QUARTERLY GROUNDWATER MONITORING AND PRODUCT RECOVERY PROGRESS REPORT FOR ARATEX SERVICES, INC. 330 CHESTNUT STREET OAKLAND, CALIFORNIA

Dec 1993

PREPARED FOR

ARATEX SERVICES, INC.
SCHAUMBURG, ILLINOIS

PREPARED BY
RMT, INC.
MARINA DEL REY, CALIFORNIA

DECEMBER 1993

James W Van Nortwick, Jr., Ph.D., P.E.
Project Manager

RMT, INC. — LOS ANGELES
4640 ADMIRALTY WAY SUITE 301
MARINA DEL REY, CA 90292-6621
310/578-1241 310/821-3280 FAX

December 20, 1993

Ms. Jennifer Eberle
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

Subject: **Quarterly Groundwater Monitoring and Product Recovery Progress Report**
Aratex Services, Inc., 330 Chestnut Street, Oakland, California

Dear Ms. Eberle:

This letter transmits the results of the groundwater monitoring and remedial activities conducted on November 11, 1993, at the referenced facility. To date, the product recovery system has recovered approximately 0.8 gallons (3,000 mL) of free-product and no petroleum hydrocarbons have been identified in the groundwater monitoring wells immediately surrounding the former underground diesel fuel storage tank.

If you or your staff have questions regarding our investigation or this report, please feel free to contact me at (310) 578-1241.

Sincerely,

James W. Van Nortwick, Jr., Ph.D., P.E.
Project Manager

enc: Quarterly Groundwater Monitoring Report

cc: Robert J. Robbins, C.P.G.
Phillip J. Krejci
File: 516/Tanks

RMT, INC. — LOS ANGELES
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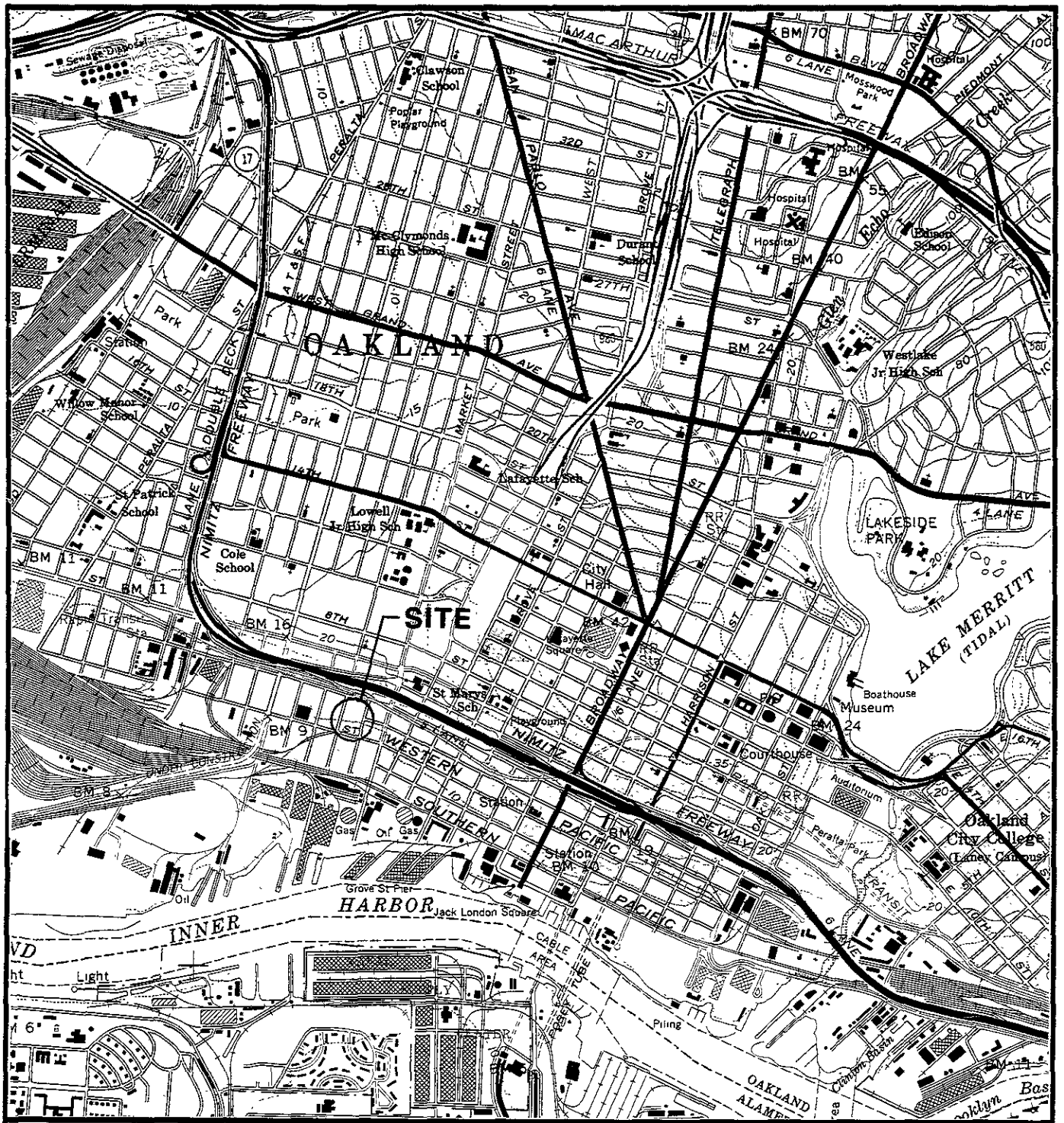
Section 1
BACKGROUND

Aratex Services, Inc., (ARATEX) owns and operates an industrial laundry facility located at 330 Chestnut Street in Oakland, California. A 2,000-gallon underground diesel fuel storage tank was formerly maintained at this facility to supply fuel for the operation of a back-up boiler. The diesel fuel storage tank was removed from the facility in December 1988, and a tank closure documentation report was submitted to the Alameda County Health Care Services Agency (ACHCSA). Based on the information presented in the tank documentation report, the ACHCSA requested that ARATEX conduct post-closure sampling activities to determine whether the soil and groundwater surrounding the underground storage tank had been impacted by petroleum hydrocarbons. In response to this request, ARATEX engaged the services of RMT, Inc., (RMT) to conduct a subsurface investigation

Remedial investigation activities were conducted by RMT from March 1989, through November 1992, and included the advancement of six soil borings and four groundwater monitoring wells in the vicinity of the former excavation area and soil and groundwater sampling activities. The results of chemical analyses performed on groundwater samples collected from monitoring wells RAO-1, RAO-2, RAO-4, during the period from November 1992 through May 1993 did not identify the presence of BTEX; however, groundwater sampling activities conducted in May 1993, identified the presence of benzene, toluene, and xylenes at concentrations slightly above the method detection limits in monitoring wells RAO-1, and RAO-2. A site plan showing the location of the monitoring wells is presented in Figure 1.

Because the results of the sampling activities indicated that the extent of petroleum hydrocarbon contamination was limited to the area immediately surrounding the former tank excavation and free-product was consistently observed in the groundwater monitoring well located within the former underground storage tank excavation, a product recovery canister was installed in December 1992. To date, the product recovery system has recovered approximately 0.8 gallons (3,000 mL) of free-product.



NOTE: BASE MAP TAKEN FROM OAKLAND WEST, CALIFORNIA USGS 7.5 Min. QUADRANGLE

ARATEX - OAKLAND
OAKLAND, CALIFORNIA
SITE LOCATION MAP

NORTH
SCALE: 1 = 2000

RMT INC

DWN BY	RAS
DATE	SEPT.1993
PROJ #	12036.01
FILE #	0101

FIGURE 1

Section 2
GROUNDWATER MONITORING ACTIVITIES

Groundwater sampling activities were conducted on November 11, 1993, and included obtaining static water level measurements and groundwater samples from monitoring wells RAO-1, RAO-2, and RAO-4. Groundwater samples were not collected from monitoring well RAO-3 due to the presence of a free-product layer.

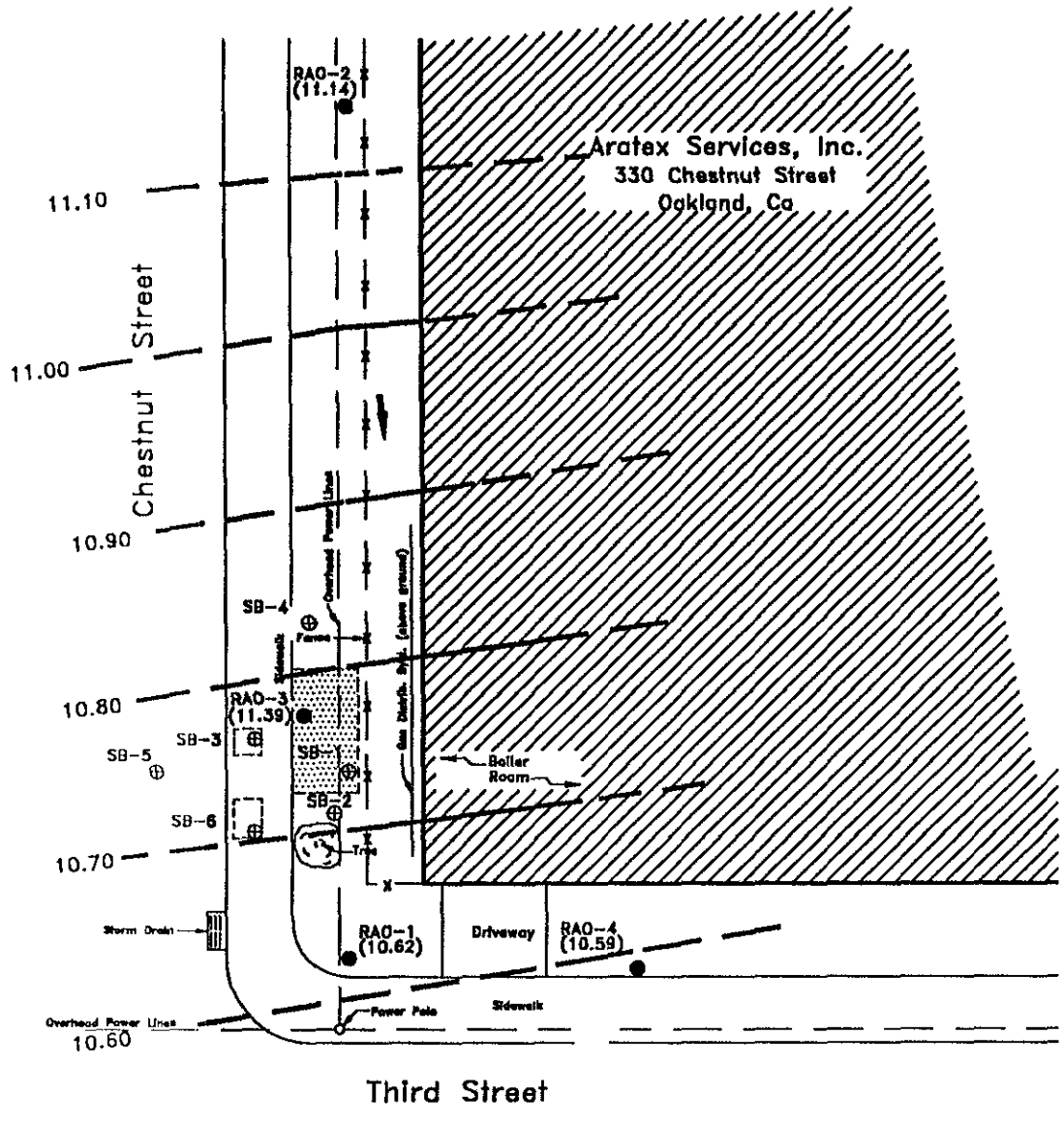
Static Water Level Measurements

Prior to collecting groundwater samples, the depth to groundwater or free-product was measured in each monitoring well using an electronic water level indicator. Three rounds of groundwater heights were taken to assess any variability in measurement. The potentiometric surface generated from the groundwater elevations is presented in Figure 2.

Groundwater Sample Collection

Groundwater samples were collected from monitoring wells RAO-1, RAO-2, and RAO-4. Prior to sampling, each monitoring well was purged using a bailer. A minimum of three well casing volumes (casing and sand pack volume) were extracted from each well before collecting groundwater samples. The temperature, pH, conductivity, and turbidity of the extracted groundwater was measured and recorded at least once per well casing volume. The well casing volume was determined by measuring and recording the static water level and calculating the well volume. The purging bailer was decontaminated between each sampling event by rinsing with tap water to remove particulates, washing with a tri-sodium phosphate solution, and rinsing with deionized water.

After each monitoring well had recharged to within 80 percent of its pre-purge volume (approximately 30-min) groundwater samples were collected utilizing a disposable Teflon bailer equipped with a teflon stopcock, and dispensed directly into 40-mL borosilicate vials with teflon septa and screw caps. All samples were preserved using hydrochloric acid and stored on ice pending transport to a commercial independent California-certified laboratory according to USEPA protocol, including chain-of-custody procedures. Groundwater sampling field logs are presented in Appendix A, and chain-of-custody documents are included in Appendix B.

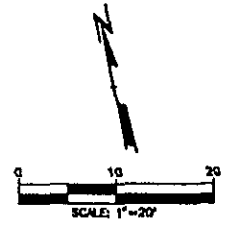


Legend :

RAO-x ●	Ground Water Monitoring Well ; RMT 6/89
SB-x ⊕	Soil Boring ; RMT 9/90
———	Bldg.
▒▒▒	Estimated limits of Dec.1988 Tank Removal and backfill
-x-x-x-	Fence, 6-Foot high chain link
10.6	Estimated Water Table Elevation.
(10.62)	Water Table Elevation. NOVEMBER 11,1993
↓	Estimated direction of groundwater flow

Note:

Estimated gradient = 0.0085 ft./ft.



GROUND WATER LEVELS
Aratex Services, Inc.
330 Chestnut Street
Oakland, Ca

RMT INC.

DWN. BY:	RAS
DATE:	DEC., 1993
PROJ.#	12013.10
FILE #	1002

FIGURE 2

Chemical Analyses of Groundwater

Groundwater samples collected from each monitoring well were analyzed for the presence of BTEX using EPA SW-846 Method 8020 and TPH-D using EPA SW-846 Method 8015 modified to detect gasoline fuel compounds (California LUFT method). Neither analysis yielded results that exceeded laboratory detection limits. The results of the laboratory analyses are presented in Table 1 and a copy of the laboratory report is included in Appendix B. All laboratory analyses were performed by Curtis & Tompkins, Ltd., Analytical Laboratory, California.

Disposal of Purged Groundwater and Decontamination Water

Groundwater extracted during monitoring well purging activities and water generated during pump decontamination operations were contained in 55-gal DOT-approved drums, labeled with the date, generator's name, site location, source, and stored in a secured area pending characterization and disposal. A copy of the disposal manifest will be submitted upon disposal.

TABLE 1

Chemical Analyses of Groundwater

Sample Location	Date	Parameter (µg/L)				
		Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH-D
RAO-1	11-11-93	<0.5	<0.5	<0.5	<0.5	<50 (a)
	8-2-93	<0.3	<0.3	<0.3	<0.5	<10
	5-11-93	0.4	0.5	<0.3	1.0	<10
	2-19-93	<0.3	<0.3	<0.3	<0.6	<100
	11-2-92	<0.3	<0.3	<0.3	<0.5	<10
RAO-2	11-11-93	<0.5	<0.5	<0.5	<0.5	<50 (a)
	8-2-93	<0.3	<0.3	<0.3	<0.5	<10
	5-11-93	0.4	1.0	<0.3	1.0	56
	2-19-93	<0.3	<0.3	<0.3	<0.6	<100
	11-2-92	<0.3	<0.3	<0.3	<0.5	<10
RAO-4	11-11-93	<0.5	<0.5	<0.5	<0.5	<50 (a)
	8-2-93	<0.3	<0.3	<0.3	<0.5	<10
	5-11-93	<0.3	<0.3	<0.3	<0.5	<10
	2-19-93	<0.3	<0.3	<0.3	<0.6	<100
	11-2-93 92	<0.3	<0.3	<0.3	<0.5	840

a- This sample was analyzed for TPH as gasoline

Section 3
PRODUCT RECOVERY ACTIVITIES

During groundwater monitoring activities conducted from March 1990, through November 1992, the presence of a free-product layer was identified in monitoring well RAO-3, located within the former underground storage tank excavation area. A product bail-down test was performed in monitoring well RAO-3 to determine the feasibility of implementing a product recovery system. The results of the product bail-down test indicated that product recovery was feasible, therefore, a removable floating product recovery canister was installed in the monitoring well RAO-3 on December 2, 1992. The canister consists of a buoy portion atop a product storage portion (the sump). The buoy is sheathed by a semi-permeable hydrophobic membrane which minimizes water infiltration into the product sump. The sump has a capacity of 500-mL and is emptied through a drain on the bottom of the canister.

The free product canister has been emptied on a regular basis since December 1992. Static water level and free-product level measurements indicate that the thickness of the free-product layer has ranged from approximately 0.01-ft to 0.40-ft during the remediation period. Product recovery logs also indicate that approximately 0.8-gallons of free-product have been recovered. A summary of the product recovery operations is presented in Appendix C.

APPENDIX A

GROUNDWATER SAMPLING FIELD LOGS

GROUNDWATER SAMPLING INFORMATION

Job Name	**ARATEX-OAKLAND**
Job Number	**12013**
Date	**11-11-93**
Pump	**HAND PUMP**
Name	**VICTOR MEDINA**

RAO-1

Notes:

TIME	PURGE VOL.	TOTAL VOL.	TEMP. (F)	COND. (mmhos/cm)	pH	TURBIDITY (NTU)	DTW (feet)	COMMENTS
	3	3	58.3	1.18	7.24		8.46	Depth to water collected before purging
	3	6	58.7	1.17	7.18			
	4	10	58.5	1.06	7.10			
								Groundwater sample collected with bailer

GROUNDWATER SAMPLING INFORMATION

Job Name	**ARATEX-OAKLAND**
Job Number	**12013**
Date	**11-11-93**
Pump	**HAND PUMP**
Name	**VICTOR MEDINA**

RAO-2

Notes

TIME	PURGE VOL.	TOTAL VOL.	TEMP. (F)	COND. (mmhos/cm)	pH	TURBIDITY (NTU)	DTW (feet)	COMMENTS
	3	3	61.5	1.05	7.45		8.43	Depth to water collected before purging
	3	6	59.7	1.05	7.31			
	4	10	58.5	1.05	7.91			
								Groundwater sample collected with bailer

RMTcmn/Fldforms/gwsample.tbl

GROUNDWATER SAMPLING INFORMATION

Job Name	**ARATEX-OAKLAND**
Job Number	**12013**
Date	**11-11-93**
Pump	**Product Recovery Canister**
Name	**VICTOR MEDINA**

RAO-3

Notes.

TIME	PURGE VOL.	TOTAL VOL.	TEMP. (F)	COND. (mmhos/cm)	pH	TURBIDITY (NTU)	DTW (feet)	COMMENTS
								Floating product thickness= 0.07 ft
								Water recovered = 80 milliliters
								Product Recovered = 40 milliliters

RMTcmn/Fldforms/gwsample.tbl

GROUNDWATER SAMPLING INFORMATION

Job Name	**ARATEX-OAKLAND**
Job Number	**12013**
Date	**11-11-93**
Pump	**Product Recovery Canister**
Name	**VICTOR MEDINA**

RAO-4

Notes.

TIME	PURGE VOL.	TOTAL VOL.	TEMP. (F)	COND. (mmhos/cm)	pH	TURBIDITY (NTU)	DTW (feet)	COMMENTS
	4	4	56.2	1.16	7.28		8.71	Depth to water measurement obtained before purging
	3	7	58.7	1.09	7.08			
	3	10	59.1	1.12	6.99			
								Groundwater sample collected using bailer

RMTcmn/Fldforms/gwsample.tbl

APPENDIX B

CHAIN-OF-CUSTODY DOCUMENTS / LABORATORY REPORT

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

Sampler: Victor F. Medina

Report to: Victor F. Medina

Project No: 12013

Company: RMT Inc

Project Name: Arntex Oakland Redstar

Telephone:

Turnaround Time: Std.

Fax:

Laboratory Number	Sample ID.	Sampling Date	Sampling Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCl	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Field Notes	Analyses: TPH gasoline	Analyses: BTEX	Analyses: TPH
113229-1	RAO-2	11/11	5:50		✓		2	✓					X	X	X
-2	RAO-1	11/11	7:10		✓		2						X	X	X
-3	RAO-9	11/11			✓		2						X	X	X

NOTES:

RELINQUISHED BY:

Victor Medina DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

11/15/93 DATE/TIME

DATE/TIME

DATE/TIME

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

ANALYTICAL REPORT

Prepared for:

RMT, Inc.
4640 Admiralty Way
Suite 301
Marina Del Ray, CA 90292

Date: 30-NOV-93
Lab Job Number: 113229
Project ID: 12013
Location: Aratex Oakland Redstow

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 113229
CLIENT: RMT, INC.
PROJECT ID: 12013
LOCATION: ARATEX OAKLAND REDSTOW

DATE SAMPLED: 11/11/93
DATE RECEIVED: 11/15/93
DATE ANALYZED: 11/20/93
DATE REPORTED: 11/30/93

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
113229-001	RAO-2	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
113229-002	RAO-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
113229-003	RAO-4	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, %	106

APPENDIX C
PRODUCT RECOVERY OBSERVATIONS

APPENDIX C

Product Recovery Observations

Date	Volume of Product Removed (mL)	Volume of Water Removed (mL)	Depth to Product (ft-bgs)	Depth to Water (ft-bgs)	Thickness of Product (ft)
12-3-92	trace	20	8.65	8.67	0.02
12-4-92	0	0	8.61	8.63	0.02
12-8-92	18	0	8.52	8.52	0.00
12-9-92	10	0	8.24	8.24	0.00
12-10-92	0	3	8.02	8.02	0.00
12-14-92	30	200	8.28	8.29	0.01
12-15-92	trace	0	8.32	8.32	0.00
12-16-92	trace	0	8.52	8.52	0.00
12-18-92	18	0	8.63	8.66	0.03
12-21-92	10	0	8.39	8.42	0.03
12-22-92	20	30	8.56	8.58	0.02
12-23-92	18	0	8.35	8.37	0.02
12-24-92	22	0	8.42	8.53	0.11
12-28-92	15	0	8.53	8.64	0.01
12-29-92	20	0	8.58	8.60	0.02
12-30-92	18	0	8.22	8.24	0.02
1-4-93	23	18	8.45	8.47	0.02
1-5-93	12	0	8.28	8.30	0.02
1-6-93	10	0	8.05	8.48	0.43
1-7-93	8	0	8.64	8.66	0.02
1-8-93	3	10	8.36	8.37	0.01
1-11-93	8	0	8.02	8.16	0.14
1-12-93	13	8	7.68	8.06	0.38
1-13-93	45	0	7.64	8.04	0.40
1-14-93	40	0	8.00	8.32	0.32
1-15-93	40	0	7.98	8.30	0.32
1-18-93	48	0	8.00	8.11	0.11
1-19-93	50	0	8.00	8.22	0.22
1-20-93	44	0	8.00	8.02	0.02

Product Recovery Observations (Continued)

Date	Volume of Product Removed (mL)	Volume of Water Removed (mL)	Depth to Product (ft-bgs)	Depth to Water (ft-bgs)	Thickness of Product (ft)
1-21-93	5	40	7.84	8.00	0.16
1-22-93	450	42	7.74	7.98	0.24
2-4-93	25	500*	7.99	8.45	0.46
3-25-93	380	70	8.11	8.20	0.09
4-9-93	500	18	8.11	8.20	0.09
4-23-93	210	60	7.49	7.51	0.02
5-3-93	560	90	8.54	8.58	0.04
5-11-93	38	114	8.35	8.45	0.10
5-20-93	1	0	8.39	8.42	0.03
6-2-93	5	65	8.37	8.41	0.04
6-18-93	100	0	8.46	8.57	0.14
7-9-93	150	0	8.20	8.25	0.05
11-11-93	40	80	7.98	7.91	0.07
Total to Date	**3,007**	**1,368**			

*Valve on bottom of canister left open.