



**FLUOR DANIEL GTI**

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: 07/22/96 JOB NO. 02070-00205  
 FROM: Jaff Auchterlonie *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		07/22/96	Second Quarter 1996 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 Quarterly Monitoring and Sampling report. With your approval, copies of this 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. John Prall (510) 272-1373  
 Environmental Scientist FAX (510) 465-3755  
 Port of Oakland  
 530 Water Street  
 Oakland, California 94607

96 AUG -1 PM 2:46  
 ENVIRONMENTAL PROTECTION

ortran.wk4



**FLUOR DANIEL GTI**

July 22, 1996

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

Subject: Second Quarter 1996 Groundwater Monitoring and Sampling Report  
Ringsby Terminals, Port of Oakland  
2225 7th Street  
Oakland, California  
Fluor Daniel GTI Project 02070 0205

Dear Mr. Ringsby:

This letter summarizes the groundwater monitoring and sampling work performed by Fluor Daniel GTI, Inc. (Fluor Daniel GTI) at the subject site (Figures 1 and 2, Attachment 1). On June 26, 1996, Fluor Daniel GTI 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 Department of Environmental Health, Health Care Services (ACDEH).

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 June 26, 1996 sampling event are included in Attachment 3, and the field notes are included in Attachment 4. The monitoring wells, MW-1, MW-2, and MW-3, are located on the Ringsby Terminal lease, and eight wells, MW-1\* through MW-8\*, are located north of the Ringsby Terminal lease on the Port of Oakland property (Figure 2).

#### **Groundwater Monitoring**

On June 26, 1996, Fluor Daniel GTI 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 (Table 1). The Port of Oakland wells were not monitored on June 26, 1996, 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 groundwater table due to tides, the depth to groundwater was measured in the three wells within a one-hour

0205q2.96.nr(DG1-1)

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

On June 26, 1996, the groundwater elevations in all three wells were approximately 0.4 foot lower than on March 25, 1996 (Table 1). The calculated groundwater flow on June 26, 1996, was North 8 degrees East at a gradient of 0.0007 foot per foot (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 and rail lines, linear barriers to shallow groundwater flow are expected.

### Groundwater Sampling

Following groundwater monitoring, Fluor Daniel GTI 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 3 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), and total petroleum hydrocarbons-as-diesel (TPH-D) by Environmental Protection Agency (EPA) methods 602/5030/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, 06/26/96." Three drums of purged groundwater are now stored on site.

## Groundwater Analytical Results


No concentrations of TPH-G, BTEX, or TPH-D were detected in any of the analyzed groundwater samples (Attachment 3).

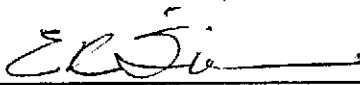
The recent and historical analytical results are summarized in Table 1. Copies of the laboratory reports and chain-of-custody for the groundwater samples are included in Attachment 3, and the field notes are included in Attachment 4.

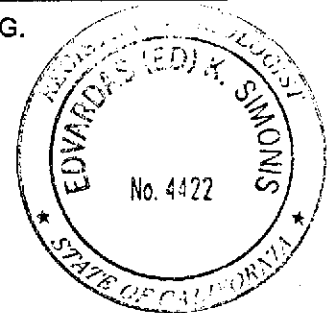
Please contact Fluor Daniel GTI's West Sacramento office if you have questions or comments regarding this quarterly report.

Sincerely,  
Fluor Daniel GTI, Inc.  
Submitted by:

Fluor Daniel GTI, Inc.  
Approved by:

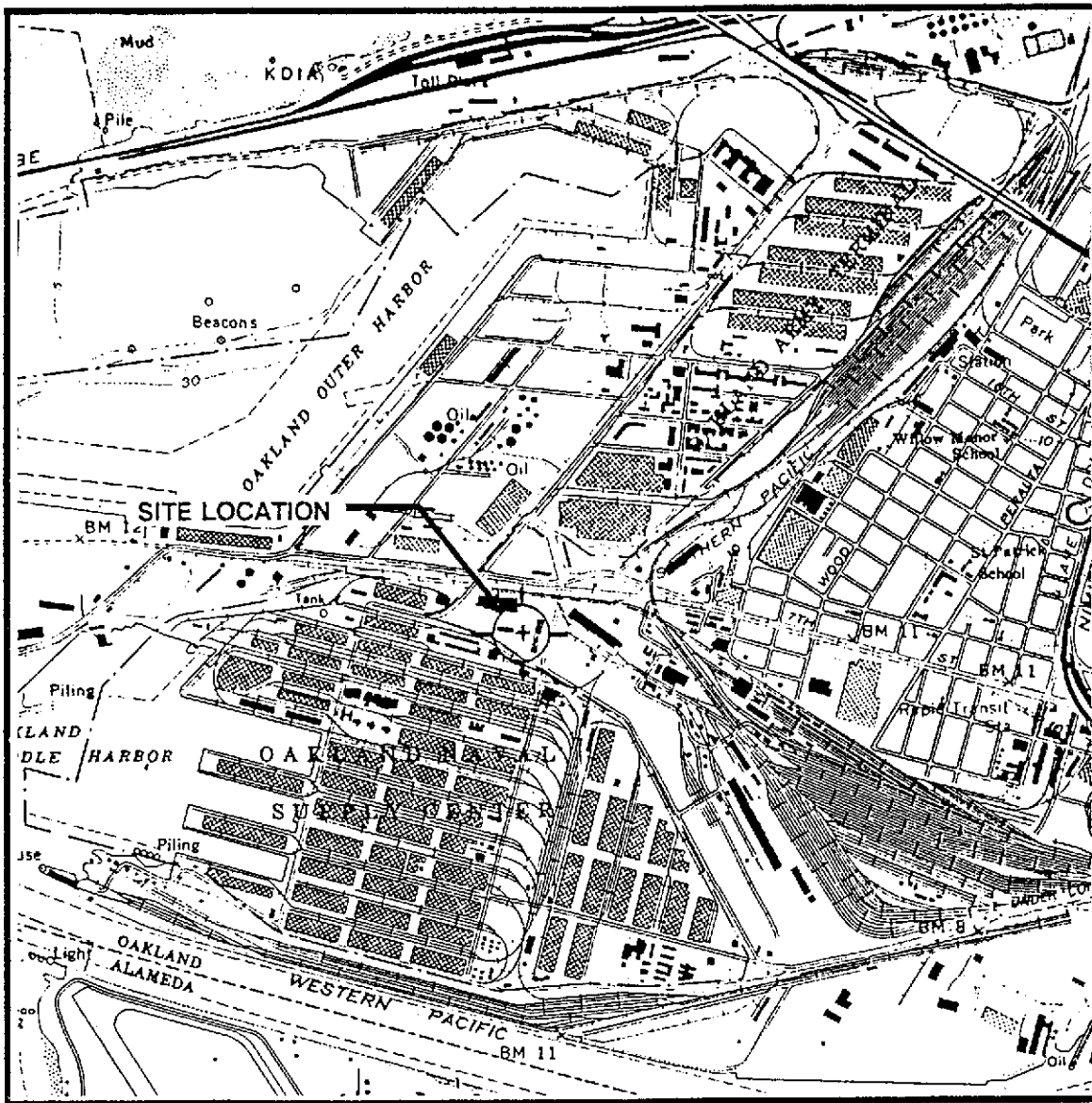
  
\_\_\_\_\_  
Jaffrey S. Auchterlonie  
Lead Geologist  
Project Manager

  
\_\_\_\_\_  
Ed K. Simonis, R.G.  
Senior Geologist



### Attachments

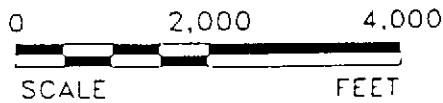
1. Figures
2. Tables
3. Laboratory Reports
4. Groundwater Monitoring and Sampling Field Notes, June 26, 1996



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



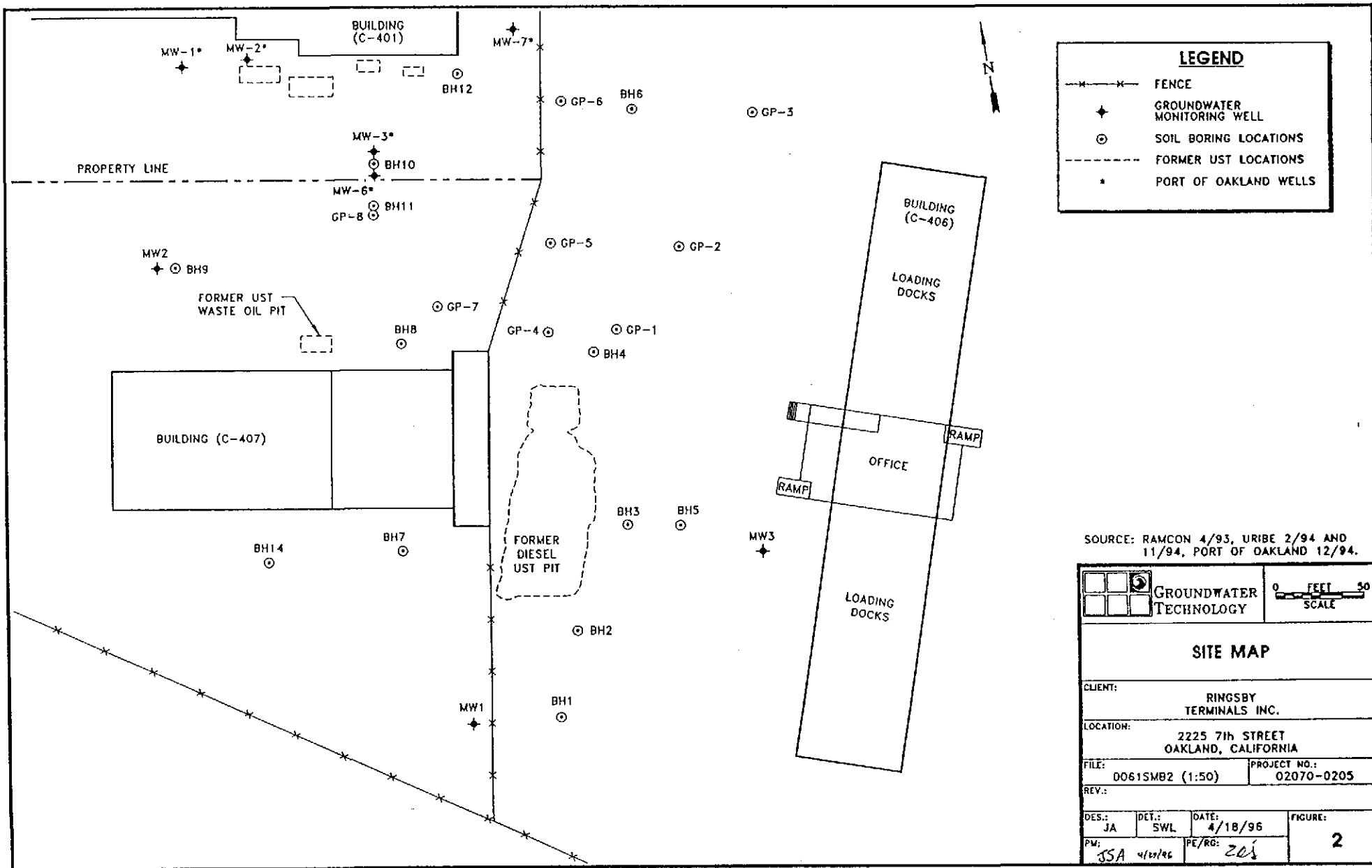
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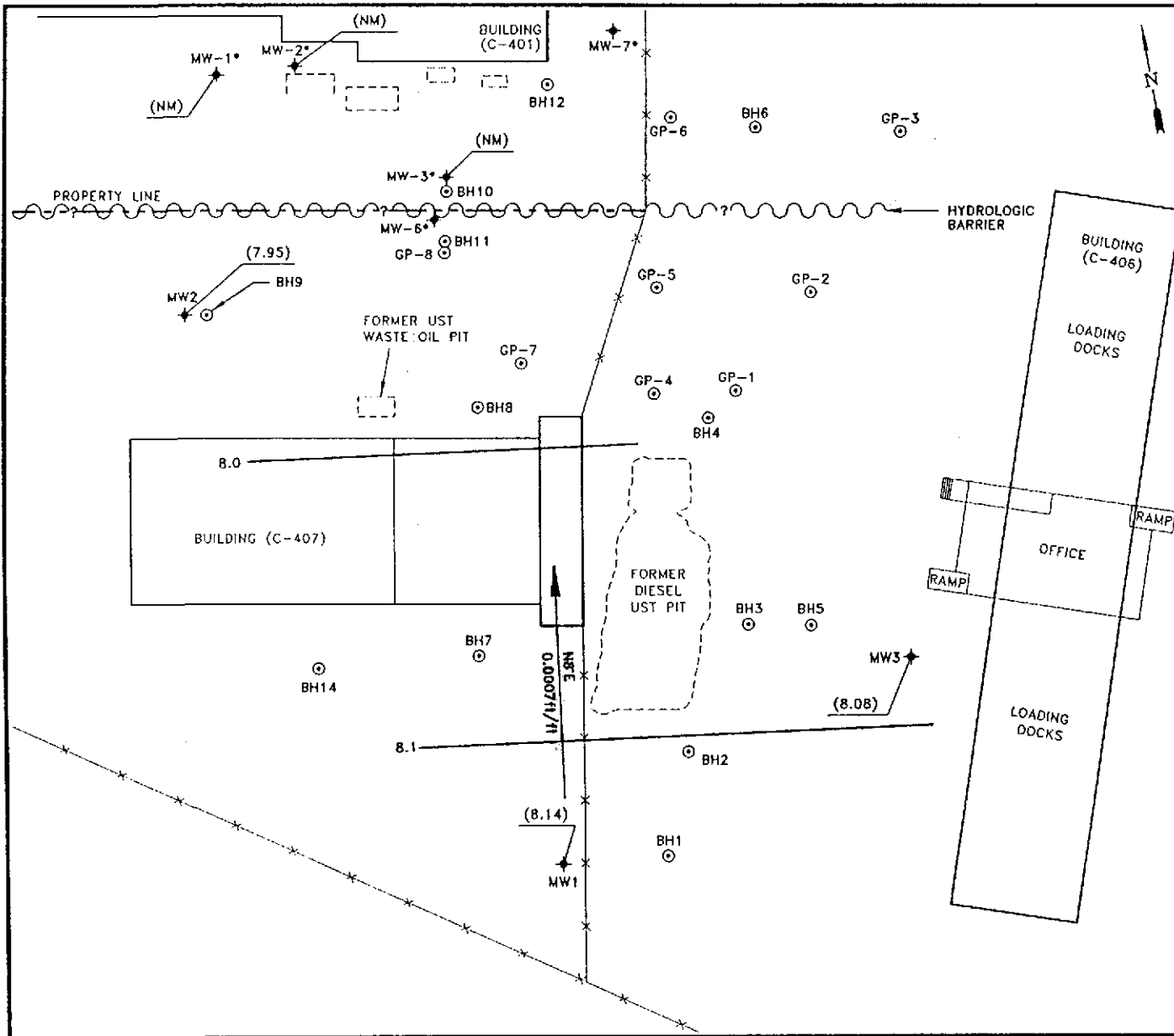


GROUNDWATER  
 TECHNOLOGY

SITE LOCATION MAP

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

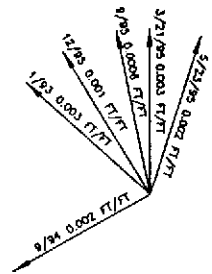




### LEGEND

- ✕ ✕ 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
- ESTIMATED GROUNDWATER FLOW DIRECTION AND GRADIENT

N8'E  
0.0007ft/ft



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

<b>POTENTIOMETRIC SURFACE MAP</b> (JUNE 26, 1996)		
CLIENT: RINGSBY TERMINALS INC.		
LOCATION: 2225 7th STREET OAKLAND, CALIFORNIA		
FILE: PSM696	PROJECT NO.: 02070-0205	
REV.:		
DES.: JM	DET.: CY	DATE: 7/16/96
PW: JSA 7/15/96		PE/RG: <i>ELC</i>
		FIGURE: <b>3</b>

**Table 1**  
**GROUNDWATER MONITORING AND ANALYTICAL DATA, 1993 through 1996**  
 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	MTBE	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	0.8	< 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	---
	11/20/95	---	---	---	---	---	---	---	---	6.28	0.00	7.44
	12/27/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	< 100	---	5.86	0.00	7.86
	03/25/96	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	< 100	---	5.21	0.00	8.51
	06/26/96	< 0.50	< 0.50	< 0.50	< 0.50	< 50	< 50	---	< 5.0	5.58	0.00	8.14
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	75	---	---	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	< 0.3	< 0.3	< 0.3	< 0.3	220 c	< 50	< 100	---	6.31	0.00	7.49
	03/25/96	< 0.3	< 0.3	< 0.3	< 0.3	200 c	< 50	< 100	---	5.74	0.00	8.06
	06/26/96	< 0.50	< 0.50	< 0.50	< 0.50	77 f	< 50	---	< 5.0	5.85	0.00	7.95
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	< 0.3	< 0.3	< 0.3	< 0.3	55 c	< 50	< 100	---	7.20	0.00	7.86
	03/25/96	< 0.3	< 0.3	< 0.3	< 0.3	53	< 50	< 100	---	6.64	0.00	8.42
	06/26/96	< 0.50	< 0.50	< 0.50	< 0.50	< 50	< 50	---	< 5.0	6.98	0.00	8.08



**Table 1**  
**GROUNDWATER MONITORING AND ANALYTICAL DATA, 1993 through 1996**  
 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	MTBE	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
	12/27/95	---	---	---	---	---	---	---		9.04	0.53	5.56
	03/25/96	---	---	---	---	---	---	---		---	---	---
MW-2* 14.36	11/30/94	---	---	---	---	---	---	---		8.91	0.00	5.45
	03/29/95	< 0.4	< 0.3	< 0.3	< 0.3	< 50	110	1,400		7.47	0.00	6.89
	05/23/95	---	---	---	---	---	---	---		---	---	---
	06/23/95	---	---	---	---	---	---	---		8.62	0.00	5.74
	09/28/95	< 0.4	< 0.3	< 0.3	< 0.4	120 c	< 100	1,300		9.17	0.00	5.19
	12/27/95	---	---	---	---	---	---	---		8.95	0.00	5.41
	03/25/96	---	---	---	---	---	---	---		---	---	---
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
	12/27/95	---	---	---	---	---	---	---		12.71	4.70	5.62
	03/25/96	---	---	---	---	---	---	---		---	---	---
MW-4* 13.15	03/29/95	---	---	---	---	---	---	---		9.59	0.00	3.56
	09/28/96	18	< 0.3	< 0.3	< 0.3	210 c	< 60	400		8.54	0.00	4.61
	12/27/95	---	---	---	---	---	---	---		8.39	0.00	4.76
	03/25/96	---	---	---	---	---	---	---		---	---	---
MW-5* 13.49	09/28/95	< 0.4	< 0.3	< 0.3	< 0.4	< 50	< 300	2,000		6.56	0.00	6.93
	12/27/95	---	---	---	---	---	---	---		7.71	0.00	5.78
	03/25/96	---	---	---	---	---	---	---		---	---	---
MW-6* 14.00	09/28/95	12	1	9	6	2,400 c	8,400	8000 e		7.74	0.00	6.26
	12/27/95	---	---	---	---	---	---	---		8.07	0.00	5.93
	03/25/96	---	---	---	---	---	---	---		---	---	---



**Table 1**  
**GROUNDWATER MONITORING AND ANALYTICAL DATA, 1993 through 1996**  
 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	MTBE	DTW (feet)	SPT (feet)	GWE (feet)
MW-7* 14.35	09/28/95	< 0.4	< 0.3	< 0.3	< 0.4	< 50	390 d	1,200		9.74	0.00	4.61
	12/27/95	---	---	---	---	---	---	---		9.06	0.00	5.29
	03/25/96	---	---	---	---	---	---	---		---	---	---
MW-8* 12.94	09/28/95	---	---	---	---	---	---	---		8.91	0.12	4.14
	12/27/95	---	---	---	---	---	---	---		8.61	0.31	4.60
	03/25/96	---	---	---	---	---	---	---		---	---	---

Page 3 of 3

**EXPLANATION:**

TPH-G = Total petroleum hydrocarbons-as-gasoline

TPH-D = Total petroleum hydrocarbons-as-diesel

TPH-O = Total petroleum hydrocarbons-as-Motor Oil

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 624, 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

e = Hydrocarbon pattern present in sample is not characteristic of oil

f = Product is not typical gasoline.

**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
MW-4*	13.15	---	Port of Oakland
MW-5*	13.49	---	Port of Oakland
MW-6*	14.00	---	Port of Oakland
MW-7*	14.35	---	Port of Oakland
MW-8*	12.94	---	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)



# WEST LABORATORY

July 9, 1996  
Sample Log 15014

Jaff Auchterlonie  
Fluor Daniel GTI  
1401 Halyard Dr., Suite 140  
West Sacramento, CA 95691

Subject: Analytical Results for 5 Water Samples  
Identified as: Ringsby Terminals (Proj. # 020700205)  
Received: 06/27/96

Dear Mr. Auchterlonie:

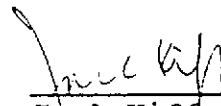
Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on July 9, 1996 and describes procedures used to analyze the samples.

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

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

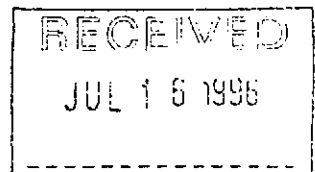
Please refer to the following table(s) for summarized analytical results and contact us at 916-753-9500 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:



---

Joel Kiff  
Senior Chemist



MTBE (Methyl-t-butyl ether) By EPA Method 8020/602

From : Ringsby Terminals (Proj. # 020700205)

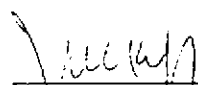
Sampled : 06/26/96

Received : 06/27/96

Matrix : Water

MTBE	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
MW-3	(5.0)	<5.0
MW-2	(5.0)	<5.0
MW-1	(5.0)	<5.0
TBLB	(5.0)	<5.0
FBMW-2	(5.0)	<5.0

Approved By:

  
\_\_\_\_\_  
Joel Kiff  
Senior Chemist

Sample: MW-3

From : Ringsby Terminals (Proj. # 020700205)

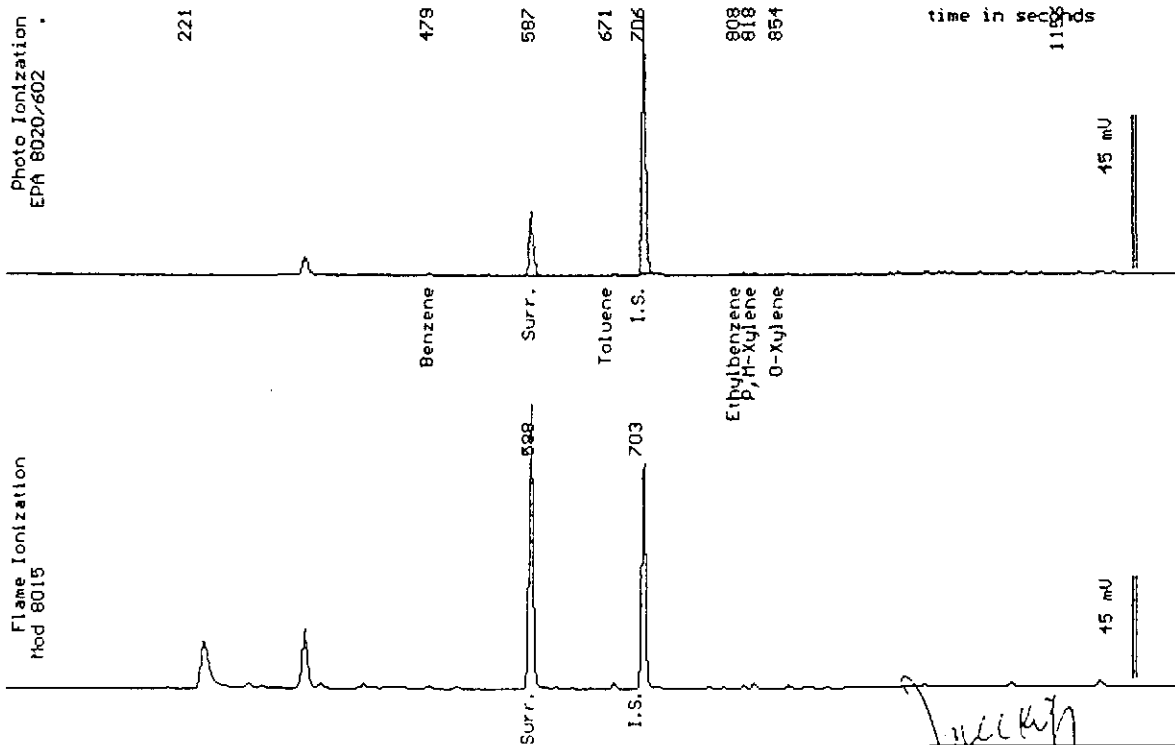
Sampled : 06/26/96

Dilution : 1:1

QC Batch : 4149F

Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		102 %



Date Analyzed: 07-05-96  
 Column : 0.53mm ID X 60m Restek Rtx-1701

*Joel Kiff*  
 Joel Kiff  
 Senior Chemist

Sample: MW-2

From : Ringsby Terminals (Proj. # 020700205)

Sampled : 06/26/96

Dilution : 1:1

QC Batch : 4149I

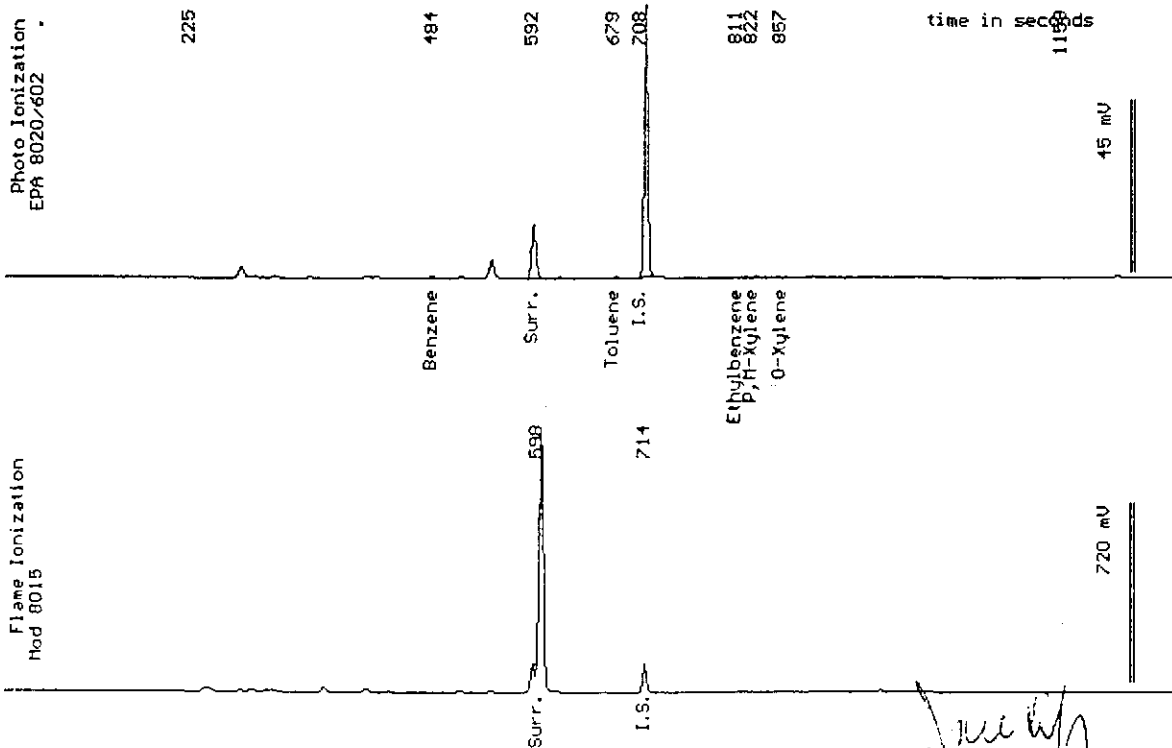
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	77 *

Surrogate Recovery

101 %

\* Product is not typical gasoline.



Date Analyzed: 07-08-96  
 Column : 0.53mm ID X 60m Restek Rtx-1701

Joel Kiff  
 Senior Chemist

Sample: MW-1

From : Ringsby Terminals (Proj. # 020700205)

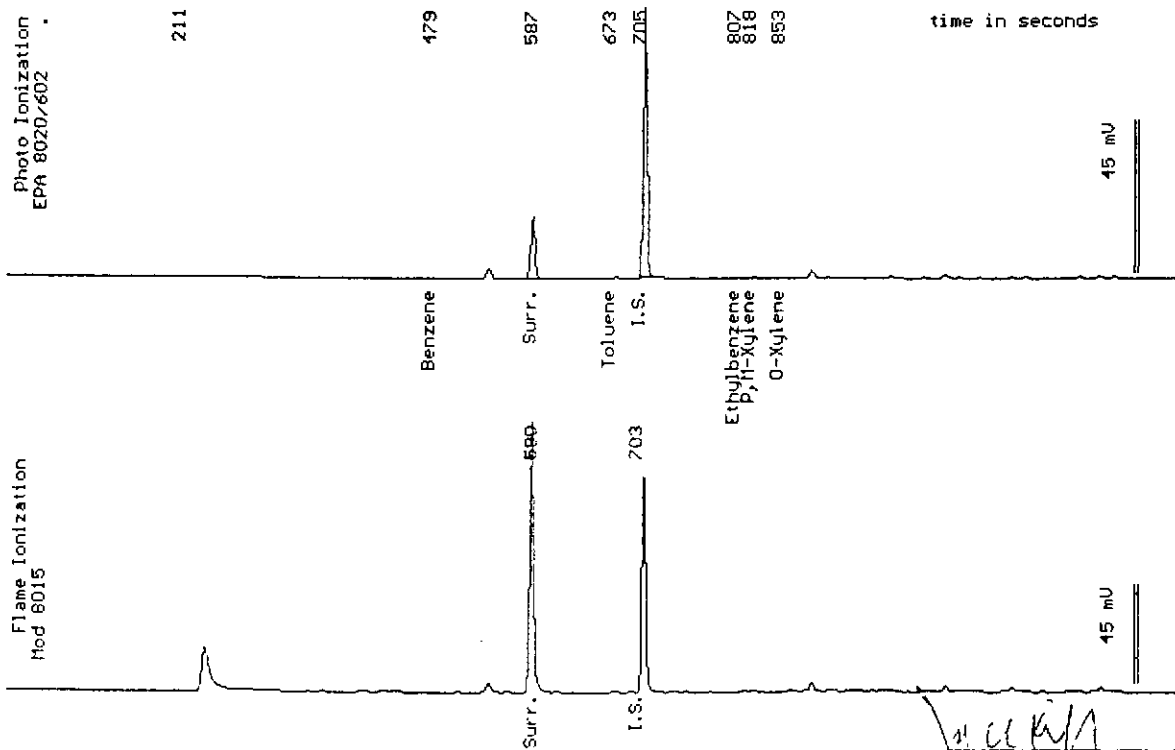
Sampled : 06/26/96

Dilution : 1:1

QC Batch : 4149F

Matrix : Water

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



Date Analyzed: 07-05-96  
 Column : 0.53mm ID X 60m Restek Rtx-1701

*Jobel Kiff*  
 Jobel Kiff  
 Senior Chemist

Sample: TBLB

From : Ringsby Terminals (Proj. # 020700205)

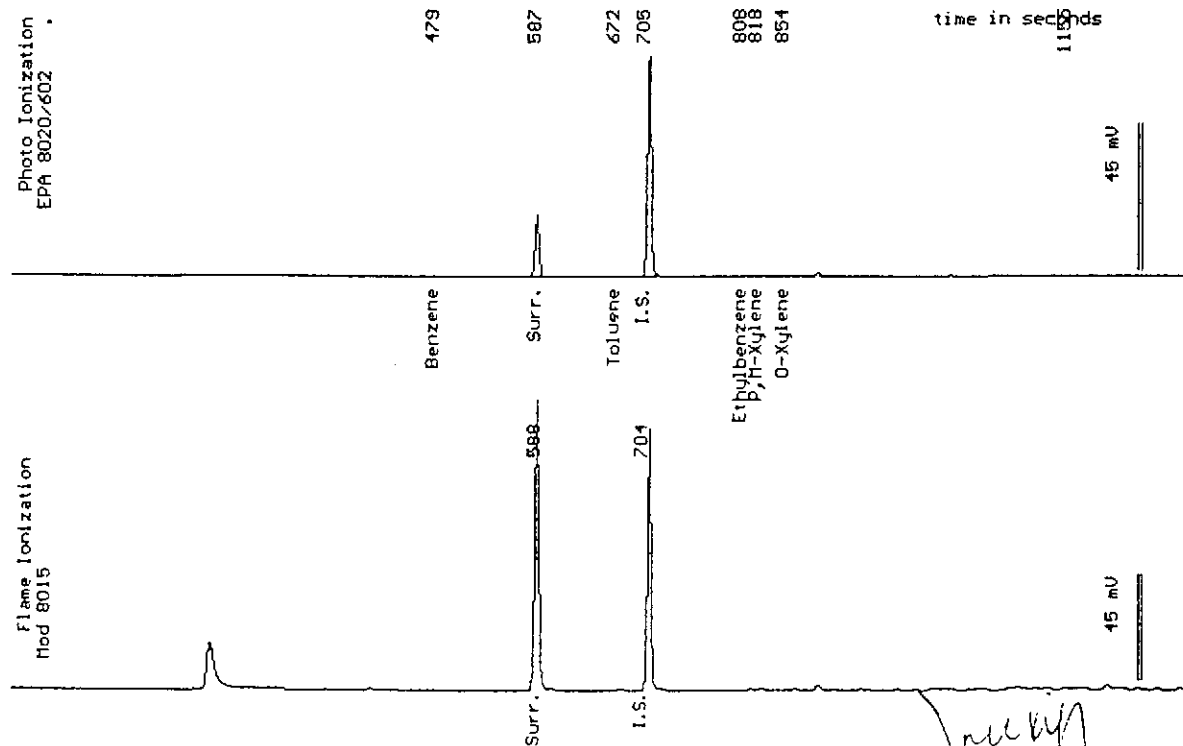
Sampled : 06/26/96

Dilution : 1:1

QC Batch : 4149F

Matrix : Water

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



Date Analyzed: 07-05-96  
 Column : 0.53mm ID X 60m Restek Rtx-1701

*Joel Kiff*  
 Joel Kiff  
 Senior Chemist



Sample: FBW-2

From : Ringsby Terminals (Proj. # 020700205)

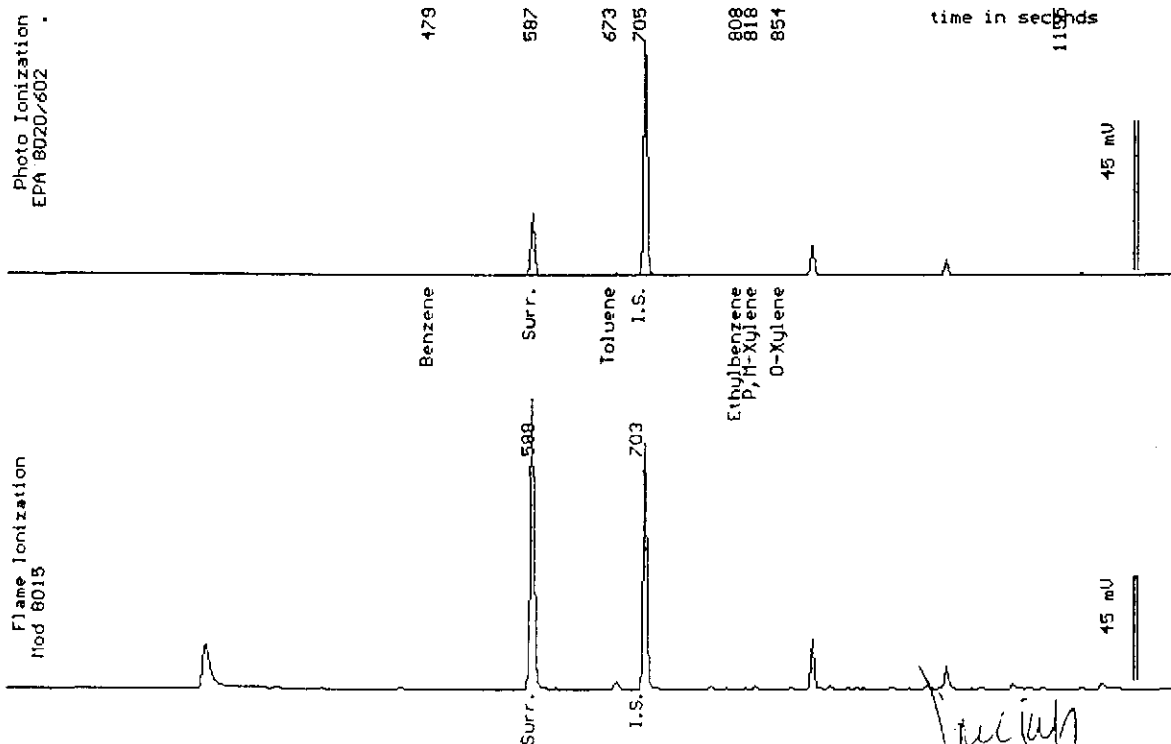
Sampled : 06/26/96

Dilution : 1:1

QC Batch : 4149F

Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		102 %



Date Analyzed: 07-05-96  
 Column : 0.53mm ID X 60m Restek Rtx-1701

Jdel Kiff  
 Senior Chemist

# WEST LABORATORY

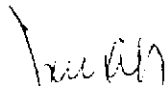
July 9, 1996  
Sample Log 15014

QC Report for EPA 602 & Modified EPA 8015  
Run Log : 4149H  
From : Ringsby Terminals (Proj. # 020700205)  
Sample(s) Received : 06/27/96

Parameter	Matrix Spike % Recovery	Matrix Spike Duplicate % Recovery	RPD *
Benzene	106	102	4
Ethylbenzene	104	101	3
TPH as Gasoline	123	118	4

\* RPD = Relative Percent Difference

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

  
Joel Kiff  
Senior Chemist

Sample: MW-3

From : Ringsby Terminals (Proj. # 020700205)

Sampled : 06/26/96

Extracted: 07/01/96

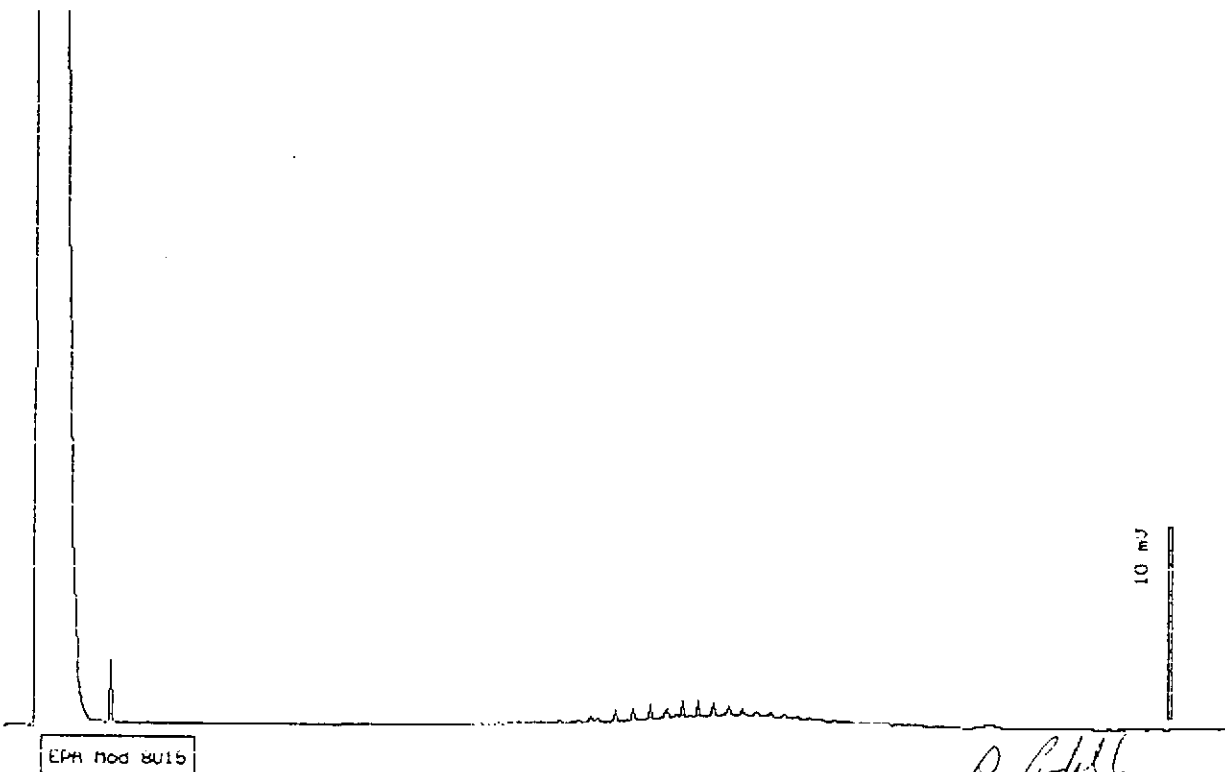
Dilution : 1:1

Matrix : Water

QC Batch : DW960701

Run Log : 8345E

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



Date: 07-03-96 Time: 16:09:51  
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

*D. Podulsky*  
Stewart Podulsky  
Senior Chemist

Sample: MW-2

From : Ringsby Terminals (Proj. # 020700205)

Sampled : 06/26/96

Extracted: 07/01/96

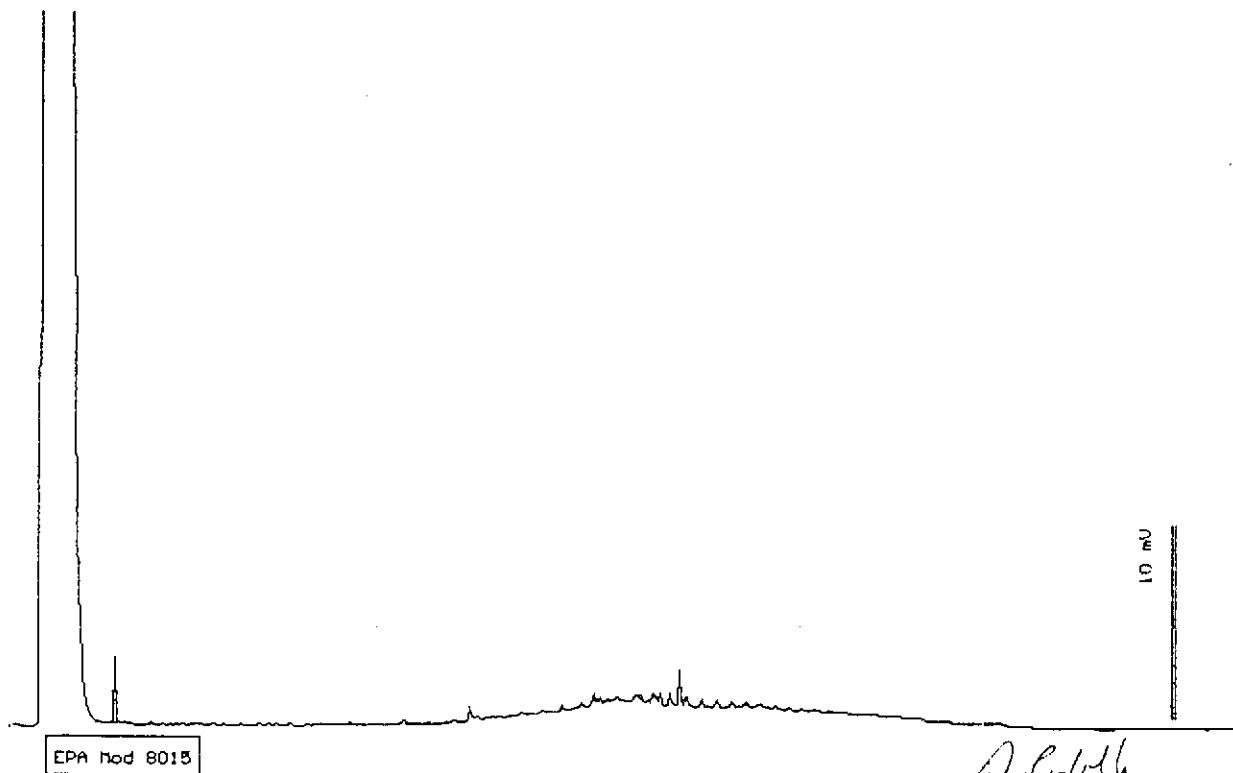
Dilution : 1:1

Matrix : Water

QC Batch : DW960701

Run Log : 8345E

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



Date: 07-03-96 Time: 16:43:30  
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

*Stewart Podolsky*  
Stewart Podolsky  
Senior Chemist

Sample: MW-1

From : Ringsby Terminals (Proj. # 020700205)

Sampled : 06/26/96

Extracted: 07/01/96

Dilution : 1:1

Matrix : Water

QC Batch : DW960701

Run Log : 8345E

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



EPA Mod 8015

Date: 07-03-96 Time: 17:17:01  
Column : 0.53mm ID X 15m DB1 (J&H Scientific)

*Stuart Podolsky*  
Stuart Podolsky  
Senior Chemist

July 9, 1996  
Sample Log 15014

QC Report  
TPH Diesel/Motor Oil by 8015 Mod

From : Ringsby Terminals (Project # 020700205)

QC Batch DW960701

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	90	91	1

### Method Blank

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

*D. Poddlsky*

Stewart Poddlsky  
Senior Chemist



1046 Olive Drive, Suite 2  
Davis, CA 95616

Phone#: 916-753-9500  
Fax#: 916-753-6091  
Sample Receiving#: 916-757-0920

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Jeff Auchterlonie Phone #: 510-370-3990

Company/Address: Flour Daniel GTI FAX #: 510-570-3991

Project Number: 020700205-030504 P.O.#: Project Name: Kingsby Terminals

Project Location: 2225 9th St. Oakland Sampler Signature: Mark Garcia

## ANALYSIS REQUEST

TAT  
12 hour / 24 hour / 48 hour / 1 week / 2 weeks

For Lab Use ONLY

15014  
WEST Lab Number

### Sample ID

Sampling Container Method Matrix  
(Type/Amount) Preserved

DATE TIME VOA SLEEVE 1L GLASS 1L PLASTIC HCl HNO<sub>3</sub> ICE NONE WATER SOIL

- W.E.T.
- TOTAL
- BTEX (602/8020)
- BTEX/TPH as Gasoline (602/8020/M8015)
- TPH as Diesel (M8015)
- TPH as Motor Oil (M8015)
- EPA 601/8010
- EPA 608/8080 - Pesticides
- EPA 608/8080 - PCB's
- EPA 624/8240
- EPA 625/8270
- CAM - 17 Metals
- LEAD(60107421/239.2)
- Cd, Cr, Pb, Zn, Ni

1 MW-3  
2 MW-2  
3 MW-1  
4 TBL B.  
5 FB MW-2

DATE	TIME	VOA	SLEEVE	1L GLASS	1L PLASTIC	HCl	HNO <sub>3</sub>	ICE	NONE	WATER	SOIL
6/26/96	12:55	3	2			X	X	X		X	
↓	12:45	3	2			X	X	X		X	
↓	12:35	3	2			X	X	X		X	
↓	-	1								X	
↓	12:45	1				X	X			X	

Relinquished by: Mark Garcia Date Time: 6-27-96 17:15  
 Relinquished by: Joy L. Jurn Date Time: 6-27-96 18:30  
 Relinquished by: John Mart Date Time: 06/27/96 1830

Received by: Joy L. Jurn  
 Received by: \_\_\_\_\_  
 Received by Laboratory: John Mart

Remarks: used disposable bailers -

RECEIVED  
 DATE 6/27/96 TIME 1830  
 INITIAL JL  
 WEST LAB

Bill To: \_\_\_\_\_

**Attachment 4**  
**Monitoring and Sampling Field Notes**





FLUOR DANIEL GTI

COPY

FACSIMILE TRANSMISSION

DATE: 7-3-96 TIME: 0955

TO: JAFF AUCHTERLONIE

FROM: STEVE STRON

FAX NO: \_\_\_\_\_

NUMBER OF PAGES (INCLUDING COVER) 10

If you do not receive any or all of the pages please call (510) 370-3990, Martinez Regional/District Office.

To fax a reply please sent to (510) 370-3991.

MESSAGE: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

RECEIVED  
JUL 03 1996

# WORK REQUEST FORM

MARZ GARCIA  
6-26-96

JOB NAME: Ringsby Terminals

JOB NUMBER: 02070-0205-030504

SITE ADDRESS: 2225 7th Street  
Oakland, California

START DATE: 4th Week in Sept, Dec, March, & June  
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 blank 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 bailer NO PUMPS

### GENERAL INFORMATION

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

Site Contacts: N.W. Transport Monty or Dennis (510) 451-5987

Off-Site Contact: Sealand Todd Burson (510) 272-5214

Port Consultant: Alisto Engineering Brady Naele (510) 285-1650

PROJECT MANAGER, Jaff Auchterlonie AUTHORIZATION

Reviewed By: [Signature]  
Work Acceptable: Yes/No  
Rework Required: Yes/No

# SITE VISITATION REPORT

Project: Ringsby Terminals-Port of Oakla Date: 6/26/96 Project No.: 02070-0205-030504  
Name(s): Mark Garcia Did you call in? Yes  No   
Arrival Time: 10:45 Departure Time: 1:15 Who did you call? \_\_\_\_\_  
Weather Notations: SUN  CLOUDY  RAIN  SNOW  Temperature: 70 °F

## PURPOSE OF VISIT

<input checked="" type="checkbox"/>	GAUGE WELLS	_____	SURVEY	_____	INSTALL EQUIPMENT
_____	BAIL SEPARATE-PHASE	_____	MONITOR VAPORS	_____	INSTALL SYSTEM
_____	SAMPLE A/S INF EFF	_____	SAMPLE CARBON	_____	_____
_____	SYSTEM CHECK	_____	BATCH FEED	_____	_____
<input checked="" type="checkbox"/>	SAMPLE WELLS	_____	EQUIPMENT REPAIR	_____	_____

## DRUM INVENTORY

Drums 3

WATER	_____	CARBON	_____	TOTAL OPEN TOP	_____
SOIL	_____	EMPTY	_____	TOTAL BUNG TOP	_____

## SAMPLE INFORMATION

SAMPLED: YES  NO

WATER  SOIL

AIR  OTHER

PARAMETERS: \_\_\_\_\_

STATION NO: \_\_\_\_\_

LABORATORY: \_\_\_\_\_

LAB RELEASE NO: \_\_\_\_\_

## REMEDATION SYSTEM

FLOW TOTALIZER: \_\_\_\_\_ AIR VELOCITY: \_\_\_\_\_

FLOW RATE: \_\_\_\_\_ PID INF: \_\_\_\_\_

% LEL: \_\_\_\_\_ PID EFF: \_\_\_\_\_

## DESCRIPTION OF ACTIVITIES ON SITE AND NOTES

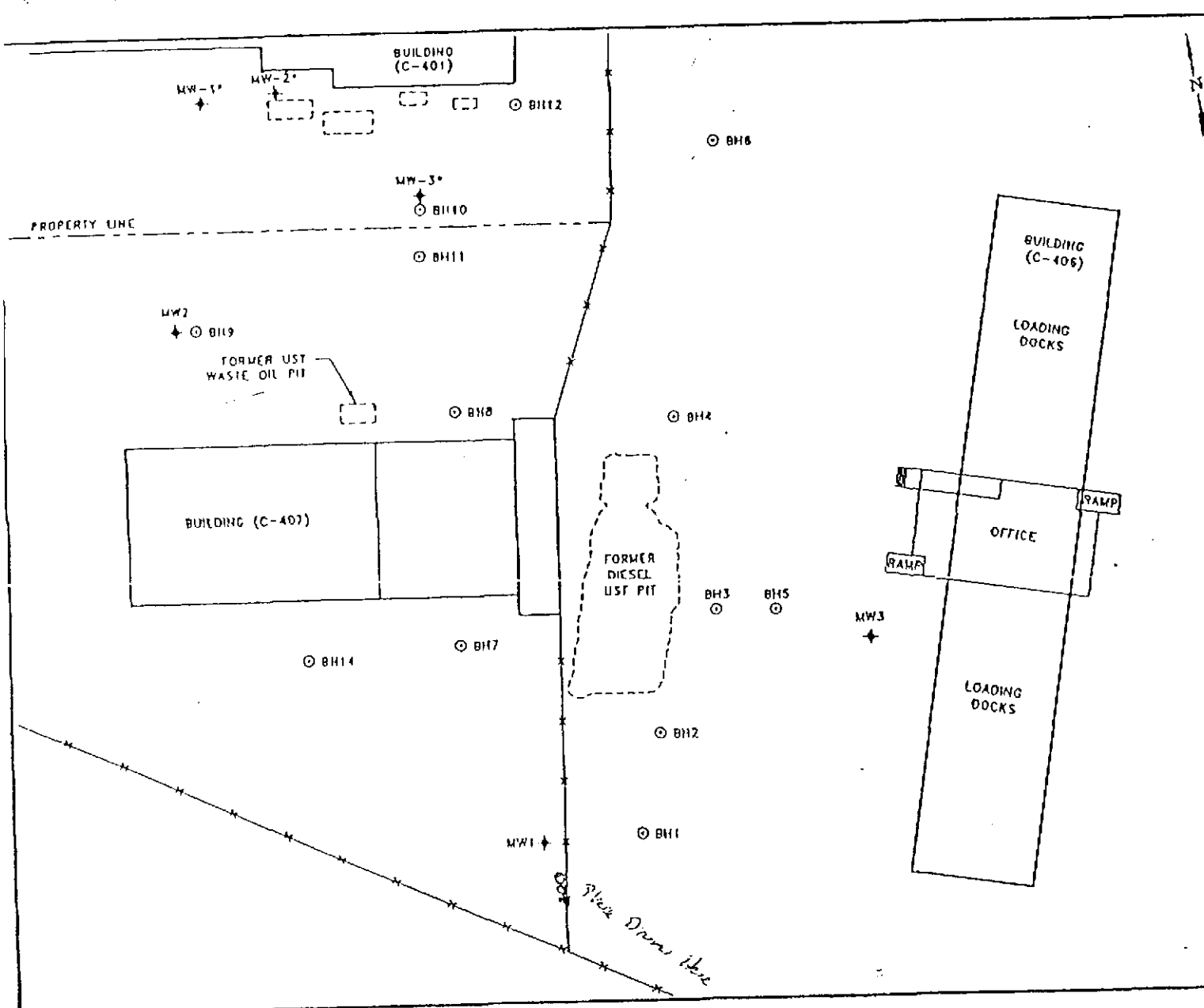
only being worked on











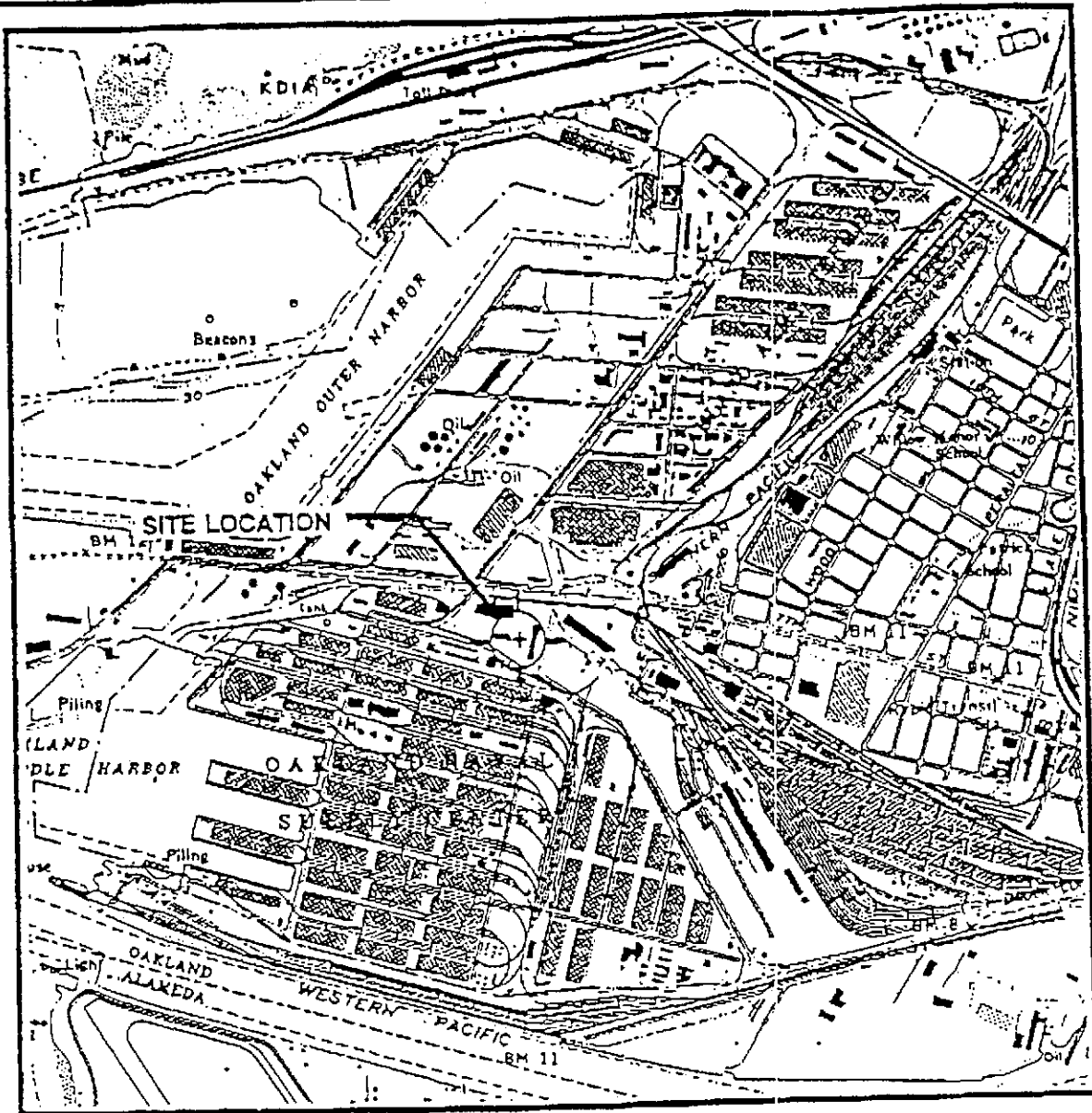
**LEGEND**

- \*—\*— FENCE
- ◆ GROUNDWATER MONITORING WELL
- SOIL BORING LOCATIONS
- - - - - FORMER UST LOCATIONS
- PORT OF OAKLAND WELLS

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

<b>SITE MAP</b>			
CLIENT: DONGARY INVESTMENTS TRUCKING FACILITIES			
LOCATION: 2225 7th STREET OAKLAND, CALIFORNIA			
FILE: 00615MB (1:1)		PROJECT NO.: 02070-0061	
REV.:			
DES.: BB	DET.: EFK	DATE: 1/8/95	FIGURE: 2
PW: SSA		PE/EG: [Signature]	

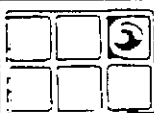
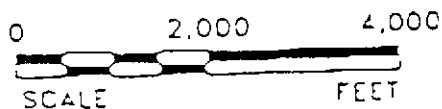




SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE  
 OAKLAND WEST  
 7.5 MINUTE SERIES  
 1959/PHOTOREVISED 1980



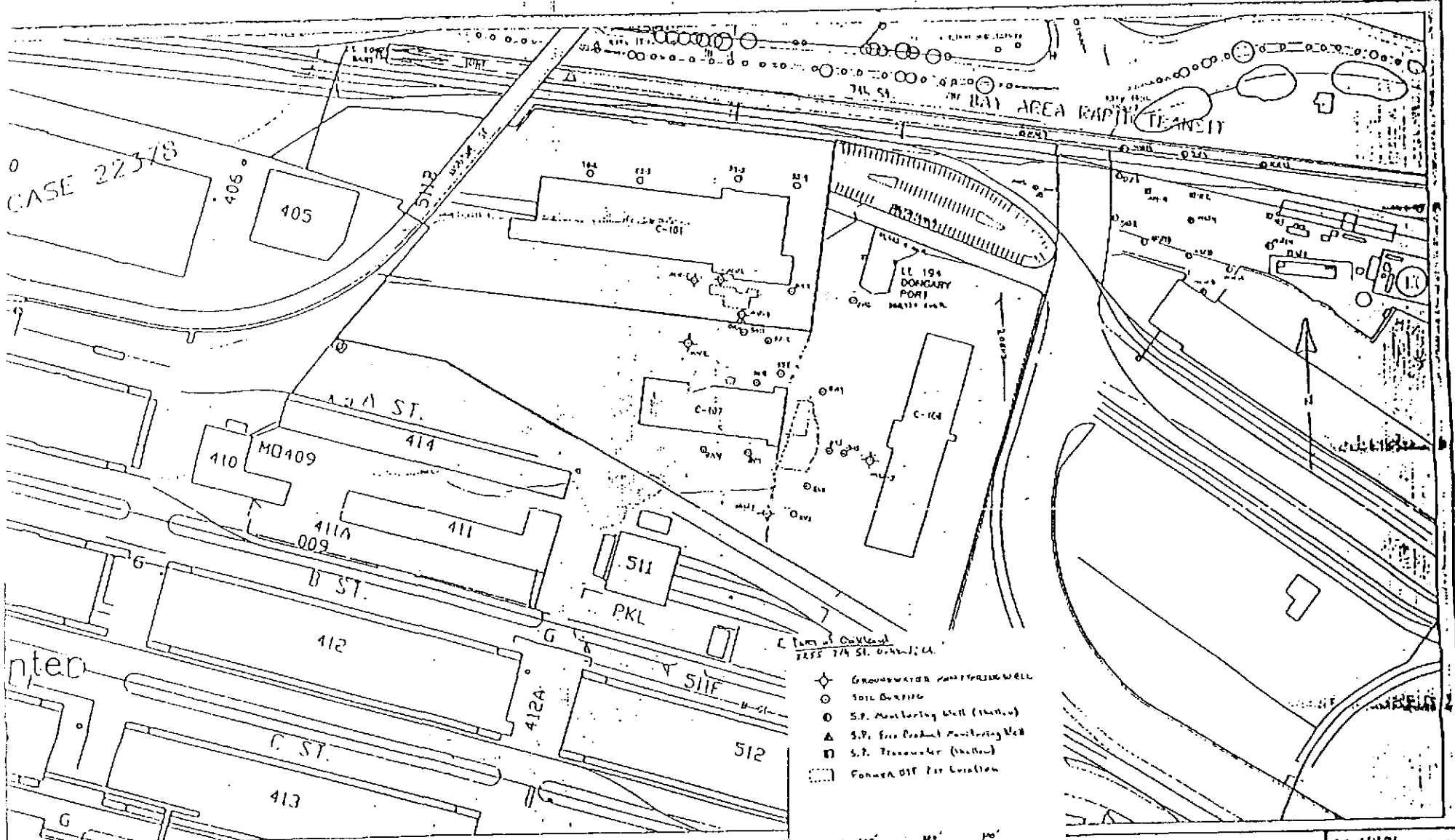
SCALE 1:24,000



GROUNDWATER  
 TECHNOLOGY

SITE LOCATION MAP

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



NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15	NO. 16	NO. 17	NO. 18	NO. 19	NO. 20

**PORT OF OAKLAND**

PROJ. JLS19



1046 Olive Drive, Suite 2  
Davis, CA 95616

Phone#: 916-753-9500  
Fax#: 916-753-6091  
Sample Receiving#: 916-757-0920

### CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

Phone #:

Jeff Buchheit

510-370-3990

Company/Address:

FAX #:

Fluor Daniel

510-370-3991

Project Number:

P.O.#:

200100305-020004

Project Name:

Kingsby Terminals

Project Location:

215 7th St Oakland

Sampler Signature:

Mark Garcia

### ANALYSIS REQUEST

TAT

For Lab Use ONLY

12 hour / 24 hour / 48 hour / 1 week / 2 weeks

WEST Lab Number

### Sample ID

Sample ID	Sampling		Container (Type/Amount)			Method Preserved				Matrix		BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	EPA 601/8010	EPA 608/8080 - Pesticides	EPA 608/8080 - PCB's	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	LEAD(6010/7421/239.2)	Cd, Cr, Pb, Zn, Ni	WET	TOTAL								
	DATE	TIME	VOA	SLEEVE	1L GLASS	1L PLASTIC	HCl	HNO3	ICE	NONE	WATER															SOIL							
M01	10/26/96	1355	3		2		X	X	X	X			X	X																			
M02		1245	3		2		X	X	X	X			X	X																			
M03		1235	3		2		X	X	X	X			X	X																			
M04			1							X			X																				
M05		1245	1				X	X		X			X																				

Relinquished by:

Mark Garcia

Date Time

10/26/96 17:15

Received by:

[Signature]

Relinquished by:

Date Time

Received by:

Relinquished by:

Date Time

Received by Laboratory:

Remarks:

used disposable  
cups

Bill To: