

GROUNDWATER TECHNOLOGY®

Groundwater Technology, Inc.

1401 Halyard Drive, Suite 140, West Sacramento, CA 95691 USA
Tel: (916) 372-4700 Fax: (916) 372-8781

TO: Mr. Don Ringsby
Ringsby Terminals, Inc.
P.O. Box 7240
3980 Quebec Street, Suite 214
Denver, CO 80207
(303) 320-3960 FAX: (303) 355-2451

DATE: 01/19/96 JOB NO. 02070-00205
FROM: Jaff Auchterlonie
RE: Ringsby Terminals- Port of Oakland
2225 7th Street
Oakland, California

We are sending via: AIRBORNE MAIL FAX

ORIGINALS	COPIES	DATE	DESCRIPTION
1		01/19/96	Fourth Quarter 1995 Groundwater Monitoring and Sampling Report

Transmitted as checked:

For Approval For Your Use As You Requested
 For Comment For Resubmittal For Your Records

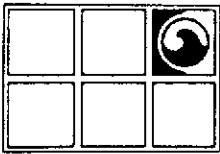
Remarks: Please review the attached report. With your approval, copies of this Quarterly Monitoring and Sampling Report will be mailed as noted below. If you have any comments or questions, please call.

Copies to:

Ms. Jennifer Eberle, Hazardous Materials Specialist (510) 567-6761
Alameda County Department of Environmental Health FAX (510) 337-9335
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

Mr. Dan Schoenholz (510) 272-1220
Environmental Scientist FAX (510) 465-3755
Port of Oakland
530 Water Street
Oakland, California 94607

02-22-96 10:40 AM '96
GROUNDWATER TECHNOLOGY, INC.
1401 HALYARD DRIVE
WEST SACRAMENTO, CA 95691



GROUNDWATER TECHNOLOGY®

Groundwater Technology, Inc.

1401 Halyard Drive, Suite 140, West Sacramento, CA 95691 USA
Tel: (916) 372-4700 Fax: (916) 372-8781

January 19, 1995 *6*

Mr. Don Ringsby
Ringsby Terminals, Inc.
3980 Quebec Street, Suite 214
Denver, CO 80207

Subject: Fourth Quarter 1995 Groundwater Monitoring and Sampling Report
Ringsby Terminals, Port of Oakland
2225 7th Street
Oakland, California 94607
GTI Project 02070 0205

Dear Mr. Ringsby:

This letter summarizes the groundwater monitoring and sampling work performed by Groundwater Technology Inc. at the subject site (Attachment 1, Figures 1 and 2). On ~~December 27, 1995~~, Groundwater Technology personnel monitored the depth to groundwater in three groundwater monitoring wells, MW-1, MW-2, and MW-3, located on the property leased by Ringsby Terminals, Inc. and also collected water samples from the three wells to determine the distribution of dissolved hydrocarbons in the groundwater. The work was performed at the request of Ms. Jennifer Eberle of the Alameda County Health Care Services, Department of Environmental Health (ACHC).

The groundwater monitoring information and results of analyses of groundwater samples collected since January 1993, are summarized in Table 1 (Attachment 2). The analytical data and chain-of-custody for the December 27, 1995 sampling event are included in Attachment 3. The groundwater monitoring and sampling field notes for December 27, 1995, are included in Attachment 4. The monitoring wells, MW-1, MW-2, and MW-3, are located on the Ringsby Terminal lease, and the three wells, MW-1*, MW-2*, and MW-3*, are located north of the Ringsby Terminal lease on the Port of Oakland property (Attachment 1, Figure 2).

Groundwater Monitoring

On December 27, 1995, Groundwater Technology personnel monitored the depth to groundwater and checked for presence of any separate-phase liquid hydrocarbons (SP) in monitoring wells MW-1, MW-2, and MW-3 (Attachment 2, Table 1). Due to a change of consultant's schedule, the Port of Oakland wells were not monitored on December 27, 1995, and no data are included for these wells in Table 1. Depth to water was measured using an ORS Environmental Equipment INTERFACE PROBE Well Monitoring System, consisting of a dual optical sensor and electrical conductivity probe, that distinguishes between water and SP hydrocarbons. The probe was cleaned prior to gauging each well to avoid cross-contamination of the groundwater. To diminish the effects of fluctuations in the

Rngsbyq4.95(DG1-1)

groundwater table due to tides, the depth to groundwater was measured in the three wells within a one-hour time period. All measurements were made from the top of casing in each well. No SP hydrocarbons were noted in the three Ringsby Terminals groundwater monitoring wells.

Groundwater Gradient and Flow Direction

From November 20 to December 27, 1995, the groundwater elevations increased in all three wells: 0.42 feet in MW-1, 0.11 feet in MW-2, and 0.31 feet in MW-3 (Attachment 2, Table 1). The calculated groundwater gradient on December 27, 1995, was North 20 degrees West at 0.001 foot per foot (Attachment 1, Figure 3).

Since January 15, 1993, no separate phase hydrocarbons have been measured in the three wells. As stated in previous reports, there is an abrupt change in the lithology and drop in groundwater elevations, (2 feet), between the Ringsby Terminal Lease and the Port of Oakland property located to the North; it appears that an east-west oriented hydrologic barrier exists between the two properties. The lateral extent and continuity of the hydrologic barrier between the two properties is not known. Given the history of land reclamation via dredging and backfilling the tidal mud flats, and construction of roadways for pier access, linear barriers to shallow groundwater flow are expected.

Groundwater Sampling

Following groundwater monitoring, Groundwater Technology personnel sampled the groundwater in the three Ringsby Terminals monitoring wells to determine the distribution of dissolved hydrocarbons in the groundwater. Prior to water-sample collection, the three wells were purged of at least 4 well volumes of water and allowed to recharge with representative formation water. Temperature, conductivity, and pH measurements of the purged water were recorded. Due to an obstruction in its screened section, well MW-3 was only purged to a depth of 9.6 feet below the casing top. A disposable Teflon bailer was used for the groundwater sampling. One distilled-water field blank was collected for quality control purposes. Each water sample was then transferred to two 40-milliliter glass vials with Teflon-septum caps and two 1-liter amber glass bottles, preserved on ice, and transported to a California state-certified laboratory, accompanied by a chain-of-custody manifest. The three samples were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX), total petroleum hydrocarbons-as-gasoline (TPH-G), total petroleum hydrocarbons-as-diesel (TPH-D), and total petroleum hydrocarbons-as-motor oil (TPH-O) by EPA methods 8020/modified 8015.

WASTEWATER

A total of 56 gallons of water was purged from the monitoring wells and stored in two 55-gallon drums labeled "Ringsby, non-hazardous well purge water, 12/27/95". Two drums of purged groundwater are now stored on site.

GROUNDWATER ANALYTICAL RESULTS

The TPH-G concentrations of 220 micrograms per liter ($\mu\text{g/l}$) in MW-2 and $55\mu\text{g/l}$ in MW-3, reported by WEST laboratory, have gas chromatogram (GC) patterns that are not characteristic of gasoline. No concentrations of BTEX, TPH-D, or TPH-O were detected in any of the analyzed groundwater samples (Attachment 3).

The recent and historical analytical results are summarized in Table 1. Copies of the laboratory reports and chain-of-custody for the groundwater samples are included in Attachment 3, and the field notes are included in Attachment 4.

Please contact Groundwater Technology's West Sacramento office if you have questions or comments regarding this quarterly report.

Sincerely,
Groundwater Technology, Inc.
Submitted by:

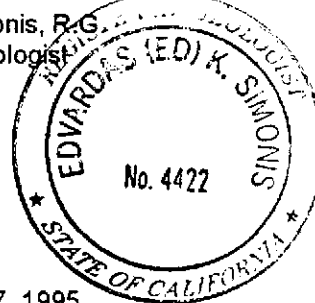
Groundwater Technology, Inc.
Approved by:



Jeffrey S. Auchterlonie
Lead Geologist
Project Manager

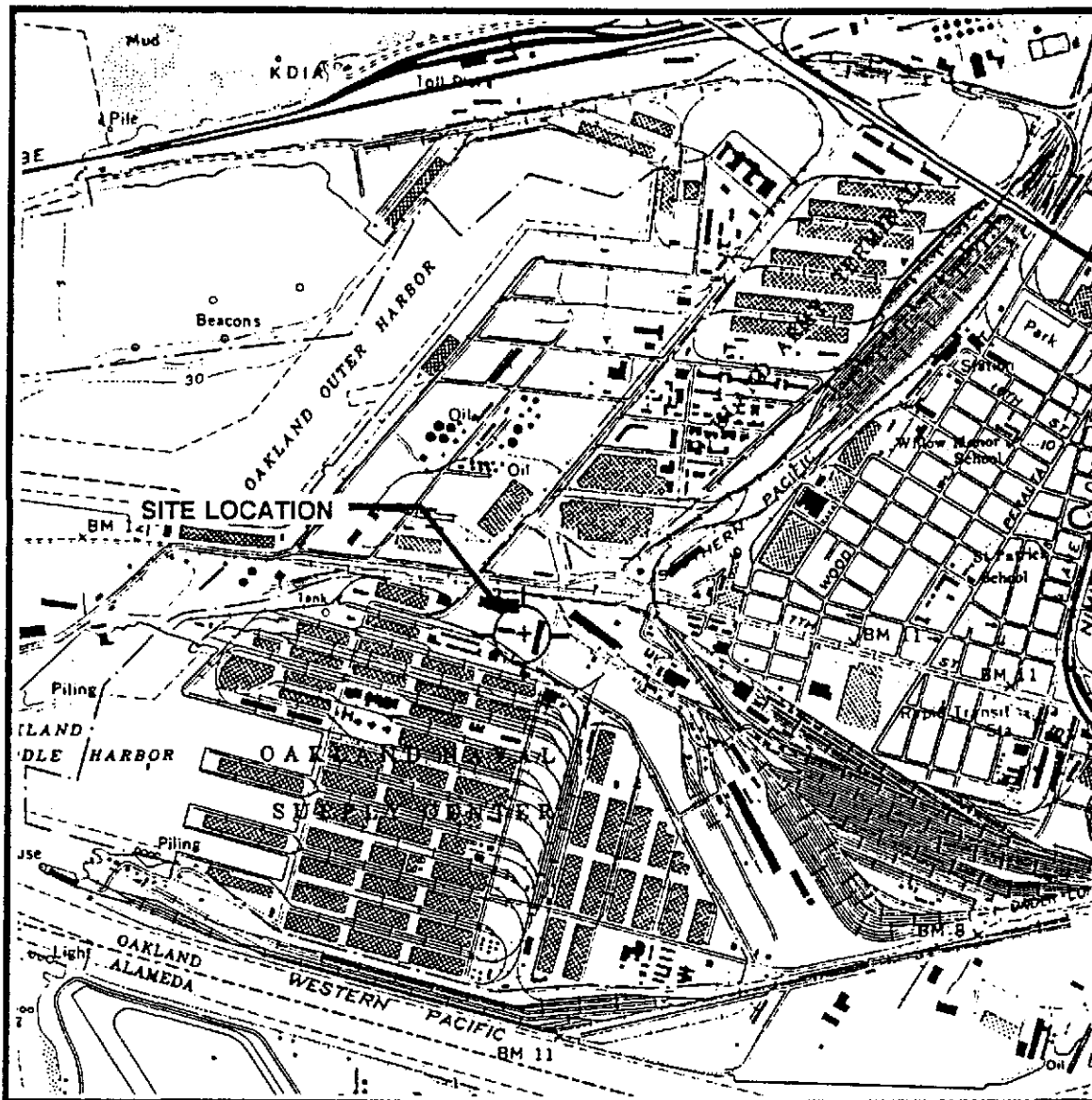


Ed K. Simonis, P.G.
Senior Geologist



Attachments

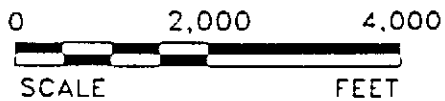
1. Figures
2. Tables
3. Laboratory Reports
4. Groundwater Monitoring and Sampling Field Notes, December 27, 1995



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
 OAKLAND WEST
 7.5 MINUTE SERIES
 1959/PHOTOREVISED 1980



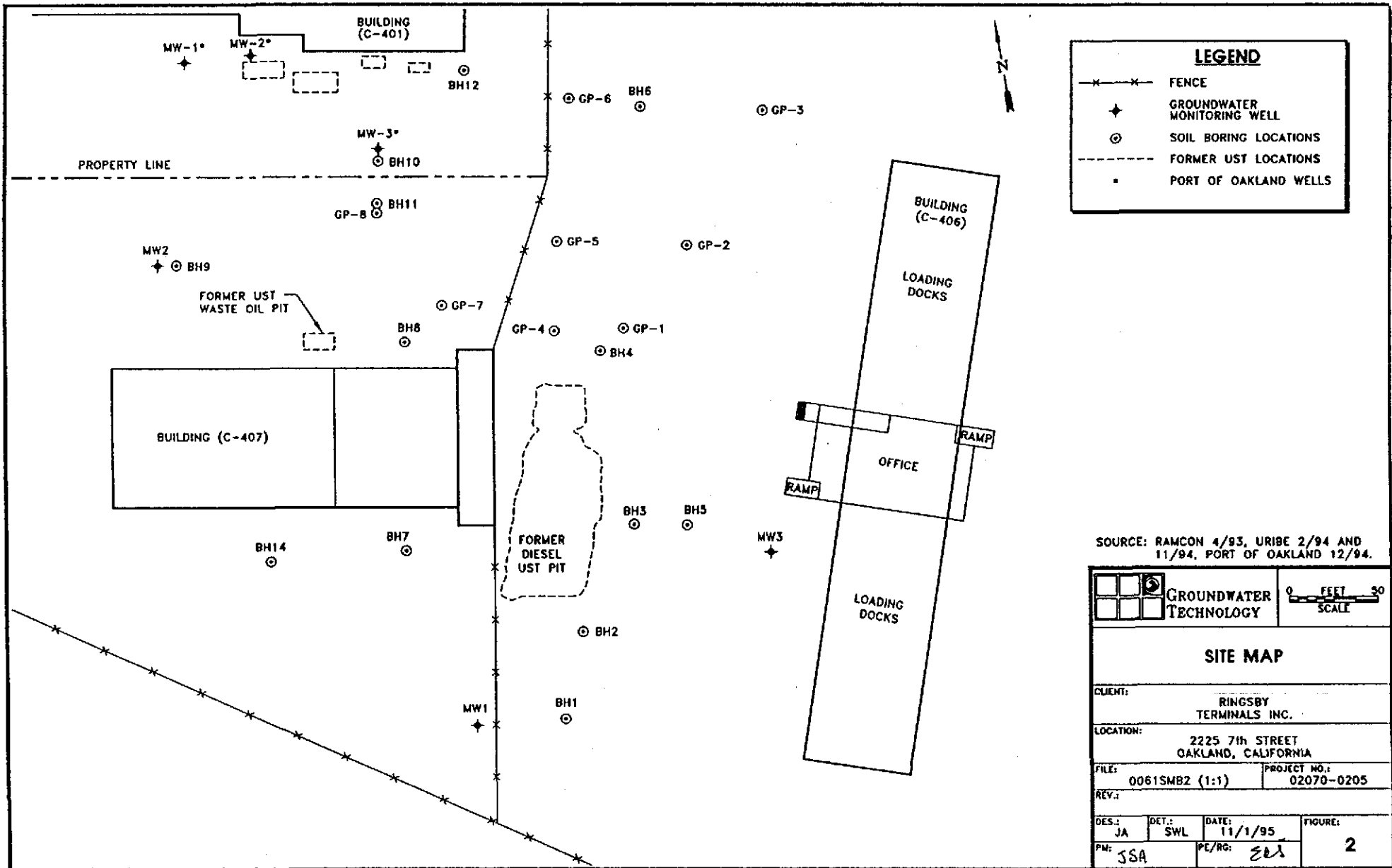
SCALE 1:24,000

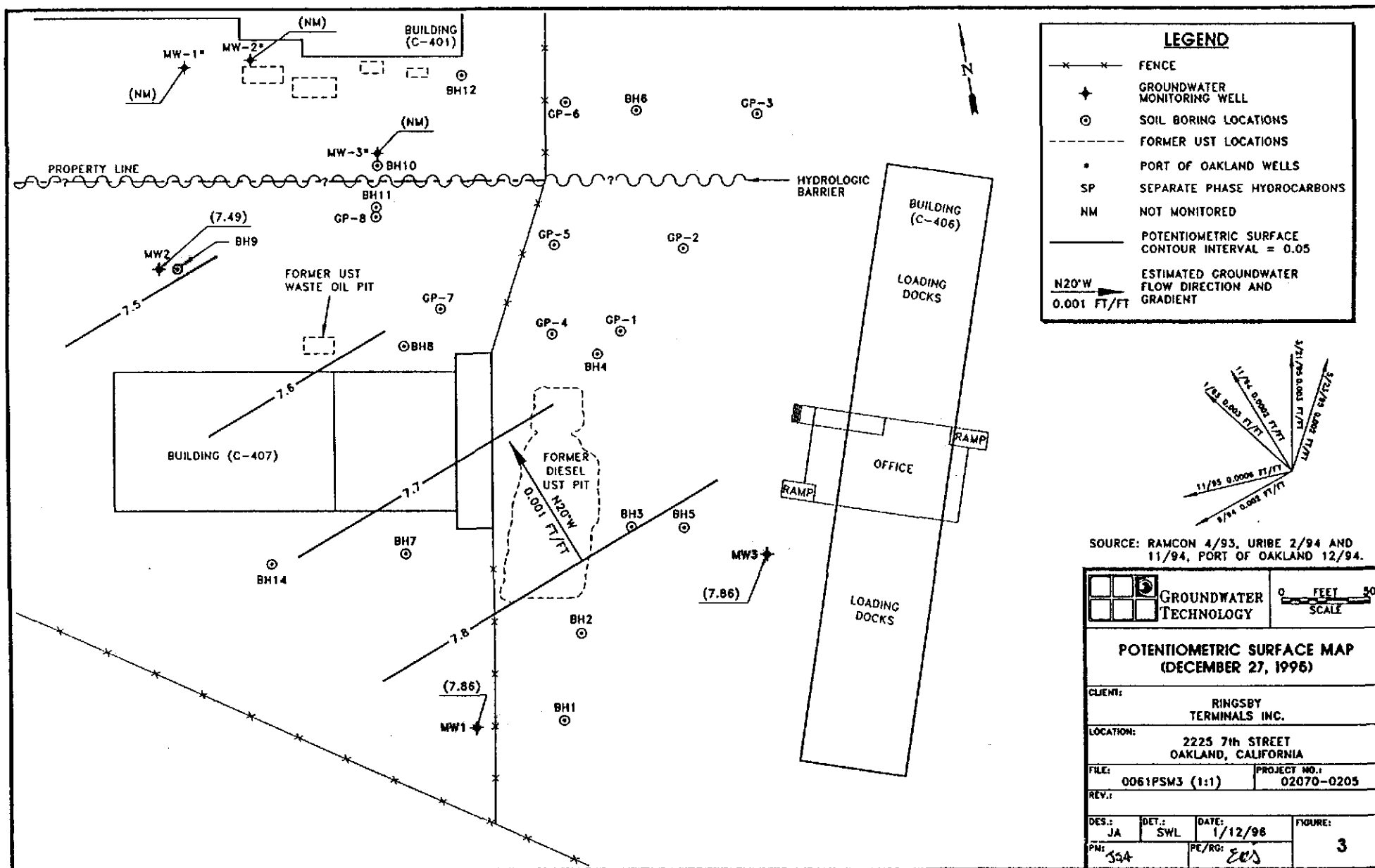


GROUNDWATER
 TECHNOLOGY

SITE LOCATION MAP

CLIENT: RINGSBY TERMINALS INC.	FILE: 0061-SL (1:1)	PROJECT NO.: 02070-0061	PM JSA	PE/RG. EBJ
LOCATION: 2225 7th STREET OAKLAND, CA.	REV.	DES. JA	DET. SP	DATE: 4-4-95
				FIGURE: 1





LEGEND

- x—x— FENCE
- ⊕ GROUNDWATER MONITORING WELL
- ⊙ SOIL BORING LOCATIONS
- - - - - FORMER UST LOCATIONS
- PORT OF OAKLAND WELLS
- SP SEPARATE PHASE HYDROCARBONS
- NM NOT MONITORED
- POTENTIOMETRIC SURFACE CONTOUR INTERVAL = 0.05
- N20°W ESTIMATED GROUNDWATER FLOW DIRECTION AND GRADIENT

SOURCE: RAMCON 4/93, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.

POTENTIOMETRIC SURFACE MAP (DECEMBER 27, 1996)			
CLIENT: RINGSBY TERMINALS INC.			
LOCATION: 2225 7th STREET OAKLAND, CALIFORNIA			
FILE: 0061PSM3 (1:1)	PROJECT NO.: 02070-0205		
REV.:			
DES.: JA	DET.: SWL	DATE: 1/12/96	FIGURE: 3
PN: 534	PE/RG: EWS		

Table 1
GROUNDWATER MONITORING AND ANALYTICAL DATA, 1993, 1994, and 1995
 Concentrations in parts per billion (ppb), or micrograms per liter (µg/l)

Ringsby Terminals, Inc.- Port of Oakland
 2226 7th Street, Oakland, California

WELL ID/ ELEVATION (TOC:feet)	DATE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	TPH-G	TPH-D	TPH-O	DTW (feet)	SPT (feet)	GWE (feet)
MW-1 13.72	01/15/93	< 0.3	< 0.3	< 0.3	< 0.3	< 50 ~	< 50	---	5.21	0.00	8.51
	09/12/94	0.5	< 0.3	< 0.3	< 0.3	< 10 c	10,000	---	6.37	0.00	7.35
	11/30/94	< 0.3	< 0.3	< 0.3	< 0.3	< 10	2,800	---	5.76	0.00	7.96
	03/29/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	---	4.57	0.00	9.15
	05/25/95	---	---	---	---	---	---	---	5.14	0.00	8.58
	06/21/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50 d	---	5.41	0.00	8.31
	06/23/95	---	---	---	---	---	---	---	5.44	0.00	8.28
	09/28/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	---	6.9	0.00	13.72
	11/20/95	---	---	---	---	---	---	---	6.28	0.00	7.44
	12/27/95	< 0.30	< 0.30	< 0.30	< 0.50	< 50	< 50	< 100	5.86	0.00	7.86
MW-2 13.80	01/15/93	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	---	6.21	0.00	7.59
	09/12/94	0.5	< 0.3	< 0.3	< 0.3	34 c	< 50	---	6.47	0.00	7.33
	11/30/94	0.9	< 0.3	< 0.3	< 0.3	< 10	81	---	6.34	0.00	7.46
	03/29/95	0.3	< 0.3	< 0.3	< 0.3	< 50 b	76	---	5.51	0.00	8.29
	05/25/95	---	---	---	---	---	---	---	5.60	0.00	8.20
	06/21/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50 b	< 50	---	5.72	0.00	8.08
	06/23/95	---	---	---	---	---	---	---	5.72	0.00	8.08
	09/28/95	< 0.3	< 0.3	< 0.3	< 0.3	250 c	< 50	---	6.15	0.00	7.65
	11/20/95	---	---	---	---	---	---	---	6.42	0.00	7.38
	12/27/95	< 0.30	< 0.30	< 0.30	< 0.50	220 c	< 50	< 100	6.31	0.00	7.49
MW-3 15.06	01/15/93	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	---	6.44	0.00	8.62
	09/12/94	0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	---	7.35	0.00	7.71
	11/30/94	< 0.3	< 0.3	< 0.3	< 0.3	110	150	---	7.12	0.00	7.94
	03/29/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	---	6.31	0.00	8.75
	05/25/95	---	---	---	---	---	---	---	6.75	0.00	8.31
	06/21/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50 b	< 50 d	---	6.87	0.00	8.19
	06/23/95	---	---	---	---	---	---	---	6.88	0.00	8.18
	09/28/95	< 0.3	< 0.3	< 0.3	< 0.3	51 c	< 50	---	7.28	0.00	7.78
	11/20/95	---	---	---	---	---	---	---	7.51	0.00	7.55
	12/27/95	< 0.30	< 0.30	< 0.30	< 0.50	15 c	< 50	< 100	7.20	0.00	7.86

Table 1
GROUNDWATER MONITORING AND ANALYTICAL DATA, 1993, 1994, and 1995
 Concentrations in parts per billion (ppb), or micrograms per liter (µg/l)

Ringsby Terminals, Inc.- Port of Oakland
 2225 7th Street, Oakland, California

WELL ID/ ELEVATION (TOC:feet)	DATE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	TPH-G	TPH-D	TPH-O	DTW (feet)	SPT (feet)	GWE (feet)
MW-1* 14.14	11/30/94	---	---	---	---	---	---	---	9.51	0.91	5.43
	03/29/95	---	---	---	---	---	---	---	7.67	0.17	6.62
	05/23/95	---	---	---	---	---	---	---	8.68	0.17	5.61
	06/23/95	---	---	---	---	---	---	---	9.60	1.40	5.77
	09/28/95	---	---	---	---	---	---	---	9.85	1.11	5.26
MW-2* 14.36	11/30/94	---	---	---	---	---	---	---	8.91	0.00	5.45
	03/29/95	---	---	---	---	---	---	---	7.47	0.00	6.89
	05/23/95	---	---	---	---	---	---	---	---	---	---
	06/23/95	---	---	---	---	---	---	---	8.62	0.00	5.74
	09/28/95	---	---	---	---	---	---	---	9.17	0.00	5.19
MW-3* 14.22	11/30/94	---	---	---	---	---	---	---	13.07	5.21	5.71
	03/29/95	---	---	---	---	---	---	---	9.59	2.93	7.19
	05/23/95	---	---	---	---	---	---	---	11.09	6.46	8.78
	06/23/95	---	---	---	---	---	---	---	12.21	6.09	7.34
	09/28/95	---	---	---	---	---	---	---	13.60	5.60	5.52

Page 2 of 2

EXPLANATION:

TPH-G = Total petroleum hydrocarbons-as-gasoline

TPH-D = Total petroleum hydrocarbons-as-diesel

DTW = Depth to water

SPT = Separate-phase thickness

GWE = Groundwater elevation

MSL = Mean sea level

TOC = Top of casing

+ = Possible well gauging error, data not used

- = Not analyzed or no sample/measurement collected

~ = Sample also analyzed using EPA 824, volatile organics were present.

a = Uncategorized compound not included in the hydrocarbon concentration

b = Uncategorized compound not included in the gasoline concentration

c = Hydrocarbon pattern is not characteristic of gasoline

d = Hydrocarbon pattern present in sample is not characteristic of diesel

SURVEY INFORMATION:

Well #	TOC	Grade	Property/well Owner
MW-1	13.72	---	Ringsby Terminals, Inc.
MW-2	13.80	---	Ringsby Terminals, Inc.
MW-3	15.06	---	Ringsby Terminals, Inc.
MW-1*	14.14	---	Port of Oakland
MW-2*	14.36	---	Port of Oakland
MW-3*	14.22	---	Port of Oakland

GWE for wells with separate phase hydrocarbons calculated assuming a specific gravity of (0.875)

Wells surveyed to Port of Oakland Datum

12/06/94, (3.2 feet below mean sea level)

January 5, 1996
Sample Log 13678

Jaff Auchterlonie
Groundwater Technology Inc.
1401 Halyard Dr., Suite 140
West Sacramento, CA 95691

Subject: Analytical Results for 4 Water Samples
Identified as: Ringsby Terminal (Proj. # 020700205.030504)
Received: 12/28/95
Purchase Order: 006-1601

Dear Mr. Auchterlonie:

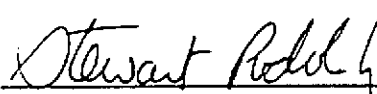
Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on January 5, 1996 and describes procedures used to analyze the samples.

Sample(s) were analyzed using the following method(s):

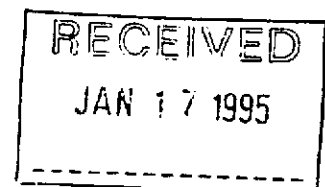
"BTEX" (EPA Method 602/5030)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)
"TPH as Diesel, Motor Oil, Jet/Kerosene" (Mod. 8015/Extraction)

Please refer to the following table(s) for summarized analytical results and contact us at 916-753-9500 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:



Stewart Podolsky
Senior Chemist



Sample: Trip blank

From : Ringsby Terminal (Proj. # 020700205.030504)

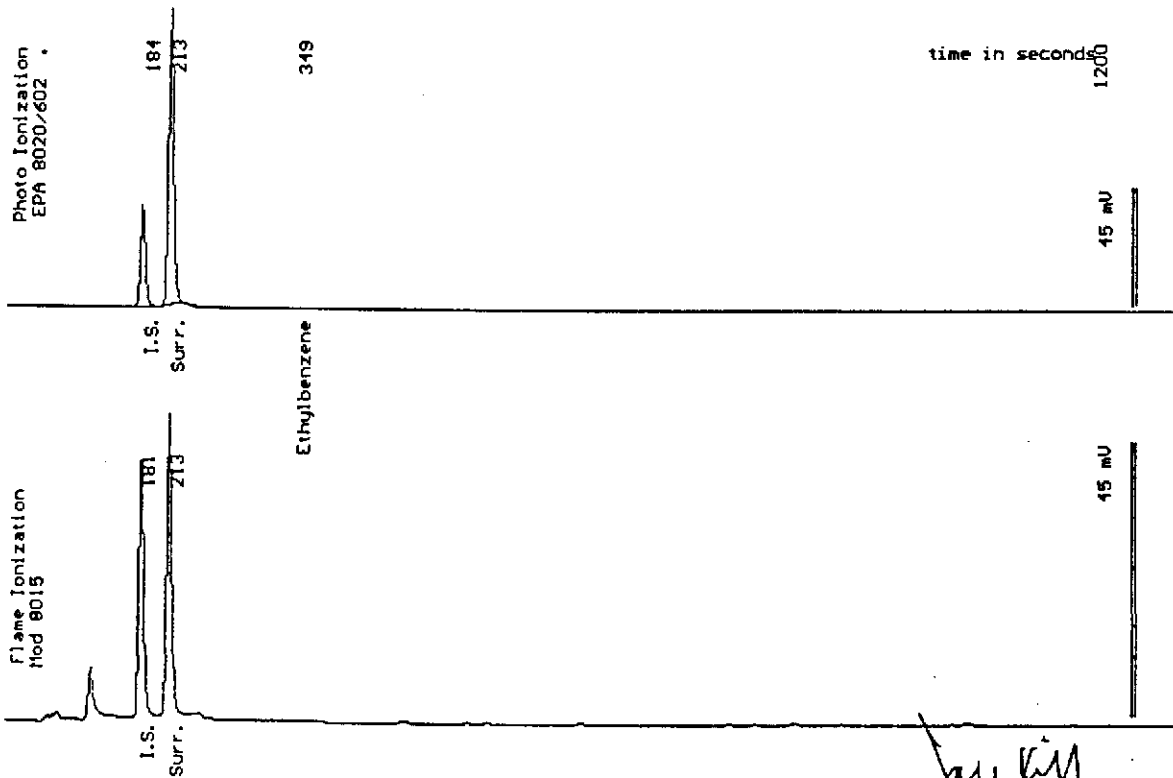
Sampled : 12/27/95

Dilution : 1:1

QC Batch : 4140R

Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		103 %



Date Analyzed: 01-04-96
 Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Jodi Kiff
 Jodi Kiff
 Senior Chemist

Sample: MW-3

From : Ringsby Terminal (Proj. # 020700205.030504)

Sampled : 12/27/95

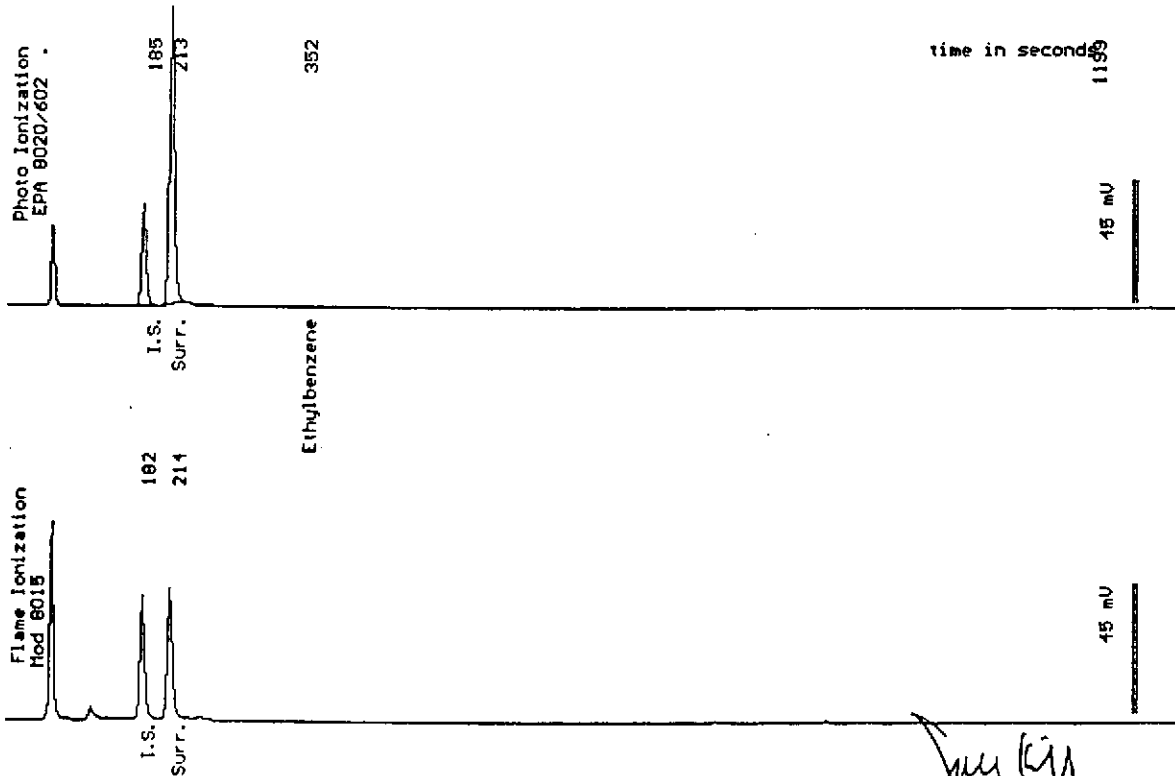
Dilution : 1:1

QC Batch : 4140R

Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	55 *
Surrogate Recovery		104 %

* Product is not typical gasoline.



Date Analyzed: 01-04-96
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Joel Kiff
Senior Chemist

Sample: MW-2

From : Ringsby Terminal (Proj. # 020700205.030504)

Sampled : 12/27/95

Dilution : 1:1

QC Batch : 4140R

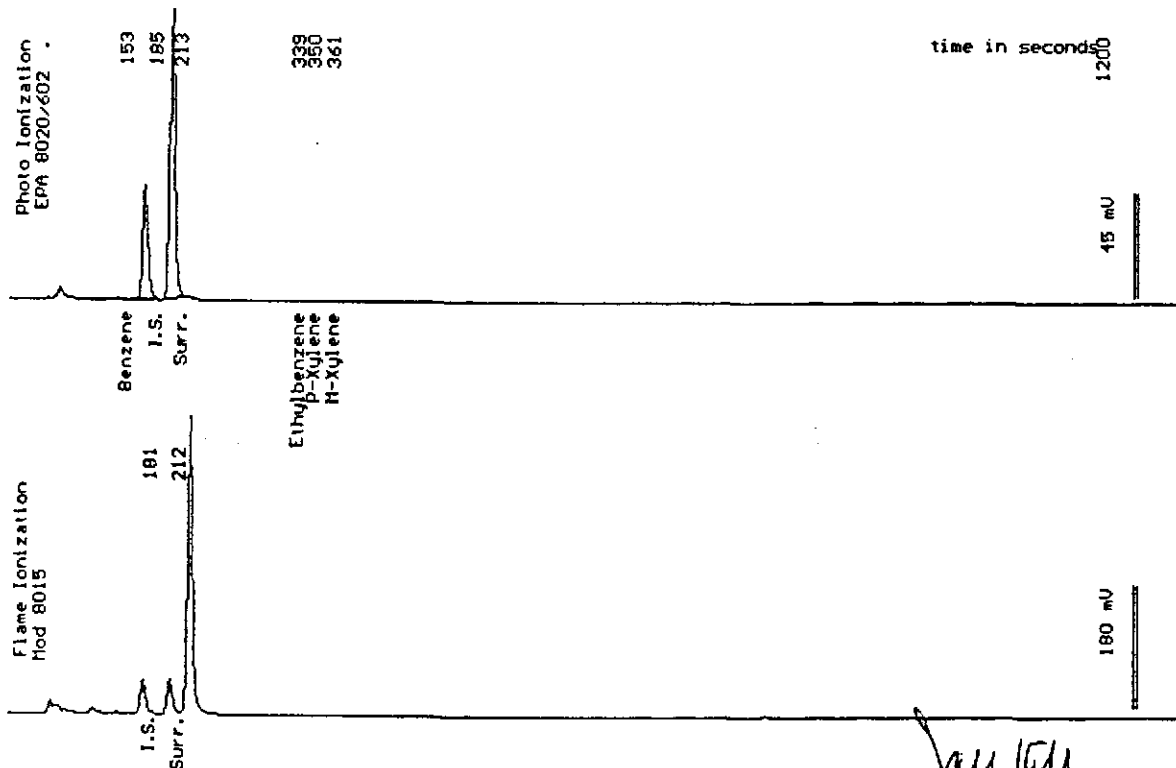
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	220 *

Surrogate Recovery

77 %

* Product is not typical gasoline.



Date Analyzed: 01-04-96
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Joel Kiff
Senior Chemist

Sample: MW-1

From : Ringsby Terminal (Proj. # 020700205.030504)

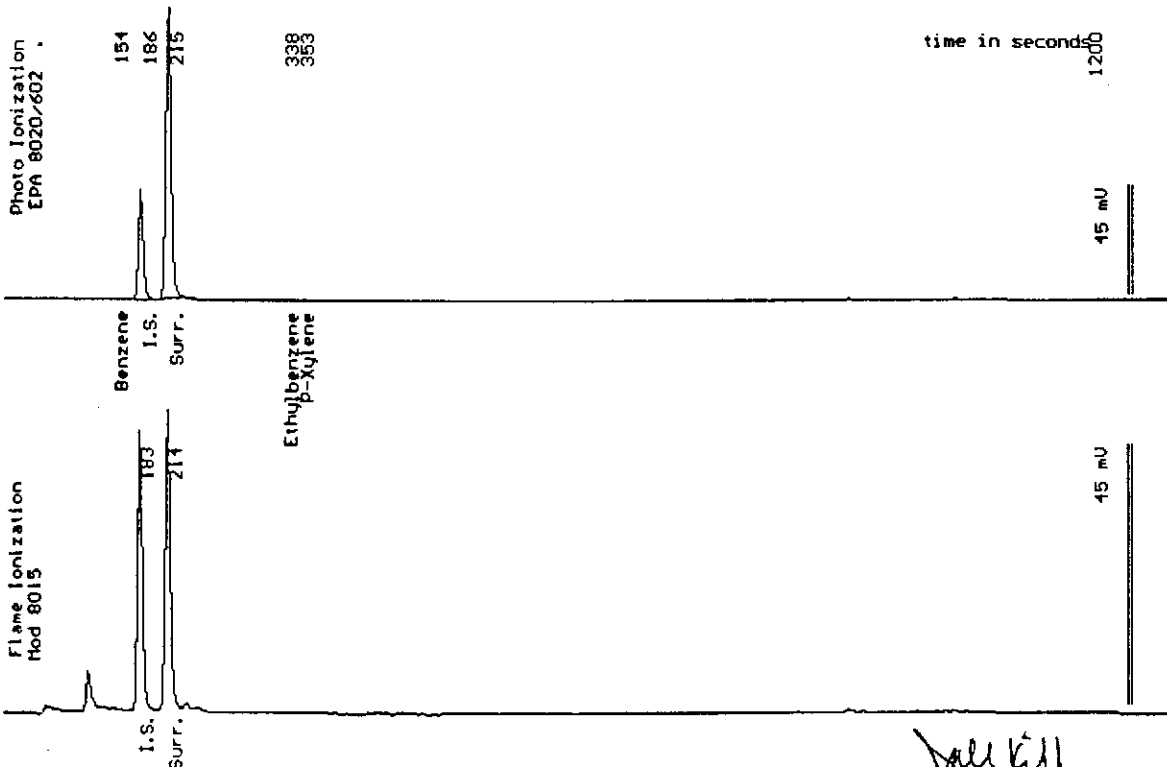
Sampled : 12/27/95

Dilution : 1:1

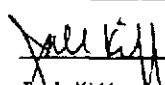
QC Batch : 4140R

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		98 %



Date Analyzed: 01-04-96
 Column : 0.53mm ID X 30m DBWAX (J&W Scientific)


 Joel Kiff
 Senior Chemist

January 4, 1996
Sample Log 13678

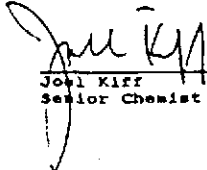
QC Report for EPA 602 & Modified EPA 8015

From : Ringsby Terminal (Proj. # 020700205.030504)
Sample(s) Received : 12/28/95

Parameter	Matrix Spike % Recovery	Matrix Spike Duplicate % Recovery	RPD *
Benzene	79	80	1
Ethylbenzene	77	78	1
TPH as Gasoline	88	89	1

* RPD = Relative Percent Difference

Parameter	Method Blank
Benzene	<0.30 ug/L
Toluene	<0.30 ug/L
Ethylbenzene	<0.30 ug/L
Total Xylenes	<0.50 ug/L
TPH as Gasoline	<50 ug/L


Joel Kiff
Senior Chemist

Sample: MW-3

From : Ringsby Terminal (Proj. # 020700205.030504)

Sampled : 12/27/95

Extracted: 01/02/96

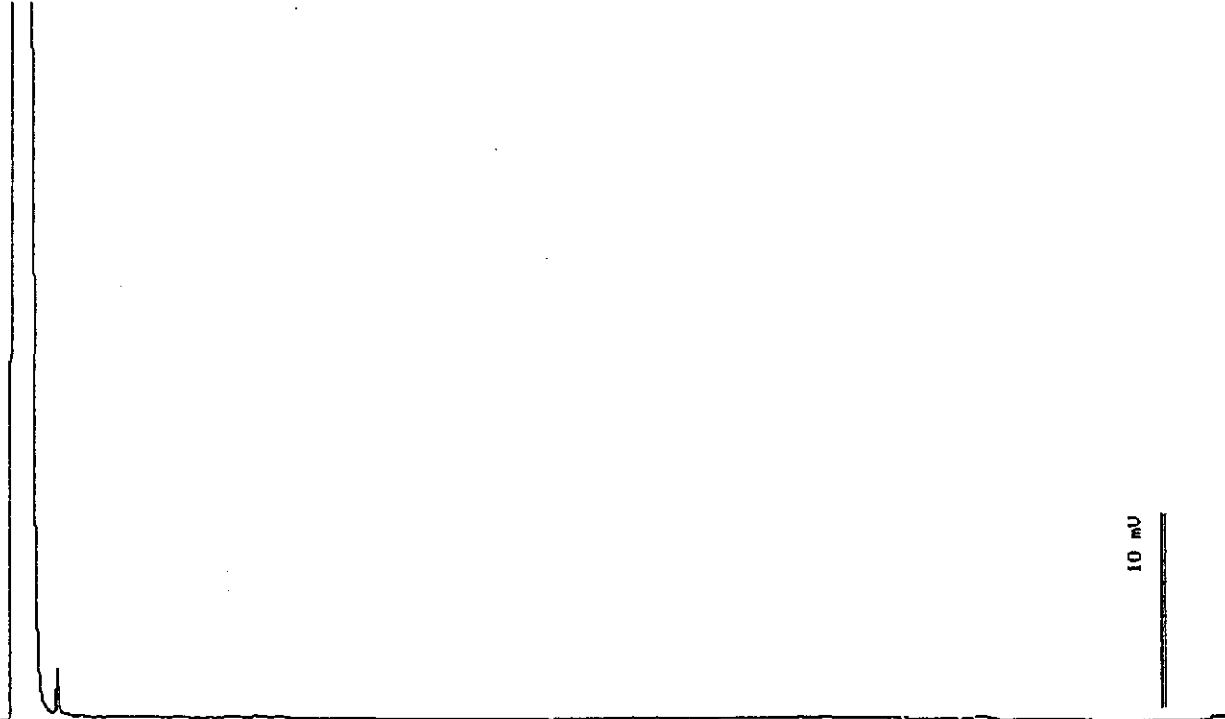
Dilution : 1:1

Matrix : Water

QC Batch : DW960101

Run Log : 8315E

Parameter	(MRL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	<50
TPH as Motor Oil	(100)	<100



EPA Mod 8015

Date: 01-04-96 Time: 07:47:51
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

S. Podolsky
Stewart Podolsky
Senior Chemist

Sample: MW-2

From : Ringsby Terminal (Proj. # 020700205.030504)

Sampled : 12/27/95

Extracted: 01/02/96

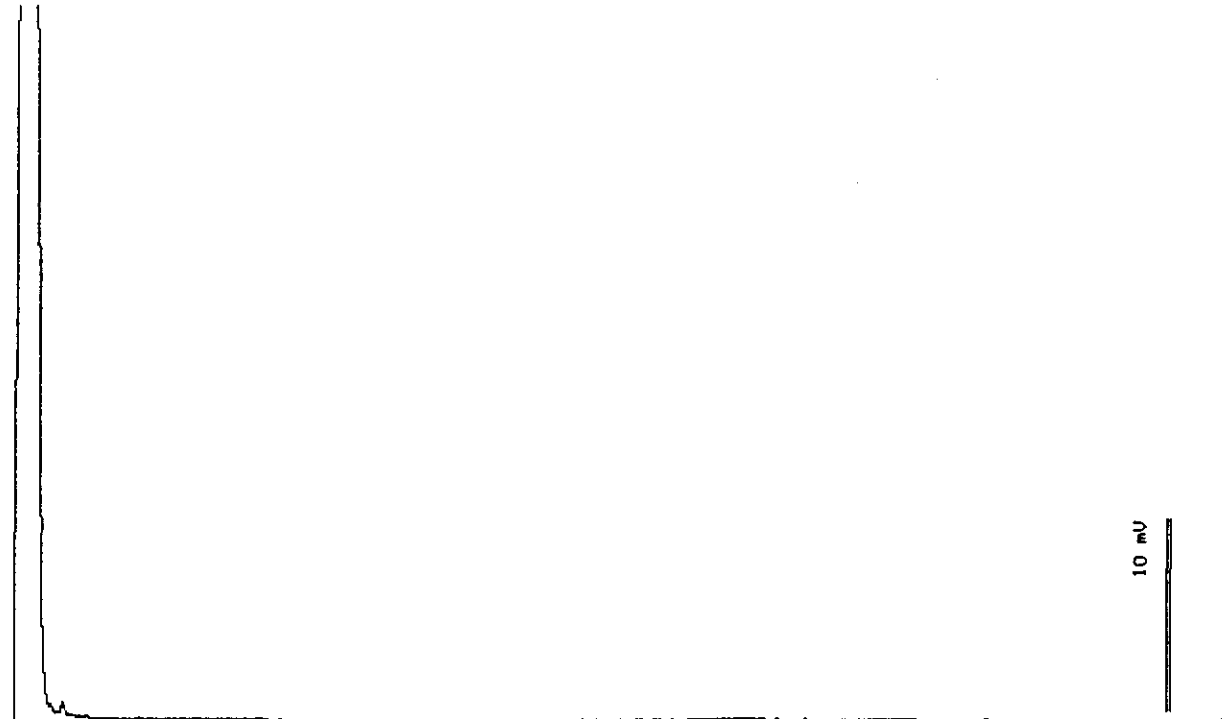
Dilution : 1:1

Matrix : Water

QC Batch : DW960101

Run Log : 8316A

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
TPH as Diesel	(50)	<50
TPH as Motor Oil	(100)	<100



EPA Mod 8015

Date: 01-04-96 Time: 10:10:35
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

D. Podolsky

Stewart Podolsky
Senior Chemist

Sample: MW-1

From : Ringsby Terminal (Proj. # 020700205.030504)

Sampled : 12/27/95

Extracted: 01/02/96

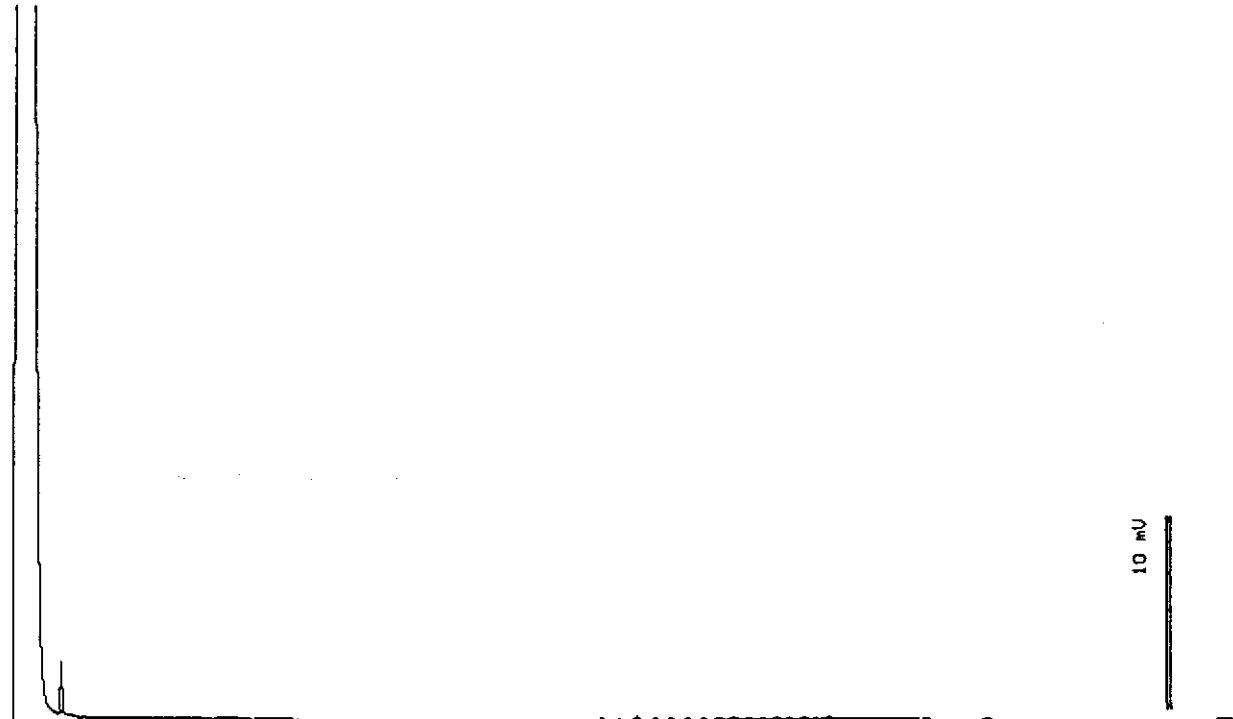
Dilution : 1:1

Matrix : Water

QC Batch : DW960101

Run Log : 8316A

Parameter	(MRL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	<50
TPH as Motor Oil	(100)	<100



EPA Mod 8015

Date: 01-04-96 Time: 10:45:04
Column : 0.53mm ID X 15m DB1 (J&H Scientific)

S. Podolsky
Stewart Podolsky
Senior Chemist

January 5, 1995
Sample Log 13678

QC Report
TPH Diesel/Motor Oil by 8015 Mod

From : Ringsby Terminal (Project # 020700205.030504)

QC Batch DW960101

Matrix: Water

Spike and Spike Duplicate Results


Parameter	Matrix Spike (%Rec)	Matrix Spike Dup. (%Rec)	RPD %
TPH as Diesel	Not enough sample for spiking. See duplicate LCS Data.		

Laboratory Control Spike

Parameter	Laboratory Control Spike (%Rec)	Laboratory Control Spike Dup. (%Rec)	RPD %
TPH as Diesel	98	89	10

Method Blank

Parameter	MDL(ug/L)	Measured Value(ug/L)
TPH as Diesel	(50)	<50
TPH as Motor Oil	(100)	<100


Stewart Podolsky
Senior Chemist



1046 Olive Drive, Suite 3 916-753-9500
 Davis, CA 95616 FAX #: 916-753-6091
 LAB#: 916-757-4650

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: **DAFF AUSHTERKONE** Phone: **(916) 372-4700**

ANALYSIS REQUEST

TAT

Company/Address: **MULLHALL YARD - SUITE 140 WSACRAMENTO** FAX #:

Project Number: **07070205.CJUSCY** P.O.#: Project Name: **RINGSBY TERMINAL**

Project Location: **2225 7TH ST. OAKLAND CA.** Sampler Signature: *[Signature]*

Sample ID	Sampling		Container		Method Preserved				Matrix		BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	W.E.T. (✓)	TOTAL (✓)	RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (1-2 wk) or (1 wk)	STANDARD SERVICE (2wk)	
	DATE	TIME	VOA	SLEEVE	1L GLASS	1L PLASTIC	HCl	HNO ₃	ICE	NONE																					WATER
TRBBK	12/19		2				X	X		X		X																			
MW-3	12/19	13:00	3				X	X	X	X		X	X																		
MW-2	12/19	13:00	3				X	X	X	X		X	X																		
MW-1	12/19	12:50	3				X	X	X	X		X	X																		

Relinquished by: <i>[Signature]</i>	Date Time: 12/21/95 1610	Received by: <i>[Signature]</i>	Remarks: 1wk TAT RECEIVED 12/28/95 1630 0° AM
Relinquished by: <i>[Signature]</i>	Date Time: 12/20/95 1535	Received by: <i>[Signature]</i>	
Relinquished by: <i>[Signature]</i>	Date Time: 12/28/95 1630	Received by Laboratory: <i>[Signature]</i>	
Bill To:			RECEIVED

Attachment 4
Monitoring and Sampling Field Notes

WORK REQUEST FORM

JOB NAME: Ringsby Terminals JOB NUMBER: 02070-0205-030504
SITE ADDRESS: 2225 7th Street START DATE: 4th Week in Sept, Dec, March, & June
Oakland, California DATE PREPARED: 09/19/95
PREPARED FOR: Field Services PREPARED BY: Jaff Auchterlonie

WORK DESCRIPTION: MONITOR AND SAMPLE THREE MONITORING WELLS
SCOPE OF WORK: MONITOR and SAMPLE 3-15 foot deep GROUNDWATER WELLS for four quarters
Projected work dates, the 4th week of: (September, December, March, and June)
Depth to water ranges from 4 to 7 feet BGS

MONITOR GROUNDWATER DEPTH IN THREE WELLS

- 1) Due to tidal influences at the site it is important to measure the groundwater depth in the in the three wells in a reasonably short time frame.
- 2) If present, note name of Port of Oakland (Alisto Eng.) Field Tech Monitoring off-site wells
- 3) Break the sanitary seal in each well and allow groundwater to stabilize.
Measure the depth to groundwater in each well, taking no more than 15 minutes to monitor the depths in all three wells. Measure all depths from TOC

PURGE & COLLECT WATER SAMPLES FROM THE THREE WELLS, MW-1, MW-2, MW-3

- 1) USING HAND BAILER Purge four well volumes from each well
Approximately 25 gallons per well
- 2) Measure & record water volume, pH, conductivity, and temperature of the purged groundwater.
- 3) Store water in one or two 55 gallon drums and place drums as shown on attached site plan.
Label drums as purged groundwater, Ringsby Terminals/GTI, and date.
- 4) Collect (three) 40-ml VOA's and (two) 1-liter Amber bottles from each well. Place on ice.
- 5) QA-QC SAMPLES= 1- trip blank and 1- field bank water samples into (two) 40-ml VOA's
Well Sample Order: first= MW-3, second= MW-2, and third= MW-1

ANALYZE WATER SAMPLES WITH WEST LABORATORY WEST Quote #2123
Fill out COC and request BTEX, TPH-G, and TPH-D on a one week TAT, transport on ice.
WEST Lab will pick-up samples in GTI Concord Office. Tell Krissi to call WEST
WEST Lab Contact: Joel Kiff, (916) 757-4650 FAX 753-6091

CALL Jaff Auchterlonie (916) 372-4700 from the field with quick report site work completed.

EQUIPMENT NEEDED:

Health & Safety Site Plan 9/16" sockets
Two 55 gallon drums, Nine 40 ml VOAs, Six 1 liter amber bottles, one reusable and three disposable bailers
Bailers to purge water from 4" wells and three disposable baile NO PUMPS

GENERAL INFORMATION

Direct all questions to Jaff Auchterlonie or Bruce Beale, (916) 372-4700

Site Contacts: N.W Transport Monty or Dennis (510) 451-6987
Off-Site Contact: Sealand Todd Burson (510) 272-5214
Port Consultant: Alisto Engineering Brady Nagle (510) 295-1650

PROJECT MANAGER: Jaff Auchterlonie AUTHORIZATION

file:DongaryWkReq1.wk4

Reviewed By: [Signature]

Work Acceptable Yes/No

Rework Required Yes/No

Jaff Auchterlonie RECEIVED
JAN 18 1995

SITE VISITATION REPORT

Project: Ringsby Terminals-Port of Oakla Date: 12/27/95 Project No.: 02070-0205-030504
 Name(s): HECTOR MERING Did you call in? Yes No
 Arrival Time: _____ Departure Time: _____ Who did you call? JEFF A
 Weather Notations: SUN CLOUDY RAIN SNOW Temperature: _____ °F

PURPOSE OF VISIT

<u>X</u>	GAUGE WELLS _____	SURVEY _____	INSTALL EQUIPMENT _____
_____	BAIL SEPARATE-PHASE _____	MONITOR VAPORS _____	INSTALL SYSTEM _____
_____	SAMPLE A/S INF EFF _____	SAMPLE CARBON _____	_____
_____	SYSTEM CHECK _____	BATCH FEED _____	_____
<u>X</u>	SAMPLE WELLS _____	EQUIPMENT REPAIR _____	_____

DRUM INVENTORY

<u>2</u>	WATER _____	CARBON _____	TOTAL OPEN TOP _____
_____	SOIL _____	EMPTY _____	TOTAL BUNG TOP _____

SAMPLE INFORMATION

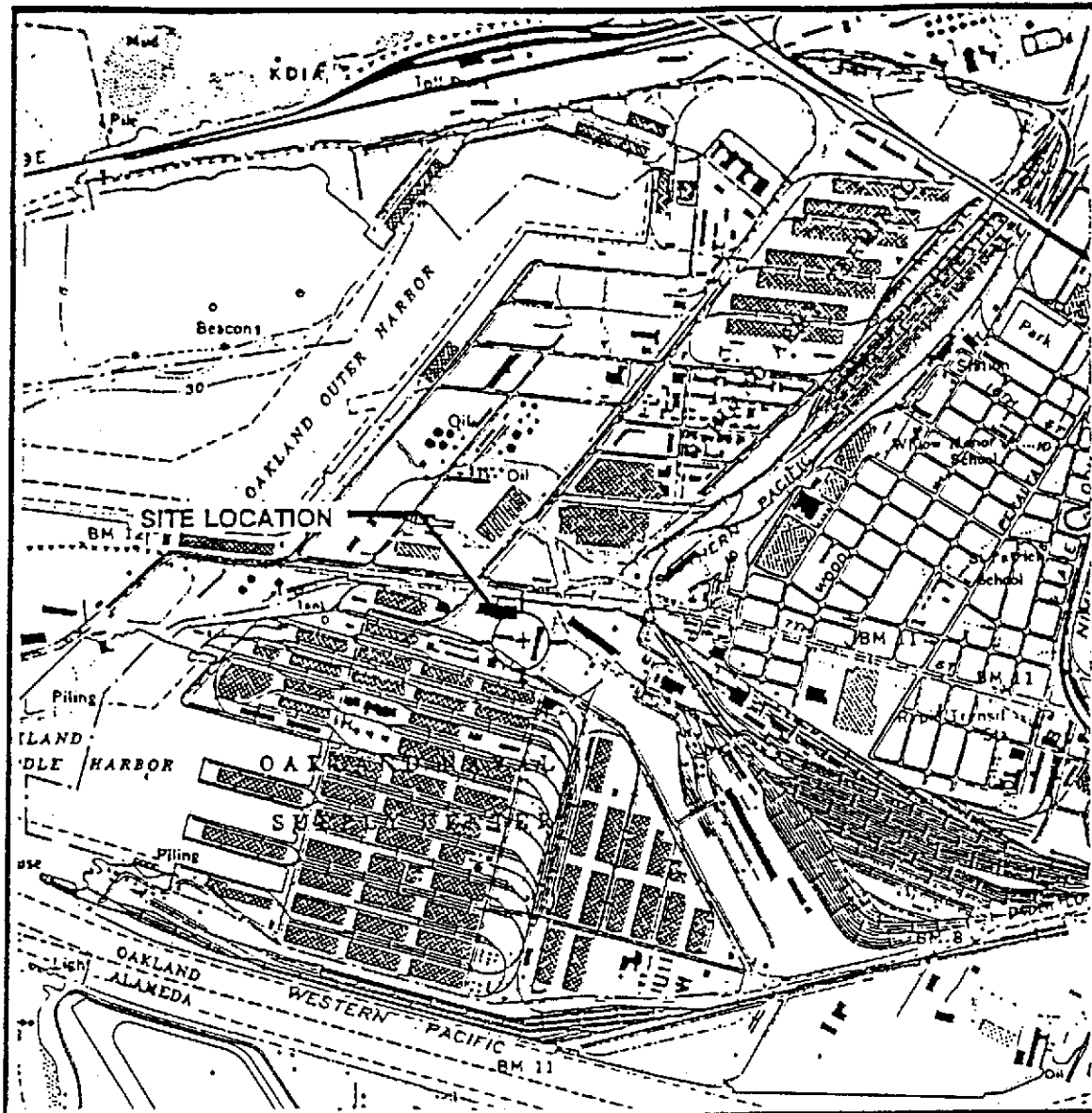
SAMPLED: ✓ YES _____ NO _____ PARAMETERS: BTEX TPH GAS / TPH DIESEL
✓ WATER _____ SOIL _____ STATION NO: _____
 AIR _____ OTHER _____ LABORATORY: WESTERN ENVIRONMENTAL
 LAB RELEASE NO: _____

REMEDIATION SYSTEM

FLOW TOTALIZER: _____	AIR VELOCITY: _____
FLOW RATE: _____	PID INF: _____
% LEL: _____	PID EFF: _____

DESCRIPTION OF ACTIVITIES ON SITE AND NOTES

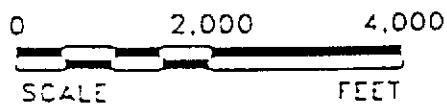
MONITORED AND SAMPLED 3 WELLS FOR BTEX TPH GAS/DIESEL
THERE ARE TWO FULL DRUMS ON SITE.
MW-3 IS FULL OF SAND, 6' SAND IS DAK GREY AND VERY FINE.



SOURCE: U.S.C.S. TOPOGRAPHIC QUADRANGLE
 OAKLAND WEST
 7.5 MINUTE SERIES
 1959/PHOTOREVISED 1980



SCALE 1:24,000



GROUNDWATER
 TECHNOLOGY

SITE LOCATION MAP

CLIENT: RINGSBY TERMINALS INC.	FILE: 0051-SL (1:1)	PROJECT NO.: 02070-0061	PU JSA	PE/RC. SM
	REV:	FIGURE: 1		
LOCATION: 2225 7th STREET OAKLAND, CA.	DES. JA	DET. SP	DATE: 4-4-95	

