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

Sept 94

PREPARED FOR
ARATEX SERVICES, INC.
SCHAUMBURG, ILLINOIS

PREPARED BY
RMT, INC.
MARINA DEL REY, CA

SEPTEMBER 1994

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

September 19, 1994

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

RE: Quarterly Groundwater Monitoring Report
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 August 12, 1994, at the referenced facility.

As you may note, the presence of petroleum hydrocarbons (i.e., BTEX and TPH-D) has not been identified in the groundwater samples collected from any of the monitoring wells since May 1993. In addition, the quantity of free product recovered during this period, when compared to previous periods, has decreased from 1,688-mL during the second quarter of 1994 to 168-mL during the third quarter of 1994.

If you have any questions regarding this report, please feel free to contact me at (310)578-1241, or Bob Robbins at (608)592-3222.

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

RMT, INC. – LOS ANGELES
4640 ADMIRALTY WAY SUITE 301
MARINA DEL REY, CA 90292-6621
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TABLE OF CONTENTS

Section 1
INTRODUCTION

1.1 Background

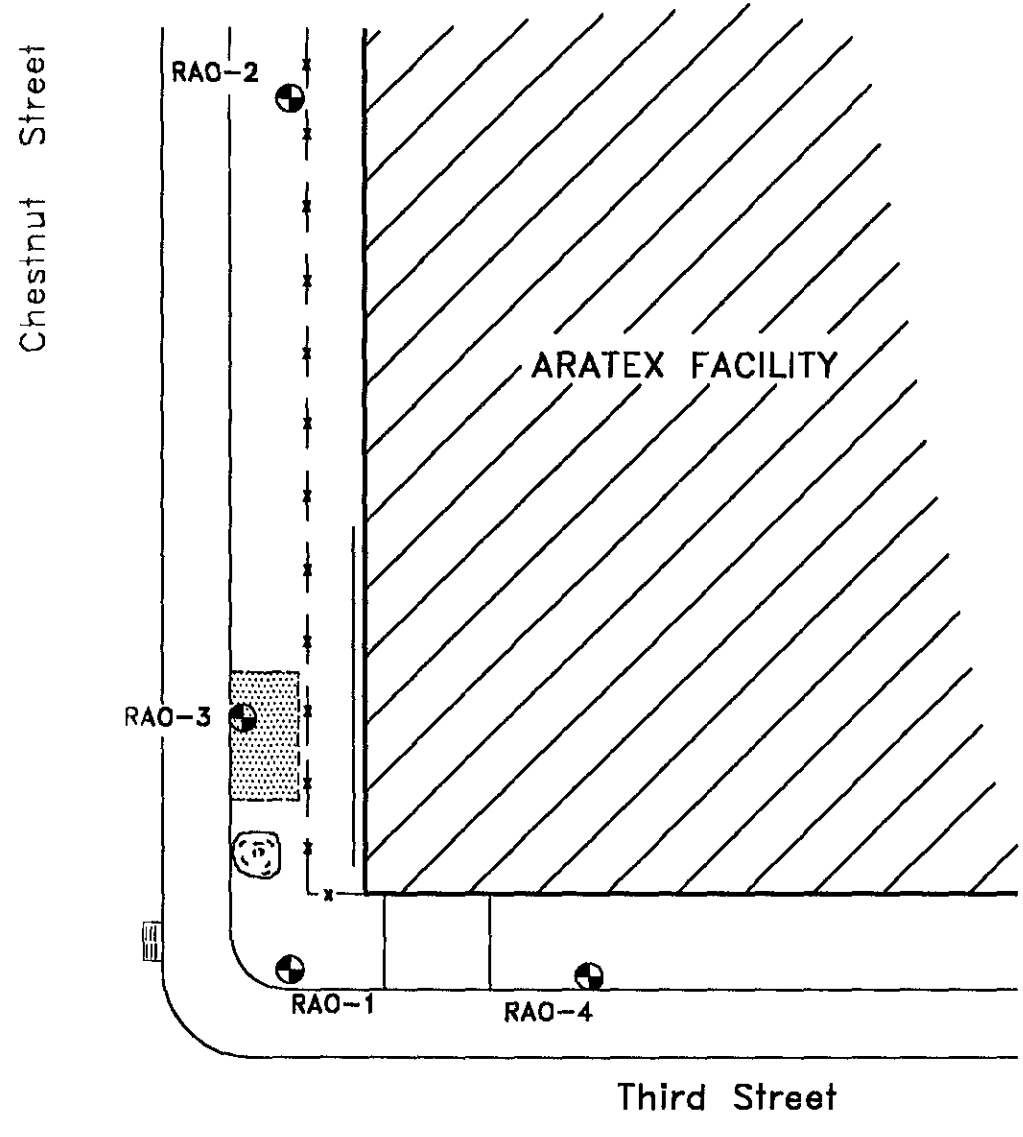
Aratex Services, Inc., (ARATEX) owns and operates an industrial laundry facility located at 330 Chestnut Street in Oakland, California. A 2,000-gallon underground diesel fuel storage tank was formerly maintained at this facility to supply fuel for the operation of a boiler. The diesel fuel storage tank 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. Remedial investigation activities were conducted by RMT from March 1989, through November 1992, and included the advancement of soil borings and groundwater monitoring wells in the vicinity of the former excavation area. 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 petroleum hydrocarbons; however, groundwater sampling activities conducted in May 1993, identified the presence of benzene, toluene, and xylenes in groundwater samples collected from 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 3,000-mL of free-product.

1.2 Purpose and Scope

The purpose of this report is to summarize the results of the groundwater monitoring activities conducted on August 12, 1994, at the ARATEX facility. The scope of work conducted during the groundwater investigation included the following:

- The purging and sampling of three groundwater monitoring wells, and
- The chemical analyses of groundwater samples for the presence of BTEX using EPA SW-846 Method 8020 and TPH-D using EPA SW-846 Method 8015 modified to detect diesel fuel compounds (California LUFT method).



Legend :

RAO-x Ground Water Monitoring Well ; RMT 6/89

Bldg.

Estimated limits of Dec.1988 Tank Removal and backfill

Fence, 6-Foot high chain link

0 10 20

SCALE: 1"=20'

SITE PLAN

Aratex Services, Inc.
330 Chestnut Street
Oakland, Ca

RMT INC.

DWN. BY:	RAS
DATE:	AUG., 1994
PROJ.#	12013.10
FILE #	1006

FIGURE 1

Section 2
GROUNDWATER MONITORING ACTIVITIES

Groundwater sampling activities were conducted on August 12, 1994, 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 which is currently being utilized for product recovery.

2.1 Static Water Level Measurements

Prior to collecting groundwater samples, the depth to groundwater 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.

2.2 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, and conductivity 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 15-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 sample collection data are presented in Table 1.

2.3 Groundwater Flow

Static water level measurements and groundwater elevations for August 12, 1994, are summarized in Table 2 and the potentiometric surface generated from the water level data is presented in Figure 2. The groundwater flow direction is southwest with a gradient of approximately 0.01-ft/ft.

TABLE 1

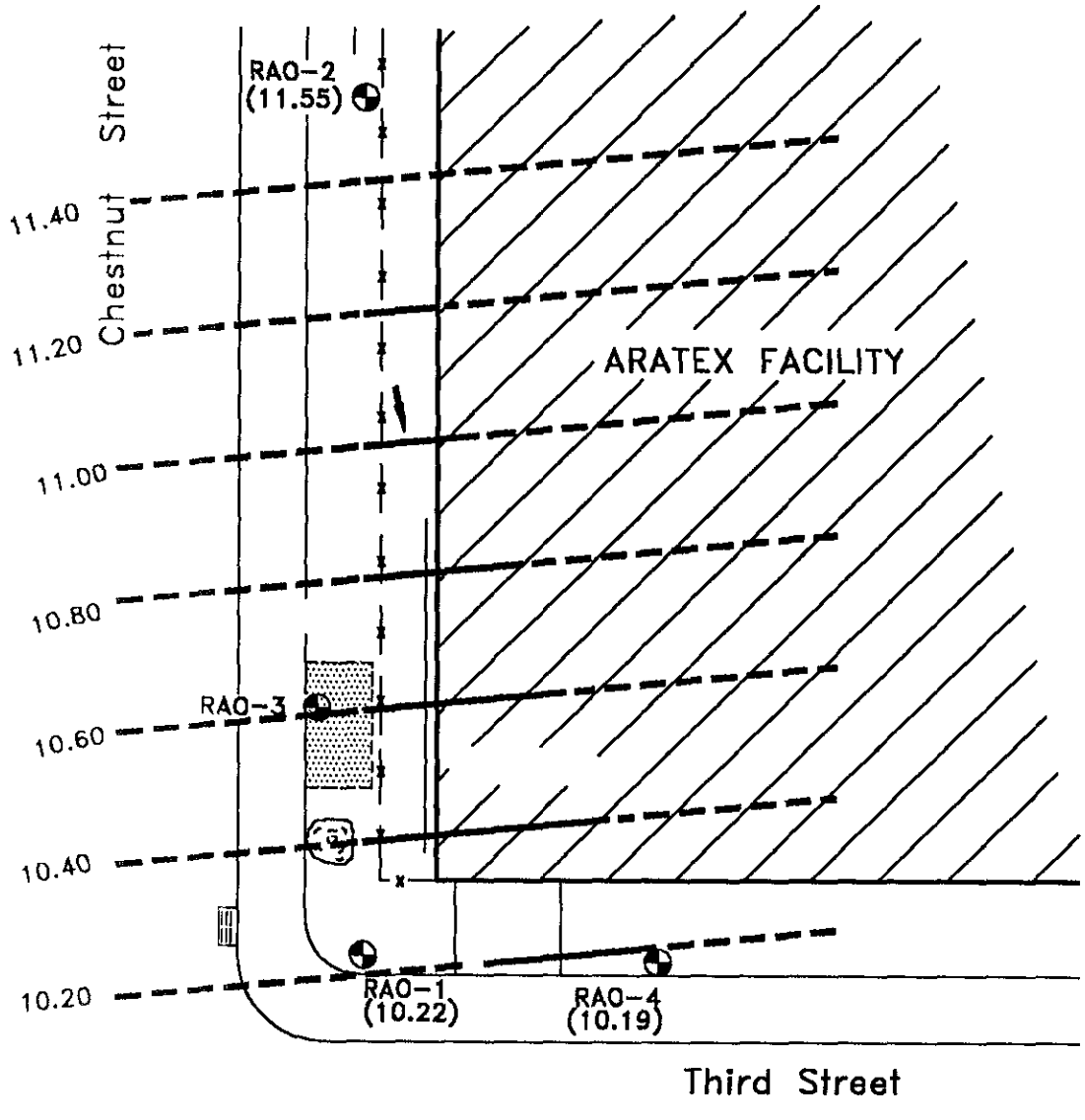
Groundwater Sample Collection Data, August 12, 1994

Time	Gallons Purged (cummulative)	Temperature (°F)	Conductivity (µmhos/cm)	pH
Groundwater Monitoring Well RAO-1 (One Well Casing Volume = 2.2 Gallons)				
10:30	2.2	63.2	1.78	6.88
10:45	4.5	63.8	1.81	6.86
11:00	6.5	62.7	1.82	6.84
Groundwater samples collected at 11:02 am				
Groundwater Monitoring Well RAO-2 (One Well Casing Volume = 2.1 Gallons)				
10:00	2.1	70.2	1.79	7.65
10:10	4.2	67.3	1.62	7.81
10:20	6.3	66.7	1.60	7.82
Groundwater samples collected at 10:22 am				
Groundwater Monitoring Well RAO-4 (One Well Casing Volume = 2.5 Gallons)				
11:30	2.5	65.4	1.59	7.31
11:45	5.0	66.7	1.66	7.10
12:00	7.6	66.3	1.71	7.09
Groundwater samples collected at 12:02 pm				

TABLE 2

Static Water Level Measurement, August 12, 1994

Monitoring Well Location	TOC Elevation (ft above MSL)	Depth to Water (ft below TOC)	Groundwater Elevation (ft above MSL)
RAO-1	19 08	8.86	10.22
RAO-2	19.57	8.02	11.55
RAO-4	19.30	9.11	10 19
TOC = Top of casing MSL = Mean sea level			



Legend :

RAO-x	Ground Water Monitoring Well : RMT 6/89
	Bldg.
	Estimated limits of Dec.1988 Tank Removal and backfill
	Fence, 6-Foot high chain link
(10.62)	GROUNDWATER ELEVATION, IN FEET ABOVE MEAN SEA LEVEL.
10.62	GROUNDWATER ELEVATION CONTOUR, IN FEET ABOVE MEAN, SEA LEVEL. (DASHED WHERE INFERRED)
	Estimated direction of groundwater flow

Note:

Estimated gradient = 0.014 ft./ft.

0 10 20
SCALE: 1"=20'

GROUNDWATER CONTOUR MAP
FOR
AUGUST, 1994

Aratex Services, Inc.
330 Chestnut Street
Oakland, Ca

RMT INC.

DWN. BY:	RAS
DATE:	AUG., 1994
PROJ.#	12013.10
FILE #	1007

FIGURE 2

2.4 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 diesel fuel compounds (California LUFT method). The analytical results of the groundwater samples collected from wells surrounding the recovery well indicate that the product is not migrating. The results of the laboratory analyses are presented in Table 3 and copies of the laboratory report and chain-of-custody documentation are included in Appendix A. The laboratory analyses were performed by Curtis & Tompkins, Ltd., Analytical Laboratory, California.

2.5 Disposal of Purged Groundwater

Groundwater extracted during monitoring well purging activities was 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.

TABLE 3

Chemical Analyses of Groundwater

Sample Location	Sampling Date	Parameter (µg/L)				
		Benzene	Toluene	Ethylbenzene	Xylenes	TPH-D
RAO-1	08-12-94	<1.0	<1.0	<1.0	<1.0	<50
	04-28-94	<1.0	<1.0	<1.0	<1.0	<50
	01-29-94	<1.0	<1.0	<1.0	<1.0	<50
	11-11-93	<0.5	<0.5	<0.5	<0.5	<50 (a)
	08-02-93	<0.3	<0.3	<0.3	<0.5	<10
	05-11-93	**0.4**	**0.5**	<0.3	**1.0**	<10
	02-19-93	<0.3	<0.3	<0.3	<0.6	<100
	11-02-92	<0.3	<0.3	<0.3	<0.5	<10
RAO-2	08-12-94	<1.0	<1.0	<1.0	<1.0	<50
	04-28-94	<1.0	<1.0	<1.0	<1.0	<50
	01-29-94	<1.0	<1.0	<1.0	<1.0	<50
	11-11-93	<0.5	<0.5	<0.5	<0.5	<50 (a)
	08-02-93	<0.3	<0.3	<0.3	<0.5	<10
	05-11-93	**0.4**	**1.0**	<0.3	**1.0**	**56**
	02-19-93	<0.3	<0.3	<0.3	<0.6	<100
	11-02-92	<0.3	<0.3	<0.3	<0.5	<10
RAO-4	08-12-94	<1.0	<1.0	<1.0	<1.0	<50
	04-28-94	<1.0	<1.0	<1.0	<1.0	<50
	01-29-94	<1.0	<1.0	<1.0	<1.0	<50
	11-11-93	<0.5	<0.5	<0.5	<0.5	<50 (a)
	08-02-93	<0.3	<0.3	<0.3	<0.5	<10
	05-11-93	<0.3	<0.3	<0.3	<0.5	<10
	02-19-93	<0.3	<0.3	<0.3	<0.6	<100
	11-02-93	<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. In December 1992, a product recovery system, consisting of a removable canister (a buoy sheathed by a semi-permeable hydrophobic membrane atop a product storage sump) was installed in monitoring well RAO-3. During the period from December 1992 through May 1994, approximately 5,003-mL of free-product was recovered. Product recovery activities conducted in June, July, and August 1994 recovered a total of 168-mL of free product, bringing the total quantity recovered to approximately 5,172-mL. A summary of the product recovery operations is presented in Appendix B.

APPENDIX A
LABORATORY REPORT

Since 1878
Curtis & Tompkins, Ltd. General Analytical Laboratories
2495 Da Vinci, Irvine CA 92714 Phone 714-252-9700 Fax 714-252-9701

LABORATORY REPORT

Laboratory Number: **209514**

Date Received: **08/12/94**
Date Reported: **08/19/94**

Issued To: **RMT, INC.**
4640 ADMIRALTY WAY
SUITE 301
MARINA DEL REY, CA 90292-6621
ATTN: ROBERT SUHOSKY

Project I.D.: **12013.10**

Location: **ARATEX/OAKLAND**

Report On: **THREE LIQUID SAMPLES ANALYZED AS SPECIFIED ON ATTACHED CHAIN OF CUSTODY**

This report certifies that the samples were received in good condition (i.e. intact, chilled, and/or preserved appropriately) and that strict chain of custody procedures were adhered to at all times. It further certifies that the methods of analysis used are in fact those listed within this report and that Curtis & Tompkins, Ltd. has current certification for all work performed in the laboratory. Exceptions to this statement are specifically noted in the analytical report or on the attached chain of custody.

Reviewed By

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Laboratory I.D.: 209514
Client: RMT, INC.

Matrix: Liquid
Method: DHS LUFT Procedure (Modified EPA 8015)
Extraction: EPA 3510 Liquid-Liquid Extraction

Laboratory I.D.	Sample I.D.	Gasoline (ug/L)	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil Range (ug/L)	Date Run	Surr. % Rec. BRO/HEX	QC Batch
1	RAO-1	ND	ND	ND	ND	08/17/94	97 / 107	4351
2	RAO-2	ND	ND	ND	ND	08/17/94	89 / 101	4351
3	RAO-4	ND	ND	ND	ND	08/18/94	94 / 107	4351
Method Blank		ND	ND	ND	ND	08/17/94	78 / 101	4351
Detection Limit:		500	500	500	2000			

Analytical Notes

Date Sampled: 08/11/94

Date Extracted: 08/16/94

Surrogates Used: BRO = Bromobenzene HEX = Hexacosane

Quality Control Data Summary

Method Blank, Blank Spike/Blank Spike Duplicate Data

Batch I D	Sample I D	Spike Amount (ug L)	BS %Rec	BSD %Rec	QC Limits	RPD	QC Limits
4351	BS BSD	2 000	74	78	62 - 117	5	20

BENZENE, TOLUENE, ETHYL BENZENE, & TOTAL XYLENES

Laboratory I.D.: 209514
Client: RMT, INC.

Matrix: Liquid
Method: EPA 8020
Extraction: EPA 5030 Purge & Trap

Laboratory I.D.	Sample I.D.	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Date Run	Surr. % Rec.	QC Batch	Analytical Notes
1	RAO-1	ND	ND	ND	ND	08/18/94	102	4371	
2	RAO-2	ND	ND	ND	ND	08/18/94	102	4371	
3	RAO-4	ND	ND	ND	ND	08/18/94	102	4371	
Method Blank		ND	ND	ND	ND	08/17/94	102	4371	
Detection Limit:		1	1	1	1				

Surrogate Used: a,a,a-Trifluorotoluene

Quality Control Data Summary

Laboratory Control Sample, Matrix Spike/Matrix Spike Duplicate Data

Batch I D	Sample I D	Spike Amount (ug/L)	LCS %Rec	QC Limits	Spike %Rec	Spk Dup %Rec	QC Limits	RPD	QC Limits
437*	209521-009	10	110	80-120	105	103	76-137	2	16

ABBREVIATIONS

BTEX - Benzene, Toluene, Ethyl Benzene, and Total Xylenes.

CCR - California Code of Regulations.

DHS - California Department of Health Services.

EPA - United States Environmental Protection Agency.

LCS - Laboratory Control Spike

LUFT - Leaking Underground Fuel Tank.

MDL - Method Detection Limit

NA - Not Applicable.

NC - Not Calculable

ND - Not Detected at or above the defined detection limit.

PQL - Practical Quantitation Limit

RPD - Relative percent difference.

STLC - Soluble Threshold Limit Concentration.

Surr. - Surrogates.

TCLP - Toxicity Characteristic Leaching Procedure.

TEH - Total Extractable Petroleum Hydrocarbons.

Title 26 - Title 26 of the California Code of Regulations (CCR).

TR~ - Trace, estimated value .

TTLC - Total Threshold Limit Concentration.

TVH - Total Volatile Hydrocarbons.

WET - Waste Extraction Test.

UNITS

cm3 - Cubic centimeter	1umhos/cm - uS/cm - Micro Siemens/centimeter
Kg - kilogram	ppb - Parts per billion
L - Liter	ppm - Parts per million
mg - Milligrams	ug - Micrograms
M3 - Cubic meter	ppbv - Parts per billion per unit volume

RMT

[redacted]dison [redacted]8717[redacted] D[redacted]OH [redacted] [redacted] Sant[redacted]ica, CA [redacted] [redacted] Gr[redacted]dge, M[redacted] [redacted] Gre[redacted]ville, SC [redacted]

744 Heartland Trail
Phone (608) 831-4444
FAX (608) 831-3334

Atlanta, GA
Nashville, TN
Schaumburg, IL

209514

F-268 (R2/88)
(Use Black Ink Only)

CHAIN OF CUSTODY RECORD

Nº 010193

Bottles Prepared by	Date/Time	Office Code: (State)
R. SUHOSKY	8-11-94	CA

Project No	Client
12013.10	ARATSX / OAKLAND

Sample Type: (GW, WW, SW, Soil, Other)

Filtered (Yes/No)
Preserved (Code)
Refrigerated (Yes/No)

Code: A - None
B - HNO3
C - H_2SO_4
D - NaOH
E - _____

RMT Lab NO	Yr 94 Date	Time	Sample Station ID	Total Number Of Containers	Container Inventory: BTEX	TPH-D						Comments:
RAO-1	8/11	12:10		3	X	X						STANDARD
												10 day
RAO-2	8/11	12:15		3	X	X						TURN AROUND
RAO-4	8/11	12:30		3	X	X						
												Cooler Temp = 31.6
			TRIP BLANKS	3	X	X						

SAMPLER Relinquished by (Sig.)	Date/Time	Received by (Sig.)	Date/Time
①	8/12/94	② David Albert Shipper Name & # Curtis L Tompkins	8/12/94 1:37
Relinquished by (Sig.) ③	Date/Time	Received by (Sig.) ④ Shipper Name & #	Date/Time
Relinquished by (Sig.) ⑤	Date/Time	Received by (Sig.) ⑥ Shipper Name & #	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES

(For Lab Use Only)

Receipt Temp _____ Receipt pH _____

Client P.O. Number _____

Subsequent Analysis: _____ (Check)

Date Resubmitted _____

Seal # _____ at'chd by ◯ Recvd. Intact by ◯ Seal # _____ at'chd by ◯ Recvd. Intact by ◯

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Reviewed By:

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Matrix· Liquid
Method. DHS LUFT Procedure (Modified EPA 8015)
Extraction: EPA 3510 Liquid-Liquid Extraction

Laboratory I.D.	Sample I D.	Gasoline (ug/L)	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil Range (ug/L)	Date Run	Surr. % Rec. BRO/HEX	QC Batch
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3	RAO-4	ND	ND	ND	ND	08/18/94	94 / 107	4351
Method Blank		ND	ND	ND	ND	08/17/94	78 / 101	4351
Detection Limit:		500	500	500	2000			

Analytical Notes

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Date Extracted· 08/16/94

Surrogates Used: BRO = Bromobenzene HEX = Hexacosane

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BENZENE, TOLUENE, ETHYL BENZENE, & TOTAL XYLENES

Laboratory I.D.: 209514
Client: RMT, INC

Matrix: Liquid
Method: EPA 8020
Extraction: EPA 5030 Purge & Trap

Laboratory I.D.	Sample I.D.	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Date Run	Surr % Rec.	QC Batch	Analytical Notes
1	RAO-1	ND	ND	ND	ND	08/18/94	102	4371	
2	RAO-2	ND	ND	ND	ND	08/18/94	102	4371	
3	RAO-4	ND	ND	ND	ND	08/18/94	102	4371	
Method Blank		ND	ND	ND	ND	08/17/94	102	4371	
Detection Limit:		1	1	1	1				

Surrogate Used: a,a,a-*Trifluorotoluene*

Quality Control Data Summary

Laboratory Control Sample, Matrix Spike/Matrix Spike Duplicate Data

Batch I D	Sample I D	Spike Amount (ug L)	LCS %Rec	QC Limits	Spike %Rec	Spk Dup %Rec	QC Limits	RPD	QC Limits
4371	209521-009	10	110	80-120	105	103	76-137	2	16

ABBREVIATIONS

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UNITS

cm3 - Cubic centimeter
Kg - kilogram
L - Liter
mg - Milligrams
M3 - Cubic meter

1umhos/cm - uS/cm - Micro Siemens/centimeter
ppb - Parts per billion
ppm - Parts per million
ug - Micrograms
ppbv - Parts per billion per unit volume

RMT, Inc.
744 Heartland Trail
Madison, WI 53717
Phone (608) 831-4444
FAX (608) 831-3334
Dublin, OH
Atlanta, GA
Santa Monica, CA
Nashville, TN
Grand Ledge, MI
Schaumburg, IL
Greenville, SC

209514

F-268 (R2/88)
(Use Black Ink Only)

CHAIN OF CUSTODY RECORD

Sample Type: (GW, WW, SW, Soil, Other)

№ 010193

Bottles Prepared by	Date/Time	Office Code: (State)
R. SUHOSKY	8-11-94	CA

Project No	Client
12013.10	ARATOX / OAKLAND

RMT Lab NO	Yr: 94 Date	Time	Sample Station ID	Total Number Of Containers	Container Inventory: 10 TEX	TPH-D	Filtered (Yes/No)	Preserved (Code)	Refrigerated (Yes/No)	Comments
RAO-1	8/11	12:10		3	X	X				STANDARD 10 DAY TURN AROUND
RAO-2	8/11	12:15		3	X	X				
RAO-4	8/11	12:30		3	X	X				Cooler Temp = 31.6
			TRIP BLANKS	3	X	X				

Code: A - None
B - HNO_3
C - H_2SO_4
D - NaOH
E - _____

SAMPLER Relinquished by (Sig.)	Date/Time	Received by (Sig.)	Date/Time
① [signature]	8/12/94	② David Albert Shipper Name & # Curtis L Tompkins	8/12/94 1:37
Relinquished by (Sig.) ③	Date/Time	Received by (Sig.) ④ Shipper Name & #	Date/Time
Relinquished by (Sig.) ⑤	Date/Time	Received by (Sig.) ⑥ Shipper Name & #	Date/Time

HAZARDS ASSOCIATED WITH SAMPLES

(For Lab Use Only)

Receipt Temp _____ Receipt pH _____

Client P.O. Number _____

Subsequent Analysis: _____ (Check)

Date Resubmitted _____

Seal # _____ at'chd by ◯ Recvd. Intact by ◯ Seal # _____ at'chd by ◯ Recvd. Intact by ◯

APPENDIX B
PRODUCT RECOVERY OBSERVATIONS

Appendix B

Product Recovery Observations

Sampling 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)
12-03-92	trace	20	8.65	8.67	0.02
12-04-92	0	0	8.61	8.63	0.02
12-08-92	18	0	8.52	8.52	0.00
12-09-92	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
01-04-93	23	18	8.45	8.47	0.02
01-05-93	12	0	8.28	8.30	0.02
01-06-93	10	0	8.05	8.48	0.43
01-07-93	8	0	8.64	8.66	0.02
01-08-93	3	10	8.36	8.37	0.01
01-11-93	8	0	8.02	8.16	0.14
01-12-93	13	8	7.68	8.06	0.38
01-13-93	45	0	7.64	8.04	0.40
01-14-93	40	0	8.00	8.32	0.32
01-15-93	40	0	7.98	8.30	0.32
01-18-93	48	0	8.00	8.11	0.11
01-19-93	50	0	8.00	8.22	0.22
01-20-93	44	0	8.00	8.02	0.02

Product Recovery Observations (Continued)

Sampling 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)
01-21-93	5	40	7.84	8.00	0.16
01-22-93	450	42	7.74	7.98	0.24
02-04-93	25	500	7.99	8.45	0.46
03-25-93	380	70	8.11	8.20	0.09
04-09-93	500	18	8.11	8.20	0.09
04-23-93	210	60	7.49	7.51	0.02
05-03-93	560	90	8.54	8.58	0.04
05-11-93	38	114	8.35	8.45	0.10
05-20-93	1	0	8.39	8.42	0.03
06-02-93	5	65	8.37	8.41	0.04
06-18-93	100	0	8.46	8.57	0.14
07-09-93	150	0	8.20	8.25	0.05
11-11-93	40	80	7.98	7.91	0.07
12-10-93	20	25	8.62	8.59	0.03
01-29-94	0	0	8.76	8.76	0.00
03-10-94	0	0	8.63	8.63	0.00
05-03-94	1,976	658	8.93	9.15	0.22
06-17-94	5.6	565	8.85	8.85	0.00
06-21-94	1	540	8.50	8.52	0.02
06-28-94	5	400	8.69	8.71	0.01
07-08-94	26	500	8.61	8.61	0.00
07-14-94	0	400	8.73	8.73	0.00
07-20-94	20	500	8.60	8.62	0.02
07-26-94	60	560	8.68	8.71	0.03
08-02-94	21	500	8.46	8.50	0.04
08-12-94	30	640	7.74	7.79	0.05
08-18-94	0	550	9.24	9.24	0.00
08-25-94	0	550	8.78	8.78	0.00
08-31-94	0	550	8.74	8.74	0.00
09-09-94	150	375	7.74	7.76	0.02
Total to Date	5,321.6	8,681			