

March 15, 1993
SCI 554.007

Mr. Ronald W. Doll
Attorney at Law
c/o Mariner Square Associates
2236 Mariner Square
Alameda, California 94501

Quarterly Groundwater Monitoring Report
2/19/93 Sampling Event
Alameda Gateway
Alameda, California

Dear Mr. Doll:

This letter presents quarterly groundwater monitoring results for the referenced site. Groundwater monitoring has been performed at the site as per Alameda County Health Care Services Agency's (ACHCSA) request letter dated November 8, 1992. The results of the previous quarterly sampling and analytical testing even were presented in a letter dated January 7, 1993.

The latest groundwater monitoring event consisted of (1) measuring groundwater levels, (2) purging five gallons of water from each of the wells, and (3) sampling each well with a pre-cleaned disposable bailer. The samples were retained in glass containers and preserved with hydrochloric acid. The containers were placed in ice filled coolers and remained cooled until delivery to the analytical laboratory. Chain-of-Custody records accompanied the samples to the laboratory.

Analytical testing was performed by Curtis and Tompkins, Ltd., a State of California Department of Health Services (DHS) certified laboratory for hazardous waste and water testing. The analytical tests included:

1. Total volatile hydrocarbons (TVH), EPA method 8015 mod/5030,
2. Benzene, toluene, xylene and ethylbenzene (BTXE), EPA method 8020/5030,
3. Total extractable hydrocarbons (TEH), EPA method 8015 mod/3510,

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4. Total oil and grease (TOG), SMWW 17:5520B&F, and
6. Lead, EPA method 7421.

A summary of the current and previous analytical test results and groundwater elevation data are presented in Tables 1 and 2, respectively. Analytical test reports and Chain-of-Custody documents are attached.

Conclusions

The analytical test results indicate that during the latest sampling event, TVH, benzene, toluene, ethylbenzene and xylenes were not encountered in the wells. Oil and Grease, TEH and lead were detected in the wells at the concentrations presented on Table 1.

Groundwater monitoring will continue on a quarterly basis. If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/92)

EBC:RWR:egh

2 copies submitted

Attachments: Table 1 - Contaminant Concentrations in Groundwater
Table 2 - Groundwater Elevations
Plate 1 - Site Plan
Analytical Test Reports
Chain-of-Custody Documents

cc: Mr. Rich Hiett
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

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Attorney at Law
c/o Mariner Square Associates
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Ms. Juliet Shin
Alameda County Health Care Services Agency
80 Swan Way, Room 350
Oakland, California 94662-0901

Table 1.
Contaminant Concentrations in Groundwater

Well	Date	Oil and Grease mg/l	TEH ug/l	TVH ug/l	Benzene ug/l	Toluene ug/l	Ethyl-Benzene ug/l	Total Xylenes ug/l	Lead ug/l
MW-1	08/13/92	ND(5)	4800	--	0.6	ND(0.5)	ND(0.5)	ND(0.5)	9
	11/25/92	ND(5)	3900	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(3)
	02/19/93	ND(5)	1400	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	3
MW-2	08/13/92	ND(5)	820	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	10
	11/25/92	ND(5)	5600	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(3)
	02/19/93	ND(5)	9000	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	3
MW-3	08/13/92	ND(5)	4000	--	ND(1)	ND(1)	ND(1)	ND(1)	360
	11/25/92	ND(5)	14000	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(3)
	02/19/93	ND(5)	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	10

TEH = total extractable hydrocarbons, EPA 8015/3550
 TVH = total volatile hydrocarbons, EPA 8015 mod/5030
 mg/l = milligrams per liter or parts per billion (ppb)
 ug/l = micrograms per liter or parts per billion (ppb)
 ND = None detected above reporting limits indicated in parentheses

Table 2.
Groundwater Elevation Data

<u>Tank Area</u>	<u>Well</u>	<u>TOC Elev (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Groundwater Depth (ft)</u>	<u>Groundwater Elevation (ft)</u>
133	MW-1	9.16	08/19/92	1525	3.45	5.71
			09/01/92	0915	3.48	5.68
			09/01/92	1615	3.48	5.68
			09/16/92	1115	3.65	5.51
			11/25/92	1325	3.48	5.68
			02/19/93	1205	3.02	6.14
137	MW-2	9.73	08/19/92	1515	4.36	5.37
			09/01/92	0905	5.27	4.46
			09/01/92	1605	3.29	6.44
			09/16/92	1105	5.42	4.31
			11/25/92	1339	3.59	6.14
			02/19/93	1155	2.45	7.28
85A and B	MW-3	7.67	08/19/92	1520	2.32	5.35
			09/01/92	0910	2.16	5.51
			09/01/92	1610	2.15	5.52
			09/16/92	1110	2.32	5.35
			11/25/92	1331	1.82	5.85
			02/19/93	1153	0.15	7.52

TOC = Top of Casing
Elevation with respect to Mean Lower Low Water (MLLW) datum

ALAMEDA ESTUARY

PIER

SHORELINE

APPROXIMATE RANGE OF GROUNDWATER FLOW DIRECTIONS (GROUNDWATER TIDELY INFLUENCED)

MW-2
600 GAL. DIESEL

BUILDING 133

9000

PIER

BUILDING 61

BUILDING 140

SURVEY ELEVATION REFERENCE

MW-1
1100 GAL. FUEL OIL

BUILDING 137

POWER HOUSE

MW-3
600 GAL. DIESEL
7000 GAL. GAS

BUILDING 85

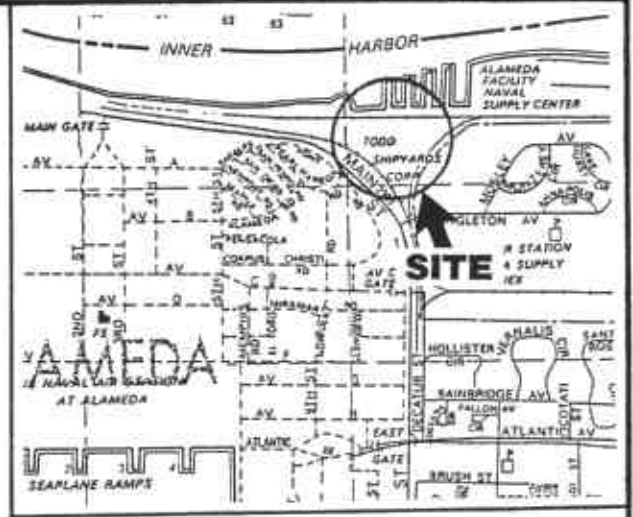
POWER STATION

BUILDING 123 WAREHOUSE

MAIN STREET

1400

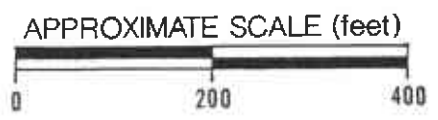
TEM (ppb)



VICINITY MAP

MONITORING WELL

PREVIOUS UNDERGROUND STORAGE TANK AREA



SITE PLAN		
2900 MAIN STREET - ALAMEDA, CA		
JOB NUMBER 554.007	DATE 3/8/93	APPROVED <i>cc</i>
		PLATE 1

Subsurface Consultants



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

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

DATE RECEIVED: 02/19/93
DATE REQUESTED: 03/01/93
DATE REPORTED: 03/05/93

LABORATORY NUMBER: 110195


CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 554.007

LOCATION: ALAMEDA GATEWAY

RESULTS: SEE ATTACHED


Reviewed by


Reviewed by

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LABORATORY NUMBER: 110117
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.007
LOCATION: ALAMEDA GATEWAY

DATE SAMPLED: 02/19/93
DATE RECEIVED: 02/19/93
DATE ANALYZED: 02/23/93
DATE REPORTED: 02/26/93

=====
ANALYSIS: LEAD
ANALYSIS METHOD: EPA 7421
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
110117-1	MW-1	3	ug/L	3
110117-2	MW-2	3	ug/L	3
110117-3	MW-3	10	ug/L	3

QA/QC SUMMARY:

RPD, %	11
RECOVERY, %	105



LABORATORY NUMBER: 110117
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.007
LOCATION: ALAMEDA GATEWAY

DATE SAMPLED: 02/19/93
DATE RECEIVED: 02/19/93
DATE ANALYZED: 02/23/93
DATE REPORTED: 02/26/93

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)
110117-3	MW-3	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, %	116



LABORATORY NUMBER: 110117
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.007
LOCATION: ALAMEDA GATEWAY

DATE SAMPLED: 02/19/93
DATE RECEIVED: 02/19/93
DATE ANALYZED: 02/23/93
DATE REPORTED: 02/26/93

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020
Extraction by EPA 5030 Purge and Trap

LAB ID	SAMPLE ID	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
110117-1	MW-1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
110117-2	MW-2	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, %	4
RECOVERY, %	99

Client: Subsurface Consultants

Laboratory Login Number: 110117

Project Name: Alameda Gateway

Report Date: 26 February 93

Project Number: 554.007

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

METHOD: SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
110117-001	MW-1	Water	19-FEB-93	19-FEB-93	25-FEB-93	ND	mg/L	5	TR	8423
110117-002	MW-2	Water	19-FEB-93	19-FEB-93	25-FEB-93	10.	mg/L	5	TR	8423
110117-003	MW-3	Water	19-FEB-93	19-FEB-93	25-FEB-93	ND	mg/L	5	TR	8423

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



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

Client: Subsurface Consultants
Project Name: Alameda Gateway
Project Number: 554.007

Laboratory Login Number: 110117
Report Date: 26 February 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 8423

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	25-FEB-93

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	89%	SMWW 17:5520BF	25-FEB-93
BSD	87%	SMWW 17:5520BF	25-FEB-93

		Control Limits
Average Spike Recovery	88%	80% - 120%
Relative Percent Difference	2.4%	< 20%

LABORATORY NUMBER: 110195
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 554.007
 LOCATION: ALAMEDA GATEWAY

DATE SAMPLED: 2/19/93
 DATE RECEIVED: 02/19/93
 DATE REQUESTED: 03/01/93
 DATE EXTRACTED: 03/02/93
 DATE ANALYZED: 03/02/93
 DATE REPORTED: 03/05/93

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)
110195-1	MW-1	**	1,400	50
110195-2	MW-2	**	9,000	50
110195-3	MW-3	ND	ND	50

ND = Not detected at or above reporting limit.

* Reporting limit applies to all analytes.

**Kerosene range not reported. Quantitated as diesel range.

QA/QC SUMMARY

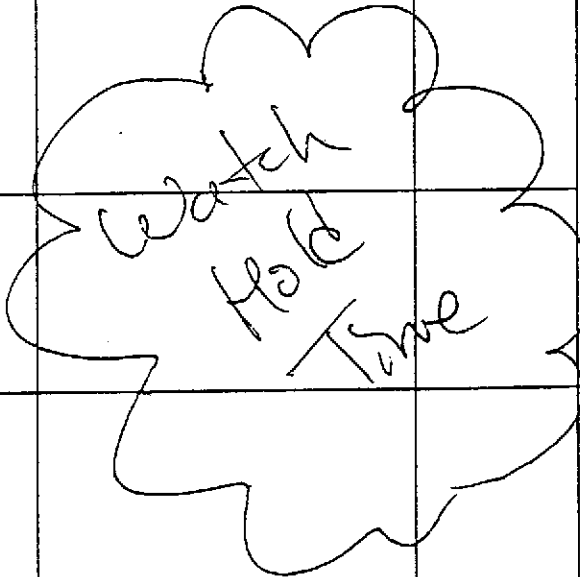
RPD, %
 RECOVERY, %

VERBAL ADDITIONS/CANCELLATIONS TO ANALYSIS
 REQUEST SHEET

 Client: SCI Date: 3-1-93

 Requested By: Eric Chang Time: AM 2:30 PM

 Recorded By: [Signature]

Current Lab ID (Previous Lab ID)	Client ID	Circle Matrix	Specify add or cancel	Analysis	Due Date
11095-1 (110117-1)	MW-1	water soil waste oil other	+	TEH	1-WK
-2 (110117-2)	MW-2	water soil waste oil other	+	↓	
-3 (110117-3)	MW-3	water soil waste oil other	+		
()		water soil waste oil other			
()		water soil waste oil other			
()		water soil waste oil other			
()		water soil waste oil other			



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

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

DATE RECEIVED: 02/19/93

DATE REPORTED: 02/26/93

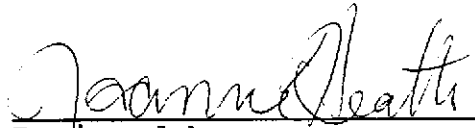
LABORATORY NUMBER: 110117

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 554.007

LOCATION: ALAMEDA GATEWAY

RESULTS: SEE ATTACHED


Reviewed by


Reviewed by

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CHAIN OF CUSTODY FORM

PROJECT NAME: ALAMEDA GATEWAY
 JOB NUMBER: SCI 55A.007 LAB: CURTIS & TOMPKINS
 PROJECT CONTACT: R.W. RUDOLPH TURNAROUND: NORMAL
 SAMPLED BY: ERIC CHANG REQUESTED BY: ERIC CHANG

ANALYSIS REQUESTED						
TVH	BTEX	PAH	PERC	LEAD	OTHER	OTHER

LABORATORY ID. NUMBER	SCI SAMPLE NUMBER	MATRIX					CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES			
		WATER	SOIL	WASTE	AIR		VOA	LITER	PINT	TUBE	HCL	H2SO4	HNO3	ICE	NONE	MONTH	DAY	YEAR	TIME				
																			HR		MIN	SEC	
110117	-1	MW-1	<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		0	2	1993	1	2	4	5	
	-2	MW-2	<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		0	2	1993	1	4	2	0	
	-3	MW-3	<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		0	2	1993	1	3	3	5	

COMMENTS & NOTES:

CHAIN OF CUSTODY RECORD			
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
<i>Eric Chang</i>	2/19/93 16:45		
		<i>[Signature]</i>	2/19/93 16:45

Subsurface Consultants, Inc.
 171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
 (510) 268-0461 • FAX: 510-268-0137