James P. Bowers, PE
R. William Rudolph, Jr., PE

ALCO
HAZMAT
94 MAY -2 PM 2:49

STID 259

April 29, 1994
SCI 609.001

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

Groundwater Monitoring Program
4055 Hubbard Street
Oakland, California

Dear Ms. Hugo:

This letter transmits the results of the April 1994 groundwater monitoring event conducted at the referenced site. Three wells (MW-1, MW-2 and MW-3) have been monitored for one complete hydrogeologic cycle. Analytical test data suggest that oil and grease, and BTEX have not been detected in any well during the study. As a result, we request that the groundwater monitoring program be revised to include analysis of TVH and TEH on a quarterly basis.

Please issue a written response to this request.

Yours very truly,

Subsurface Consultants, Inc.

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

JNA:sld

Attachment: April 29, 1994 Monitoring Letter

Distribution: Ms. Marianne Robison (letter only)
Buttner Properties
600 West Grand Avenue
Oakland, California 94612

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

James P. Bowers, PE
R. William Rudolph, Jr., PE

April 29, 1994
SCI 609.001

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

Quarterly Groundwater Monitoring
Sampling Event #4, April 1994
4055 Hubbard Street
Oakland, California

Dear Ms. Robison:

This letter presents quarterly groundwater monitoring results for the referenced site. Groundwater monitoring has been performed at the request of the Alameda County Health Care Services Agency. The location of the site is presented on Plate 1.

Groundwater Sampling

On April 5, 1994, Wells MW-1, MW-2 and MW-3 were sampled. In general, 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 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.

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. A sample from each well was 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),

3. Benzene, toluene, ethylbenzene and xylene (BTEX), sample preparation and analysis using EPA methods 5030 (purge and trap) and 8020 (gas chromatograph coupled to a photo-ionization detector), and

4. Total oil and grease (TOG), sample preparation and analysis using SMWW 17:5520 B&F.

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

Based on the groundwater data presented in Table 1, the groundwater gradient remains generally consistent with previous measurements. The gradient is relatively flat (1.3%) and tends toward the west. The groundwater gradient and flow contours for this event are shown on Plate 1.

No free product was observed during this event. Relatively low concentrations of volatile and extractable range hydrocarbons are present in all three wells. Since the hydrocarbon concentrations are similar in each well, including the upgradient well, we judge the contamination is indicative of an upgradient source.

Ongoing Monitoring

In accordance with the monitoring plan, the next sampling event will occur in July 1994. We will petition the ACHCSA to revise the program before the July event to cease testing for oil and grease, and BTEX, as these compounds have not been detected through one hydrologic cycle. With the ACHCSA concurrence, the wells will continue to be analyzed for TVH and TEH on a quarterly basis.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

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

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
80 Swan Way, Room 200
Oakland, California 94621

Table 1.
Contaminant Concentrations in Water

Sample Designation	Date	TVH (ug/l)	TEH (ug/l)	TOG (mg/l)	Benzene (ug/l)	Toluene (ug/l)	Xylene (ug/l)	Ethyl-benzene (ug/l)
MW-1	06/02/93	160	<50	<5	<0.5	<0.5	<0.5	<0.5
	09/15/93	120	<50	<5	<0.5	<0.5	<0.5	<0.5
	12/23/93	120	310	<5	<1.5	<0.5	<0.5	<0.5
	04/05/94	130	<50	<5	<0.5	<0.5	<0.5	<0.5
MW-2	06/02/93	210	150	<5	<0.5	<0.5	<0.5	<0.5
	09/15/93	150	50	<5	<0.5	<0.5	<0.5	<0.5
	12/23/93	140	220	<5	<0.5	<0.5	<0.5	<0.5
	04/05/94	150	<50	<5	<0.5	<0.5	<0.5	<0.5
MW-3	06/02/93	280	170	<5	<0.5	<0.5	<0.5	<0.5
	09/15/93	180	<50	<5	<0.5	<0.5	<0.5	<0.5
	12/23/93	190	250	<5	<0.5	<0.5	<0.5	<0.5
	04/05/94	240	280	<5	<0.5	<0.5	<0.5	<0.5

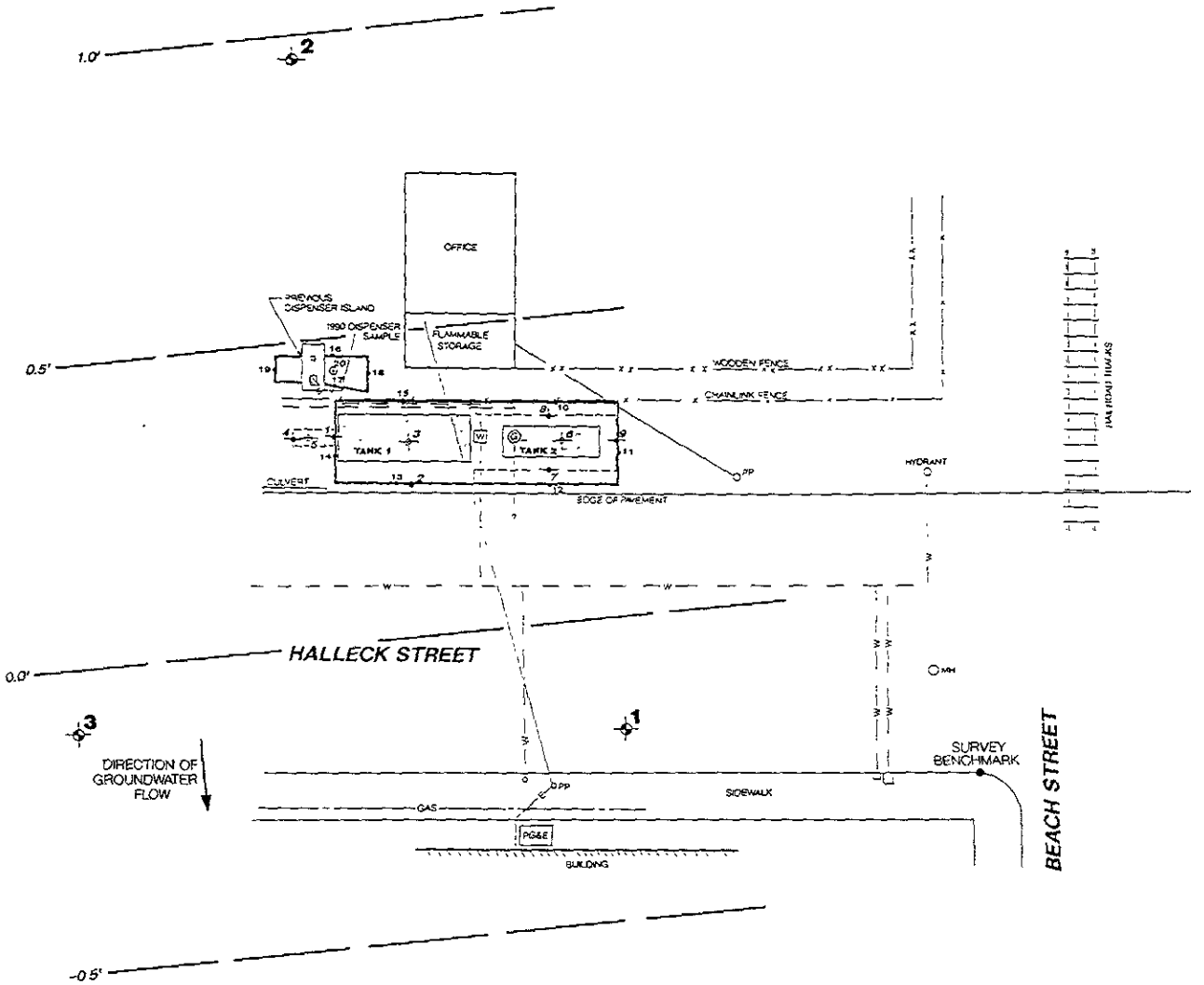
TVH = Total volatile hydrocarbons
TEH = Total extractable hydrocarbons
TOG = Total oil and grease
mg/l = Milligrams per liter = parts per million
ug/l = Micrograms per liter = parts per billion
<0.5 = Chemical not present at a concentration greater than the detection limit stated

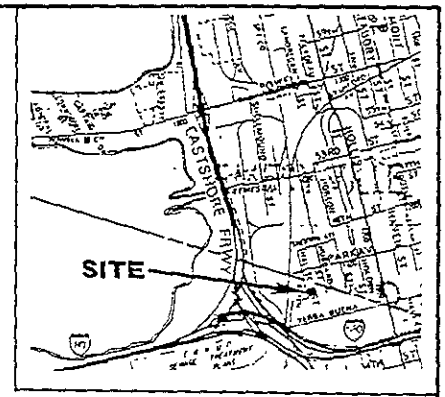
Table 2. GROUNDWATER ELEVATION DATA

Well Number	TOC Elev[1] (feet)	Date	Groundwater Depth[2] (feet)	Groundwater Elevation (feet)
MW-1	3.64	06/01/93	3.63	0.01
		09/15/93	4.47	-0.83
		12/23/93	3.47	0.17
		04/05/94	3.85	-0.21
MW-2	4.95	06/01/93	3.65	1.30
		09/15/93	4.90	0.05
		12/23/93	3.45	1.50
		04/05/94	4.01	0.94
MW-3	3.61	06/01/93	3.29	0.32
		09/15/93	4.32	-0.71
		12/23/93	3.32	0.29
		04/05/94	3.74	-0.13

---

[1] City of Oakland datum
[2] Measured below TOC.





VICINITY MAP

- 1990 SIDEWALL SAMPLE
- 1990 BOTTOM SAMPLE
- PREVIOUS TANK
- LIMIT OF 1990 EXCAVATION
- WATER VALVE
- GAS VALVE
- GAS LINE
- 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	4/5/94	

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: 14-APR-94
Lab Job Number: 115064
Project ID: 609.001
Location: Hubbard Tank

Reviewed by: Mary Pleasant

Reviewed by: Kathy O'Brien

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 115064

Project Name: Hubbard Tank
Project Number: 609.001

Report Date: 14 April 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD:** SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
115064-001	MW-1	Water	05-APR-94	05-APR-94	06-APR-94	ND	mg/L	5	TR	13579
115064-002	MW-2	Water	05-APR-94	05-APR-94	06-APR-94	ND	mg/L	5	TR	13579
115064-003	MW-3	Water	05-APR-94	05-APR-94	06-APR-94	ND	mg/L	5	TR	13579

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

Q C B a t c h R e p o r t

Client: Subsurface Consultants
Project Name: Hubbard Tank
Project Number: 609.001

Laboratory Login Number: 115064
Report Date: 14 April 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 13579

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	06-APR-94

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	87%	SMWW 17:5520BF	06-APR-94
BSD	86%	SMWW 17:5520BF	06-APR-94

		Control Limits
Average Spike Recovery	86%	80% - 120%
Relative Percent Difference	1.9%	< 20%

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 115064
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 609.001
LOCATION: HUBBARD TANK

DATE SAMPLED: 04/05/94
DATE RECEIVED: 04/05/94
DATE ANALYZED: 04/06/94
DATE REPORTED: 04/14/94

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)
115064-001	MW-1	130+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
115064-002	MW-2	150+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
115064-003	MW-3	240+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
METHOD BLANK		ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

+ Does not match standard. Two peaks in gas range.

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

QA/QC SUMMARY

LCS RECOVERY, %	110

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115064
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 609.001
LOCATION: HUBBARD TANK

DATE SAMPLED: 04/05/94
DATE RECEIVED: 04/05/94
DATE EXTRACTED: 04/08/94
DATE ANALYZED: 04/12/94
DATE REPORTED: 04/14/94

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)
115064-001	MW-1	ND	ND	50
115064-002	MW-2	ND	ND	50
115064-003	MW-3	**	280	50
METHOD BLANK		ND	ND	50

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

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

QA/QC SUMMARY:

RPD, %	22
RECOVERY, %	84

IAIN OF CUSTODY FORM

PAGE OF

OJECT NAME: HUBBARD ST

B NUMBER: 114001 LAB: CURTIS & TOMPKINS

OJECT CONTACT: JERIANN ALEXANDER TURNAROUND: NORMAL

MPLED BY: FERNANDO VELEZ REQUESTED BY: JERIANN ALEXANDER

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	MATRIX: SOIL	MATRIX: WASTE	MATRIX: AIR	CONTAINERS: VOA	CONTAINERS: LITER	CONTAINERS: PINT	CONTAINERS: TUBE	METHOD PRESERVED: HCL	METHOD PRESERVED: H_2SO_4	METHOD PRESERVED: HNO_3	METHOD PRESERVED: ICE	METHOD PRESERVED: NONE	SAMPLING DATE: MONTH	SAMPLING DATE: DAY	SAMPLING DATE: YEAR	SAMPLING DATE: TIME	NOTES: TVH/BTXE	NOTES: OIL & GREASE	NOTES: TEH
115064-1	MW1	X				3	2			X			X	X	04	05	94		X	X	X
-2	MW2	X				3	2			X			X	X	04	05	94		X	X	X
-3	MW3	X				3	2			X			X	X	04	05	94		X	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
	4-5-94 1:15		
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
		Teresa Morris	4/5/94 1:15

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: 4055 Hubbard St Well Number: MW-1

Job No.: 609.001 Well Casing Diameter: 2 inch

Sampled By: F. Velez Date: 4-5-94

TOC Elevation: 3.64 Weather: clear sunny

Depth to Casing Bottom (below TOC) 20.25' feet

Depth to Groundwater (below TOC) 3.85' feet

Feet of Water in Well 16.40 feet

Depth to Groundwater When 80% Recovered 7.13 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 2.68 gallons

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

Free Product None

Purge Method Disposable bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	7.18	67.8	1.84×10^3		Clear
4	7.32	67.6	1.19×10^3		"
6	7.39	66.2	1.11×10^3		"
8	7.42	66.5	1.13×10^3		semi cloudy
10	7.44	66.1	1.14×10^3		"
12	7.48	65.7	1.18×10^3		"

Total Gallons Purged 12 gallons

Depth to Groundwater Before Sampling (below TOC) 6.94' feet

Sampling Method Disposable bailer

Containers Used 3 (40 ml) 2 (liter) ____ (pint)

Subsurface Consultants	JOB NUMBER	DATE	APPROVED	PLATE

* Two Full Drums

WELL SAMPLING FORM

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

Job No.: 609.001 Well Casing Diameter: 2 inch

Sampled By: F. Velez Date: 4-5-94

TOC Elevation: 4.95 Weather: clear, sunny

Depth to Casing Bottom (below TOC) 15.13' feet

Depth to Groundwater (below TOC) 4.01' feet

Feet of Water in Well 11.12' feet

Depth to Groundwater When 80% Recovered 6.23' feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.81 gallons

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

Free Product None

Purge Method Disposable bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	7.27	67.3	0.97 X10^3		clear
4	7.67	66.4	0.97 X10^3		"
6	7.63	65.7	0.99 X10^3		Semi-clear
8	7.63	64.5	0.96 X10^3		semi-clear

Total Gallons Purged 8 gallons

Depth to Groundwater Before Sampling (below TOC) 6.02' feet

Sampling Method Disposable bailer

Containers Used 3 (40 ml) 2 (liter) ____ (pint)

Subsurface Consultants	JOB NUMBER	DATE	APPROVED	PLATE

WELL SAMPLING FORM

Project Name: 4055 Hubbard St Well Number: MW-3

Job No.: 609.001 Well Casing Diameter: 2 inch

Sampled By: F. Velez Date: 4-5-94

TOC Elevation: 3.61 Weather: _____

Depth to Casing Bottom (below TOC) 15.13' feet

Depth to Groundwater (below TOC) 3.74' feet

Feet of Water in Well 11.39' feet

Depth to Groundwater When 80% Recovered 6.02' feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.86 gallons

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

Free Product Disposable bailer (None

Purge Method Disposable bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	7.74	66.6	1.12 X10^3		clear
4	7.63	65.3°	1.08 X10^3		"
6	7.67	63.6	1.09X10^3		Semiclear
8	7.63	62.2	1.07X10^3		"

Total Gallons Purged 8 gallons

Depth to Groundwater Before Sampling (below TOC) 6.25' feet

Sampling Method Disposable bailer

Containers Used 3 (40 ml) 2 (liter) _____ (pint)

Subsurface Consultants	JOB NUMBER	DATE	APPROVED	PLATE