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

December 23, 1992
SCI 554.005

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

Quarterly Groundwater Monitoring Report
11/20/92 Sampling Event
Mariner Square
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 July 8, 1992. In addition, the groundwater sampling plan was modified to include total volatile hydrocarbons as gasoline pursuant to ACHCSA's letter dated November 24, 1992. A groundwater investigation performed by SCI consisted of the installation and monitoring of five groundwater monitoring wells. The results of the groundwater investigation were recorded in a report dated November 13, 1992.

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,

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

5. Purgeable Halocarbons, EPA 8010/5030

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 groundwater level data indicate that the groundwater flow direction throughout the site is toward the southwest at a gradient of approximately 0.2 percent. However, the gradient in the vicinity of MW-1 is considerably greater. Groundwater flow direction and gradient remain consistent with previous measurements.

The analytical test results indicate that during the latest sampling event, TVH, BTEX, TEH, and vinyl chloride were encountered in the wells in concentrations presented on Table 2.

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 - Groundwater Contours
Analytical Test Reports
Chain-of-Custody Documents

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

Ms. Juliet Shin
Alameda County Health Care Services Agency
80 Swan Way, Room 350
Oakland, California 94662-0901

Table 1.
Contaminant Concentrations in Groundwater

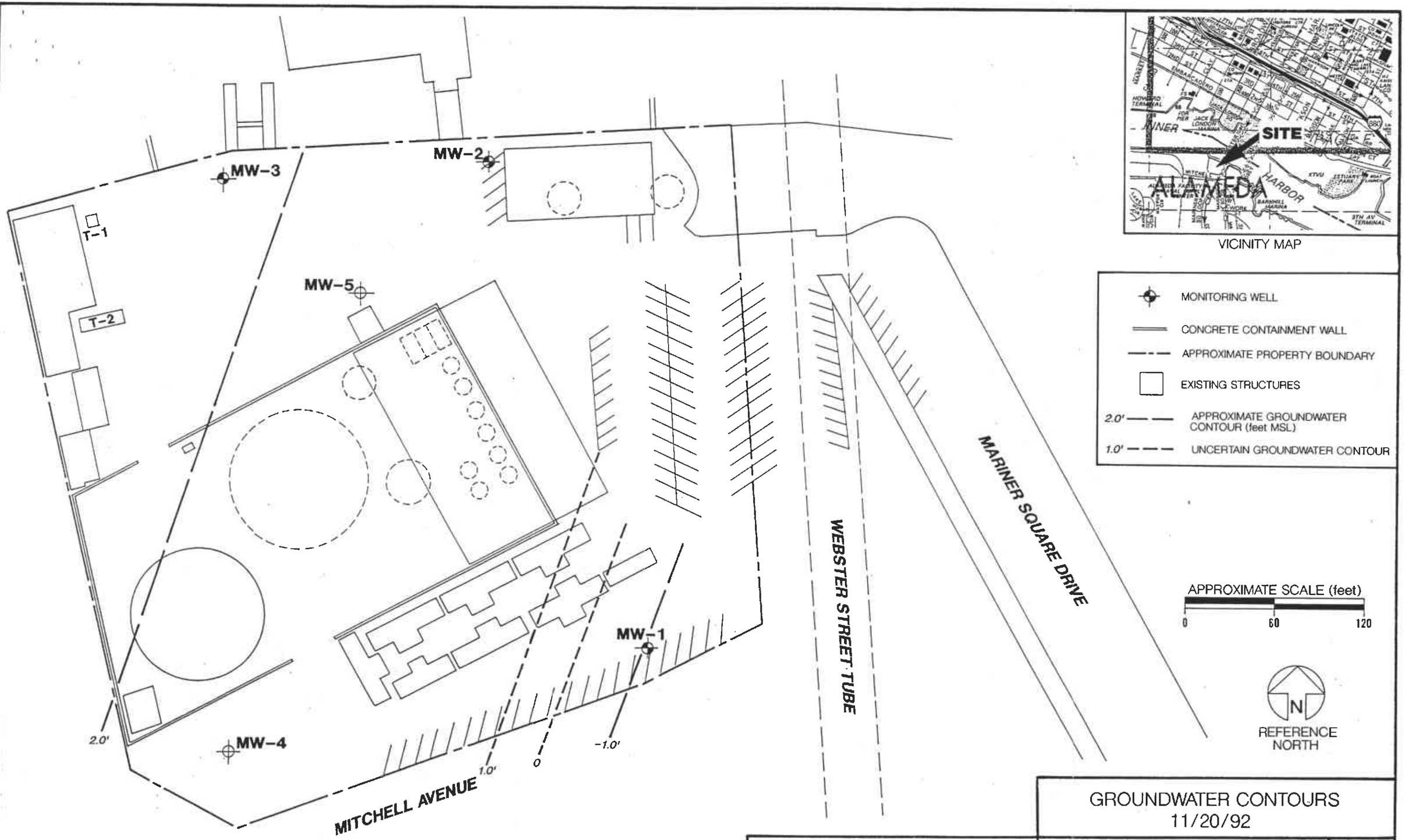
Well	Date	Oil and Grease mg/l	TEH ug/l	TVH ug/l	Benzene ug/l	Toluene ug/l	Ethyl-Benzene ug/l	Total Xylenes ug/l	Volatile Halocarbons ug/L
MW-1	08/02/92	ND(5)	580	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5-20)
	11/20/92	ND(5)	600	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1-20)
MW-2	08/02/92	ND(5)	2200	--	ND(0.5)	6.5	3.2	5.3	4-Freon 113
	11/20/92	ND(5)	2100	340	ND(0.5)	ND(0.5)	ND(0.5)	2.4	ND(1-20)
MW-3	08/02/92	ND(5)	1000	--	ND(0.5)	1.0	ND(0.5)	2.4	ND
	11/20/92	ND(5)	2000	98	ND(0.5)	ND(0.5)	0.9	1.0	ND(1-20)
MW-4	08/02/92	ND(5)	1300	--	16	2.6	0.6	2.7	9-Vinyl Chloride
	11/20/92	ND(5)	2400	330	31	5.2	0.7	2.0	13-Vinyl Chloride
MW-5	08/02/92	ND(5)	2200	--	9	6	49	11	ND(5-20)
	11/20/92	ND(5)	1500	4800	7.6	12	5.8	26	ND(1-20)

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

Well	TOC Elev (ft)	Date	Groundwater Depth (ft)	Groundwater Elev (ft)
MW-1	5.08	7/30/92	6.41	-1.33
		7/31/92	6.41	-1.33
		8/3/92	6.50	-1.42
		8/5/92	6.50	-1.42
		11/20/92	6.23	-1.15
MW-2	8.30	7/30/92	5.98	2.32
		7/31/92	6.07	2.23
		8/3/92	6.11	2.19
		8/5/92	6.18	2.12
		11/20/92	6.42	1.88
MW-3	7.28	7/30/92	4.97	2.31
		7/31/92	5.05	2.23
		8/3/92	4.43	2.85
		8/5/92	5.06	2.22
		11/20/92	5.27	2.01
MW-4	7.05	7/30/92	4.81	2.24
		7/31/92	4.88	2.17
		8/5/92	4.96	2.09
		11/20/92	5.13	1.92
MW-5	7.68	7/30/92	5.30	2.38
		7/31/92	5.42	2.26
		8/3/92	5.40	2.28
		8/5/92	5.47	2.21
		11/20/92	5.74	1.94

TOC = Top of Casing
Elevation with respect to Mean Sea Level



VICINITY MAP

SOURCE: AIRPHOTO, PAS 8822 12-19-88

GROUNDWATER CONTOURS
11/20/92

Subsurface Consultants

2415 MARINER SQUARE – ALAMEDA, CA

JOB NUMBER	DATE	APPROVED	PLATE
554.005	12/16/92	EC	1

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

DATE RECEIVED: 11/23/92
DATE REPORTED: 12/01/92

LABORATORY NUMBER: 109343

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 554.005

LOCATION: MARINER SQUARE

RESULTS: SEE ATTACHED

Reviewed by

Reviewed by

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LABORATORY NUMBER: 109343
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE

DATE SAMPLED: 11/20/92
DATE RECEIVED: 11/23/92
DATE ANALYZED: 11/30/92
DATE REPORTED: 12/01/92

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)
109343-001	MW-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
109343-002	MW-2	340+	ND(0.5)	ND(0.5)	ND(0.5)	2.4
109343-003	MW-3	98+	ND(0.5)	ND(0.5)	0.9	1.0
109343-004	MW-4	330+	31	5.2	0.7	2.0
109343-005	MW-5	4,800+	7.6	12	5.8	26

+ Pattern does not match standard.

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

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	110

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 109343
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE

DATE SAMPLED: 11/20/92
DATE RECEIVED: 11/23/92
DATE ANALYZED: 11/30/92
DATE REPORTED: 12/01/92

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)
109343-001	MW-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
109343-002	MW-2	340+	ND(0.5)	ND(0.5)	ND(0.5)	2.4
109343-003	MW-3	98+	ND(0.5)	ND(0.5)	0.9	1.0
109343-004	MW-4	330+	31	5.2	0.7	2.0
109343-005	MW-5	4,800+	7.6	12	5.8	26

+ Pattern does not match standard.

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

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	110

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 109343-001
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE
SAMPLE ID: MW-1

DATE SAMPLED: 11/20/92
DATE RECEIVED: 11/23/92
DATE ANALYZED: 11/27/92
DATE REPORTED: 12/01/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	2
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 109343-002
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE
SAMPLE ID: MW-2

DATE SAMPLED: 11/20/92
DATE RECEIVED: 11/23/92
DATE ANALYZED: 11/27/92
DATE REPORTED: 12/01/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	2
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 109343-003
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE
SAMPLE ID: MW-3

DATE SAMPLED: 11/20/92
DATE RECEIVED: 11/23/92
DATE ANALYZED: 11/28/92
DATE REPORTED: 12/01/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	2
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 109343-004
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE
SAMPLE ID: MW-4

DATE SAMPLED: 11/20/92
DATE RECEIVED: 11/23/92
DATE ANALYZED: 11/28/92
DATE REPORTED: 12/01/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	(13)	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	2
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	97

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 109343-005
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE
SAMPLE ID: MW-5

DATE SAMPLED: 11/20/92
DATE RECEIVED: 11/23/92
DATE ANALYZED: 12/01/92
DATE REPORTED: 12/01/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	2
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: METHOD BLANK - 109343
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE
SAMPLE ID: n/a

DATE ANALYZED: 11/27/92
DATE REPORTED: 12/01/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	2
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	99

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: METHOD BLANK - 109343
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE
SAMPLE ID: n/a

DATE ANALYZED: 12/01/92
DATE REPORTED: 12/01/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	2
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	99

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8010/8020 Laboratory Control Sample Report

Date Analyzed: 01-DEC-92
Matrix: WATER
Batch No: 335 921995

LCS Datafile: 335W017.raw
Operator: MBP
GC ID: GC12

EPA METHOD 8010: HALOGENATED VOLATILE ORGANICS

	Instrdg	SpikeAmt	% Rec	Limits
Chlorobenzene	20.962	20	105 %	75-130%
1,1-Dichloroethene	21.622	20	108 %	61-145%
Trichloroethene	22.602	20	113 %	71-120%
Surrogate Recovery				
Bromobenzene	98.36	100	98 %	75-125%

EPA METHOD 8020: AROMATIC VOLATILE ORGANICS

Benzene	19.524	20	98 %	76-127%
Chlorobenzene	20.198	20	101 %	75-130%
Toluene	20.14	20	101 %	76-125%
Surrogate Recovery				
Bromobenzene	99.571	100	100 %	75-125%

Column: Rtx 502.2
Limits based on 3/90 SOW

Results within Specifications - PASS

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8010/8020 Laboratory Control Sample Report

Date Analyzed: 27-NOV-92
Matrix: WATER
Batch No: 332 921960

LCS Datafile: 332W004.raw
Operator: MBP
GC ID: GC12

EPA METHOD 8010: HALOGENATED VOLATILE ORGANICS

	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	19.366	20	97 %	61-145%
Trichloroethene	22.21	20	111 %	71-120%
Chlorobenzene	19.676	20	98 %	75-130%
Surrogate Recovery				
Bromobenzene	97.971	100	98 %	75-125%

EPA METHOD 8020: AROMATIC VOLATILE ORGANICS

Toluene	19.598	20	98 %	76-125%
Benzene	18.949	20	95 %	76-127%
Chlorobenzene	19.548	20	98 %	75-130%
Surrogate Recovery				
Bromobenzene	99.782	100	100 %	75-125%

Column: Rtx 502.2
Limits based on 3/90 SOW

Results within Specifications - PASS

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8010 MS/MSD Report

Matrix Sample Number: 109343-002
Matrix Sample File: 332W009.raw
Matrix: WATER
Batch No: 332 921966 921967 921965

Date Analyzed: 27-NOV-92
Spike File: 332W010.raw
Spike Dup File: 332W011.raw
Analyst: MBP

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	20.885	20	104 %	61-145%
Trichloroethene	21.986	20	110 %	71-120%
Chlorobenzene	20.466	20	102 %	75-130%
Surrogate Recovery				
Bromobenzene	97.878	100	98 %	75-125%
MSD RESULTS				
1,1-Dichloroethene	18.478	20	92 %	61-145%
Trichloroethene	22.278	20	111 %	71-120%
Chlorobenzene	20.625	20	103 %	75-130%
Surrogate Recovery				
Bromobenzene	94.71	100	95 %	75-125%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Chlorobenzene	0			
RPD DATA				
1,1-Dichloroethene	12 %			< 14%
Trichloroethene	1 %			< 14%
Chlorobenzene	1 %			< 13%

Column: Rtx 502.2
Limits based on 3/90 SOW CLP

Results within Specifications - PASS

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 109343

Project Name: Mariner Square
Project Number: 554.005

Report Date: 01 December 92

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

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
109343-001	MW-1	Water	20-NOV-92	23-NOV-92	24-NOV-92	ND	mg/L	5	TR	7537
109343-002	MW-2	Water	20-NOV-92	23-NOV-92	24-NOV-92	ND	mg/L	5	TR	7537
109343-003	MW-3	Water	20-NOV-92	23-NOV-92	24-NOV-92	ND	mg/L	5	TR	7537
109343-004	MW-4	Water	20-NOV-92	23-NOV-92	24-NOV-92	ND	mg/L	5	TR	7537
109343-005	MW-5	Water	20-NOV-92	23-NOV-92	24-NOV-92	ND	mg/L	5	TR	7537

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

Curtis & Tompkins, Ltd.

QC Batch Report

Client: Subsurface Consultants
Project Name: Mariner Square
Project Number: 554.005

Laboratory Login Number: 109343
Report Date: 01 December 92

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 7537**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	24-NOV-92

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	88%	SMWW 17:5520BF	24-NOV-92
BSD	89%	SMWW 17:5520BF	24-NOV-92

		Control Limits
Average Spike Recovery	89%	80% - 120%
Relative Percent Difference	1.2%	< 20%

CHAIN OF CUSTODY FORM

PAGE 1 OF 1

PROJECT NAME: Mariner Square

JOB NUMBER: 554.005 LAB: Curtis + Tompkins

PROJECT CONTACT: Sean Carson TURNAROUND: Normal

SAMPLED BY: E CHANG REQUESTED BY: Sean Carson

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/BTXE	O+G	VOC's EPA 8010	TVH
	MW-1	X						5	2					X			X		11	20	92	1420	X	X	X	X	X
	MW-2	X						5	2					X			X		11	20	92	1530		X	X	X	X
	MW-3	X						5	2					X			X		11	20	92			X	X	X	X
	MW-4	X						5	2					X			X		11	20	92	1450		X	X	X	X
	MW-5	X						5	2					X			X		11	20	92	1650	X	X	X	X	X

COMMENTS & NOTES:

X - FOAMED, UNABLE

CHAIN OF CUSTODY RECORD

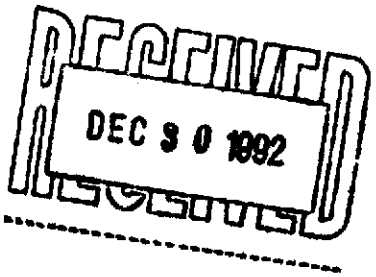
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
[signature]	11/23/92 12:00		
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		Teresa Morrison	12:00 11/23/92

Subsurface Consultants, Inc.

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

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

December 24, 1992
SCI 554.005



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

Results of Lead Analysis in Soil
Alameda, California

Dear Mr. Doll:

This letter presents the results of soluble lead analyses conducted on soil samples from the referenced site. The analyses were conducted pursuant to a request by the Alameda County Health Care Services Agency (ACHCSA) as recorded in their letter dated November 24, 1992.

Subsurface Consultants, Inc. (SCI) previously conducted a groundwater investigation at the site, and recorded the results in a report dated November 13, 1992. As requested by the ACHCSA, a soluble lead analysis was conducted on one soil sample from each boring drilled to construct the monitoring wells installed during the groundwater investigation. The samples were of soil situated above the groundwater level and ranged in depth from 1.5 to 4.5 feet. The locations of the borings/wells are shown on the Site Plan, Plate 1. A complete discussion of sampling procedures and the boring logs were presented in our previous report. The samples were stored at our facility until they were delivered 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. A waste extraction test (WET) was conducted on each sample in accordance with CCR Title 26 Section 22-66700. The soluble lead analyses were performed according to EPA method 7420.

■ Subsurface Consultants, Inc.

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

■ Subsurface Consultants, Inc.

The analytical test results for soluble lead are summarized below.

Sample	Soluble Lead ug/l
MW-1 @ 4.0'	100
[redacted]	[redacted]
MW-3 @ 4.5'	790
MW-4 @ 4.5'	90
[redacted]	[redacted]

The Soluble Threshold Limit Concentration (STLC) value for lead is 5000 ug/l. The two soil samples from a depth of 1.5 feet contained soluble lead at concentrations exceeding the STLC regulatory criteria. The deeper samples, obtained at a depth of 4.5 feet, contained soluble lead at concentrations below the STLC value.

We are uncertain as to the source of the lead contamination. The lateral extent of the elevated lead concentrations has not been defined by the testing to date. However, the analysis suggest that the elevated lead primarily affects the shallow soils (i.e. less than 4.5 feet deep) at the site.

A copy of this letter should be forwarded to the ACHCSA.

If you have any questions, please call.

Yours very truly,

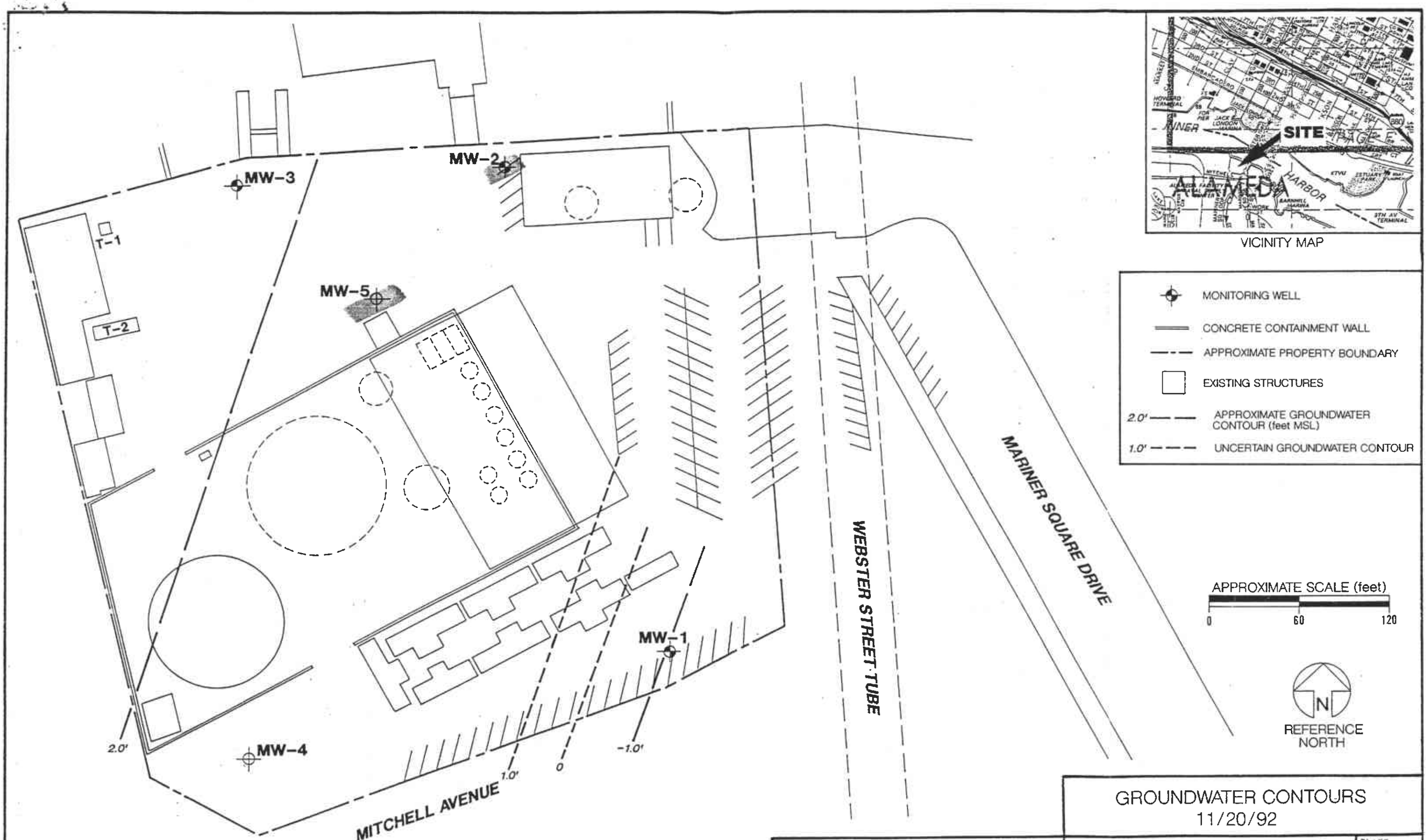
Subsurface Consultants, Inc.

R. William Rudolph

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

EBC:RWR:sld

Attachments: Site Plan
Analytical Results
Chain of Custody Records



VICINITY MAP

SOURCE: AIRPHOTO, PAS 8822 12-19-88.

GROUNDWATER CONTOURS 11/20/92

Subsurface Consultants

2415 MARINER SQUARE – ALAMEDA, CA

JOB NUMBER	DATE	APPROVED
554.005	12/16/92	EC

PLATE 1

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

DATE RECEIVED: 12/02/92
DATE REPORTED: 12/09/92

LABORATORY NUMBER: 109403

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 554.005

LOCATION: MARINER SQUARE

RESULTS: SEE ATTACHED

Reviewed by

Reviewed by

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 109403
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.005
LOCATION: MARINER SQUARE

DATE SAMPLED: 07/22/92
DATE RECEIVED: 12/02/92
DATE EXTRACTED: 12/04/92
DATE ANALYZED: 12/07/92
DATE REPORTED: 12/09/92

ANALYSIS: STLC LEAD
EXTRACTION BY WASTE EXTRACTION TEST: CCR TITLE 26 SECTION 22-66700
ANALYSIS METHOD: EPA 7420

LAB ID	CLIENT ID	RESULT	UNITS	REPORTING LIMIT
109403-1	1@4'	100	ug/L	60
109403-2	2@1.5'	28,000	ug/L	200
109403-3	3@4.5'	790	ug/L	60
109403-4	4@4.5'	90	ug/L	60
109403-5	5@1.5'	20,000	ug/L	60

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	100

CHAIN OF CUSTODY FORM

PAGE _____ OF _____

PROJECT NAME: Mariner Square

JOB NUMBER: 554.005 LAB: Curtis + Tompkins

PROJECT CONTACT: Sean Carson TURNAROUND: Normal

SAMPLED BY: John Wolfe REQUESTED BY: Sean Carson

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: STLC lead
	1@4'		X								X								10	12	9	2					X
	2@1.5'		X								X																X
	3@4.5'		X								X																X
	4@4.5		X								X																X
	5@1.5		X								X																X

COMMENTS & NOTES:

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
Dennis Alexander	12/2/92 11:50a.m	[signature]	12/2/92 11:45
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

Subsurface Consultants, Inc.

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