5/94	3.85	-0.21
		8/26/94	4.29	-0.65
		11/11/94	2.83	0.81
		2/17/95	3.74	-0.10
MW-2	4.95	6/1/93	3.65	1.30
		9/15/93	4.90	0.05
		12/23/93	3.45	1.50
		4/5/94	4.01	0.94
		8/26/94	4.72	0.23
		11/11/94	2.34	2.61
		2/17/95	3.80	1.15
MW-3	3.61	6/1/93	3.29	0.32
		9/15/93	4.32	-0.71
		12/23/93	3.32	0.29
		4/5/94	3.74	-0.13
		8/26/94	4.30	-0.69
		11/11/94	3.05	0.56
		2/17/95	3.64	-0.03

[1] City of Oakland Datum
[2] Measured below TOC





VICINITY MAP

- 1990 SIDEWALL SAMPLE
- 1990 BOTTOM SAMPLE
- PREVIOUS TANK
- LIMIT OF 1990 EXCAVATION
- W WATER VALVE
- G GAS VALVE
- G GAS LINE
- W WATER LINE
- MH MANHOLE
- PP POWER POLE
- 1992 SIDEWALL SAMPLE
- 1992 BOTTOM SAMPLE
- PREVIOUS DISPENSER
- LIMIT OF 1992 EXCAVATION
- WELL LOCATION
- GROUNDWATER ELEVATION CONTOURS (feet)

APPROXIMATE SCALE (feet)
0 15 30

N

SITE PLAN

Subsurface Consultants

4055 HUBBARD STREET – OAKLAND, CA

JOB NUMBER	DATE	APPROVED	PLATE
609.001	2/24/95	MM	

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: 24-FEB-95
Lab Job Number: 119949
Project ID: 609.001
Location: Hubbard Tank

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119949
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 609.001
LOCATION: HUBBARD TANK

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
DATE EXTRACTED: 02/21/95
DATE ANALYZED: 02/21/95
DATE REPORTED: 02/24/95
BATCH NO: 19124

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

LAB ID	CLIENT ID	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
119949-001	MW-1	230*	50
119949-002	MW-2	230*	50
119949-003	MW-3	170*	50
METHOD BLANK	N/A	ND	50

ND = Not detected at or above reporting limit.

* Sample chromatogram does not resemble diesel standard.

QA/QC SUMMARY: BS/BSD

RPD, %	<1
RECOVERY, %	112

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119949
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 609.001
LOCATION: HUBBARD TANK

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
DATE ANALYZED: 02/21/95
DATE REPORTED: 02/24/95
BATCH NO: 19133

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)
119949-001	MW-1	ND	50
119949-002	MW-2	ND	50
119949-003	MW-3	120*	50
METHOD BLANK	N/A	ND	50

* Sample chromatogram does not resemble gasoline standard.
Single peaks contributing to the sample result.

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: BS/BSD

RPD, %	2
RECOVERY, %	103

CHAIN OF CUSTODY FORM

11/29/94

PAGE 1 OF 1

PROJECT NAME: HUBBARD TANK

JOB NUMBER: 609.001 LAB: CURTIS & TOMPKINS

PROJECT CONTACT: JERIANN ALEXANDER TURNAROUND: NORMAL

SAMPLED BY: Dennis Alexander REQUESTED BY: JERIANN ALEXANDER

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX						CONTAINERS						METHOD PRESERVED					SAMPLING DATE								NOTES	ANALYSIS REQUESTED	
		WATER	SOIL	WASTE	AIR			VOA	LITER	PINT	TUBE			HCL	H_2SO_4	HNO_3	ICE	NONE	MONTH	DAY	YEAR	TIME					TEH	TVH
	MW-1	X						3	1					X			X		02	17	95	0915					X	X
	MW-2	X						3	1					X			X		02	17	95	0945					X	X
	MW-3	X						3	1					X			X		02	17	95	0845					X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	2/17/95 10:15 a.m.		
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
		Tracy Bosjia	2/17/95 16:15

COMMENTS & NOTES:

Subsurface Consultants, Inc.

171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607

(510) 268-0461 • FAX: 510-268-0137

WELL SAMPLING FORM

Project Name: HUBBARD TANK Well Number: MW-1

Job No.: 609.001 Well Casing Diameter: 2 inch

Sampled By: DWA Date: 2/17/95

TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 20.00 feet

Depth to Groundwater (below TOC) 3.74 feet

Feet of Water in Well 16.26 feet

Depth to Groundwater When 80% Recovered 7.00 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 2.65 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
2	7.85	14.5	1250		semi-clear/no odor
4	7.66	16.5	1350		↓
6	7.43	16.0	1250		slightly murky
8	7.34	16.5	1350		↓

Total Gallons Purged 8 gallons

Depth to Groundwater Before Sampling (below TOC) 6.28 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: HUBBARD TANK Well Number: MW-2

Job No.: 609.001 Well Casing Diameter: 2 inch

Sampled By: DWA Date: 2/17/95

TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 15.50 feet

Depth to Groundwater (below TOC) 3.80 feet

Feet of Water in Well 11.70 feet

Depth to Groundwater When 80% Recovered 6.14 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.9 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
0	7.38	14.0	900		clear/no odor
2	7.36	15.5	925		
4	7.34	16.0	975		
6	7.34	16.5	975		

Total Gallons Purged 6 gallons

Depth to Groundwater Before Sampling (below TOC) 6.00 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: HUBBARD TANK Well Number: MW-3

Job No.: 609.001 Well Casing Diameter: 2 inch

Sampled By: DWA Date: 2/17/95

TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 15.00 feet

Depth to Groundwater (below TOC) 3.64 feet

Feet of Water in Well 11.36 feet

Depth to Groundwater When 80% Recovered 5.92 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.9 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
0	7.17	14.0	1100		clear/no odor
2	7.19	14.5	1175		"
4	7.19	15.0	1175		semi-clear
6	7.22	15.0	1150		slightly murky

Total Gallons Purged 6 gallons

Depth to Groundwater Before Sampling (below TOC) 5.92 feet

Sampling Method disposable bailer

Containers Used 3 (40 ml) | 1 (liter) | _____ (pint)

Subsurface Consultants

JOB NUMBER | DATE | APPROVED

PLATE