

March 10, 1997

Ms. Jennifer Eberle Hazardous Materials Specialist Alameda County Environmental Protection Division 1131 Harbor Bay Parkway, Room 250 Alameda, CA 94502-6577

SUBJECT: FOURTH QUARTER 1996

GROUNDWATER MONITORING AND SAMPLING REPORT

2277 7TH STREET, OAKLAND

STID # 3899

Dear Jennifer:

Please find enclosed a copy of the First Quarterly Groundwater Monitoring Report: Fourth Quarter 1996, Building C-401, 2277 Seventh Street, Oakland, California, STID #3899, prepared on the behalf of the Port of Oakland by Uribe and Associates (Uribe). The report, dated February 24, 1997, addresses groundwater monitoring and sampling and product recovery activities that were performed by Uribe at Building C-401, 2277 7th Street, Oakland, California.

If you have any questions, please feel free to contact me at 272-1373.

Sincerely,

John Prall, R.G.

Associate Environmental Scientist

Enclosure

cc (w/enclosure): Don Ringsby, Dongary Investments

(w/o enclosure): Neil Werner



URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233 FAX 510-832-2237

ENVIRONMENTAL PROTECTION

ENGINEERING AND ENVIRONMENTA \$7 16410 NISPHIZT 3 ANG SERVICES

February 24, 1997

Mr. John Prall, R.G. Associate Environmental Scientist Environmental Health and Safety Compliance Department Port of Oakland 530 Water Street Oakland, California 94604-2064

Subject:

Quarterly Groundwater Monitoring Report: Fourth Quarter, 1996

Building C-401, 2277 Seventh Street, Oakland, California

STID 3899

U&A Project No. 207-01-10

Dear Mr. Prall:

Uribe & Associates (U&A) is pleased to provide the Port of Oakland (Port) this report documenting the results of quarterly groundwater monitoring conducted on December 3, 1996, at Building C-401, located at 2277 Seventh Street in Oakland, California (Figure 1). The monitoring included collecting depth-to-groundwater measurements and groundwater samples from on-site wells MW-2, MW-4, MW-5, and MW-7 (Figure 2). The monitoring also included removing floating liquid hydrocarbons ("product") from passive skimmer devices installed in wells MW-1 and MW-8. Well MW-6 was not sampled because floating liquid hydrocarbons were found in the well. An active skimmer is installed in well MW-3. An estimate of the amount of product removed from wells MW-1, MW-3, and MW-8 since November 15, 1996, the date the skimmers were installed, is included in this report.

This report is based, in part, on information obtained by U&A from the Port and is subject to modification as newly acquired information may warrant.

U&A Groundwater Monitoring

Groundwater Levels and Data

On December 3, 1996, U&A personnel measured the depth to groundwater in wells MW-2, MW-4, MW-5, MW-6, and MW-7. The measurements were made to the nearest 0.01 foot, referenced to the surveyed top-of-casing (TOC) elevations, and conducted according to the U&A standard operating procedures (SOPs) included as Attachment 1.



J. Prall Quarterly Groundwater Monitoring Report: Fourth Quarter, 1996 February 24, 1997 Page 2

Before purging, the depth to groundwater (DTW) in wells MW-2, MW-4, MW-5, MW-6, and MW-7 ranged from 6.41 to 9.62 feet below TOC. The groundwater temperature averaged approximately 62 degrees Fahrenheit and the pH averaged 6.7. The DTW measurements collected on December 3, 1996 are entered on the U&A Well Purging & Sampling Logs included as Attachment 2. The DTW measurements collected to date are summarized in Table 1.

Figure 3 is a potentiometric surface map of the shallow water-bearing zone for December 3, 1996, based on data summarized in Table 1. The groundwater beneath the site is interpreted to flow toward the north-northwest with a hydraulic gradient of approximately 0.03 feet per foot.

During purging of MW-6, evidence of product within the well was observed after approximately 3 gallons of water had been removed. As a result, further purging was halted and MW-6 was removed from the well sampling program. No evidence of product was found in the other four wells.

Groundwater Sampling and Analysis

Groundwater samples were collected from the four wells by U&A personnel on December 3, 1996. The samples were collected according to the U&A SOPs included in Attachment 1 and were submitted under chain-of-custody to Pace Analytical Services, Inc., of Petaluma, California, a state-certified analytical laboratory. The samples were analyzed for the following constituents:

- Total petroleum hydrocarbons (TPH) as diesel (TPH-D) and motor oil (TPH-MO) by modified EPA Method 8015.
- Total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by California LUFT Method.

The analyses indicated that the concentrations of TPH-G were below the method detection limit of 50.0 micrograms per liter (μ g/l) in the samples from MW-2, MW-5, and MW-7 concentration of TPH-G in the sample from MW-4 was 990 μ g/l. Concentrations of TPH-D for the samples collected from MW-2, MW-4, MW-5, and MW-7 were 230, 220, 200, and 280 μ g/l, respectively.

The concentrations of TPH-MO were below the method detection limit in all four samples collected. The concentrations of each of the BTEX compounds were below the method detection limits in the samples collected from MW-2, MW-5, and MW-7. In the sample from MW-4, the concentrations of BTEX were 350, 3.3, 1.3, and 1.3 μ g/l, respectively. The analytical results to date are summarized in Table 2. The laboratory analytical reports and chain-of-custody form are included as Attachment 3. Figure 4 is a distribution map of

J. Prall Quarterly Groundwater Monitoring Report: Fourth Quarter, 1996 February 24, 1997 Page 3

TPH-G, TPH-D, and benzene in groundwater for December 3, 1996, based on the data summarized in Table 2.

Floating Liquid Hydrocarbon Removal

On December 3 and 13, 1996, and on January 6, 1997, floating liquid hydrocarbons were removed from the passive skimmers that were installed in wells MW-1 and MW-8 on November 15, 1996. The volume of product removed from each skimmer was estimated based on the capacity of the skimmer's cylindrical reservoir of 25 milliliters per inch. In addition, an estimate was made of the volume of product that had been removed by the active skimmer installed in well MW-3. From the time the active skimmer system became operational on November 15, 1996, until the installation of a Baker tank on December 3, 1996, the system had been pumping product into a 55-gallon drum. The volume of product in the drum was estimated to be approximately 13 gallons. Product removal data are summarized in Table 2.

Remarks and Signature

This report is based on available information and was prepared in accordance with currently accepted geologic, hydrogeologic, and engineering practices. No other warranty is implied or intended. This report has been prepared for the sole use of the Port of Oakland and applies to the subject site only. Use of this report by third parties shall be at their sole risk.

The work reported herein was conducted under the direct supervision of the California Registered Geologist whose signature appears below.

We appreciate the opportunity to provide the Port of Oakland with geologic, engineering, and environmental consulting services, and trust this report meets your needs. If you have any questions or concerns, please call us at (510) 832-2233.

Sincerely,

URIBE & ASSOCIATES

Douglas I. Sheeks, R.G. Senior Geologist

CRG No. 5211

Attachments

List of Attachments

Figures:

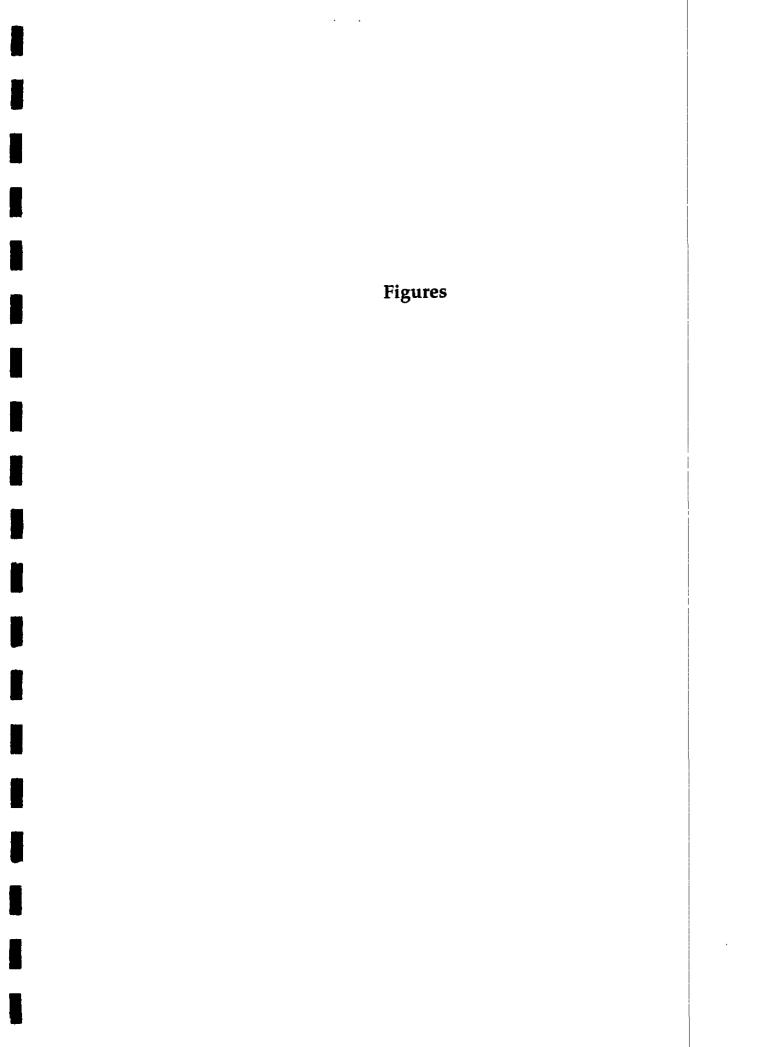
- 1 Site Vicinity Map
- 2 Site Plan
- 3 Potentiometric Surface Map: December 3, 1996
- Distribution Map of TPH (as Gasoline, Diesel, and Motor Oil) and BTEX in Groundwater:
 December 3, 1996

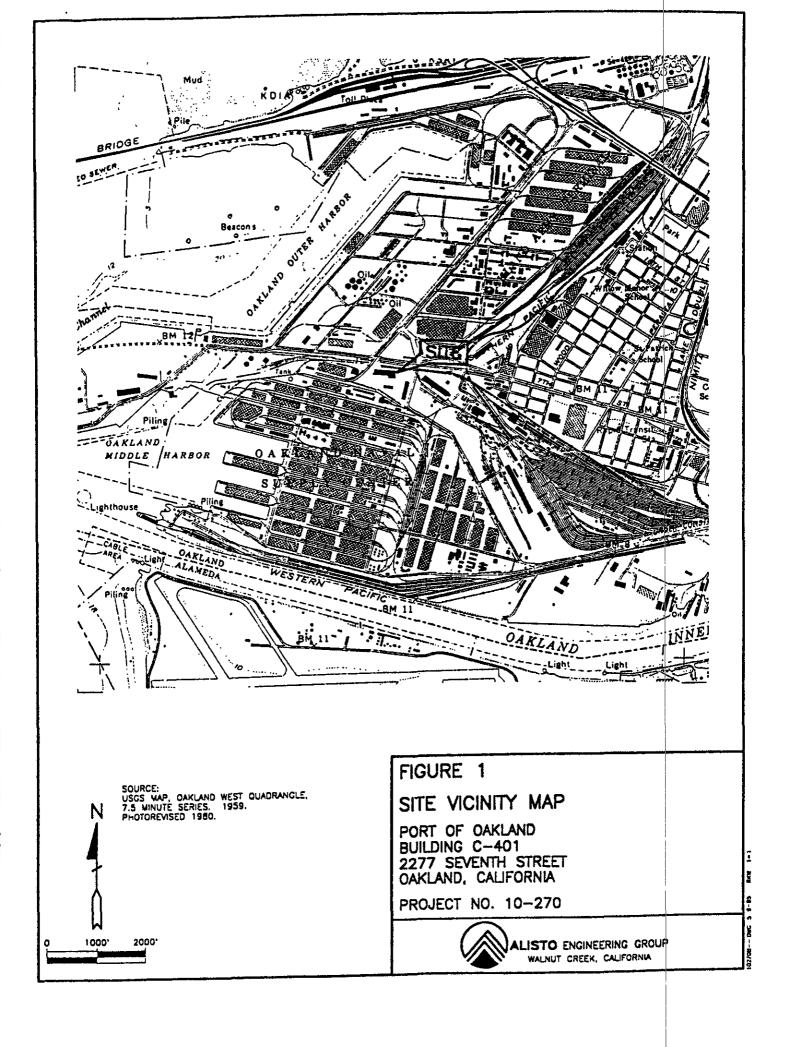
Tables:

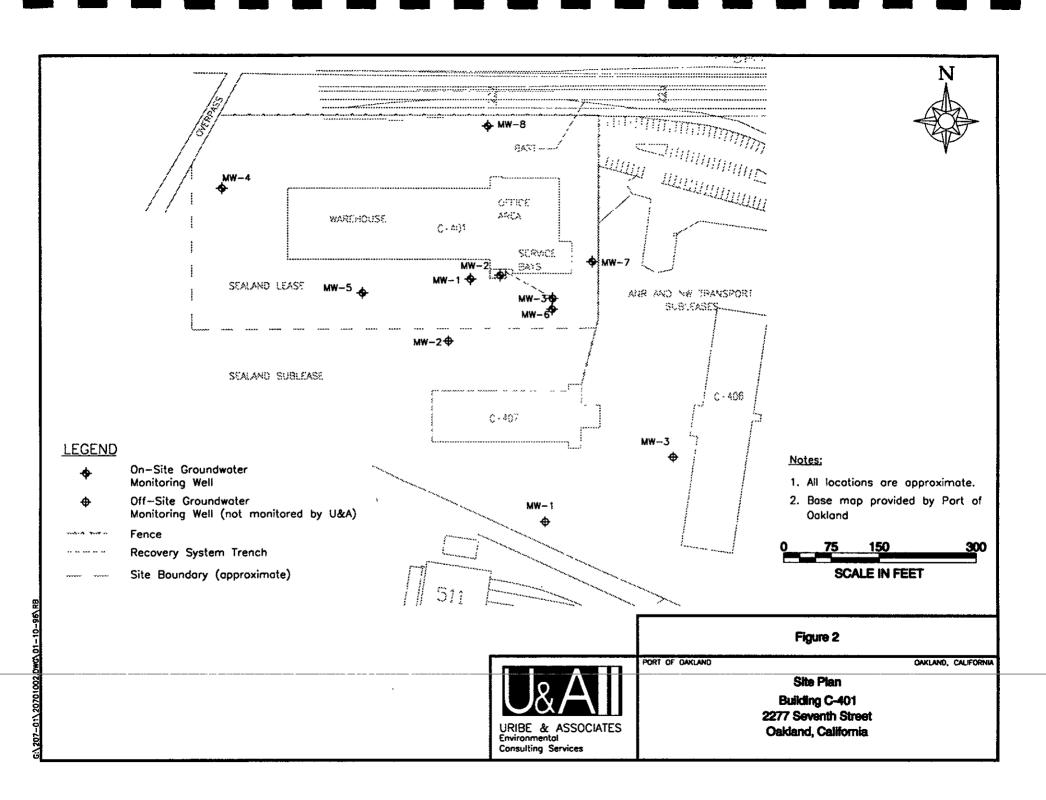
- 1 Groundwater Elevations/Product Removal Data
- 2 Results of Groundwater Sampling

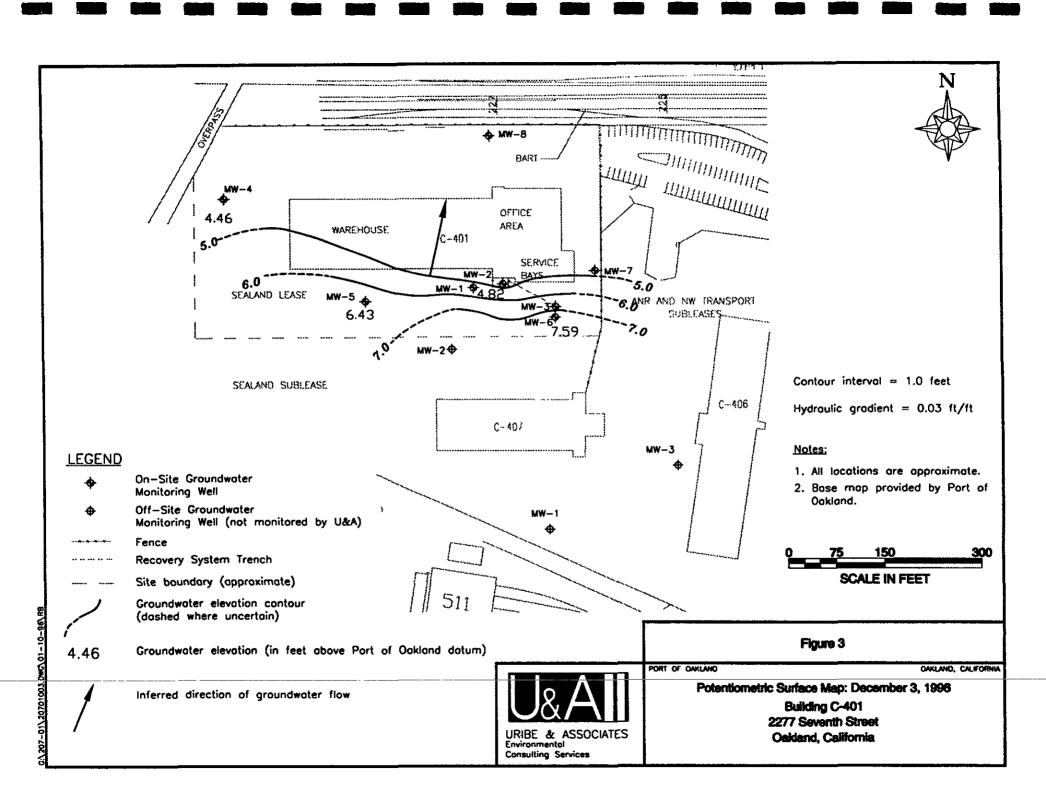
Attachments:

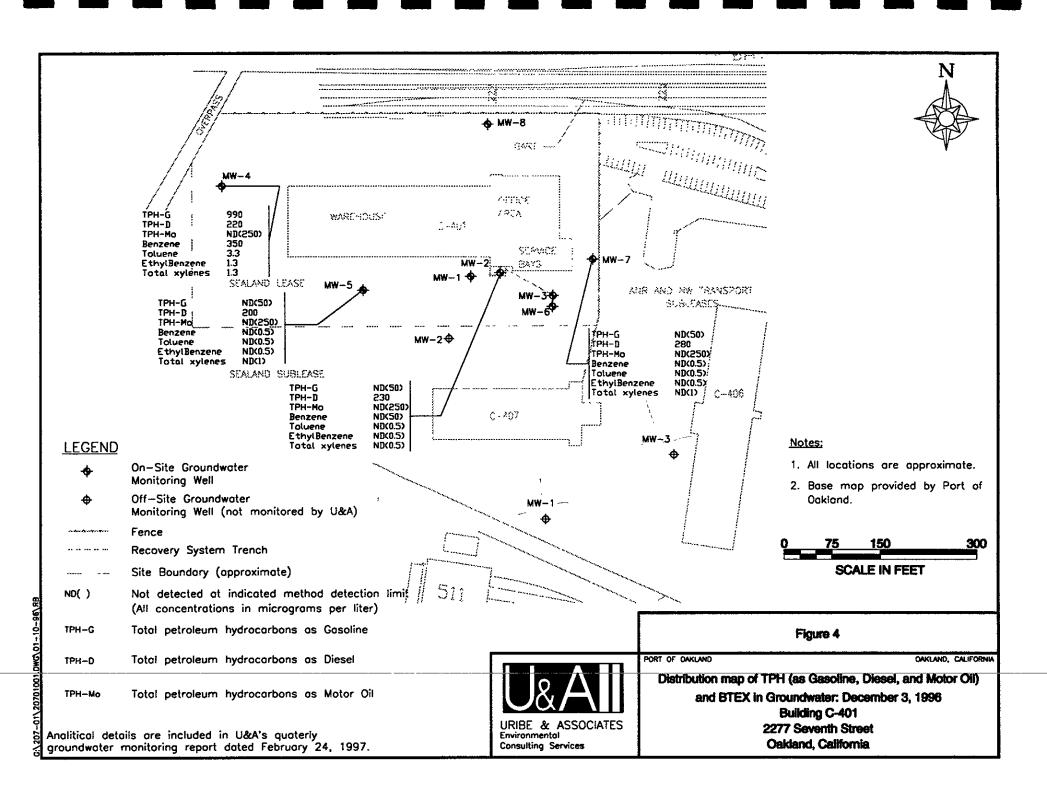
- 1 U&A Standard Operating Procedures
- 2 U&A Well Purging & Sampling Log
- 3 Laboratory Analytical Reports and Chain-of-Custody Forms
- 4 Product Removal/Recovery Data forms











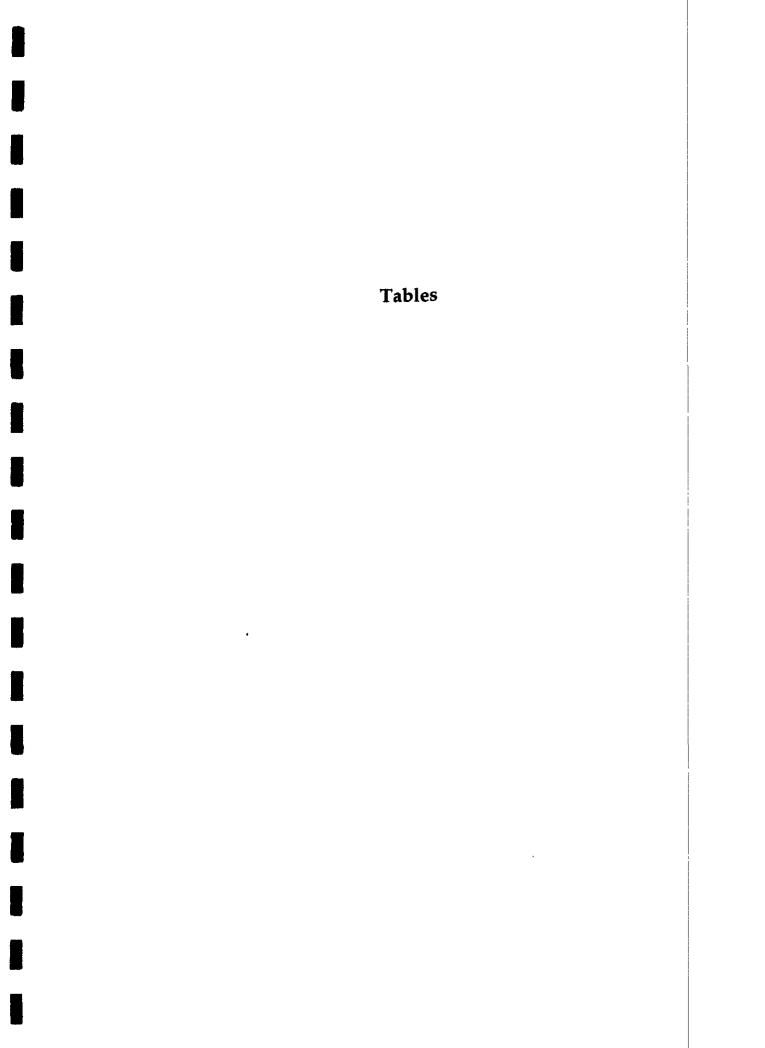


Table 1 Groundwater Elevations/Product Removal Data Port of Oakland 2277 Seventh Street, Oakland, California

(Page 1 of 3)

				(Page I					
		Top of					Estimated		
		Casing	Depth to	Depth to	Product	Groundwater	Product		
1		Elevation 1	Product	Water	Thickness	Elevation ²	Removed	Product	Removal
	5.		(feet)	(feet)	(feet)	(feet)	(gallons)	Met	hod
Well	Date	(feet)	(lect)	(iect)	(ICCI)	(1001)	NB		
	3/20/06	14.14	7.50	7.67	0.17	6.61			
MW-L	3/29/95	14.14	7.50 8.68	9.45	0.77	5.31			
	9'6'95		8.74	9.85	1.11	5.18			
	9 28 95		8.74 8.51	9.04	0.53	5.52			
	12 27/95		8.67	9.15	0.48	5.37			
	1 '8 '96		8.07 8.25	8.50	0.25	5.84			
	4/4/96		8.23 8.70	9.52	0.82	5.28			
1	7'10 96			9.52			0.1	passive	skimmer
ł	12/3/96	}				} <u></u>	0.23		skimmer
	12 13 96					ļ	0.08		skimmer
	1 6′97				_ 	i			
						. 25			
MW-2	5 27 94	14.36		8.01		6.35			
	3 29 95			7.47		6.89	1		
	9 6 95			9.04		5.32			
	9/28/95		ľ	7.47	Į	6.89	ł	}	
	12/27/95	1		8.95	1	5.41			
	1′8 96			8.95		5.41			
	4'4'96			8.46	}	5.90		,	
	7′10′96			9.03		5.33			
	12'3'96			9.54		4.82			
	<u> </u>				2.02	6.07			
MW-3	3 29/95	14.22	6.66	9.59	2.93	6.97	1		
	9 6 95		8.48	13.70	5.22	4.70	1		
	9 '28 '95		7.80	13.60	5.80	5.26			
	12'27'95		8.01	12.71	4.70	5.27	1		
	1/8/96		8.16	13.10	4.94	5.07			
	4 4 96		7.10	11.50	4.40	6.24			
	7'10'96	ļ	7.94	13.28	5.34	5.21	1		4!
}	10 3/96	1	8.62	14,45	5.83	4.43	25		tic pump
ļ	10/10/96		8.77	14.46	5.69	4.31	25		tic pump
	10/18/96		8.85	14.54	5.69	4.23	25		tic pump
	10/25/96		8.74	14.43	5.69	4.34	20		tic pump
]	11/1/96		8.85	14.41	5.56	4.26	20		tic pump
	118/96		8.82	14.50	5.68	4.26	25	1 -	tic pump
	12/3/96	1					13		skimmer
	12/13/96								skimmer
	1 '6 '97	Ì					750	active	skimmer
			<u> L</u>	<u> </u>	<u> </u>		1	<u>. </u>	

Table 1 Continued Groundwater Elevations/Product Removal Data Port of Oakland

2277 Seventh Street, Oakland, California (Page 2 of 3)

NW-4 Date Clear Depth to Elevation Product (feet) Depth to Product (feet) Pr					(Page /	010)				
Well Date Clevation Product (feet) Water (feet) Clevation			Top of					Estimated		
Well Date (feet)			Casing	Depth to	Depth to		I			_
Well Date (feet) (feet) (feet) (feet) (feet) (feet) (gallons) Method MW-4 3 29'95 9'6'95 9'6'95 9'5 9'6'95 9'19'5 9'11'95 9'19'5 9'11'95 9'19'5 9'11'95 9'11'95 9'19'5 9'11'95 9'19'5 9'11'95 9'1			Elevation ^t	Product	Water					
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MW-6 9 6 95 9 11 95 9 12 27 95 1 8 96 4 4 96 7 10 96 1 2 3 96 MW-5 9 6 95 9 11 3.49 9 6 95 9 12 27 95 4 4 96 7 10 96 1 2 3 96 MW-6 9 6 95 9 12 27 95 1 4 96 7 10 96 1 2 3 96 MW-6 9 6 95 9 1 14.00 1 2 3 96 MW-6 9 6 95 1 2 7 96 1 8 96 1 8 96 4 4 96 7 10 96 1 2 3 96 MW-7 9 6 95 1 2 7 96 1 8 96 1 8 96 4 4 96 7 10 96 1 8 96 1 8 96 1 8 96 1 8 96 1 8 96 1 8 96 1 2 3 96 MW-7 9 6 95 12 27 96 1 8 96 1 8 96 1 8 96 1 2 3 96 MW-7 9 6 95 1 2 27 96 1 8 96 1 8 96 1 8 96 1 4 96 7 10 96 1 2 3 96 MW-7 9 6 95 1 2 27 96 1 8 96 1 8 96 4 4 96 7 10 96 1 8 9										
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	1	1			9.11					
					9.62		4.73			

Table 1 Continued Groundwater Elevations/Product Removal Data Port of Oakland 2277 Seventh Street, Oakland, California

(Page 3 of 3)

W'ell	Date	Top of Casing Elevation ¹ (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation ² (feet)	Estimated Product Removed (gallons)	Product Removal Method
N1W'-8	9 6/95 9 28/95 12 27/96 1 8/96 4 4/96 7 10/96 12 3/96 12 13/96 1 6 97	12.94	8.79 8.30 8.35 8.32 9.41 	7.84 8.91 8.61 8.80 8.37 9.44	0.12 0.31 0.45 0.05 0.03 	5.10 4.13 4.58 4.50 4.61 3.52 	0.003 0.007 0.007	passive skimmer passive skimmer passive skimmer

Notes:

--- - not measured/not estimated

Measurements on 12/3/96, 12/13/96, and 1/6/97 by U&A; all other measurements listed from Alisto Engineering Group (1996).

¹ Top of Casing (TOC) Elevations from Groundwater Monitoring and Sampling Report by Alisto Engineering Group, dated September 12, 1996. TOC elevations surveyed to nearest 0.01 foot relative to mean lower low water (Port of Oakland Datum: 3.2 feet below mean sea level).

Groundwater Elevation corrected for the presence of floating product according to the formula:

CDTW = DTW - (0.80 x PT), where CDTW is the corrected depth to groundwater, DTW is the measured depth to groundwater, 0.80 is the density correction factor for diesel, and PT is the measured thickness of floating product.

Table 2 **Groundwater Analytical Results** Port of Oakland 2277 Seventh Street, Oakland, California

		Analyte (μg/l)									
Well	Date	трн-С	TPH-D	ТРН-МО	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Lab		
MW-2	5·27/94	87	470	na	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	D&M		
	3·29/95	ND(50)	110	1400	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC		
	9·6·95	ND(50)	na	na	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC		
	1·8·96	ND(50)	ND(50)	1200	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC		
	4·4·96	ND(50)	160	320	ND(0.50)	ND(0.50)	ND(0.50)	ND(1)	PACE		
	7·10/96	ND(50)	120	1400	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC		
	12·3/96	ND(50)	230 ^{1.2}	ND(250)	ND(50)	ND(0.50)	ND(0.50)	ND(0.50)	PACE		
MW-4	9/11/95	150	ND(200)	500	23	ND(0.3)	ND(0.3)	ND(0.4)	CEC		
	1/8/96	790	90	400	170	1.2	0.6	0.6	CEC		
	4/4/96	1100	180	300	320	1.6	1.1	1.2	PACE		
	7 10/96	1200	120	300	470	1.5	0.8	0.8	CEC		
	12/3/96	990	220 ^{1,2}	ND(250)	350	3.3	1.3	1.3	PACE		
N1W-5	9 11/95	90	ND(300)	2500	3.3	ND(0.3)	ND(0.3)	ND(0.4)	CEC		
	4/4/96	ND(50)	180	520	ND(0.50)	ND(0.50)	ND(0.50)	ND(1)	PACE		
	7/10/96	ND(50)	120	1500	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC		
	12/3/96	ND(50)	200 ^{1.2}	ND(250)	ND(0.50)	ND(0.50)	ND(0.50)	ND(1)	PACE		
MW'-6	1/8/96	480	11000	6100	15	1.9	9.7	5.2	CEC		
	4/4/96	440	6100	1200	16	0.97	3.9	3	PACE		
	7/10/96	550	8300	5500	16	0.9	3	2.7	CEC		
	12/3/96	na	na	na	na	na	na	na	PACE		
MW'-7	9/6/95 1/8/96 4/4/96 7/10/96 12/3/96	ND(50) ND(50) ND(50) ND(50) 80 ND(50)	ND(300) 410 530 840 280 ^{1,2}	800 110 340 1700 ND(250)	ND(0.4) ND(0.4) ND(0.50) ND(0.4) ND(0.50)	ND(0.3) ND(0.3) ND(0.50) ND(0.3) ND(0.50)	ND(0.3) ND(0.3) ND(0.50) ND(0.3) ND(0.50)	ND(0.4) ND(0.4) ND(1) ND(0.4) ND(1)	CEC CEC PACE CEC PACE		

Notes:

TPH = total petroleum hydrocarbons; as gasoline (G), diesel (D), and motor oil (MO)

ug 1 = micrograms per liter

ND () = not detected at indicated method detection limit

Samples collected on 12/3/96 by U&A; all other data from Groundwater Monitoring and Sampling Report by Alisto Engineering Group, dated September 12, 1996.

D&M - D&M Laboratories/CEC = Clayton Env. Consultants, Inc./PACE = Pace Analytical Services, Inc.

Analyte found in the associated blank as well as in the sample

² Hydrocarbons present do not match profile of laboratory standard na = not analyzed

Attachment 1 U&A Standard Operating Procedures

CHAIN-OF-CUSTODY PROCEDURES

Sample Handling

All soil and water samples will be labeled with the sample number, date, company name, preservative used, and sampler's initials. A chain-of-custody form will then be filled out including the time and date of the sample, the sample number, the number of containers for each sample, the analysis required, and any distinguishing comments or laboratory notifications. The chain-of-custody form will remain with the samples at all times during transportation and storage.

Transfer of Custody to Laboratory

The chain-of-custody will be signed and dated by the sampler when relinquished to the laboratory. The laboratory courier or sample receiver will also sign and date the chain-of-custody.

GROUNDWATER SAMPLING FROM WELLS

Groundwater samples for chemical analysis will be collected according to the following procedure:

All purging and sampling equipment will be decontaminated prior to use.

Upon arrival at the site, the wells will be located and opened up, to allow for equilibration with the atmosphere. The monitoring well is first checked for floating product with a dual interface probe. Water or liquid-level measurements will be collected, to the nearest one hundredth of a foot (0.01 foot). If a probe is not available, a clear plastic bailer may be used to check for product. The volume of water in the well casing will be calculated and three to five casing volumes of water will be evacuated. The well will be bailed or pumped to remove the correct volume of water. Stabilization parameters, temperature, conductivity and pH, will be monitored. For wells with extremely low flow rates, i.e., less than 0.01 gallon per minute (gpm), the well will be bailed dry and allowed to recover overnight, and then sampled.

Once the well has been purged, samples will be collected with a bailer and transferred to appropriate sampling vials or bottles. Samples will be labeled and placed in a cooler, cooled to 4°C and transported to the analytical laboratory under chain-of-custody. Purge water will be stored on-site pending analytical results, and then property disposed of.

Attachment 2 U&A Well Purging & Sampling Logs

SITE LOCATIONS	14				WELL NUM	SER:		PAGE 1 OF	
227	7 71	<u>st, (</u>	DaKlau		Well Type	MW-Z (MONITORING, EXTRACTION	i, etc.):		······
DATE(S); 2/	3/96				V	ENT REFERENCE DATUM	9		
					MEASUREM	ENT REFERENCE DATUM.	-		
disp	, baile	· ·							
DATA FRO	M IMMEDIATI	ELY BEF	ORE AND AF	TER DE	VELOPA	MENT:			
Dooth to wa	ater measured	from TO	C (ft): Before	Purging	: 9.	54	- { After Pt	nging.	a
Debai io mo	161 1110000.02		bottom .	Twe	u: _	54 15.17	L After sa	mpling: 12 · /	1
Total nurnir	sa time (MID):								
Depth to se	diment in well	(ft) Befor	e purging: _	· · · · · · · · · · · · · · · · · · ·		After po			
	Time Since		Cumulative		,,	PARAMETERS	1		
	Purging Started (min)	Time	Volume Removed	Temp		Conductivity (pmhos/cm)	Turbidity (NTUs)	Other	
Initial		10:15	2.7 901	58.4	6.30	2.21 × 106 0			
During									_
During					ļ				
During					<u> </u>				
During						<u> </u>			
During				ļ	 				
During					ļ				
After	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>			
	*CL = cl	ear	CO = cloudy		= turbid	. 17			
					II Samp				
Sample #:					tered?-	ace			<u> </u>
	Type:3Vo	(5,20	mber.	5 I			A 144 - 45	TO 18 4 1 =	72.42
Preservati	/		101			equested: TPH-	•		1DX
Comments	Related to Sa	ample: L	sell v	olu	me:	= 0.9 gal	IMS		
~1.	ondy	50	mple	<u>_</u> ယ	1 0	smal	1 am	out	~
	Sed i				shee		Lor		· · · · · · · · · · · · · · · · · · ·
	300			<u> </u>					
				·					
									
				0			For	nulas/Conversio	ns
1	,		ty Control	sample	.		r = well ra	dius in feet	A/
	d Sample Info:			<u></u>			Vol. of col.	water col. in feet	~ W.W ~
	nple info:						7.48 gal <i>J</i> fl	.3	
Duplicated Blank San							V ₂ casing	= 0.163 gal /ft. = 0.367 gal /ft.	
	nple Info:						11 . 1		
Blank San	nple Info:							= 0.653 gal /ft.	
Blank San	nple Info:						V. casin	= 0.653 gal./ft. g = 0.826 gal./ft. = 1.47 gal./ft.	,

					WELL NUMBE	A: .		PAGE _ G _ OF .	
E LOCATION:	7 7	th St	, Dakla	nd		MN-4			
TE(5): /			7	,	WELL TYPE,	MONITORING, EXTRACTION,	ETC.):		
12	3/96				MEASUREME	IT REFERENCE DATUM			
	baile			•					
					·············				
ATA FROM	A IMMEDIATE	ELY BEFO	ORE AND AF	TER DE	VELOPM	ENT:	•		
epth to wat	ler measured	from TO	C (ft): Before	Purging	well	.69 1: 14.78	- { After san	npling: 9.83	-
otal purgin	g time (min): _					After pu	raina:		
epth to sec	iment in well	(ft) Befor	e purging:						
F	Time Since		Cumulative			PARAMETERS			
	Purging Started (min)	Time	Volume Removed	Temp		Conductivity (pmhos/cm)	Turbidity (NTUs)	Other	
Initial	 	3.43	4.9006	63.5	6.93	1.36×1000	 		
During			J	<u> </u>	<u> </u>				
During							ļ		
During							 		
During						·	 		
During		T							
During		T					4		
After		Ī		<u> </u>	<u> </u>		1		
	*CL = ck	ear	CO = cloudy	TU	= turbid				
					II Samp				
Sample #:	MW4-1	2-90	, ,	L	ab: Pa	00			
	Type: 3UA					/N: N			
Preservativ	ves: HC	<u> </u>	1 M 1	A	nalysis R	equested; TH-0	-/BTEX	TPH-0	MO
Comments	Related to Sa	ample:	<u> </u>	./. 1.		= 1.6 ga			
Comments			Mell	Valu	me	orod	/ a. ^		
don	ey, b	mw	M, ω	0 54	Leen	6Y 00	- OY		
•	0,					·			
									
		Ouel	ity Control	Sample	 s:			nulas/Conversio	ns
	A Canada Infer		ny outlier					dius in feet water çol. in feet	. 1
							vol. of col.	= x r20	- ***
	npie info:		<u>,, </u>				7.48 gal./fi	t.3 0 163 gal /ft	
Blank San							2 casing	= 0.163 gal./ft.	
Blank San	n ple info:		<u> </u>				T] Va casing	≈ 0.307 gaji/iti	
Duplicated Blank San Other San	nple Info:		<u> </u>				V, casing	= 0.367 gal./ft. = 0.653 gal./ft. g = 0.826 gal./ft.	,′

URA! UNBE	& Associates En	VIRONMENTAL	AND ENGINEERIN	3 CONSULTA	ig Services	•	PROJE	T NO., 20-1-01	(V)
We	ell Purgi	ng & 9	Samplin	g Log	;				
			•					PAGE 4 _ OF	5
SITE LOCATION:		4.01	n.rla		WELL NUMB	er: MW-5			
	7 711	<u> </u>	DANIA	na	WELL TYPE,		, etc.):		
DATE(S): 2/	3/16				M	(MONITORING, EXTRACTION, ON TO YOU ENT REFERENCE DATUM:			
URGING EQUPM	ENT:	- ^			MEASUREME	ENT HEFERENCE DATUM			
disp	ba.	ev							
DATA FROI	MIMMEDIATI	ELY BEF	ORE AND AF	TER DE	VELOPN	MENT:			
. 41. 4	moscured	from TO	C (ff): Before	Puraina	:	1.06 _18.10	_ f After Pt	riging:	
Depin to wa	liti illeganiea	THOM TO	60-Hom	ofu	١٥٤(١٠	18.10	{ After sa	impling: 1 73	<u>-</u>
Total nuccin	a time (min):								
Depth to se	diment in well	(ft) Befor	e purging: _			After pu	rging:		_
	Time Since					PARAMETERS			
	Purging	Time	Cumulative Volume	F	ρН	(MS/cm) Conductivity	Turbidity	Other	1
	Started (min)		Removed	Temp (≫	Pri	(umhos/cm)	(NTUs)		
Initial	 	2:45	5.492(63.7	6.80	2.57×1000			
During	 		7						
During	1								
During							ļ		
During									
During				<u></u>			<u> </u>		
During		<u> </u>			<u> </u>	<u> </u>	-		-
After		<u> </u>	<u> </u>	L	<u> </u>		<u></u>		
	*CL = cl	ear	CO = cloudy		= turbid			<u></u>	
					II Samp b:				
Sample #:			.96		tered?-\	Pace			
	Type: 310	AS	2 genbe	/S				45.0	
Preservativ	400		me	^^	ialysis n	1747		x, TPH-1	ymo.
Comments	Related to Sa	ample:	well	Jalu	me	= 1.8 ga	<u> </u>		
1101	du		W. 91		N	sheen	٥,٢	oder	
			- U						
				 					
							· · · · · · · · · · · · · · · · · · ·		
							For	nulas/Conversio	ns
			ty Control	amples	5:		r = well ra	dius in feet	1
	Sample Info:					<u></u>	th = ht. of v	water col. in feet	- ~ 1
Blank Sam				<u></u>			7.48 gal/fi	լ3	
Other Sam	nple Info:					<u> </u>	V ₂ casing	= 0.163 ga/./ft. = 0.367 ga/./ft.	
							V casing	= 0.653 gal./ft.	
<u> </u>				•			V _{4.5} casing	g = 0.826 gal./ft. = 1.47 gal./ft.	
	. 7.			<u> </u>			V. casing	= 2.61 gal./ft.	
		4						: 6403 (201)	

RA URISE	& Associates En	VIRONNENTAL	AND ENGINEERING	CONSULTIN	3 SERVICES		Project	1 No.: 207-01		
We	ell Purgii	ng & S	Sampling	g Log				PAGE Z OF	5	
SITE LOCATION;	77 .	1449	t, Dak	land v	VOL NUMBE	MW-4 MONITOPHIA, EXTRACTION	, ETC.):			
12	3/16				W MEASUREMEN	T REFERENCE DATUM	25			
Рипана Есири	sp. bail	o s		,	_		······································			
<u> </u>	74. 29.11			************	/EI ORM	CMT.				
DATA FROM	A IMMEDIATE	ELY BEFC	HE AND AF	TER DE	VELOPIN	C. 41	r After Pu	reing.		
Depth to wa	ter measured	from TOO	(ft): Before	Purging:	<u>e 11:</u>	6.41	_ { After sar	npling:	_	
→ _4_1io	a tima (min).		_						:	
Depth to se	llew ni tnemit	(ft) Before	a purging: _			After pu	irging:		_	
	Time Since				1	PARAMETERS				
	Purging Started (min)	Time	Cumulative Volume Removed	Temp (29)	рΗ	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other		
Initial		11:15	5.7 st	و			 			
During			× 70	P						
During			. ,				<u> </u>			
During	Puning .									
During		ļ								
During		<u> </u>								
During		 								
After	*CL = ck		CO = cloudy	TU:	= turbid					
	-CL = C				Samp	ling				
Sample #:	ND Sa	111 1/4	e tate	en La	b:					
Container		· · · · · ·		Fil	tered?-Y	/N:				
Preservativ	/88:				_	equested:				
Comments	Related to Sa	ample:	2011	1110	Me	= 1.9 ga u ouse ns	(
		1	<u> </u>	<u>/ • • •</u>	ila e e	a suse	rved	after		
+ve	e prod	LUCI.	<u>wen</u>		1/.					
pur	giry_	5 99	TOX.		AIIO	7/2				
							····			
<u>L</u>	. <u></u>						Form	nulas/Conversio	ns	
			y Control S	samples	31		r = well rac	dius in feet	4/	
· · · · · · · · · · · · · · · · · · ·	Sample Info:						h = ht. of w	vater col. in feet = π r ²¹	- 4-10	
Blank Sarr	ple Info:						7.48 gal./ft	.3		
Other San	nple Info:						V ₂ casing	= 0.163 gal./ft. = 0.367 gal./ft.		
[]							V, casing	= 0.653 gal /ft.		
11							111/ " .	A AAA		
	<u></u>			•			- V. casing	j = 0.826 gal./ft. = 1.47 gal./ft. = 2.61 gal./ft.		

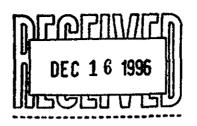
URIGE	& Associates Env	MONNEYAL	AND ENGINEERING	CONSULTIN	IG SERVICES	i .	Projec	t No.: 207-01	106
We	ell Purgir	ng & S	Sampling	g Log)			PAGE 3_ OF _	5
SITE LOCATION:	- N. C				WELL NUMB	ER: MW	-7		
2277	1 7th 5 3 19 C	1,0	aklam	<u>a </u>	WELL TYPE,	(MONITORING, EXTRACTION,	ETC.):		
DATE(S) 2/3	196				h	NOW TOVE	<u> </u>		
					Measupeme	INT REFERENCE DATUM			
NHON.	Horing	di	<u>p 54.</u>	104					
COOL	A INAMEDIATE	I Y BEF	ORE AND AF	TER DE	VELOPN : 4	1.62 1628	- { After Pu	rging: 1 mpling: 9.78	-
	- Name (min)								
Depth to see	diment in well	(ft) Befor	e purging: _			After pu	· y · · y · · · · · · · ·		_
	Time Since		Cumulative			PARAMETERS	<u></u>		
	Purging Started (min)	Time	Volume Removed	Temp (%)	рН	M 9 /CM. Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	<u> </u>
Initial		1:50	4.2 901	62.3	6.10	2.3×1000	 		_
During					<u> </u>		 		
During					<u></u>		<u> </u>		
During									
During									
During									
During							 		
After				<u> </u>	<u> </u>				_1
	*CL = cl	981	CO = cloudy	TU	= turbid				
				We	li Samı	oling			
Sample #:	MW7-	17,	-96	1	ab:	Pace			
	Type: 3 Vo			rs Fi	itered?-	Y/N: N			
Preservation			me	A	nalysis F	Requested: TPH-(FIBTE	X TPHED	Mo
Į.	\sim	omole:	AICC		/	- 14	Gal	7	
Comments	Related to S	anpie.	well	100	ww	<u>Le = 1.1.</u>	9 ~~	- odor	
do	udy,	20	<u> </u>	(re	<u>d</u> ,	ne = 1.4 no she	in ov	0 0 0 0 1	
				·					
<u> </u>						•			
<u> </u>							7 6~-	nulas/Conversion	s
		Quali	ty Control	Sample	s:		r = well ra	dius in feet	≖ ^/
Duplicated	Sample Info:						h = ht. of y	water col. in feet	<i>الل</i> م .
					•		vol. of col.	t. ³	
Other San							V _a casing	= 0.163 gal./ft.	
Other San	ipie ilio.						V casing	= 0.367 gal./ft. = 0.653 gal./ft.	
Blank San Other San							□IV. casin	a = 0.826 gal/ft.	
			<u> </u>	<u> </u>			V casing	= 1.47 gal./ft. = 2.61 gal./ft.	
							V _s casing	= 2.61 gal./ft.	
[L							V	C 6463 21/.	

Attachment 3

Laboratory Analytical Reports and Chain-of-Custody Form

Tel: 707-792-1865 Fax: 707-792-0342

December 12, 1996



Mr. Nicole Peirce Uribe & Associates 2930 Lakeshore Ave. Suite 200 Dakland. CA 94610-3614

RE: PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

Dear Mr. Peirce:

Enclosed are the results of analyses for sample(s) received on December 4, 1996. If you have any questions concerning this report, please feel free to contact me.

Sincerely.

Ron Chew Project Manager

Enclosures

Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

PAGE: 1

Uribe & Associates

930 Lakeshore Ave. Suite 200

Dakland, CA 94610-3614

PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

Attn: Mr. Nicole Peirce Phone: (510)832-2233

PACE Sample No: Client Sample ID:	70812649 MW2 · 12 · 96			Date Collect		2/03/96 2/04/96			
Parameters		Results	Units	PRL	Analyzed	Hethod	Analys	t CAS#	Footnotes
SC Volatiles		*********	*******						
GAS/BTEX by CA LUFT.	Water						400		
Gasoline		ND	ug/L	50	12/06/96		ADS		
Benzene		NO	ug/L	0.5	12/06/96		ADS	71-43-2	
Toluene		NO	ug/L	0.5	12/06/96	ca luft	ADS	108-88-3	
Ethylbenzene		ND	ug/L	0.5	12/06/96	CA LUFT	ADS	100-41-4	
		ND	ug/L	1	12/06/96	CA LUFT	ADS	1330 - 20 -	7
Xylene (Total) a,a,a-Trifluorotol	(2) equi	96	X	_	12/06/96	CA LUFT	ADS	2164 - 17 -	2 .
4-Bromofluorobenze		84	*		12/06/96	CA LUFT	ADS	460-00-4	Į.
GC TPH in Water by 8015									
TPH in Water by 8015	modified	0.00	ma/l	0.05	12/11/96	TPH by EPA 8015H	WSN	11 - 84 - 7.	1.2
Diezel Laci		0.23	mg/L	• •	12/11/96		WSN		-
_ Motor 011		NO	mg/L	0.25		-	WSN	629-99-2	,
n-Pentacosane (S)		106	*		12/11/96		M-714	VEJ JJ L	
Date Extracted					12/06/96				

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services. Inc

Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

PAGE: 2

PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

PACE Sample No: Client Sample ID:	70812656 MW7 • 12 • 96			Date Colle Date Rece		2/03/96 2/04/96			
Parameters		Results	Units	PRL	Analyzed	Method	Analys	t CAS#	Footnotes
GC Volatiles GAS/BTEX by CA LUFT. Gasoline Benzene Toluene Ethylbenzene Xylene (Total) a,a,a-Trifluorotol 4-Bromofluorobenze	uene (S)	ND ND ND ND ND 95	ug/L ug/L ug/L ug/L ug/L %	50 0.5 0.5 0.5 1	12/06/96 12/06/96 12/06/96 12/06/96 12/06/96 12/06/96	CA LUFT CA LUFT CA LUFT CA LUFT CA LUFT	ADS ADS ADS ADS ADS ADS ADS	71-43-2 108-88-3 100-41-4 1330-20-7 2164-17-2 460-00-4	
GC TPH in Water by 8015 Diesel Fuel Motor 0il n-Pentacosane (S) Date Extracted	Modified	0.28 ND 99	mg/L mg/L *	0.05 0.25	12/11/96 12/11/96 12/11/96 12/06/96	TPH by EPA 8015M	WSN WSN	11-84-7 629-99-2	1,2

REPORT OF LABORATORY ANALYSIS

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Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

PAGE: 3

PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

Time applie	70812664 N/5-12-96			Date Collect		2/03/96 2/04/96			
Parameters		Results	Units	PRL	Anal yzed	Hethod	Anal yst	CAS#	Footnotes
GC Volatiles GAS/BTEX by CA LUFT, I Gasoline Benzene Toluene Ethylbenzene Xylene (Total) a.a.a-Trifluorotolu- 4-Bromofluorobenzene	ene (S)	NO NO NO NO NO 105	ug/L ug/L ug/L ug/L ug/L x	50 0.5 0.5 0.5 1	12/06/96 12/06/96 12/06/96 12/06/96 12/06/96 12/06/96	CA LUFT CA LUFT CA LUFT CA LUFT CA LUFT	ADS ADS ADS ADS ADS ADS ADS	71-43-2 108-88-3 100-41-4 1330-20-7 2164-17-2 460-00-4	
GC TPH in Water by 8015 Diesel Fuel Motor Oil n-Pentacosane (S) Date Extracted	Modified	0.20 ND 95	mg/L mg/L *	0.05 0.25	12/11/96 12/11/96 12/11/96 12/06/96	TPH by EPA 8015M TPH by EPA 8015M	WSN WSN	11·84·7 629·99·2	1,2

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Tel: 707-792-1865

PAX: 707-792-0342

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PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

I VACE DOMP TO YOU	0812672 W4-12-96			Date Collect Date Recei	ived: 12	2/03/96 2/04/96	Analyst	rac#		Footnotes
Parameters		Results	Units	PRL	Analyzed	neurou				
GC Volatiles GAS/BTEX by CA LUFT, W Gasoline Benzene Toluene Ethylbenzene Xylene (Total) a.a.a-Trifluorotolue 4-Bromofluorobenzene	ne (S)	990 350 3.3 1.3 1.3 128	ug/L ug/L ug/L ug/L ug/L	50 0.5 0.5 0.5	12/06/96 12/06/96 12/06/96 12/06/96 12/06/96 12/06/96	CA LUFT CA LUFT CA LUFT CA LUFT CA LUFT	ADS ADS ADS ADS	71-43-2 108-88-3 100-41-4 1330-20- 2164-17-460-00-4	3 4 ·7 ·2	
GC TPH in Water by 8015 M Diesel Fuel Motor Oil n•Pentacosane (S) Date Extracted		0.22 ND 96	mg/L mg/L *	0.05 0.25	12/11/96 12/11/96 12/11/96 12/06/96	TPH by EPA 8015M TPH by EPA 8015M TPH by EPA 8015M	WSN	11-84-7. 629-99-2		1,2

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Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

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PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

PACE Sample No: 70812680 Client Sample ID: TRIP BLANK			Date Collect Date Recei		2/03/96 2/04/96			
Parameters	Results	Units	PRL.	Anal yzed	Hethod	Anal ysi	: CASA	Footnotes
GC Volatiles GAS/BTEX by CA LUFT, Water	NO	ug/L	50	12/06/96	CA LUFT	ADS		
Gasoline Benzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	71 - 43 - 108 - 88	_
Toluene Ethylbenzene	ND ND	ug/L ug/L	0.5 0.5	12/06/96 12/06/96	CA LUFT	ADS ADS	100-41	-4
<pre>Xylene (Total) a,a,a.Trifluorotoluene (S) 4-Bromofluorobenzene (S)</pre>	ND 105 91	ug/L *	1	12/06/96 12/06/96 12/06/96	CA LUFT	ADS ADS ADS	1330 · 2 2164 · 1 460 · 00	7-2

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Pace Analytical Services, Inc. 1455 McDowell Blvd. North, Suite D Petaluma, CA 94954

Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

PAGE: 6

PACE Project Number: 707168

Client Project ID: Port of Oakland/207 01 15

PARAMETER FOOTNOTES

ND Not Detected

C Not Calculable

PRL PACE Reporting Limit

(S) Surrogate

[1] Analyte is found in the associated blank as well as in the sample.

Hydrocarbons present do not match profile of laboratory standard.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Tel: 707-792-1865

DATE: 12/12/795 707-792-0342

PAGE: 7

Uribe & Associates

2930 Lakeshore Ave. Suite 200

Oakland, CA 94610-3614

PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

Attn: Hr. Nicole Peirce Phone: (510)832-2233

OC Batch ID: 19644

Analysis Method: TPH by EPA 8015M

70812649 Associated PACE Samples:

QC Batch Method: EPA 3520

Analysis Description: TPH in Water by 8015 Hodified

70812656

70812664 70812672 Date of Batch: 12/05/96

HETHOD BLANK: 70814983

Associated PACE Samples:

70812649

70812664 70812656

70812672

Footnotes

Method **Blank**

Units Parameter

sg/L

mg/L

¥

Result 0.16

0.05 0.25

PRL

NO 96

ABORATORY CONTROL SAMPLE & LCSD: 70813183 70813191 LCS Spike

Conc.

Spike LCSD * Rec Result

1

Dup ★ Rec RPD

Spike

Footnotes

Diesel Fuel

Parameter

Diesel Fuel

n-Pentacosane (S)

Hotor Oil

mg/L

Units

1.0 0.7364

Result

0.6227 73.6

62.3 17

n.Pentacosane (S)

120

116

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

PAGE: 8

Uribe & Associates

£930 Lakeshore Ave. Suite 200

Dakland, CA 94610-3614

PACE Project Number: 707168

Client Project ID: Port of Oakland/207 01 15

ttn: Hr. Nicole Peirce Phone: (510)832-2233

OC Batch ID: 19673

Analysis Hethod: CA LUFT Associated PACE Samples:

70812649

QC Batch Method: CA LUFT

Analysis Description: GAS/BTEX by CA LUFT, Water 70812656

70812664

70812672

70812680

Date of Batch: 12/06/96

NETHOD BLANK: 70814710

Associated PACE Samples:

70812649	70812656 Hethod Blank	70812664	70812672	70812680
Units	Result	PRL	Footnotes	
ug/L	NO	50		
ug/L	ND	0.5		
ug/L	ND	0.5		
ug/L	NO	0.5		
ug/L	ND	1		
X .	96			
x	88			
	Units ug/L ug/L ug/L ug/L ug/L ug/L	Hethod Blank Units Result ug/L ND ug/L ND ug/L NO ug/L NO ug/L NO ug/L ND ug/L ND	### Method ### Blank Units Result PRL ug/L ND 50 ug/L ND 0.5 ug/L ND 0.5 ug/L ND 0.5 ug/L ND 0.5 ug/L ND 1 ###################################	Hethod Blank

MATRIX SPIKE & MATRIX SPIKE DU	PLICATE: 7081	4728 708147	36 Spike	Matrix Spike	Spike	Matrix Sp. Dup.	Spike Dup		
Parameter	Units	70811799	Conc.	Result	# Rec	Result	# Rec	RPD 	Footnotes
Benzene Toluene Ethylbenzene Xylene (Total) a,a,a-Trifluorotoluene (S)	ug/L ug/L ug/L ug/L	0.1419 0 0 0	100 100 100 300	96.20 97.64 101.2 317.4	96.1 97.6 101 106 101 100	103.6 104.7 108.6 340.7	104 105 109 114 98.1 99.5	7 7 7 7	

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Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

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QUALITY CONTROL DATA

PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

BORATORY CONTROL SAMPLE & LCS	D: 70814744	7081475 Sp1ke	1 LCS	Spike	LCSD	Spike Dup		
Parameter	Units	Conc.	Result	•	Result	# Rec	RPD	Footnotes
rnzene Toluene Ethylbenzene vlene (Total) T.a.a.Trifluorotoluene (S) 4.Bromofluorobenzene (S)	ug/L ug/L ug/L ug/L	100 100 100 300	94.30 95.53 98.99 310.0	94.3 95.5 99.0 103 95.0 97.4	94.30 95.17 98.28 308.1	94.3 95.2 98.3 103 94.8 96.8	0	

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Tel: 707-792-1865

DATE: 12/12/96 707-792-0342

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PACE Project Number: 707168

Client Project ID: Port of Oakland/207-01 15

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate # Rec and RPD values.

Not Detected ND

Not Calculable

PACE Reporting Limit PRL

Relative Percent Difference RPD

Surrogate **(S)**

Hydrocarbons present do not match profile of laboratory standard.

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY RECORD

Project No.:		1		Project Nam	e: 22]			5+																
2	10-701	10 p			Oak	lan	d		<u> </u>															1
	Name:			Pei						END	.		ase Ord	der Nu	mber:							****		1
REPORT			BE & ASSO						_	/OIC		Name								Dept:				i
RESULTS					E, SUITE 200					TO	"		ng Addre	Bee.						Бора.				1
ТО	City, State		B32-2233	94610-3614		Telefax	No · 5	0-832-2237	-	10	ŀ		State, Z]
Turn-Around Tu	Telephone		harges Au	thorized?		e Resu		Results	1-			Oity.	<u> </u>	7	AN	ALY:	SES	REC	UES	TED				1
□ 24 hr □ 4 □ 5 day 12 4	18 hr 12 72 10 day (Standa	hr 🗘 Yes ard)	540 0			0	7	F	اي			7	7	7 ,	/ /	7	7	/	7	77	7/			1
Special Instruct	tions: 2 Sill 3 all 4 at 4 pate	ica g sam the l uestic	el ples ort ort Matrix	Clea . C. (51°	n-up ontac)272-	-13°	Toce To 73	duse hu Number	<u> </u>	/#							/ / /	/ / /				lemarks		
1 12	13/16	10:15	Wat	و1	MW:	2-1	7-9	10	5	X	X	X	X_		081			_		15.1	ica	<u>94</u>	clea	4 4
2 3 4	7-7-	150		1	MWI	- 1	2-9	6	5	X	X	X	X		31.						_			4
7	1	2:45			MWS	7-1	7-9	6	5	X	×	X	7		981	266	4	<u> </u>						_
4		3:43			MW	4-	12-9	6	5	×	~	×	X		081	26	12	- 1			<u> </u>			
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3	-1		 	<i>I</i>	1 1 1									1										
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					<u> </u>				\top							COC	LER	TEM	PERAT	URE	4	°(;	_]
					<u> </u>																61	u.		
			<u> </u>		T				\neg					\neg										
	Collecte	ed by:				(Pri	int)		7	ollecto					•			-						7
CHAIN (OF Relinqu	icole	Pe;	rce	Date:		Time:		<u> </u>]/	ed by:	اسن -	<u>u</u>	P	i	\ <u>\</u>	ate:			Time:		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
CUSTO	DY Minds	Issued by:	11.	(2	tale:	<u> </u>	/Z Time: 2:3	: 3Cy		leceive	od by:		hu.	m	ma em	<u>~</u>) Z ate:	141 Ls	166	Time:	14:	30 30		
Method of S	Shipment: ka	b low	nie (<u>imuul</u>	v yaz			70		ample	Cond	fition (Ipon Re		<i></i>		Acce	ptable			(explain)			
Chain of Custod	ty form 6/2/95 O	Y FC													Origi	nal (W)	nite)	-	aborato	v Conv ()	(ellow)	Fie	d Copy (Pir	ik)

Data File: /chem/70gce02.i/121196.b/fidf0002.d

Date: 11-DEC-1998 10:52

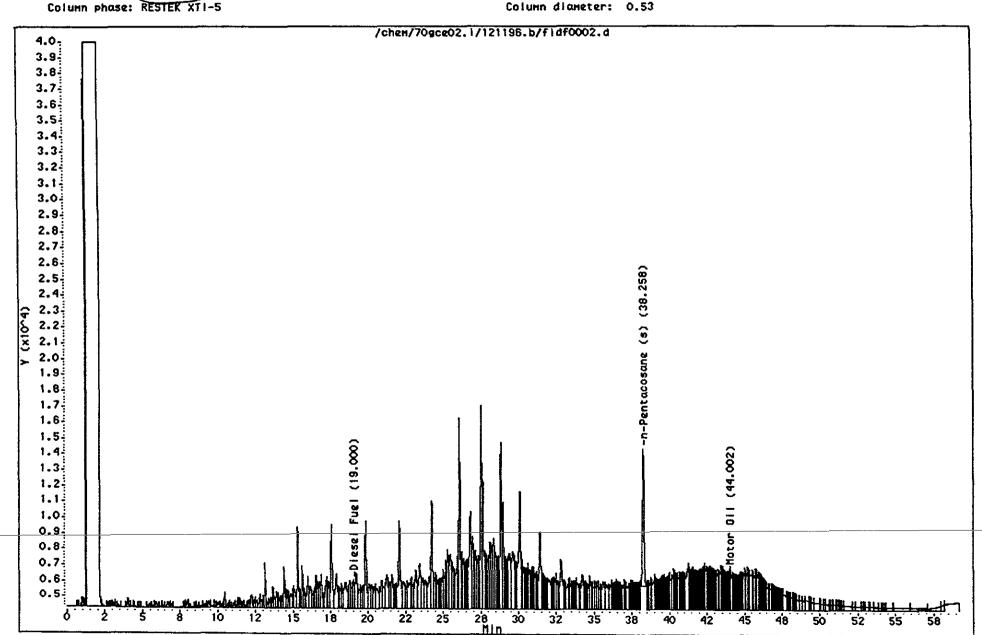
Client 1D:

1000 ppm . Sample Info: CCAL-DIESEL/HO

Instrument: 70gce02.1

Misc Info: 90D,,,,,2,5,,,,dmof.sub,dmor.sub

Operator: USN



Data File: /chem/70gce02.1/121196.b/fldf0004.d

Date: 11-DEC-1996 18:08

Cilent ID:

Sample Info: BLANK-water

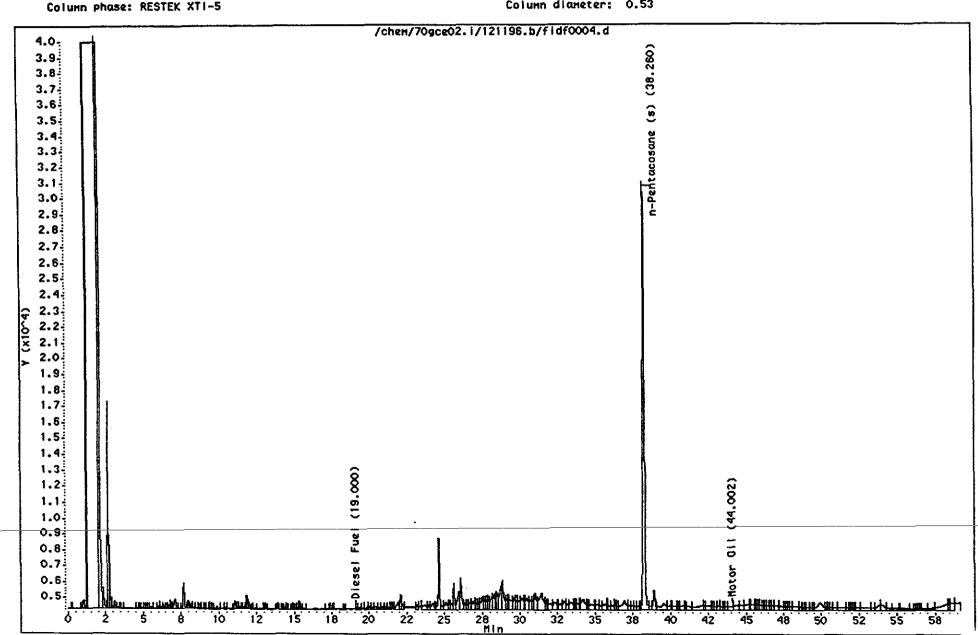
708A983

Volume Injected (uL)+ 1.0

Instrument: 70gce02.1

Misc Info: 814983,,1,19644,1,3,,BLANK,,,dmof.sub,dmor.sub

Operator: HSH



Data File: /chem/70gce02.i/121196.b/fidf0005.d

Date: 11-DEC-1996 19:14

Cilent ID:

Sample Info: (SAMPLE-Mater)

Volume Injected (uL): 1.0

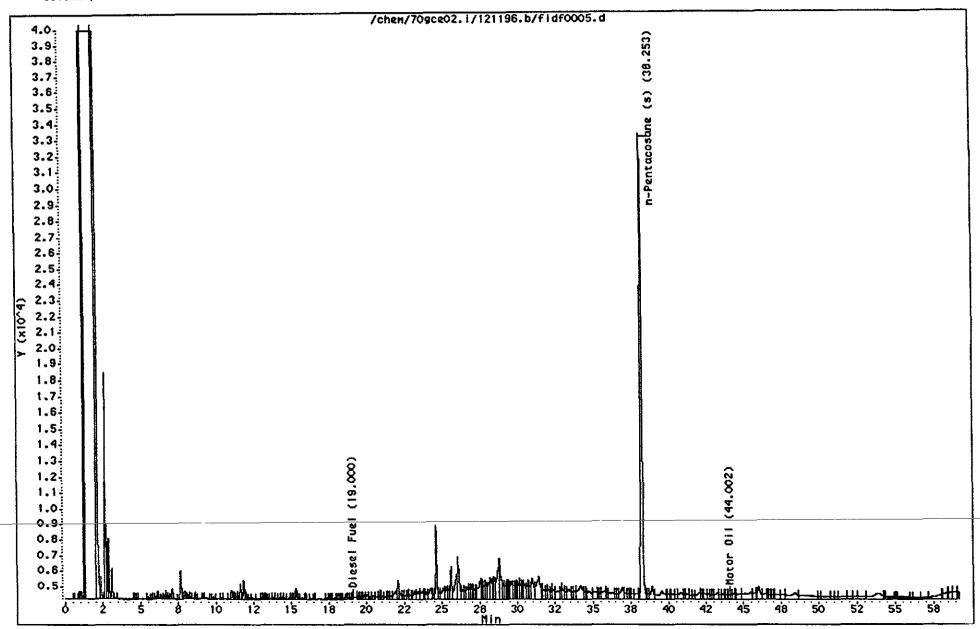
Column phase: RESTEK XT1-5

70812649

Instrument: 70gce02.1

Misc Info; 812649, 1, 19644, 1,0, ,,,, dmof. sub, dmor. sub

Operator: HSH-



Data File: /chem/70gce02.1/121196.b/fldf0006.d

Date: 11-DEC-1996 20:21

Client ID:

Sample Info: SAMPLE-Mater

Volume Injected (uL): 1.0
Column phase: RESTEK XTI-5

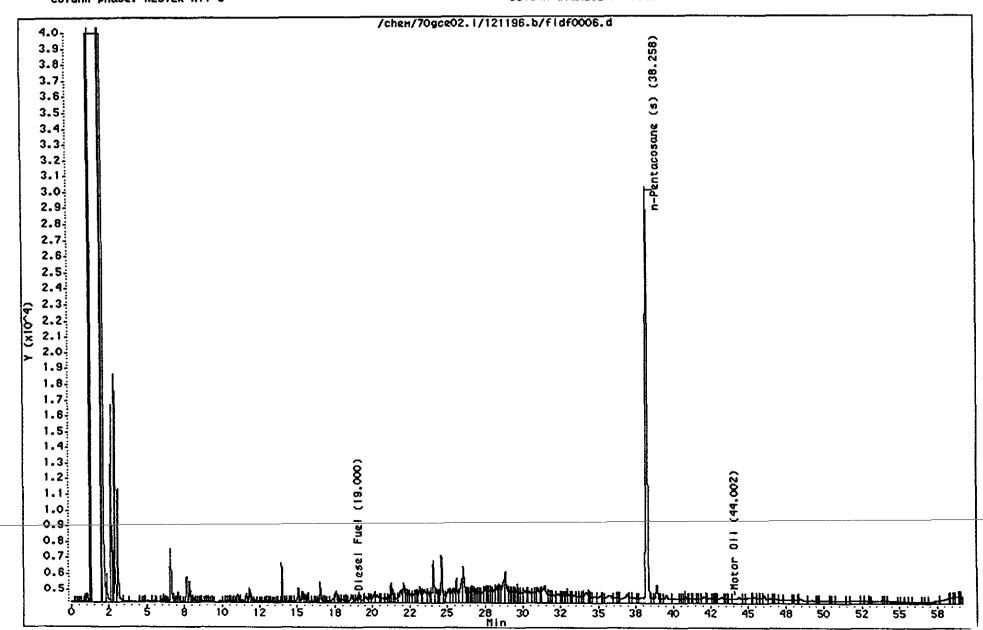
70812656

l n

Instrument: 70gczQ2.1

Misc Info: 812656, 1,19644,1,0,,,,dmof.sub,dmor.sub

Operator: WSN-



Data File: /chem/70gce02.1/121196.b/fldf0007.d

Date: 11-DEC-1998 21:28

Cilent ID:

Sample Info: SAMPLE-water

Volume Injected (uL): 1.0

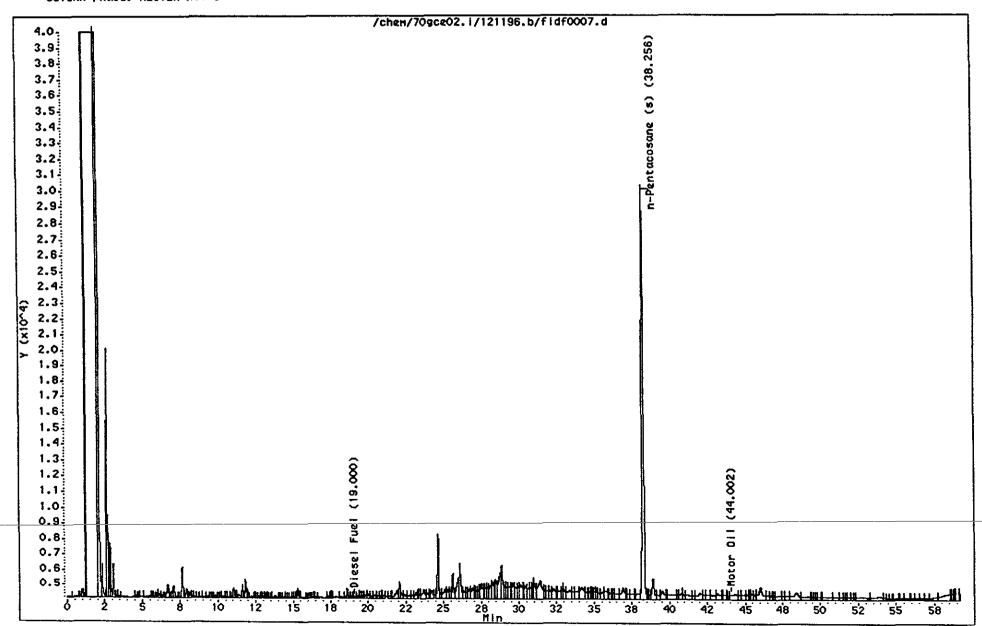
Column phase: RESTEK XTI-5

70812664

Instrument: 70gce02.i

Misc info: (812664,) 1,19644,1,0,,,,dmof.sub,dmor.sub

Operator: HSN



Data File: /chem/70gce02.i/121196.b/fldf0008.d

Date: 11-DEC-1996 22:35

Client ID:

Sample Info: SAMPLE-water

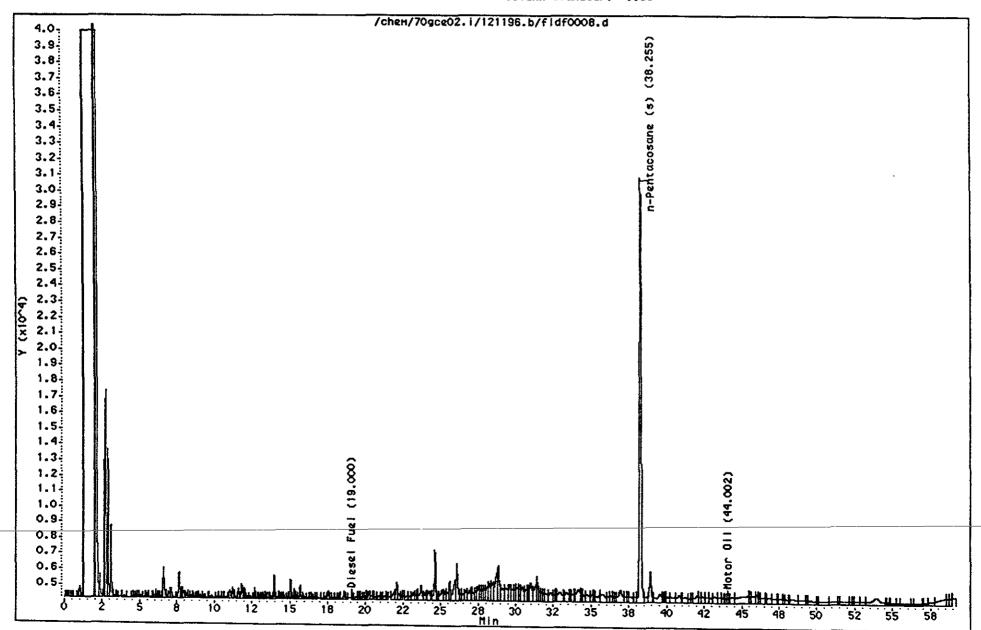
Volume injected (uL): 1.0
Column phase: RESTEK XTI-5

70812672

Instrument: 70gce02.1

Misc Info: 812672), 1, 19644, 1,0,,,,dnof.sub,dnor.sub

Operator: USN



Attachment 1 U&A Standard Operating Procedures

CHAIN-OF-CUSTODY PROCEDURES

Sample Handling

All soil and water samples will be labeled with the sample number, date, company name, preservative used, and sampler's initials. A chain-of-custody form will then be filled out including the time and date of the sample, the sample number, the number of containers for each sample, the analysis required, and any distinguishing comments or laboratory notifications. The chain-of-custody form will remain with the samples at all times during transportation and storage.

Transfer of Custody to Laboratory

The chain-of-custody will be signed and dated by the sampler when relinquished to the laboratory. The laboratory courier or sample receiver will also sign and date the chain-of-custody.

GROUNDWATER SAMPLING FROM WELLS

Groundwater samples for chemical analysis will be collected according to the following procedure:

All purging and sampling equipment will be decontaminated prior to use.

Upon arrival at the site, the wells will be located and opened up, to allow for equilibration with the atmosphere. The monitoring well is first checked for floating product with a dual interface probe. Water or liquid-level measurements will be collected, to the nearest one hundredth of a foot (0.01 foot). If a probe is not available, a clear plastic bailer may be used to check for product. The volume of water in the well casing will be calculated and three to five casing volumes of water will be evacuated. The well will be bailed or pumped to remove the correct volume of water. Stabilization parameters, temperature, conductivity and pH, will be monitored. For wells with extremely low flow rates, i.e., less than 0.01 gallon per minute (gpm), the well will be bailed dry and allowed to recover overnight, and then sampled.

Once the well has been purged, samples will be collected with a bailer and transferred to appropriate sampling vials or bottles. Samples will be labeled and placed in a cooler cooled to 4°C and transported to the analytical laboratory under chain-of-custody. Purge water will be stored on-site pending analytical results, and then property disposed of.

Attachment 2 U&A Well Purging & Sampling Logs

					·		·	PAGE OF	
SITE LOCATION:	Port ut	COa	kland		WELL NUM	SER: MW 0 7	>		
DATE(S):		3/97			WELL TYPE,	(MONITORING, EXTRACTIO	N. ETC.):	Ponitonin	
Punaina Equip					MEASUREM	ENT REFERENCE DATUM:	V	איתטווויטיי	
	MENT: VISPOSAL	ble b	alex						
Depth to w	om IMMEDIAT ater measured ing time (min):	from TO	Ofald C (ft): Before	leoth: Purging	15,0 F7	2.89	After s	ourging: <u>/' ²., 50</u> ampling:)
Depth to se	ediment in well	(ft) Befor	e purging: _			After p	urging:		_
	Time Since		Cumulative			PARAMETERS			
	Purging Started (min)	Time	Volume Removed	Temp (%C)	pН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	
Initial		1235	0	69.6	7.85	2,450		Water 15 (bidy,	
During		1240	1,25	68,3	7.41	2,360	<u> </u>	gray, with vo	
During		1247		68.4		2,400		oder orchem	
During		1246	3.75	68.4	290	2,390			
During			. ,						
During							<u> </u>		
During									
After									
	*CL = cle	ar	CO = cloudy	TU:	= turbid				
				Wel	I Samp	ling			
Sample #:	MW 2	397		La	b:				
Container	Гуре:			Filt	ered?-Y	N:			
Preservativ	/es:			An	alysis Re	quested:			
Comments	Related to Sa	mple:					-		
Me	11 baile	o d 0	Town	(onsi	ler. Ll	y by con	OF 1	third	
		lung	Had	tri	wait	t t	inutes	far	
	/:	Pror		moli		NO MPasus		a vectore	
	Lucac 15	,	-	Y Y	ソー"	*U 141 45() A	TUDE	a ner morse	
1.7	Tev D	monut	~~~~~		•	· <u> </u>			
		Qualit	/ Control S	amples			Forr	nulas/Conversions	
				1			r = well rai	dius in feet	0/
Duplicated	Sample Info:			·			vol. of col.	vater col. in feet	<i>,</i> V
	Sample Info:						11	3	
Blank Sami	ple Info:			, , , , , , , , , , , , , , , , , , , 	·····		7.48 gal./ft		
	ple Info:						V ₂ casing	= 0.163 gal./ft.	
Blank Sami	ple Info:						V ₂ casing V ₃ casing	= 0.163 gal./ft. = 0.367 gal./ft. = 0.653 gal./ft.	
Blank Sami	ple Info:						V ₂ casing V ₃ casing V ₄ casing V _{4.5} casing	= 0.163 gal./ft. = 0.367 gal./ft.	

SITE LOCATION:	^	^ <u>~</u>	1	1	WELL NUME	ER:		PAGE	o r	
	Part or	l Da	kland			MWO				
DATE(S):	3/28/97)			WELL TYPE,	(MONITORING, EXTRACTIO	N, ETC.):	onitori	40	
		<u>/</u>			MEASUREME	ENT REFERENCE DATUM:		CATTONY.	'}	*
	is posable	0 bc	iner							
	M IMMEDIATI iter measured g time (min):		ORE AND AFT TO TAIL OF C (ft): Before	TER DE Ppt4 ° Purging	:VELOPA 18,7 (1: <u>7,4</u> 0	MENT: t	{ After P	urging:	5.50	
			e purging:			After p	urging:	<u> </u>		
	Time Since	<u> </u>				PARAMETERS		[7
	Purging Started (min)	Time	Cumulative Volume Removed	Temp (° / C)	рH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Ott	er	
Initial		1145	0	75,4-	7.87	1,790		Water		
During		1155	Z	67.4	7.54	1530	<u> </u>	Cloudy,	jray	
During		1159	4	674	7.22	<u>"1,530 </u>	<u> </u>	within	o oder	
During		1202	6	67.4	7.19	1610	<u> </u>	01 Sh	<u>e</u> 2	<u> </u>
During		ļ				•				
During							<u> </u>			<u> </u>
During							<u> </u>			
After	<u> </u>				<u> </u>		1			<u> </u>
	*CL = cle	ar	CO = cloudy		= turbid					·····
Sample #	1	0.0		Wei	II Samp					
Sample #:	m w 4 3	,41			o. tered?Y	Pace				
Container T Preservative	• •	,				quest ed :	····			
						- , 	,	<u></u>		
Comments	Related to Sa	пре:	ursed	3 CV	ell v	olumes P	riur to	Samp	ling .	
										
			·			·	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-			
		Qualit	y Control S	amples	:			nulas/Conv dius in feet	ersions	
	Sample Info:			,			$\int h = ht. of v$	vater çol. i	n feet	J.
Blank Samp	ole info:			. ——			vol. of col.	$=\pi r^{2}$		-
Other Samp	ole Info;						7.48 gal /fi V ₂ casing V ₃ casing V ₄ casing	= 0.163 ga = 0.367 ga	l./ft. l./ft.	

USA UAIBI	e & Associates E	NVIRONMENTA	L AND ENGINEERIN	ia Consult	ing Services	S	Paou	ECT No.:	_
W	ell Purgi	ng &	Samplin	g Lo	g			,	-
			······································					PAGE OF	<u></u>
SITE LOCATION:	ort of C	lallan	لم		WELL NUMB	MW 05	-		
DATE(S):	120/97)	<u> </u>		WELL TYPE,	(MONITORING, EXTRACTIO	N, ETC.):	ı	
					MEASUREME	ENT REFERENCE DATUM:	Mor	ituring	
D15/	105able	bail.	e/				77 		Nie 7
DATA FRO	M IMMEDIAT かかい こ し ater measured	ELY BEF	ORE AND AF	FTER DE	EVELOPM	MENT:	r After P	urging: 7.00	<u>C</u>
				, urgini	J·			ampling:	····
	g time (min):								
Depth to se	diment in well	(ft) Befor	e purging: _			After p	urging:		
	Time Since	T	T			PARAMETERS			
•	Purging Started (min)	Time	Cumulative Volume Removed	Temp	рН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	
Initial		1105	0	67.6	8.33	3000		water was	
During		1110	7	66,8		3170		Cloudy, gray	
During		1/13	4	15.2	6,93	3110		with he odo	
During		ľÚŹ	G	65.2	6.91	3110		or sheen	\perp
During					1	•			
During									,
During									
After									
	*CL = cle	ar	CO = cloudy	TU	= turbid			•	
				We	II Sampl				
Sample #:	MW 5	397		La	ub: /	ace			
Container T				Fi	tered?-Y	<u>re</u>			
Preservative	es:		····	Ar	nalysis Re	quested:			
Comments	Related to Sa	mple: D	. 1	~ 	^~=			4	
		10	ryed	3 (USING	UDTUMES	prior	יו	···
Sam	pliny.						,		
	<u>'</u>								
		• • • • • • • • • • • • • • • • • • • •			•				
							7 6	outoc/Conversion	
		Qualit	y Control S	amples): -			nulas/Conversion dius in feet	ž * /
Duplicated 9		·· · · · · · · · · · · · · · · · · · ·					$\ h = ht$, of v	vater çol. in feet	ركله
Blank Samp	ole Info:						vol. of col. 7.48 gal./ft		•
Other Samp	ole Info:						V ₂ casing	= 0.163 gal./ft.	
·			 					= 0.367 gal./ft. = 0.653 gal./ft.	
<u> </u>								≈ υ.653 gal./π. j = 0.826 gal./ft.	
				•			11 -3 -000415	,	
	 						V _s casing	= 1.47 gal./ft. = 2.61 gal./ft.	

Frank WIP. Well PSS 102/96 OX KH

								PAGE_	<u></u> or	<u>_</u>
SITE LOCATION:	H of Da	Hand			WELL NUMB	MW-7				
DATE(S):	128/97	7			WELL TYPE	(MONITORING, EXTRACTIO	N, ETC.):	. 1 .		
			···		MEASUREM	ENT REFERENCE DATUM:	1910	nitoring		
d1500	iable bo	iler								
	M IMMEDIAT		ORE AND A	FTER DE	EVELOPI	MENT:				
					_	.06	After P	urging:	7.50	
•			O (11). DOIO11	o r urgan	9. ————————————————————————————————————	1.520		ampling:		
Total purgi	ng time (min):	16	 							
Depth to se	ediment in wel	ll (ft) Befor	re purging: _			After po	urging:			
	Time Since					PARAMETERS				Ì
	Purging Started (min)	Time	Cumulative Volume Removed	Temp	рH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Ot	her	
Initial	0915	0915		73.1	7.83	2090		Water	s douly,	
During		0922	1.75	68.4	6.89	2580	_	gray w	+, , ,	
During		0976	3.50	689		2610		odur	***************************************	
During		0931	5.75	68.9	6.89	2600	<u> </u>	Sheen	7	
During		<u> </u>				•	<u> </u>		· · · · · · · · · · · · · · · · · · ·	
During		<u> </u>								
During		<u> </u>			ļ		 		······································	
	T						1		f	
After		<u></u>		<u> </u>	<u></u>				·	
	*CL = cl	ear '	CO = cloudy		= turbid					
After			CO = cloudy	We	II Samp					
After Sample #:	MW 7		CO = cloudy	We	II Samp ab:	Pace				
After Sample #: Container	MW 7		CO = cloudy	We La Fi	ill Samp ab: ltered?-Y	Pace 18				
After Sample #: Container Preservation	MW 7 Type: res:	397	CO = cloudy	We La Fi	ill Samp ab: ltered?-Y	Pace				
After Sample #: Container Preservation	MW 7	397		We La Fi Ar	II Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-		s San	Plin.	
After Sample #: Container	MW 7 Type: res:	397		We La Fi Ar	II Samp ab: Itered?-Y natysis Re	Pace 18		z Sanj	Play.	
After Sample #: Container Preservation	MW 7 Type: res:	397		We La Fi Ar	II Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-		sanj	Oliny.	
After Sample #: Container	MW 7 Type: res:	397		We La Fi Ar	II Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-		s San	Oliny.	
After Sample #: Container	MW 7 Type: res:	397		We La Fi Ar	II Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-		San	Oliny.	
After Sample #: Container Preservation	MW 7 Type: res:	397		We La Fi Ar	II Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-		z, Sam	Oliny.	
After Sample #: Container Preservation	MW 7 Type: res:	397	3. wel	We La	ell Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-	prior to			
After Sample #: Container Preservation Comments	MW 7 Type: /es: Related to Sa	397		We La	ell Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-	Prior to	nulas/Cor	versions	
After Sample #: Container Preservativ Comments	MW 7 Type: res: Related to Sa	397	3. wel	We La	ell Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-	Prior to	nulas/Com dius in fee water col. i	versions t	
After Sample #: Container Preservation Comments	MW 7 Type: res: Related to Sa	397	3. wel	We La	ell Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-	r = well rain h = ht. of vol. of col.	nulas/Com dius in fee water col. i = π r	versions t	<i>y</i> ,
After Sample #: Container Preservativ Comments	MW 7 Type: res: Related to Sa Sample Info: ple Info:	397	3. wel	We La	ell Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-	r = well rath h = ht. of vol. of col. 7.48 gal./ft V ₂ casing	nules/Com dius in fee water col. i = π r ²⁰ .3 = 0.163 gs	versions t n feet	<i>y</i> ,
After Sample #: Container Preservativ Comments Duplicated Blank Sam	MW 7 Type: res: Related to Sa Sample Info: ple Info:	397	3. wel	We La	ell Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-	r = well rain h = ht. of vol. of col. 7.48 gal./ft V ₂ casing V ₃ casing	nules/Com dius in fee water col. i = π r ² .3 = 0.163 gs = 0.367 gs	versions t n feet	
After Sample #: Container Preservativ Comments Duplicated Blank Sam	MW 7 Type: res: Related to Sa Sample Info: ple Info:	397	3. wel	We La	ell Samp ab: Itered?-Y natysis Re	Dale Misoquested: 704-	r = well rath h = ht. of vol. of col. 7.48 gal./ft V ₂ casing	nulas/Com dius in fee water col. = π r ² = 0.163 g = 0.367 g = 0.653 g	versions t n feet nai./ft. ai./ft.	<i>y</i> ,

FLANK WIP. WAS PASS 10396 OX KH

N 1 = C 0100 9=1/2

Attachment 3

Laboratory Analytical Reports and Chain-of-Custody Form

Tel: 707-792-1865 Fax. 707-792-0342

April 08, 1997

Mr. Doug Sheeks Uribe & Associates Suite 200 2930 Lakeshore Avenue Oakland, CA 94610-3614

RE: Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

Dear Mr. Sheeks:

Enclosed are the results of analyses for sample(s) received on March 31, 1997. If you have any questions this report, please feel free to contact me.

Sincerely,

Ron Chew

Project Manager

CA ELAP Certificate Number 2059

Enclosures

REPORT OF LABORATORY ANALYSIS

Tel. 707-792-1865

DATE: 04/08/9707-792-0342

PAGE: 1

Uribe & Associates

Suite 200

2930 Lakeshore Avenue Oakland, CA 94610-3614

Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

Attn: Mr. Doug Sheeks Phone: (510)832-2233

Pace Sample No: Client Sample ID: 70933239

Date Collected:

03/28/97

MW7397

Date Received:

03/31/97

	Terre Sumple 10. MA/55/			Date Rece	rvea: us	3/31/9/			
Pa	rameters	Results	Units	PRL	Analyzed	Method	Analysi	t CAS#	Footnotes
GC	··· Volatiles	********	*******	*********	******				••••••
1	GAS/BTEX, Water								
	Gasoline	65	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		1
	Benzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	•
	Toluene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
	Ethylbenzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
	Xylene (Total)	ND	ug/L	1	04/02/97	EPA 8015M/8020M	ADS	1330-20-7	
_	a.a.a-Trifluorotoluene (S)	106	x		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
_	4-Bromofluorobenzene (S)	105	*		04/02/97	EPA 8015M/8020M		460-00-4	
GC	Semi-VOA								
1	TPH by 8015M w/ silica gel								
	Diesel Fuel	0.094	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	2
	Motor Oil	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH		•
	n-Pentacosane (S)	99	X		04/03/97	EPA 8015M w/ SG		629-99-2	
	Date Extracted				04/01/97				

REPORT OF LABORATORY ANALYSIS

Tel: 707-792-1865

DATE: 04/08/9707-792-0342

PAGE: 2

Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

Pace Sample No: 7093 Client Sample ID: MW53	33247 197		Date Colle		3/28/97 3/31/97	·		······································
Parameters	Results	Units	PRL	Ana1 yzed	Method	Analys	t CAS#	Footnotes
GC Volatiles GAS/BTEX, Water	•••••	•	******	• • • • • • • • • • • • • • • • • • • •	••••••	****	• • • • • • • • • • • • • • • • • • • •	•••••
Gasoline	ND	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		
Benzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	
Toluene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	04/02/97	EPA 8015M/8020M	ADS	1330 - 20 - 7	
a,a,a-Trifluorotoluene	(S) 117	x		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
4-Bromofluorobenzene (S GC Semi-VOA		*		04/02/97	EPA 8015M/8020M	ADS	460-00-4	
TPH by 8015M w/ silica ge	1							
Diesel Fuel	ND	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	
Motor 011	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH		
n-Pentacosane (S) Date Extracted	77	X		04/03/97 04/01/97	EPA 8015M w/ SG	AMH	629-99-2	

REPORT OF LABORATORY ANALYSIS

Tel: 707-792-1865

DATE: 04/08/9707-792-0342

PAGE: 3

Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

•	933254 14397		Date Coll Date Rec		3/28/97 3/31/97	···		
Parameters	Results	Units	PRL	Analyzed	Method	Analy:	st CAS#	Footnotes
GC Volatiles GAS/BTEX, Water		••• ••••••	•••••	• •••••		•••••		••••••
Gasoline	440	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		2
Benzene	190	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	_
Toluene	1.2	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
Ethylbenzene	0.64	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
Xylene (Total)	ND	ug/Ł	1	04/02/97	EPA 8015M/8020M	ADS	1330-20-7	
a,a,a-Trifluorotoluen	e (S) 114	*		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
4-Bromofluorobenzene GC Semi-VOA TPH by 8015M w/ silica		*		04/02/97	EPA 8015M/8020M	ADS	460.00-4	
Diesel Fuel	ND	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	
Motor 011	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH	11-04-1	
n-Pentacosane (S) Date Extracted	68	*	****	04/03/97 04/01/97	EPA 8015M w/ SG	AMH	629-99-2	

REPORT OF LABORATORY ANALYSIS

Tel: 707-792-1865

DATE: 04/08/9707-792-0342

PAGE: 4

Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

Pace Sample No: 70933 Client Sample ID: MW239					3/28/97 3/31/97			·
Parameters	Results	Units	PRL	Analyzed	Method	Analys	st CAS#	Footnotes
GC Volatiles GAS/BTEX, Water	•••••	• •••••		•••	***************	••••		*********
Gasoline	ND	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		
Benzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	
Toluene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	04/02/97	EPA 8015M/8020M	ADS	1330-20-7	
a.a.a-Trifluorotoluene (S	3) 111	X		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
4-Bromofluorobenzene (S) GC Semi-VOA TPH by 8015M w/ silica gel	110	x		04/02/97	EPA 8015M/8020M	ADS	460-00-4	
Diesel Fuel	0.071	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	3
Motor Oil	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH		
n-Pentacosane (S) Date Extracted	58	*		04/03/97 04/01/97	EPA 8015M w/ SG	AMH	629-99-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc. 1455 McDowell Blvd. North, Suite D Petaluma, CA 94954

Tel: 707-792-1865

DATE: 04/08/97 07-792-0342

PAGE: 5

Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting

Pace Reporting Limit

(S) Surrogate

[1] High boiling point hydrocarbons are present in sample.

[2] Hydrocarbons present do not match profile of laboratory standard.

[3] Chromatographic pattern matches known laboratory contaminant.

REPORT OF LABORATORY ANALYSIS

Tel: 707-792-1865

DATE: 04/08/97 07-792-0342

PAGE: 6

QUALITY CONTROL DATA

Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

Unibe & Associates Suite 200 2930 Lakeshore Avenue Oakland, CA 94610-3614

Attn: Mr. Doug Sheeks Phone: (510)832-2233

QC Batch ID: 22663

QC Batch Method: EPA 3520

70933247

Analysis Method: EPA 8015M w/ SG

Analysis Description: TPH by 8015M w/ silica gel

Associated Pace Samples:

70933239

70933254

70933262

METHOD BLANK: 70933593 Associated Pace Samples:

	70933239	70933247 Method Blank	70933254	70933262
Parameter	Units	Result	PRL	Footnotes
	•	• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •
Diesel Fuel	mg/L	ND	0.05	
Motor Oil	mg/L	0.57	0.25	1
n-Pentacosane (S)	X	110		

LABORATORY CONTROL SAMPLE & LCS	D: 70930631	7093064	9			Spike	
Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Dup * Rec RPD	Footnotes
Diesel Fuel n-Pentacosane (S)	mg/L	1.0	0.3521	35.2 57	0.3063	30.6 14	*********

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Tel: 707-792-1865

DATE: 04/08/9707-792-0342

PAGE: 7

Uribe & Associates

Suite 200

2930 Lakeshore Avenue Oakland, CA 94610-3614 Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

Attn: Mr. Doug Sheeks Phone: (510)832-2233

QC Batch ID: 22769

Analysis Method: EPA 8015M/8020M

Associated Pace Samples:

70933239

QC Batch Method: EPA 8015M/8020M

Analysis Description: GAS/BTEX, Water

70933247 70933254 70933262

METHOD BLANK: 70934468

Associated Pace Samples:

	70933239	70933247 Method Blank	70933254	70933262					
Parameter	Units	Result	PRL	Footnotes					
***************************************		• • • • • • • • • • • • • • • • • • • •	********	• • • • • • • • • • •					
Gasoline	ug/L	ND	50						
Benzene	ug/L	ND	0.5						
Toluene	ug/L	ND	0.5						
Ethylbenzene	ug/L	ND	0.5						
Xylene (Total)	ug/L	ND	1						
a,a,a.Trifluorotoluene (S)	X	103							
4-Bromofluorobenzene (S)	*	102							

MATRIX SPIKE & MATRIX SPIKE DUF	LICATE: 70934	476 709344	84	Matrix		Matrix	Spike		
Parameter	Units	70933239	Spike Conc.	Spike Result	•	Sp. Dup. Result	Dup ≵ Rec	RPD	Footnotes
Gasoline	ug/L	65.08	1000	925.4	86.0	898.6	83.4	3	

LABORATORY CONTROL SAMPLE & LCS	ROL SAMPLE & LCSD: 70934492			-	Spike		
Parameter	Units	Spike Conc.	LCS Result	Spike * Rec	LCSD Result	Dup % Rec RPD	Footnotes
Gasoline	ug/L	1000	958.9	95.9	915.7	91.6 5	********

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc. 1455 McDowell Blvd. North, Suite D Petaluma, CA 94954

Tel: 707-792-1865

DATE: 04/08/9707-792-0342

PAGE: 8

Pace Project Number: 708044

Client Project ID: 2277 7th St.Oakland/207-01-10b

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate * Rec and RPD values.

ID Not Detected

NC Not Calculable

PRL Pace Reporting Limit

RPD Relative Percent Difference

(S) Surrogate

[1] Chromatographic pattern matches known laboratory contaminant.

REPORT OF LABORATORY ANALYSIS

Data File: /chem/70gce04.i/040397.b/idqr0006.d

Date: 03-APR-1997 14:40

Client ID: BLKO1

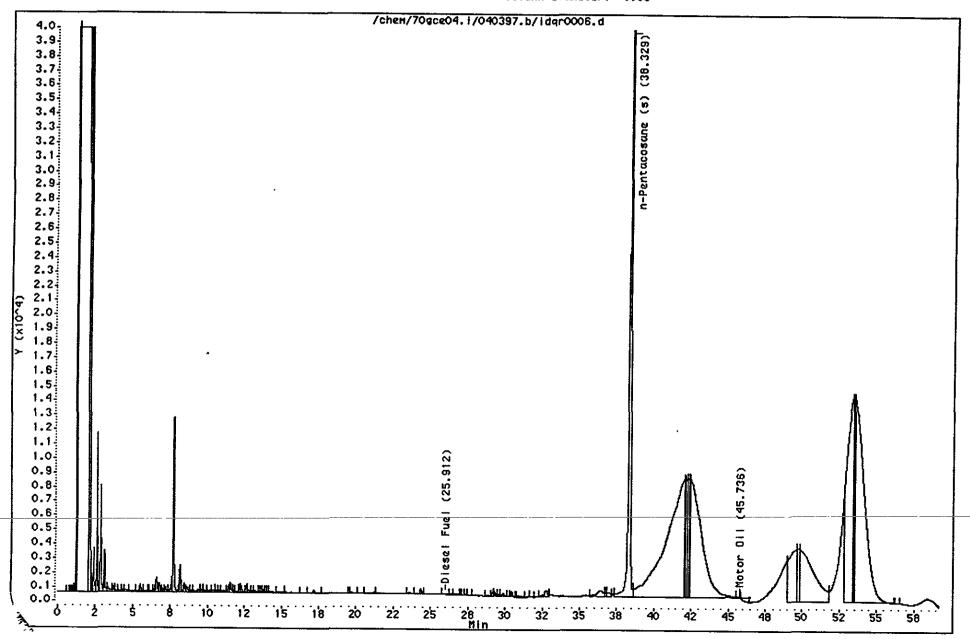
Lab Sample 1D: 70933593 Volume Injected (uL): 1.0

Column phase: J&H DB-1

Instrument: 70gce04.i

Misc Info: 70933593,,1,22663,1,3,,BLRNK,,,dmof.sub,dmor.sub,

Operator: AMH



Data File: /chem/70gce04.1/040397.b/idqr0007.d

Date: 03-APR-1997 15:47

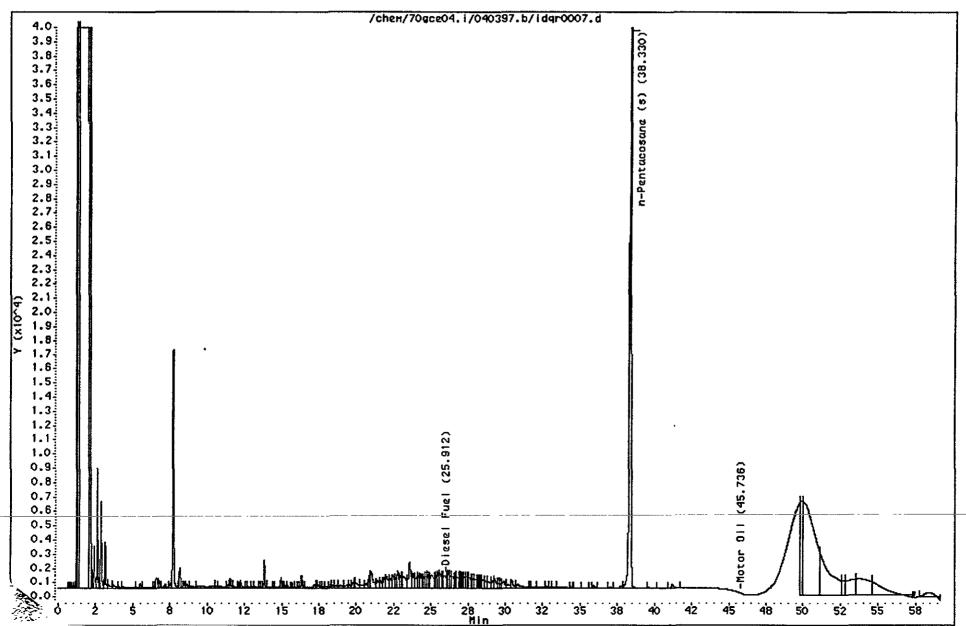
Client ID: MA7397

Lab Sample 1D: 70933239 Volume Injected (uL): 1.0 Column phase: J&J DB-1 Instrument: 70gce04.i

Misc Info: 70933239,,1,22663,1,0,,SMPL,,,dmof.sub,dmor.sub,

Page 3

Operator: AMH



Data File: /chem/70gce04.i/040397.b/idqf0006.d

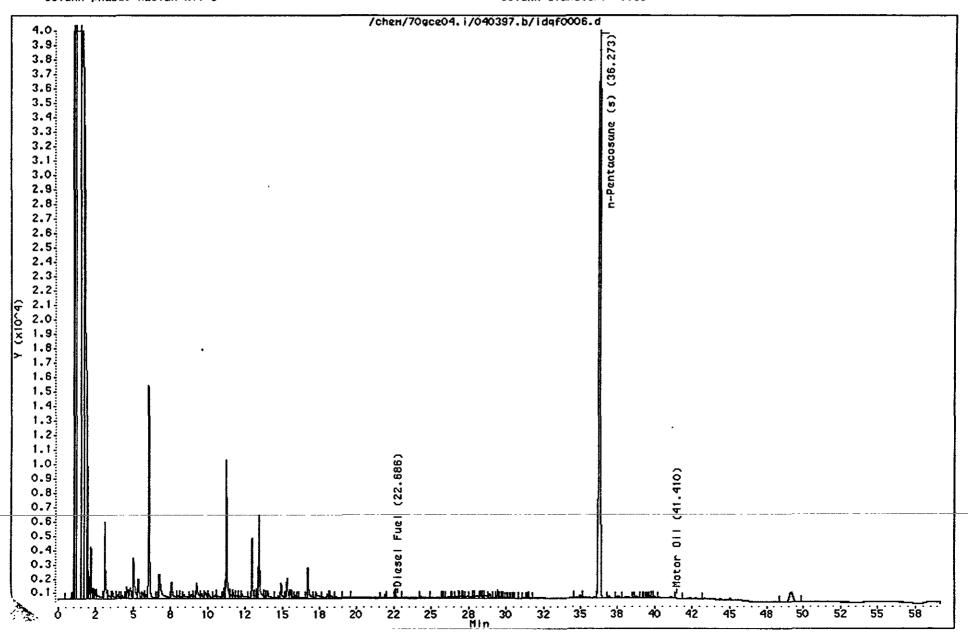
Date: 03-APR-1997 14:40

Client ID: MH5397

Lab Sample 1D: 70933247 Volume Injected (uL): 1.0 Column phase: RESTEK XTI-5 Instrument: 70gce04.i

Misc Info: 70933247,,1,22663,1,0,,SMPL,,,dmof.sub,dmor.sub,

Operator: AMH



Data File: /chen/70gce04.i/040397.b/idqf0007.d

Date: 03-8PR-1997 15:47

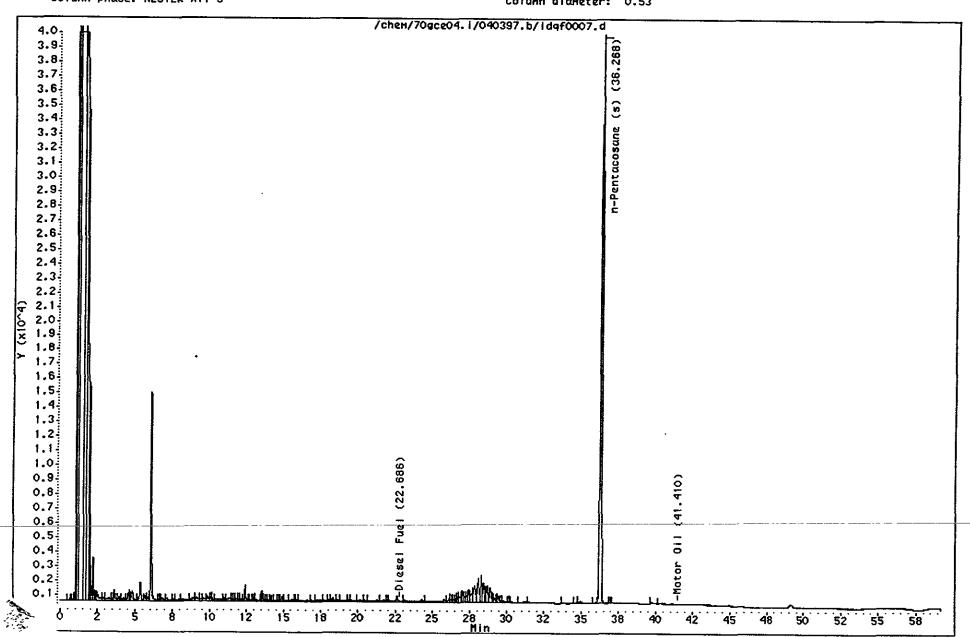
Client ID: MH4397

Lab Sample ID: 70933254 Volume injected (uL): 1.0 Column phase: RESTEK XTI-5 Instrument: 70gce04.1

Misc Info: 70933254,,1,22663,1,0,,SMPL,,,dmof.sub,dmor.sub,

Page 3

Operator: AMH



Data File: /chen/70gce04.i/040397.b/idqf0008.d

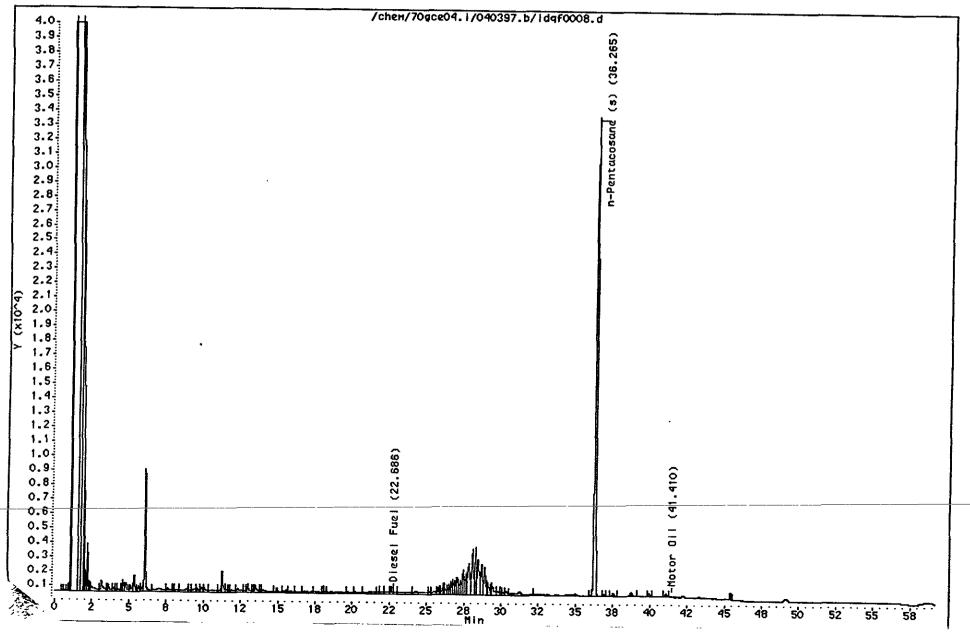
Date: 03-APR-1997 16:54

Client ID: MH2397

Lab Sample ID: 70933262 Volume Injected (uL): 1.0 Column phase: RESTEK XTI-5 Instrument: 70gce04.i

Misc Info: 70933262,,1,22663,1,0,,SMPL,,,dnof.sub,dnor.sub,

Operator: AMH





CHAIN-OF-CUSTODY RECORD

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Groundwater Monitoring Wells Recently Installed On Site By Others

Groundwater Monitoring Wells Recently Installed On Site By Others

The following information regarding groundwater monitoring wells recently installed by others on the 2277 Seventh Street site was provided separately by the Port and was not taken from a formal report.

In early 1997, two groundwater monitoring wells were installed on the 2277 Seventh Street site under the supervision of PRC Environmental Management, Inc. (PRC), of Helena, Montana. Well BW-MW30 was installed on January 15 and BW-MW29 was installed on February 24, 1997. These wells are located about 100 feet to the south of MW-4, are about 10 feet apart, and were installed as part of an investigation of the U.S. Navy's Fleet Industrial Supply Center Oakland that lies adjacent to the west side of the 2277 Seventh Street site.

Measurements of the depth to groundwater below top of casing collected by PRC were 8.6 feet for BW-MW30 on February 20 and 5.22 feet for BW-MW29 on February 25. Similar measurements collected by PRC from both wells on April 9, 1997, were 5.58 feet for BW-MW29 and 8.5 feet for BW-MW30.

Analysis of groundwater samples collected by PRC on February 24, 1997, indicated that concentrations of "diesel range organics," "motor oil range organics," and "TPH-purgeables (gasoline)" and "other components" were below reporting limits for the sample collected from BW-MW29 and that "diesel range organics" and "TPH-purgeables (gasoline)" and "other components" were below reporting limits for the sample collected from BW-MW30. Analysis of the sample from BW-MW30 also indicated a concentration of "motor oil range organics" at 590 μ g/1. However, this result was noted by the laboratory to be an estimated value and that "other problems" (unspecified) were associated with the result. Concentrations of BTEX compounds were below reporting limits for the samples collected from both BW-MW29 and BW-MW30.

Appendix 2 Off-Site Groundwater Monitoring Wells

Off-Site Groundwater Monitoring Wells

Three groundwater monitoring wells, MW-1, MW-2, and MW-3, are located off the 2277 Seventh Street site, to the south and southeast (Figure 2), on the adjacent Ringsby Terminals, Inc., site. On March 19, 1997, Flour Daniel GTI (GTI), of West Sacramento, California, collected measurements of the depth to groundwater and groundwater samples from the three wells.

Measurements of the depth to groundwater below top of casing collected by GTI on March 19, 1997, were 5.48 feet for MW-1, 5.9 feet for MW-2, and 6.99 feet for MW-3. In a "First Quarter 1997 Groundwater Monitoring and Sampling Report," dated May 6, 1997, GTI inferred the direction of groundwater flow beneath the Ringsby Terminals site to be to the north northwest with a gradient of approximately 0.001 ft/ft.

Analysis of groundwater samples collected by GTI on March 19, 1997, indicated that concentrations of TPH-D, BTEX, and methyl-tert-butyl ether were below reporting limits for each of the three wells. In addition, concentrations of TPH-G were below reporting limits for wells MW-1 and MW-3, but were detected at 150 μ g/1 in the sample collected from MW-2. Of the three wells, MW-2 is located closest to the 2277 Seventh Street site.