

ENVIRONMENTAL  
PROTECTION

97 MAR 25 AM 9:55

**ANNUAL GROUNDWATER MONITORING AND  
PRODUCT RECOVERY PROGRESS REPORT**

**ARAMARK UNIFORM SERVICES, INC.  
330 CHESTNUT STREET  
OAKLAND, CALIFORNIA**

*Page 9*

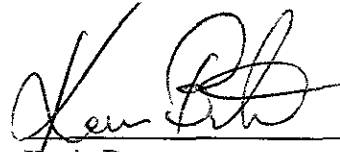
**PREPARED FOR**

**ARAMARK UNIFORM SERVICES, INC.  
SCHAUMBURG, ILLINOIS**

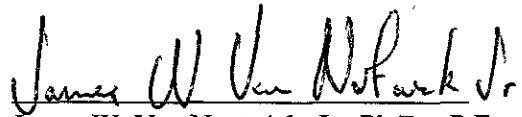
**PREPARED BY**

**RMT, INC.  
MARINA DEL REY, CA**

**MARCH 1997**



Kevin Bate  
Project Engineer



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



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## Section 1

### INTRODUCTION

#### 1.1 Former Diesel Fuel UST Area

ARAMARK Uniform Services, Inc., (ARAMARK) 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 Environmental Health Department (ACEHD). Based on the information presented in the tank documentation report, the ACEHD requested that ARAMARK 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 four groundwater monitoring wells (RAO-1 through RAO-4) in the vicinity of the former excavation area. The results of chemical analyses performed on groundwater samples collected from monitoring wells RAO-1 and RAO-2 identified the presence of total petroleum hydrocarbons (TPH) and benzene, toluene, and xylenes (BTX) and free-product was consistently observed in the groundwater monitoring well located within the former underground storage tank excavation (RAO-3). Because the results of the sampling activities indicated that the extent of petroleum hydrocarbon contamination was limited to the former tank excavation, a product recovery canister was installed in December 1992. To date, the product recovery system has recovered approximately 8,297-mL of free-product, however, the quantity of product recovered each sampling interval has significantly decreased. In addition, with the exception of the chemical analyses performed on groundwater samples collected during February 1995, the presence of TPH or BTX has not been identified in any groundwater sample collected since May 1993.

#### 1.2 Former Diesel Fuel Dispenser and Mop Oil UST Area

Two single walled, steel, underground petroleum hydrocarbon storage tanks were maintained at this facility to supply fuel for the delivery vehicles. In addition, an underground mop oil

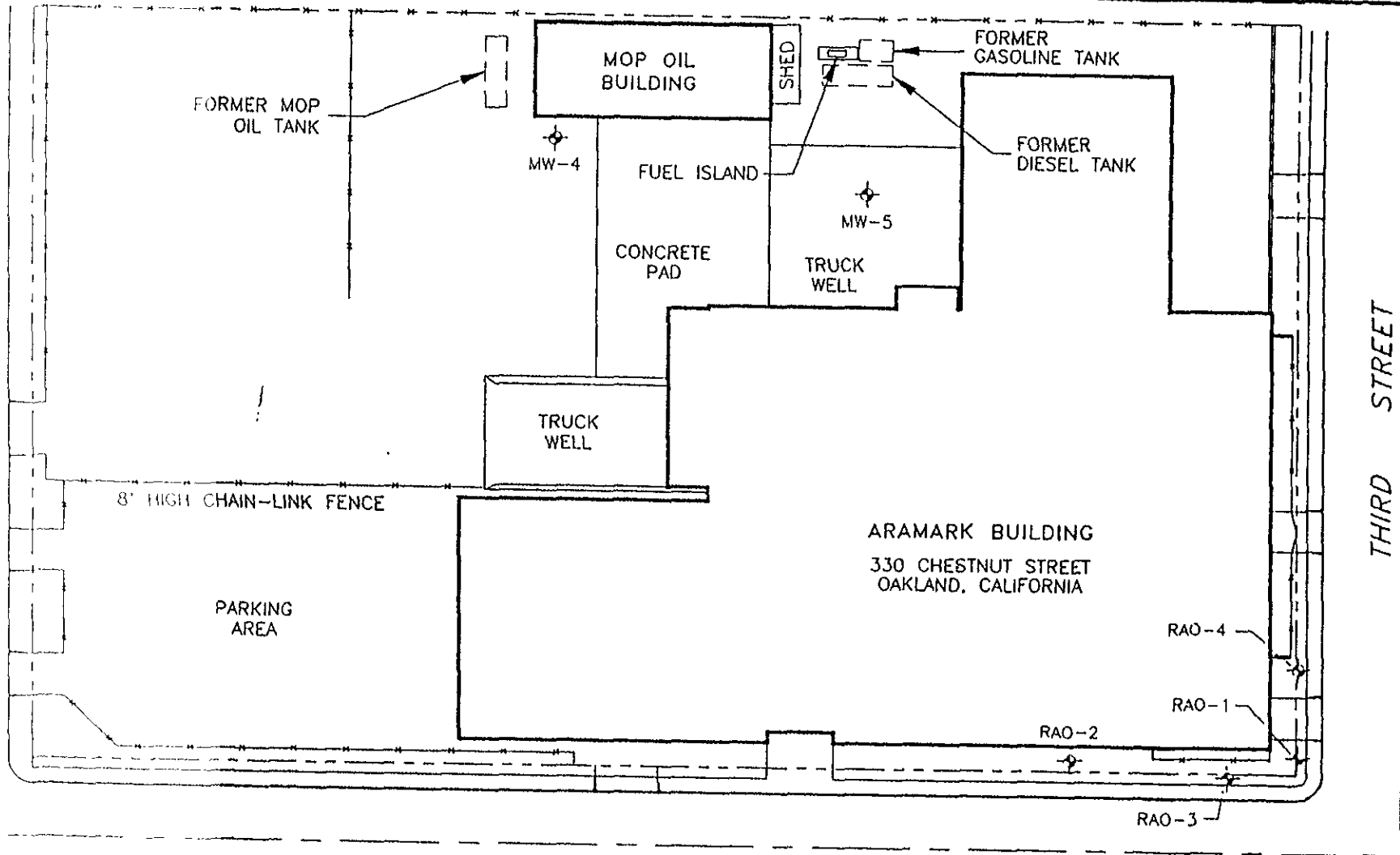
storage tank was also maintained at the facility. RMT, Inc. (RMT), was retained by ARAMARK to document the removal and disposal of the underground storage tanks and perform soil sampling as required by the ACEHD. Tank removal activities were conducted during the period of September 1993 through January 1994. The results of the chemical analyses performed on the soil samples collected from the floor of the former diesel fuel dispenser vault excavations, the former mop oil tank excavation, and in the vicinity of the eastern section of the loading dock identified the presence of petroleum hydrocarbons.

In response to the request from the ACEHD, ARAMARK engaged the services of RMT, Inc., to conduct soil and groundwater sampling activities in the vicinity of the former diesel fuel dispenser vaults and mop oil tank. Field activities were conducted on May 5, 1995 and included the advancement of two soil borings and the installation of two groundwater monitoring wells; MW-4 located in the vicinity of the former underground mop oil storage tank and MW-5 located in the vicinity of the former diesel fuel dispenser vaults (See Figure 1). Although the results of the chemical analyses performed on groundwater samples collected from the monitoring wells during 1995 identified the presence of total petroleum hydrocarbons at concentrations generally below 2mg/L, TPH-SS and TPH-D concentrations have been below detection limits throughout 1996 and during the 1997 sampling event. In addition, the presence of BTEX has never been identified at concentrations above the method detection limit in either monitoring well. A site plan showing the location of the former diesel fuel tanks and the mop oil tank is presented in Figure 1.

### 1.3 Purpose and Scope

The purpose of this report is to summarize the results of the groundwater monitoring activities conducted on February 18, 1997, at the ARAMARK facility. Groundwater monitoring activities were conducted in accordance with revised sampling requirements stipulated in a letter from Ms. Jennifer Eberle of the Alameda County Health Care Services Agency, dated November 12, 1996 (Appendix D) and telephone conversations between Ms. Eberle and Kevin Bate of RMT conducted on November 8, 1996 and March 14, 1997. The scope of work conducted during the groundwater investigation included the following:

- Measurement of the depth to groundwater in monitoring wells RAO-1, RAO-2, RAO-3, RAO-4, MW-4, and MW-5,
- The measurement of free product thickness in RAO-3, if present, and removal thereof. If no free product is present a sample of the groundwater is to be collected from RAO-3. Upon removal of free product and/or sample collection, the application of a 5-percent solution of hydrogen peroxide to the well.
- The purging and sampling of monitoring wells RAO-2, RAO-4, MW-4 and MW-5, and
- The chemical analyses of groundwater samples collected from monitoring wells RAO-2, RAO-4, MW-4 and MW-5.

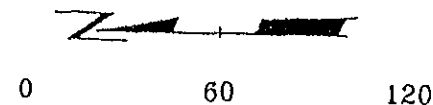


**LEGEND:**



GROUNDWATER MONITORING WELL

CHESTNUT STREET



APPROXIMATE SCALE IN FEET

PROJECT: ARAMARK UNIFORM SERVICES OAKLAND, CALIFORNIA		
SHEET TITLE: SITE PLAN		
DRAWN BY: CRB	SCALE: 1" = 60'-0"	PROJ. NO. 12013.11
CHECKED BY:		FILE NO. 1102
APPROVED BY:	DATE PRINTED:	FIGURE 1
DATE: MAY 1995		



RMT Inc. - Los Angeles  
 Phone: 310/578-1241  
 4640 Admiralty Way  
 Suite 301  
 Manana Del Rey, CA 90292

**Section 2**  
**GROUNDWATER MONITORING ACTIVITIES**

Groundwater sampling activities were conducted on February 18, 1997, and included obtaining static water level measurements and groundwater samples from monitoring wells RAO-2, RAO-4, MW-4 and MW-5. Groundwater samples were not collected from product recovery well RAO-3 due to the presence of free product.

**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.

**2.2 Groundwater Sample Collection**

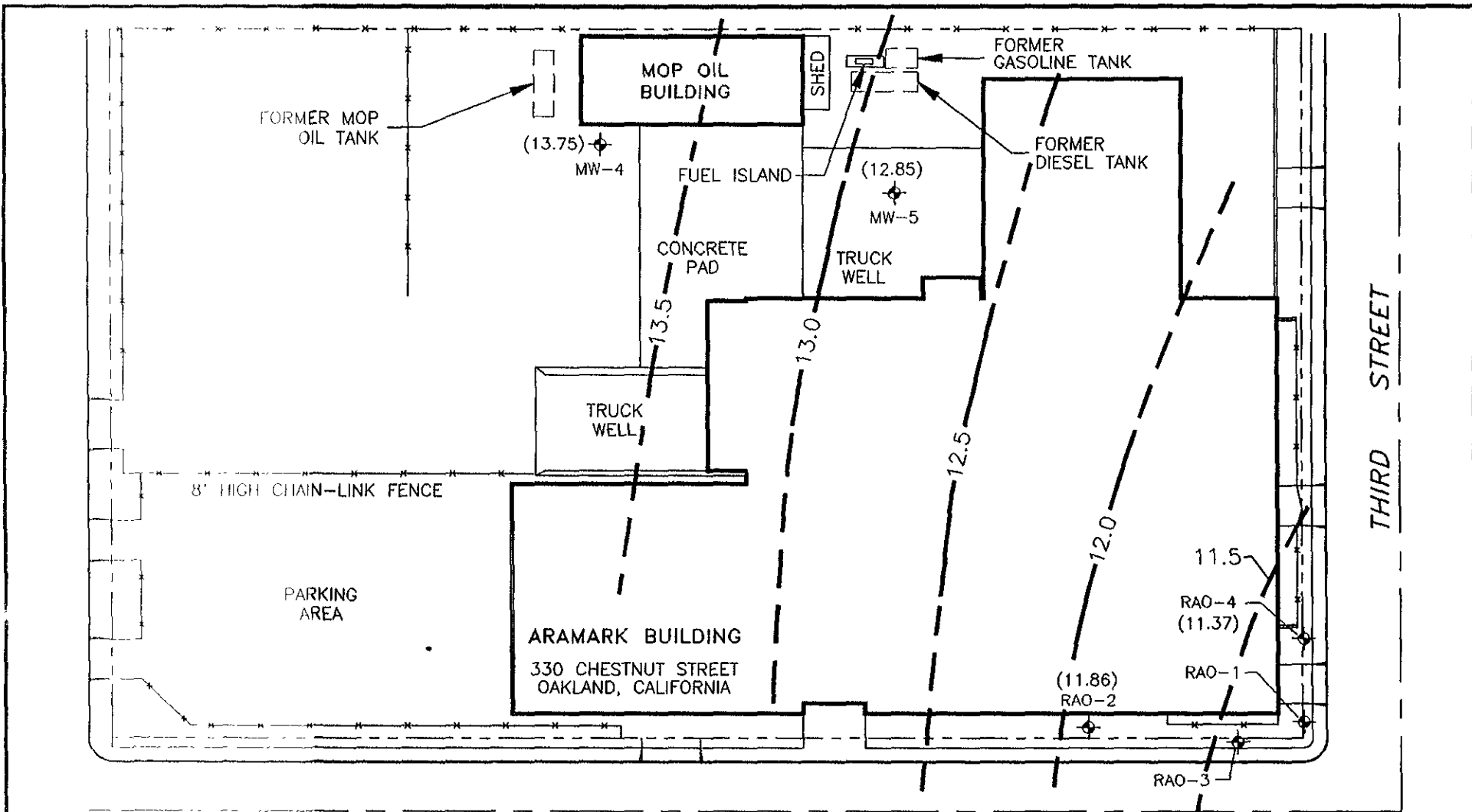
Groundwater samples were collected from monitoring wells RAO-2, RAO-4, MW-4 and MW-5. Prior to sampling, each monitoring well was purged using a designated disposable bailer. A minimum of three well casing volumes (casing and sand pack volume) were extracted from each well before collecting groundwater 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.

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 Appendix A.

### 2.3 Groundwater Flow

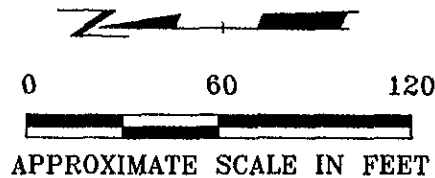
Static water level measurements obtained on February 18, 1997, are summarized in Table 1 and the water table map generated from the water level data is presented in Figure 2. The groundwater flow direction is southwest with a gradient of approximately 0.01-ft/ft.





**LEGEND:**

- GROUNDWATER MONITORING WELL
- LINE OF EQUAL GROUNDWATER IN FEET ABOVE MEAN SEA-LEVEL  
DASHED WHERE INFERRED
- GROUNDWATER ELEVATION (IN FEET ABOVE MSL)



CHESTNUT STREET

THIRD STREET

PROJECT: ARAMARK UNIFORM SERVICES  
OAKLAND, CALIFORNIA

SHEET TITLE:  
GROUNDWATER CONTOUR MAP - FEBRUARY, 1997

DRAWN BY: CRB	SCALE: 1" = 60'-0"	PROJ. NO. 12013.11
CHECKED BY:		FILE NO. 1102
APPROVED BY:	DATE PRINTED:	<b>FIGURE 2</b>
DATE: MAY 1995		



RMT Inc. - Los Angeles  
Phone: 310/578-1241  
4640 Admiralty Way  
Suite 301  
Marina Del Rey, CA 90292

**Table 1**  
**Static Water Level Measurement**

Monitoring Well Location	TOC Elevation (ft above MSL)	Depth to Water (ft below TOC)	Groundwater Elevation (ft above MSL)
RAO-1	19.08	--	--
RAO-2	19.57	7.61	11.96
RAO-4	19.30	7.93	11.37
MW-4	22.69	8.94	13.75
MW-5	21.09	8.24	12.85

**2.4 Chemical Analyses of Groundwater**

Groundwater samples collected from product recovery well RAO-2 and RAO-4 were analyzed for the presence of BTEX and TPH-D using EPA SW-846 Method 8020 and Method 8015M, respectively and groundwater samples collected from monitoring wells MW-4 and MW-5 were analyzed for the presence of TPH-D, TPH-K, and TPH-SS using EPA SW-846 Method 8015M. The results of the laboratory analyses are summarized in Table 2 (diesel fuel UST Area) and Table 3 (former diesel fuel dispenser and mop oil UST area) and a copy of the laboratory report is included in Appendix B. All laboratory analyses were conducted by BC Laboratories, Inc., of Bakersfield, California.

Table 2  
 Chemical Analyses of Groundwater (Former Diesel Fuel UST Area)

Sample Location	Sampling Date	Parameter (ug/L)				
		Benzene	Toluene	Ethylbenzene	Xylenes	TPH-D
RAO-1	02-01-96	<0.5	<0.5	<0.5	<0.5	820
	08-02-95	<0.5	<0.5	<0.5	<0.5	<50
	05-05-95	<0.5	<0.5	<0.5	<0.5	<50
	02-03-95	<0.5	<0.5	<0.5	<0.5	560
	11-18-94	<1.0	<1.0	<1.0	<1.0	<50
	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
	08-02-93	<0.3	<0.3	<0.3	<0.5	<10
	05-11-93	0.4	0.5	<0.3	1.0	<10
RAO-2	02-18-97	<0.3	<0.3	<0.3	<0.6	<200
	11-14-95	<0.5	<0.5	<0.5	<0.5	870
	08-02-95	<0.5	<0.5	<0.5	<0.5	<50
	05-05-95	<0.5	<0.5	<0.5	<0.5	<50
	02-03-95	<0.5	<0.5	<0.5	<0.5	<50
	11-18-94	<1.0	<1.0	<1.0	<1.0	<50
	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
	08-02-93	<0.3	<0.3	<0.3	<0.5	<10
05-11-93	0.4	1.0	<0.3	1.0	56	

Table 2 (Continued)  
 Chemical Analyses of Groundwater (Former Diesel Fuel UST Area)

Sample Location	Sampling Date	Parameter (ug/L)				
		Benzene	Toluene	Ethylbenzene	Xylenes	TPH-D
RAO-3	11-15-96	0.33	<0.3	0.61	<0.6	24,000
	08-06-96	0.45	<0.3	<0.3	<0.6	11,000
	05-10-96 <sup>a</sup>	1.8	<0.3	3.0	5.5	2,000,000
	02-01-96 <sup>a</sup>	16	<0.5	55	<0.5	1,700,000
RAO-4	02-18-97	<0.3	<0.3	<0.3	<0.6	<200
	11-14-95	<0.5	<0.5	<0.5	<0.5	800
	08-02-95	<0.5	<0.5	<0.5	<0.5	<50
	05-05-95	<0.5	<0.5	<0.5	<0.5	<50
	02-03-95	<0.5	<0.5	<0.5	<0.5	<50
	11-18-94	<1.0	<1.0	<1.0	<1.0	<50
	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
	08-02-93	<0.3	<0.3	<0.3	<0.5	<10
	05-11-93	<0.3	<0.3	<0.3	<0.5	<10

a = Free product was identified in product recovery well RAO-3

Table 3

Chemical Analyses of Groundwater (Former Dispenser and Mop Oil UST Area)

Sample Location	Sampling Date	Parameter (ug/L)						
		Benzene	Toluene	Ethyl Benzene	Xylenes	TPH-SS	TPH-K	TPH-D
MW-4	02-18-97	--	--	--	--	<200	<200	<200
	11-15-96	--	--	--	--	--	--	<200
	08-06-96	<0.3	<0.3	<0.3	<0.6	<200	<200	<200
	05-10-96	<0.3	<0.3	<0.3	<0.3	<200	<200	<200
	02-01-96	<0.5	<0.5	<0.5	<0.5	<500	<500	<500
	11-14-95	<0.5	<0.5	<0.5	<0.5	--	--	1,100
	08-02-95	--	--	--	--	--	--	180
	05-05-95	--	--	--	--	--	--	500
MW-5	02-18-97	--	--	--	--	<200	<200	<200
	11-15-96	--	--	--	--	--	--	<200
	08-06-96	<0.3	<0.3	<0.3	<0.6	<200	<200	<200
	05-10-96	<0.3	<0.3	<0.3	<0.3	<200	<200	350
	02-01-96	<0.5	<0.5	<0.5	<0.5	840 <sup>a</sup>	<500	<500
	11-14-95	<0.5	<0.5	<0.5	<0.5	--	--	2,100
	08-02-95	<0.5	<0.5	<0.5	<0.5	--	--	380
	05-05-95	<0.5	<0.5	<0.5	<0.5	--	--	1,100

a = The chromatogram does not resemble the standard hydrocarbon standard.

**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 on-site pending off-site disposal.

Section 3  
PRODUCT RECOVERY ACTIVITIES

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 located in the vicinity of the former diesel fuel UST excavation. During the period from December 1992 through May 1995, approximately 6,202-mL of free-product was recovered, however, product recovery activities conducted during the period from June 1995 through October 1995 did not result in the recovery of any additional free product. Based on these findings, in November 1995, the ACEHD requested that ARAMARK collect groundwater samples from the product recovery well to determine the groundwater quality in the vicinity of the former diesel fuel UST excavation, however, it was agreed that the sampling activities would be postponed until the residual petroleum hydrocarbon buildup on the well screen and in the surrounding sand pack could be remediated. With ACEHD approval, RMT added approximately 15-gallons of a dilute solution (5%) of hydrogen peroxide ( $H_2O_2$ ) to product recovery RAO-3 on a monthly basis during the period between November 1995 and January 1996 to help remove the residual petroleum hydrocarbons present within the well packing. Product recovery activities conducted during the third and fourth quarter of 1996 resulted in the recovery of approximately 30-mL and 15-mL of free-product, respectively.

Approximately 400-mL of free product was recovered from the product recovery well during the first quarter activities (January through March, 1997). A total of 8,297-mL of free-product has been recovered since product recovery operations began (December 1992). A dilute solution (5-percent) of hydrogen peroxide is now added to the well on a monthly basis. A summary of the product recovery operations is presented in Appendix C.

APPENDIX A  
GROUNDWATER SAMPLE COLLECTION DATA

## GROUNDWATER SAMPLING INFORMATION

Project Name: <b>Aramark - OAKLAND</b>
Project Number: <b>12013.14</b>
Sampling Date: <b>February 18, 1997</b>

Monitoring Well Location	Purge Number	Purge Volume (gal)	Temp (°F)	pH	Turbidity (NTU)	DTW (ft-bgs)	Cond: (µS/cm)
RAO-2	1	1	68.1	7.17	78.6	7.61	2.13
	2	3	68.3	7.15	84.9		2.14
	3	5	68.3	7.14	110		2.14
RAO-4	1	1	67.7	7.10	10.4	7.93	2.79
	2	3	68.0	7.09	33.6		2.78
	3	5	68.2	7.10	38.9		2.78
mw-4	1	1	68.2	6.82	106	8.94	1.37
	2		DRY @ one gallon				
	3						
mw-5	1	1	68.4	6.91	231	8.24	1.22
	2		DRY @ one gallon				
	3						
	1						
	2						
	3						
	1						
	2						
	3						



APPENDIX B  
LABORATORY REPORT

# BC LABORATORIES, INC.

February 28, 1997

TARIQ AHMAD  
RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292

Subject: Laboratory Submission No.: 97-01869  
Samples Received: 02/20/97

Dear Mr. Ahmad:

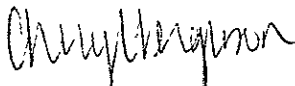
The sample(s) listed on the Chain of Custody report were received by BC Laboratories, Inc. on 02/20/97.

Enclosed please find the analytical data for the testing requested. If you have any questions regarding this report please contact me at (805)327-4911, ext. 250.

Any unused sample will be stored on our premises for a minimum of 30 days (excluding bacteriologicals) at which time they will be disposed unless otherwise requested at the time of sample receipt. A disposal fee of \$5 per sample may apply for solid sample matrices.

Please refer to submission number 97-01869 when calling for assistance.

Sincerely,

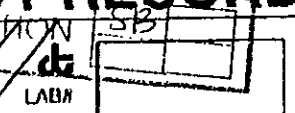


Cheryl Ferguson  
Project Manager  
BC Laboratories, Inc.



977-1869

# CHAIN-OF-CUSTODY-RECORD



Sample ID	Depth	Date	Time	Sample Type	Container Type	Total Number Of Containers	ANALYSES													Field Notes:				
							801/8010	802/8020 BTEX	805 (TVM)	805 (EHDIES)	419.1	413.1	413.2	608/6080	PCB'S Only	821/8210	825/8250	TITLE 26 Metals	PICRA Metals		Wet Extraction	TCUP Extraction	ZNE Extraction	8280
1 MW-4		2/18/97		WATER		4			X															
2 MW-5		"		"		"			X															
3 RAO-2		"		"		"			X															
4 RAO-4		"		"		"			X															
5 BLANK		"		"		"			X															
TEP TWP BLANK																								

2/20/97 // 2:10 PM  
 BTEX not required  
 on 1 r-2 (CP)

Relinquished By: <i>[Signature]</i> Date/Time: <u>2/18/97</u> Relinquished By: (Signature) Date/Time: _____ Relinquished By: (Signature) Date/Time: _____				Received By: <i>[Signature]</i> Date/Time: <u>2/20/97</u> Received By: (Signature) Date/Time: <u>9:10 AM</u> Received By: (Signature) Date/Time: _____				<b>LABORATORY NOTES:</b> * Ice chest & bottles were received on 2/18/97 @ 9:50 pm, 20c later faxed on 2/20/97 (DK)	<b>DATE DATA NEEDED BY:</b>  All samples will be disposed of 30 days after invoice unless specified on chain of custody - write "archive for _____ days" by any sample to be archived.  \$5 / sample / month will be charged			
SEND ANALYTICAL REPORT TO: <u>T. AHMAD</u> COMPANY: <u>RMT</u> ADDRESS: _____ CITY: _____ STATE: _____ ZIP CODE: _____ PHONE NUMBER: _____ FAX NUMBER: _____ PROJECT MANAGER: <u>[Signature]</u>				CLIENT JOB I.D.: _____ CLIENT P.O. NO.: _____ C&T QUOTE NO.: _____ SAMPLING LOCATION: <u>ARAMARK - OAKLAND</u> COLLECTOR: _____								

02/20/97 THU 09:11 FAX 310 821 3280 RMT INC 001

LAB NUMBER: 97-18169 TIME RECEIVED: 9:50 AM DATE RECEIVED: 2/20/97 RECEIVED BY: JW

**SHIPPING SPECIFICATIONS**

**SHIPPING CONTAINER**

Federal Express  UPS  Hand Delivery  Ice Chest  Box   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_ None  Other  (Specify) \_\_\_\_\_

**SAMPLE CONDITION**

Ice Chest ID \_\_\_\_\_ Ice Chest ID \_\_\_\_\_ Ice Chest ID \_\_\_\_\_ Ice Chest ID \_\_\_\_\_ Ice Chest ID \_\_\_\_\_ Ice Chest ID \_\_\_\_\_  
 Temperature 5 °C Temperature \_\_\_\_\_ °C Temperature \_\_\_\_\_ °C Temperature \_\_\_\_\_ °C Temperature \_\_\_\_\_ °C Temperature \_\_\_\_\_ °C  
 Ice  Blue Ice  None  If temperature is not between 2 and 6 °C please explain: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None   
 All samples received? Yes  No  All samples intact? Yes  No  Description match COC? Yes  No

**SAMPLE CONTAINERS**

Sample #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
QT GENERAL MINERAL/ GENERAL PHYSICAL																				
PT PE UNPRESERVED																				
QT INORGANIC CHEMICAL METALS																				
PT INORGANIC CHEMICAL METALS																				
PT CYANIDE																				
PT NITROGEN FORMS																				
PT TOTAL SULFIDE																				
2oz. NITRATE / NITRITE																				
100ml TOTAL ORGANIC CARBON																				
QT TOX																				
PT CHEMICAL OXYGEN DEMAND																				
100ml PHENOLICS																				
40ml VOA VIAL TRAVEL BLANK																				
40ml VOA VIAL		3	3	3	3	X														
VOA SET (3 VIALS, 1TB)																				
QT EPA 413.1, 413.2, 418.1																				
PT ODOR																				
RADIOLOGICAL																				
BACTERIOLOGICAL																				
PT EPA 504																				
QT EPA 508/608/8080																				
QT EPA 515.1/8150																				
QT EPA 525																				
QT EPA 525 TRAVEL BLANK																				
100ml EPA 547																				
100ml EPA 531.1																				
QT EPA 548																				
QT EPA 549																				
QT EPA 632																				
QT EPA 8015M																				
QT QA/QC																				
QT AMBER		X	X	X	X															
8 OZ JAR																				
32 OZ JAR																				
SOIL SLEEVE																				
PCB VIAL																				
PLASTIC BAG																				

Comments: \_\_\_\_\_  
 Completed by: dan [WP60\DATA\DOCS\SHELLAH\FORMS\SAMREC.FRM]



Purgeable Aromatics  
and  
Total Petroleum Hydrocarbons

RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292  
Attn: TARIQ AHMAD 310-578-1241

Date Reported: 02/26/97  
Date Received: 02/20/97  
Laboratory No.: 97-01869-1

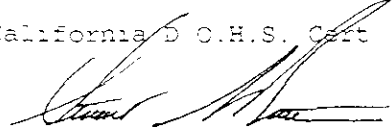
Sample Description: ARAMARK-OAKLAND: MW-4 SAMPLED BY T. AHMAD

Sample Matrix: WATER  
Date Collected: 02/18/97  
Date Extracted-8015M(d): 02/23/97  
Date Analyzed-8015M(d): 02/24/97

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Total Petroleum Hydrocarbons (diesel)	None Detected	µg/L	200.
Surrogate % Recovery	93.	%	57-137

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015  
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert #1186

  
Stuart G. Buttram  
Department Supervisor



Total Petroleum Hydrocarbons

RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292  
Attn: TARIQ AHMAD 310-578-1241

Date Reported: 03/24/97  
Date Received: 02/20/97  
Laboratory No.: 97-01869-LADD'N

Sample Description: ARAMARK-OAKLAND: MW-4 SAMPLED BY T. AHMAD

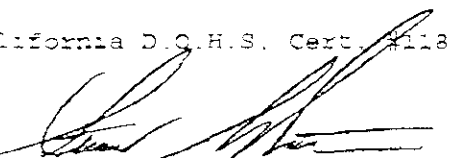
Sample Matrix: WATER

Date Collected: 02/18/97  
Date Extracted-8015M(d): 02/23/97  
Date Analyzed-8015M(d): 03/13/97

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Total Petroleum Hydrocarbons (Kerosene)	None Detected	µg/L	200.
Total Petroleum Hydrocarbons (Stoddard)	None Detected	µg/L	200.
Surrogate % Recovery	100.	%	57-137

TEST METHOD: TPH by D.O.H.S. / L.U.P.T. Manual Method - Modified EPA 8015

California D.O.H.S. Cert. #1186

  
Stuart G. Buttram  
Department Supervisor

Purgeable Aromatics  
and  
Total Petroleum Hydrocarbons

RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292  
Attn: TARIQ AHMAD 310-578-1241

Date Reported: 02/26/97  
Date Received: 02/20/97  
Laboratory No.: 97-01869-2

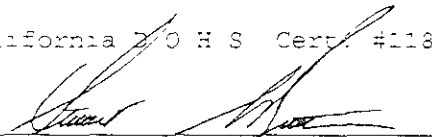
Sample Description: ARAMARK-OAKLAND: MW-5 SAMPLED BY T. AHMAD

Sample Matrix: WATER  
Date Collected: 02/18/97  
Date Extracted-8015M(d): 02/23/97  
Date Analyzed-8015M(d): 02/24/97

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Total Petroleum Hydrocarbons (diesel)	None Detected	µg/L	200.
Surrogate % Recovery	103.	%	57-137

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015  
Individual constituents by EPA Method 5030/8020.

California D O H S Cert. #1186



Stuart G. Buttram  
Department Supervisor



Total Petroleum Hydrocarbons

RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292  
Attn: TARIQ AHMAD 310-578-1241

Date Reported: 03/24/97  
Date Received: 02/20/97  
Laboratory No.: 97-01869-2ADD'N

Sample Description: ARAMARK-OAKLAND: MW-5 SAMPLED BY T. AHMAD

Sample Matrix: WATER  
Date Collected: 02/18/97  
Date Extracted-8015M(d): 02/23/97  
Date Analyzed-8015M(d): 03/17/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Total Petroleum Hydrocarbons (Kerosene)	None Detected	µg/L	200.
Total Petroleum Hydrocarbons (Stoddard)	None Detected	µg/L	200.
Surrogate % Recovery	106.	%	57-137

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015

California D.O.H.S. Cert #1186

Stuart G. Buttram  
Department Supervisor





Purgeable Aromatics  
and  
Total Petroleum Hydrocarbons

RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292  
Attn: TARIQ AHMAD 310-578-1241

Date Reported: 02/25/97  
Date Received: 02/20/97  
Laboratory No.: 97-01869-3


Sample Description: ARAMARK-OAKLAND: RAO-2 SAMPLED BY T. AHMAD

Sample Matrix: WATER  
Date Collected: 02/18/97  
Date Extracted-8020: 02/22/97  
Date Analyzed-8020: 02/22/97  
Date Extracted-8015M(d): 02/23/97  
Date Analyzed-8015M(d): 02/24/97

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Surrogate % Recovery	78.	%	70-130
Total Petroleum Hydrocarbons (diesel)	None Detected	µg/L	200.
Surrogate % Recovery	101.	%	57-137

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015  
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

  
Stuart G. Buttram  
Department Supervisor



Purgeable Aromatics  
and  
Total Petroleum Hydrocarbons

RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292  
Attn: TARIQ AHMAD 310-578-1241

Date Reported: 02/25/97  
Date Received: 02/20/97  
Laboratory No.: 97-01869-4

Sample Description: ARAMARK-OAKLAND: RAO-4 SAMPLED BY T. AHMAD

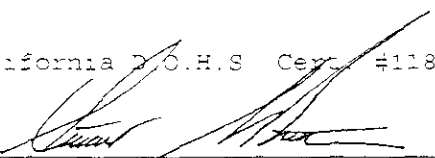
Sample Matrix: WATER

Date Collected: 02/18/97  
Date Extracted-8020: 02/22/97  
Date Analyzed-8020: 02/22/97  
Date Extracted-8015M(d): 02/23/97  
Date Analyzed-8015M(d): 02/24/97

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Surrogate % Recovery	78.	%	70-130
Total Petroleum Hydrocarbons (diesel)	None Detected	µg/L	200.
Surrogate % Recovery	80.	%	57-137

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015  
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

  
Stuart G. Buttram  
Department Supervisor

Purgeable Aromatics  
and  
Total Petroleum Hydrocarbons

RMT INC.  
4640 ADMIRALITY WAY  
SUITE 301  
MARINA DEL REY, CA 90292  
Attn: TARIQ AHMAD 310-578-1241

Date Reported: 02/25/97  
Date Received: 02/20/97  
Laboratory No.: 97-01869-5

Sample Description: ARAMARK-OAKLAND: BLANK


Sample Matrix: WATER

Date Collected: 02/18/97  
Date Extracted-8020: 02/22/97  
Date Analyzed-8020: 02/22/97

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Surrogate % Recovery	80.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015  
Individual constituents by EPA Method 5030/8020.

California D O H S. Cert #1186

  
Stuart G. Buttram  
Department Supervisor

APPENDIX C  
PRODUCT RECOVERY OBSERVATIONS

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	0	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	0	0	8.32	8.32	0.00
12-16-92	0	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
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

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)
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	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
09-15-94	0	525	8.93	8.93	0.00
09-22-94	5	305	8.97	8.99	0.02
09-30-94	0	420	8.86	8.86	0.00
10-07-94	0	550	8.74	8.74	0.00
10-14-94	0	520	8.80	8.80	0.00
10-21-94	0	520	8.88	8.88	0.00
10-28-94	0	525	8.90	8.90	0.00
11-04-94	0	550	8.00	8.00	0.00
11-09-94	0	520	7.99	7.99	0.00
11-18-94	80	430	8.05	8.15	0.10
11-25-94	130	300	8.00	7.99	0.01
11-30-94	30	260	7.94	7.95	0.01
12-09-94	30	480	8.03	8.07	0.04
12-16-94	30	120	7.96	7.99	0.03
12-22-94	20	500	8.06	8.09	0.03
12-29-94	80	360	7.71	7.73	0.02

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)
01-06-95	25	500	7.57	7.60	0.03
01-13-95	50	70	7.55	7.54	0.01
01-20-95	5	510	7.53	7.54	0.01
01-26-95	30	500	7.38	7.41	0.03
01-31-95	30	320	7.47	7.48	0.01
02-09-95	20	210	7.63	7.63	0.00
02-14-95	20	175	7.62	7.64	0.02
02-24-95	30	310	7.85	7.89	0.04
03-03-95	20	340	7.75	7.78	0.03
03-09-95	30	510	7.31	7.34	0.03
03-17-95	10	510	7.28	7.29	0.01
03-24-95	15	485	7.23	7.24	0.01
03-31-95	15	475	7.47	7.48	0.01
04-07-95	35	285	7.61	7.62	0.01
04-14-95	20	280	7.68	7.69	0.01
04-21-95	20	290	7.75	7.73	0.02
04-28-95	40	420	7.65	7.68	0.03
05-06-95	20	360	7.70	7.71	0.01
05-12-95	20	390	7.70	7.70	0.00
05-19-95	10	370	7.90	7.90	0.00
05-26-95	10	380	7.80	7.80	0.00
06-02-95	0	240	7.86	7.86	0.00
06-09-95	0	330	7.80	7.80	0.00
06-16-95	0	170	7.87	7.87	0.00
06-23-95	0	300	7.99	7.99	0.00
06-30-95	0	300	7.88	7.88	0.00
07-07-95	0	280	7.82	7.82	0.00
07-14-95	0	290	7.86	7.86	0.00
07-21-95	0	540	7.90	7.90	0.00
07-28-95	0	500	7.92	7.92	0.00
08-04-95	0	480	7.86	7.86	0.00
08-11-95	0	530	7.88	7.88	0.00
08-18-95	0	520	7.86	7.86	0.00
08-25-95	0	500	7.90	7.90	0.00
09-05-95	0	310	8.15	8.15	0.00
09-12-95	0	400	8.10	8.10	0.00
09-19-95	0	390	8.20	8.20	0.00
09-26-95	0	380	8.25	8.25	0.00

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)
10-03-95	0	385	8.15	8.15	0.00
10-10-95	0	230	8.42	8.42	0.00
10-17-95	0	240	8.39	8.39	0.00
10-24-95	0	250	8.40	8.40	0.00
10-31-95	0	255	8.44	8.44	0.00
11-07-95	0	260	8.42	8.42	0.00
11-14-95	0	400	8.43	8.43	0.00
11-21-95	0	420	8.48	8.48	0.00
11-28-95	0	480	8.50	8.50	0.00
12-05-95	0	400	8.55	8.55	0.00
12-15-95	0	550	8.40	8.40	0.00
12-22-95	0	490	8.36	8.36	0.00
12-29-95	0	570	7.85	7.85	0.00
01-05-96	0	560	7.82	7.82	0.00
01-12-96	0	480	7.52	7.52	0.00
01-19-96	0	460	7.54	7.54	0.00
01-26-96	0	450	7.53	7.53	0.00
02-01-96	400	1000	7.03	7.12	0.09
02-09-96	275	480	7.34	7.36	0.02
02-16-96	75	400	7.35	7.37	0.02
02-23-96	100	360	7.33	7.36	0.03
03-01-96	100	350	7.32	7.34	0.02
03-08-96	90	360	7.34	7.36	0.02
03-15-96	95	355	7.35	7.37	0.02
03-22-96	90	360	7.33	7.35	0.02
03-29-96	80	350	7.34	7.36	0.02
04-05-96	90	355	7.44	7.47	0.03
04-12-96	70	360	7.48	7.50	0.02
04-19-96	75	350	7.58	7.60	0.02
04-26-96	60	500	7.74	7.75	0.01
05-03-96	50	460	7.75	7.76	0.01
05-10-96	0	100	7.76	7.76	0
05-17-96	0	480	7.78	7.78	0
05-24-96	0	490	7.90	7.90	0
05-31-96	10	495	7.60	7.60	0
06-08-96	0	490	7.72	7.72	0
06-14-96	10	490	7.72	7.72	0
06-21-96	0	480	7.74	7.74	0



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)
06-28-96	0	490	7.76	7.76	0
07-05-96	0	485	7.75	7.75	0
07-12-96	0	495	7.76	7.76	0
07-19-96	10	400	7.90	7.90	0
07-26-96	0	425	7.85	7.85	0
08-02-96	0	420	7.90	7.90	0
08-16-96	0	430	7.82	7.82	0
08-30-96	0	450	7.80	7.80	0
09-13-96	10	550	8.15	8.15	0
09-27-96	0	500	8.20	8.20	0
10-11-96	0	525	8.30	8.30	0
10-25-96	5	545	8.28	8.28	0
11-08-96	0	500	8.26	8.26	0
11-22-96	0	525	8.10	8.10	0
12-06-96	0	500	8.20	8.20	0
12-23-96	0	540	7.92	7.92	0
01-03-97	10	510	7.46	7.46	0
01-16-97	50	500	7.36	7.38	0.02
01-31-97	240	250	7.13	7.17	0.04
02-14-97	100	300	7.25	7.26	0.01
<b>Total to Date</b>	<b>8,297</b>				

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APPENDIX D

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY LETTER

ALAMEDA COUNTY  
HEALTH CARE SERVICES  
AGENCY



DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, #250  
Alameda, CA 94502-6577  
(510) 567-6700 FAX (510) 337-9335

November 12, 1996  
STID 692  
page 1 of 2

Attn: Phil Krejci  
Aramark Uniform Services Inc.  
1827 Walden Office Square  
Suite 200  
Schaumburg IL 60173

RE: Aramark (formerly known as Aratex) site #516, 330 Chestnut St., Oakland CA 94607

Dear Mr. Krejci,

I understand that you have replaced Mr. Robert Robbins as our Aramark environmental contact. Since our last letter, dated 11/6/95, the following documents have been received in this office:

- 1) "Groundwater Monitoring and Product Recovery Progress Report," prepared by RMT, dated December 1995;
- 2) "Groundwater Monitoring and Product Recovery Progress Report," prepared by RMT, dated March 1996;
- 3) "Groundwater Monitoring and Product Recovery Progress Report," prepared by RMT, dated May 1996; and
- 4) "Groundwater Monitoring and Product Recovery Progress Report," prepared by RMT, dated August 1996.

Upon evaluation of the data, it appears that a reduction in sampling frequency/analytes is warranted. Wells RAO1, RAO2, and RAO4 should be sampled/monitored annually for TPH-d and BTEX. Annual sampling/monitoring should occur in the first quarter (January through March), so as to account for the seasonal high groundwater table. Well RAO3 should continue to be sampled (for TPH-d and BTEX) quarterly, if no free product is present. If free product is present, the thickness should be evaluated. Removal of free product should continue weekly, when present. Wells MW4 and MW5 may also be sampled/monitored annually for TPH-ss, TPH-k, TPH-d, and BTEX, assuming the 4th quarter results are similar to the previous quarters.

As per a telecon with Kevin Bate of RMT today, RAO3 will be remediated/oxygenated on a quarterly basis with a solution of 3.5 to 4.5% hydrogen peroxide. This well was reportedly remediated/oxygenated between 11/95 and 1/96, in an attempt to unclog the well screen. The volume of the product removed in February 1996 was greatly augmented. However, the product

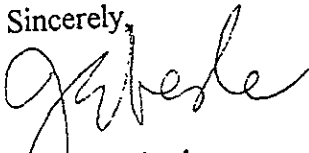
November 12, 1996  
STID 692  
Phil Krejci  
page 2 of 2

removed since May 1996 has greatly decreased. It is possible, if not likely, that the well screen has again become clogged with the viscous petroleum hydrocarbon compound.

Sampling reports may be submitted annually, and should include potentiometric maps. However, free product removal updates should be submitted quarterly, along with RAO3 sampling results.

If you have any questions, please contact me directly at 510-567-6761; our fax number is 510-337-9335. Your consultant is encouraged to submit reports on double-sided paper in order to save precious trees.

Sincerely,



Jennifer Eberle  
Hazardous Materials Specialist

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