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

August 19 1994
SCI 554.006

RECEIVED
AUG 2 3 1994

Mr. Stan Kintz
Mariner Development Company
2236 Mariner Square Drive
Alameda, California 94501

Quarterly Groundwater Monitoring Report
July Sampling Event
Mariner Warehouse
Alameda, California

Dear Mr. Kintz:

This letter presents quarterly groundwater monitoring results for the referenced site. Groundwater monitoring was performed as required by the Alameda County Health Care Services Agency (ACHCSA) in their letter dated July 13, 1994.

On July 25, 1994, five wells were purged and sampled. The groundwater monitoring event consisted of (1) measuring groundwater levels, (2) checking for free-product (3) purging at least 3 well volumes of water from each of the wells, and (4) sampling each well with a new disposable bailer. The samples were retained in glass containers and preserved with hydrochloric acid. The containers were placed in ice filled coolers and remained refrigerated 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 laboratory certified by the State of California Department of Health Services (DHS) 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, and

3. Total extractable hydrocarbons (TEH), EPA method 8015 mod/3550.

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 is toward the north at a gradient of approximately 1 percent.

The analytical test results indicate that extractable hydrocarbons are present in groundwater beneath the site. TEH as diesel was detected in four out of five wells. Volatile hydrocarbons and BTXE have never been encountered in any of the wells.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/96)

MFW:RWR:sld

6 copies submitted

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

Table 1.
Contaminant Concentrations in Groundwater

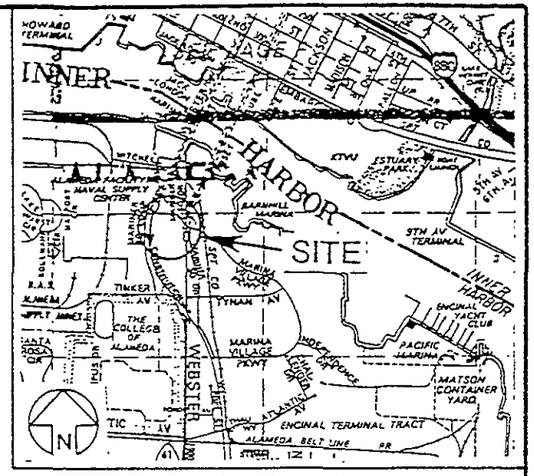
Well	Date	TEH ug/l	TOG mg/l	TVH ug/l	Benzene ug/l	Toluene ug/l	Ethyl-Benzene ug/l	Total Xylenes ug/l	Polynuclear Aromatics ug/l
MW-1	09/02/92	**260**	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)
	11/20/92	**270**	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	03/03/93	ND(50)	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	07/25/94	**440**	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
MW-2	09/02/92	ND(50)	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)
	11/20/92	**370**	ND(7)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	03/03/93	ND(50)	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	07/25/94	**1000**	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
MW-3	09/02/92	**300**	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)
	11/20/92	**190**	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	03/03/93	ND(50)	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	07/25/94	**820**	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
MW-4	09/02/92	ND(50)	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)
	11/20/92	**80**	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	03/03/93	ND(50)	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	07/25/94	ND(50)	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
MW-5	09/02/92	**200**	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)
	11/20/92	**80**	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	03/03/93	ND(50)	ND(5)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--
	07/25/94	**250**	--	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	--

TEH = Total extractable hydrocarbons, EPA 8015 mod./3550
TOG = Total oil and grease, SMWW 17:5520B&F
TVH = Total volatile hydrocarbons, EPA 8015 mod./5030
mg/l = milligrams per liter or parts per million (ppm)
ug/l = micrograms per liter or parts per billion (ppb)
ND = None detected above reporting limits indicated in parentheses

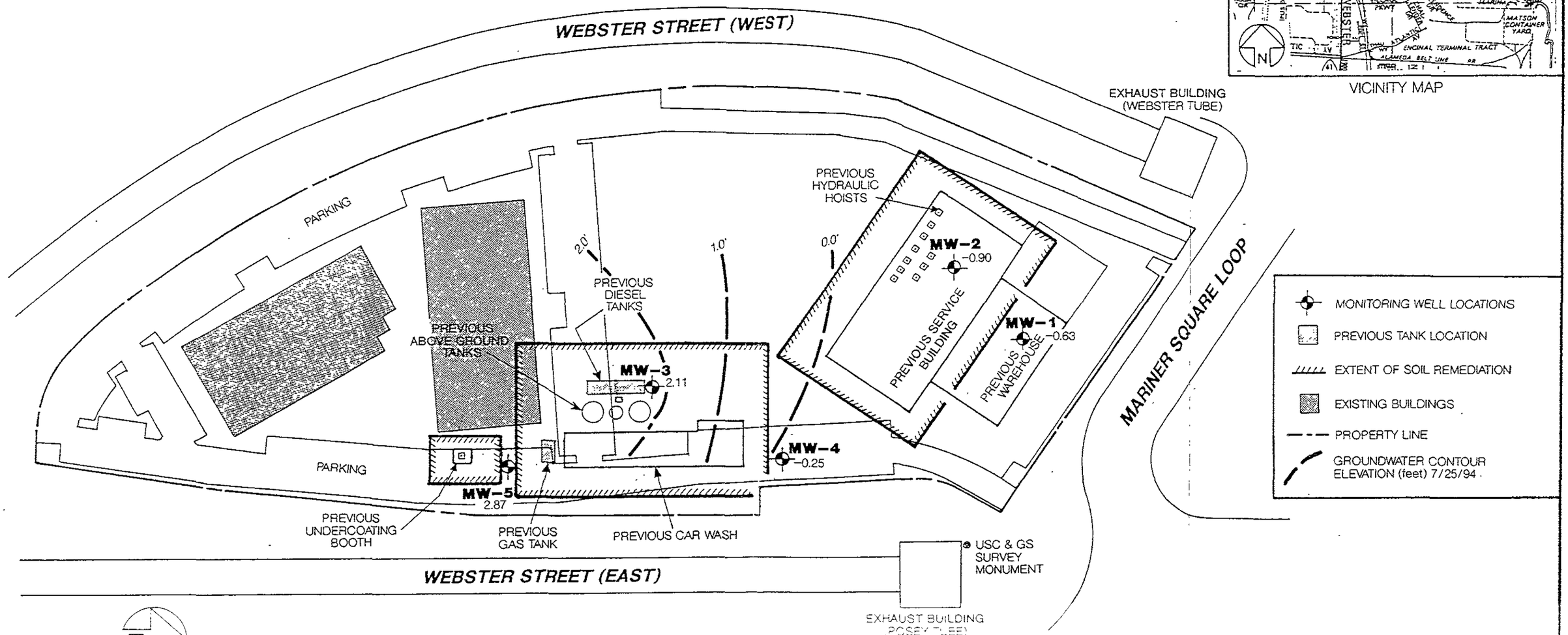
Table 2.
Groundwater Elevation Data

Well	TOC Elev (ft)	Date	Groundwater Depth (ft)	Groundwater Elev (ft)
MW-1	6.76	09/04/92	8.06	-1.30
		09/08/92	8.02	-1.26
		09/11/92	8.11	-1.35
		11/20/92	7.52	-0.76
		03/03/93	6.50	0.26
		07/25/94	7.39	-0.63
MW-2	6.32	09/04/92	8.72	-2.40
		09/08/92	6.33	-0.01
		09/11/92	8.65	-2.33
		11/20/92	6.37	-0.05
		03/03/93	5.12	1.20
		07/25/94	7.22	-0.90
MW-3	7.19	09/04/92	5.60	1.59
		09/08/92	5.45	1.74
		09/11/92	5.50	1.69
		11/20/92	5.40	1.79
		03/03/93	4.91	2.28
		07/25/94	5.08	2.11
MW-4	7.27	09/04/92	7.86	-0.59
		09/08/92	7.84	-0.57
		09/11/92	7.91	-0.64
		11/20/92	7.56	-0.29
		03/03/93	7.21	0.06
		07/25/94	7.52	-0.25
MW-5	7.22	09/04/92	3.26	3.96
		09/08/92	5.10	2.12
		09/11/92	5.12	2.10
		11/20/92	5.13	2.09
		03/03/93	4.62	2.60
		07/25/94	4.35	2.87

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



VICINITY MAP



GROUNDWATER CONTOURS 7/25/94

Subsurface Consultants

MARINER WAREHOUSE – ALAMEDA, CA

JOB NUMBER	DATE	APPROVED
554-006	8/15/94	

PLATE 1

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: 10-AUG-94
Lab Job Number: 116533
Project ID: 554.006
Location: Mariner Warehouse

Reviewed by: Teresa K Morrison

Reviewed by: Mary Pleasant

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 116533
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.006
LOCATION: MARINER WAREHOUSE

DATE SAMPLED: 07/25,26/94
DATE RECEIVED: 07/26/94
DATE ANALYZED: 07/28-29/94
DATE REPORTED: 08/10/94

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)
116533-001	MW-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
116533-002	MW-2	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
116533-003	MW-3	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
116533-004	MW-4	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
116533-005	MW-5	ND(50)	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)

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

QA/QC SUMMARY

RPD, %	1
RECOVERY, %	103

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 116533
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 554.006
LOCATION: MARINER WAREHOUSE

DATE SAMPLED: 07/25,26/94
DATE RECEIVED: 07/26/94
DATE EXTRACTED: 08/06/94
DATE ANALYZED: 08/09/94
DATE REPORTED: 08/10/94

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)
116533-001	MW-1	**	440	50
116533-002	MW-2	**	1,000	50
116533-003	MW-3	**	820	50
116533-004	MW-4	ND	ND	50
116533-005	MW-5	ND	250	50
METHOD BLANK		ND	ND	50

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

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

QA/QC SUMMARY:

RPD, %	10
RECOVERY, %	88

CHAIN OF CUSTODY FORM

PAGE 1 OF 1

PROJECT NAME: Mariner Warehouse
JOB NUMBER: 554.006 LAB: Curtis & Tompkins
PROJECT CONTACT: Marianne Watada TURNAROUND: normal
SAMPLED BY: REQUESTED BY: M. Watada

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: TVH/BTXE	TEH
116533-1	MW-1	X						3	1					X			X		07	25	94	1400		X	X
-2	MW-2	X						3	1					X			X		07	26	94	0815		X	X
-3	MW-3	X						3	1					X			X		07	25	94	1240		X	X
-4	MW-4	X						3	1					X			X		07	25	94	1615		X	X
-5	MW-5	X						3	1					X			X		07	25	94	1515		X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dena Alejandro	7/26/94 8:35 a.m.		7/26/94 08:35
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

COMMENTS & NOTES:

Subsurface Consultants, Inc.
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