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

June 8, 1995
SCI 609.001

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

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

Dear Ms. Robison:

This letter presents the results of the May 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 May 15, 1995, wells MW-1, MW-2 and MW-3 were sampled. The groundwater monitoring event consisted of (1) measuring groundwater levels using an electronic 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.

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 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 2 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 TVH were detected in all wells, MW-1, MW-2 and MW-3 at values ranging from 66 to 130 ug/l. TEH was not detected in any of the wells.

In accordance with the monitoring program, the next sampling event will be conducted during the month of August 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

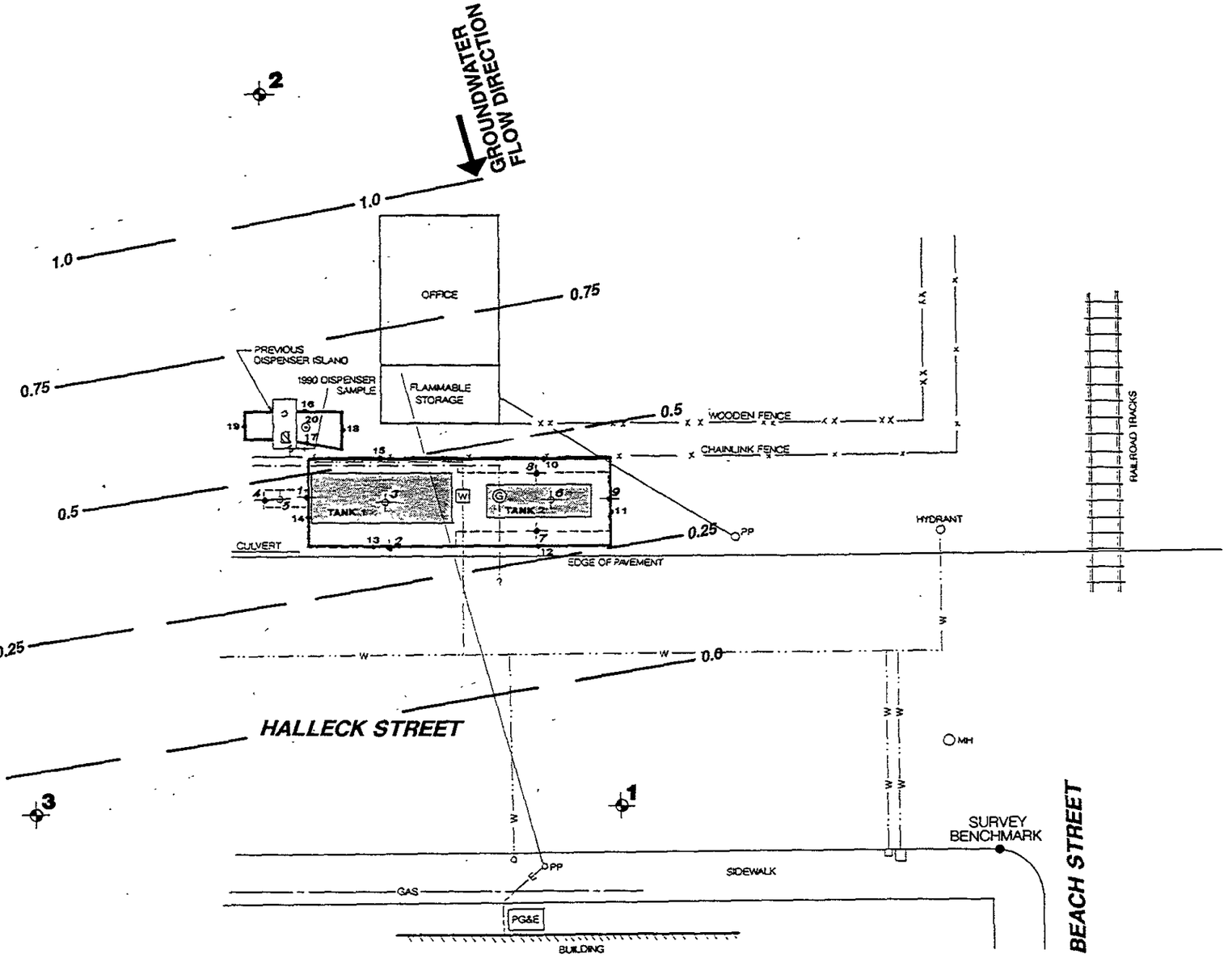
Designation	Date	TVH (ug/l)	TEH (ug/l)	TOG (mg/l)	Benzene (ug/l)	Toluene (ug/l)	Xylene (ug/l)	Ethyl benzene (ug/l)	Lead (ug/l)
MW-1	6/2/93	160	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	9/15/93	120	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	12/23/93	120	310	<5	<1.5	<1.5	<1.5	<1.5	--
	4/5/94	130	<50	<5	<0.5	<0.5	<0.5	<0.5	--
	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	--	--	--	--	--	--
	5/15/95	66	<50	--	--	--	--	--	--
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	--	--	--	--	--	--
	5/15/95	78	<50	--	--	--	--	--	--
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	--	--	--	--	--	--
	5/15/95	130	<50	--	--	--	--	--	--

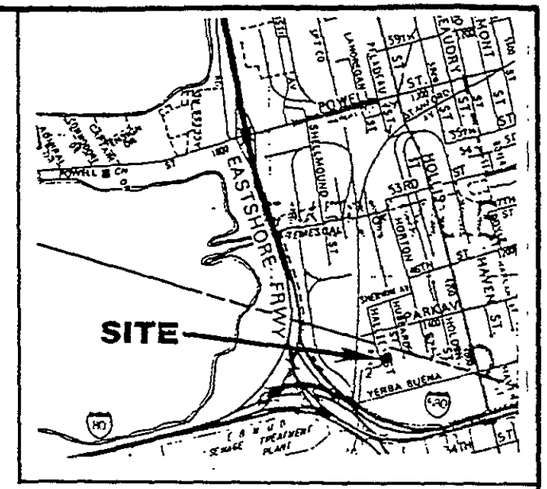
TVH = Total volatile hydrocarbons
TEH = Total extractable hydrocarbons
TOG = Total oil and grease
mg/l = Milligrams per liter = parts per million
ug/l = Micrograms per liter = parts per billion
<0.5 = Chemical not present at a concentration greater than the detection limit stated
-- = Not requested

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
		5/15/95	3.91	-0.27
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
		5/15/95	3.68	1.27
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
		5/15/95	3.52	-0.09

[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
609.001	5/25/95	

PLATE 1

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

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

Date: 22-MAY-95
Lab Job Number: 121026
Project ID: 609.001
Location: Hubbard Tank

Reviewed by: Mary Phuan

Reviewed by:

LABORATORY NUMBER: 121026
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 609.001
LOCATION: 4055 HUBBARD ST.

DATE SAMPLED: 05/15/95
DATE RECEIVED: 05/15/95
DATE ANALYZED: 05/17/95
DATE REPORTED: 05/22/95
BATCH NO: 20665

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)
121026-001	MW-1	66*	50
121026-002	MW-2	78*	50
121026-003	MW-3	130*	50
METHOD BLANK	N/A	ND	50

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

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: BS/BSD

RPD, %	3
RECOVERY, %	98

LABORATORY NUMBER: 121026
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 609.001
LOCATION: 4055 HUBBARD ST.

DATE SAMPLED: 05/15/95
DATE RECEIVED: 05/15/95
DATE EXTRACTED: 05/17/95
DATE ANALYZED: 05/18,19/95
DATE REPORTED: 05/22/95
BATCH NO: 20667

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)
121026-001	MW-1	ND	50
121026-002	MW-2	ND	50
121026-003	MW-3	ND	50
METHOD BLANK	N/A	ND	50

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

QA/QC SUMMARY: BS/BSD

RPD, %	7
RECOVERY, %	95

121026

CHAIN OF CUSTODY FORM

PROJECT NAME: 4055 Hubbard St.
JOB NUMBER: 609.001
LAB: Curtis & Tompkins
PROJECT CONTACT: Teri Alexander
TURNAROUND: Normal
SAMPLED BY: C. Dew
REQUESTED BY:

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TEH	TVH
-1	MW-1	X				3	1			X			X		05	15	95			X	X
-2	MW-2	X				3	1			X			X		05	15	95			X	X
-3	MW-3	X				3	1			X			X		05	15	95			X	X

CHAIN OF CUSTODY RECORD

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
RELEASED BY: (Signature)	5/15/95 2:00 pm	RECEIVED BY: (Signature)	DATE / TIME

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: 4055 Hubbard St
Well Number: MW-1
Job No.: -1609.001
Well Casing Diameter: 2 inch
Sampled By: CODen
Date: 5/15/95
TOC Elevation:
Weather: Clear, Windy

Depth to Casing Bottom (below TOC) 20.00 feet
Depth to Groundwater (below TOC) 3.91 feet
Feet of Water in Well 16.09 feet
Depth to Groundwater When 80% Recovered feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 2.6 gallons
Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other
Free Product none
Purge Method Teflon bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	6.75	63.8	523		
4	6.60	62.9	634		
6	6.60	62.9	617		
8	6.60	62.8	621		

Total Gallons Purged 8 gallons
Depth to Groundwater Before Sampling (below TOC) feet
Sampling Method Teflon bailer
Containers Used 3 (40 ml) 1 (liter) (pint)

Subsurface Consultants

JOB NUMBER DATE APPROVED PLATE

WELL SAMPLING FORM

Project Name: 4055 Hubbard St. Well Number: MW-2

Job No.: 609.001 Well Casing Diameter: 2 inch

Sampled By: JODen Date: 5/15/95

TOC Elevation: _____ Weather: Clear, Windy

Depth to Casing Bottom (below TOC) 15 feet

Depth to Groundwater (below TOC) 3.68 feet

Feet of Water in Well 11.32 feet

Depth to Groundwater When 80% Recovered _____ feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.8 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method teflon bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	6.80	61.5	871		
4	6.67	61.3	819		
6	6.68	61.3	827		

Total Gallons Purged _____ gallons

Depth to Groundwater Before Sampling (below TOC) _____ feet

Sampling Method _____

Containers Used _____ 40 ml _____ liter _____ pint

Subsurface Consultants	JOB NUMBER	DATE	APPROVED	PLATE

WELL SAMPLING FORM

Project Name: 4955 Hubbard St Well Number: MW-3

Job No.: 1009.001 Well Casing Diameter: 2 inch

Sampled By: A. Dew Date: 5/15/95

TOC Elevation: _____ Weather: Clear Windy

Depth to Casing Bottom (below TOC) 15 feet

Depth to Groundwater (below TOC) 3.52 feet

Feet of Water in Well 11.48 feet

Depth to Groundwater When 80% Recovered 1. feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.8 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method teflon bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	6.13	62.7	956		
4	6.11	62.9	906		
6	6.11	62.8	965		

Total Gallons Purged _____ gallons

Depth to Groundwater Before Sampling (below TOC) _____ feet

Sampling Method _____

Containers Used _____ 40 ml _____ liter _____ pint

Subsurface Consultants	JOB NUMBER	DATE	APPROVED	PLATE

GROUNDWATER DEPTHS

Project Name: 4055 Hubbard St.

Job No.: 609.001

Measured by: [illegible]

Well	Date	Time	Groundwater Depth (feet)	Comments
MW-3	5/15/95		3.52	
MW-1			3.91	
MW-2			3.68	