



ALISTO ENGINEERING GROUP

REC'D  
HAZMAT  
SEP 21 9 21 32

October 25, 1994

Mr. Barney Chan  
Department of Environmental Health  
Alameda County Health Care Services Agency  
80 Swan Way, Room 200  
Oakland, California 94621

10-005-02-002

Subject: Sewer Discharge Permit - Monthly Report  
BP Oil Company Service Station 11109  
4280 Foothill Boulevard  
Oakland, California  
Wastewater Discharge Permit No. 502-77421

Dear Mr. Chan:

On behalf of BP Oil Company, we have enclosed a summary of analytical results for the remediation system sampling events and the quantity discharged for BP Oil Company Service Station 11109, 4280 Foothill Boulevard, Oakland, California. This report covers the period from July 1 to September 30, 1994.

Results of sample analysis indicate that petroleum hydrocarbon constituents were not present above the reported detection limits in the effluent samples. The total volume discharged for the period is presented in Table 1. The results of influent, intermediate, and effluent sample analysis are presented in Table 2. The certified laboratory reports and chain of custody records are presented in Attachment A.

Please call if you have questions regarding this report.

Sincerely,

ALISTO ENGINEERING GROUP

Peter Beaver  
Engineering Manager

Enclosure

cc: Scott Hooton, BP Oil Company

TABLE 1 - FLOW DATA FOR GROUNDWATER TREATMENT SYSTEM  
 BP OIL COMPANY SERVICE STATION NO. 11109  
 4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-005

FLOW METER READING (Gallons)	EFFLUENT DISCHARGED (Gallons)	AVERAGE FLOW RATE (GPD)	AVERAGE FLOW RAT (GPM)
0	0	---	0.00
1640	1640	126	0.09
3000	1360	45	0.03
12550	9550	318	0.22
16237	3687	115	0.08
19505	3268	105	0.07
30516	11011	393	0.27
50432	19916	553	0.38
72894	22462	702	0.49
OR QUARTER	53389	556	0.39

NOTES:

Gallons per day  
 Gallons per minute  
 Not available/applicable

TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER TREATMENT SYSTEM OPERATION  
 BP OIL COMPANY SERVICE STATION NO. 11109  
 4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-005

Sample ID	Date	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	UNKNOWN (ppb)	MEK (ppb)	Arsenic (ppm)	Barium (ppm)	Molybdenum (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)	LAB
<i>influent</i> STA11109-I	02/15/94	--	--	810	440	ND<0.50	1400	--	ND<5.0	ND<0.005	0.15	ND<0.02	0.02	0.05	0.43	PAC
I-1	02/18/94	19000	--	2500	1300	180	1800	--	ND<5.0	--	--	--	--	--	--	PAC
I-1	02/25/94	19000	3700	2400	1300	190	1400	1400	--	--	--	--	--	--	--	PAC
I-1	03/07/94	5800	--	660	290	52	540	--	--	--	--	--	--	--	--	PAC
I-1	04/15/94	7600	--	740	240	ND<0.50	590	--	--	--	--	--	--	--	--	PAC
I-1	05/12/94	6800	--	710	470	67	730	--	--	--	--	--	--	--	--	PAC
I-1	06/16/94	6000	--	460	270	60	730	--	--	--	--	--	--	--	--	PAC
I-1	07/14/94	5300	2100	260	180	58	820	--	--	--	--	--	--	--	--	PAC
I-1	08/23/94	4700	1400	890	120	52	590	--	--	--	--	--	--	--	--	PAC
I-1	09/19/94	5500	2200	310	120	43	530	--	--	--	--	--	--	--	--	PAC
STA11109-A	02/15/94	--	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<5.0	ND<0.005	ND<0.01	ND<0.02	ND<0.01	ND<0.02	0.13	PAC
A-1	02/18/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<5.0	--	--	--	--	--	--	PAC
A-1	02/25/94	ND<50	--	1.1	0.8	ND<0.50	0.7	--	--	--	--	--	--	--	--	PAC
A-1	03/07/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
A-1	04/15/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
A-1	05/12/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	0.5	--	--	--	--	--	--	--	--	PAC
A-1	06/16/94	ND<50	--	0.7	0.5	ND<0.50	0.6	--	--	--	--	--	--	--	--	PAC
A-1	07/14/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
A-1	08/23/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
A-1	09/19/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
STA11109-E	02/15/94	--	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	59	0.019	ND<0.01	0.04	ND<0.01	ND<0.01	0.05	PAC
E-1	02/18/94	--	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<5.0	--	--	--	--	--	--	PAC
E-1	02/25/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
E-1	03/07/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
E-1	04/15/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
E-1	05/12/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
E-1	06/16/94	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
E-1	07/14/94	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
E-1	08/23/94	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC
E-1	09/19/94	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--	--	--	PAC

ABBREVIATIONS:

- TPH-G Total petroleum hydrocarbons as gasoline
- TPH-D Total petroleum hydrocarbons as diesel
- B Benzene
- T Toluene
- E Ethylbenzene
- X Total xylenes
- ppb Parts per billion
- ND Not detected above reported detection limit
- Not analyzed/available
- SEQ Sequoia Analytical Laboratory
- PAC Pace, Inc.

ATTACHMENT A  
LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS

September 30, 1994

Mr. Peter Beaver  
Alisto Engineering Group  
1777 Oakland Blvd, Ste. 200  
Walnut Creek, CA 94596

RE: PACE Project No. 440920.510  
Client Reference: 11109/10-005-03-001

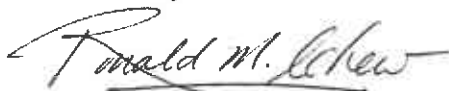
Dear Mr. Beaver:

Enclosed is the report of laboratory analyses for samples received September 20, 1994.

Footnotes are given at the end of the report.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,



Ronald M. Chew  
Project Manager

Enclosures



# REPORT OF LABORATORY ANALYSIS

Alisto Engineering Group  
 1777 Oakland Blvd, Ste. 200  
 Walnut Creek, CA 94596

September 30, 1994  
 PACE Project Number: 440920510

Attn: Mr. Peter Beaver

Client Reference: 11109/10-005-03-001

PACE Sample Number: 70 0397448  
 Date Collected: 09/19/94  
 Date Received: 09/20/94  
 Client Sample ID: Sta#11109  
 Parameter

Units      MDL      INF      DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/28/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1000	5900	09/28/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/28/94
Benzene	ug/L	10	310	09/28/94
Toluene	ug/L	10	120	09/28/94
Ethylbenzene	ug/L	10	43	09/28/94
Xylenes, Total	ug/L	10	530	09/28/94
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	2.2	09/26/94
Date Extracted			09/26/94	

Mr. Peter Beaver  
 Page 2

September 30, 1994  
 PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001

PACE Sample Number:  
 Date Collected:  
 Date Received:  
 Client Sample ID:  
 Parameter

70 0397456  
 09/19/94  
 09/20/94  
 Sta#11109

Units                      MDL                      A                      DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	-	09/27/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	ND	09/27/94
Toluene	ug/L	0.5	ND	09/27/94
Ethylbenzene	ug/L	0.5	ND	09/27/94
Xylenes, Total	ug/L	0.5	ND	09/27/94

Mr. Peter Beaver  
 Page 3

September 30, 1994  
 PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001

PACE Sample Number:			70 0397464	
Date Collected:			09/19/94	
Date Received:			09/20/94	
Client Sample ID:			Sta#11109	
<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>EFF</u>	<u>DATE ANALYZED</u>

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/27/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/27/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	ND	09/27/94
Toluene	ug/L	0.5	ND	09/27/94
Ethylbenzene	ug/L	0.5	ND	09/27/94
Xylenes, Total	ug/L	0.5	ND	09/27/94
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	ND	09/26/94
Date Extracted			09/26/94	



Mr. Peter Beaver  
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September 30, 1994  
 PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001


PACE Sample Number: 70 0397472  
 Date Collected: 09/19/94  
 Date Received: 09/20/94  
 Client Sample ID: Sta#11109

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Blank</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/27/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	4900	09/27/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	230	09/27/94
Toluene	ug/L	0.5	94	09/27/94
Ethylbenzene	ug/L	0.5	28	09/27/94
Xylenes, Total	ug/L	0.5	400	09/27/94

These data have been reviewed and are approved for release.



Darrell C. Cain  
 Regional Director



# REPORT OF LABORATORY ANALYSIS

Mr. Peter Beaver  
Page 5

FOOTNOTES  
for pages 1 through 4

September 30, 1994  
PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001

MDL Method Detection Limit  
ND Not detected at or above the MDL.

Mr. Peter Beaver  
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QUALITY CONTROL DATA

September 30, 1994  
 PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001

EXTRACTABLE FUELS EPA 3510/8015  
 Batch: 70 34392  
 Samples: 70 0397448, 70 0397464

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Extractable Fuels, as Diesel	mg/L	0.05	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.05	1.00	73%	97%	28%

Mr. Peter Beaver  
Page 7

QUALITY CONTROL DATA

September 30, 1994  
PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001

PURGEABLE FUELS AND AROMATICS

Batch: 70 34462  
Samples: 70 0397456, 70 0397464, 70 0397472

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS. (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700392799	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	90%	86%	5%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1000	99%	102%	3%

Mr. Peter Beaver  
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QUALITY CONTROL DATA

September 30, 1994  
 PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001

PURGEABLE FUELS AND AROMATICS  
 Batch: 70 34519  
 Samples: 70 0397448

METHOD BLANK:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Method Blank</u>
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>700396948</u>	<u>Spike</u>	<u>Spike Recv</u>	<u>Spike Dupl Recv</u>	<u>RPD</u>
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	97%	93%	4%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Reference Value</u>	<u>Recv</u>	<u>Dupl Recv</u>	<u>RPD</u>
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1000	108%	97%	11%

Mr. Peter Beaver  
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FOOTNOTES  
for pages 6 through 8

September 30, 1994  
PACE Project Number: 440920510

Client Reference: 11109/10-005-03-001

MDL Method Detection Limit  
ND Not detected at or above the MDL.  
RPD Relative Percent Difference



440920.510

### CHAIN OF CUSTODY

No. 051207

Page 1 of 1

CONSULTANT'S NAME <b>ALISTO ENGINEERING GROUP</b>		ADDRESS <b>1777 OAKLAND BLVD # 200</b>		CITY <b>WC</b>	STATE <b>CA</b>	ZIP CODE <b>94596</b>
BP SITE NUMBER <b>11109</b>	BP CORNER ADDRESS/CITY <b>4280 FOOTHILL BLVD OAKLAND CA</b>				CONSULTANT PROJECT NUMBER <b>10-005-03-001</b>	
CONSULTANT PROJECT MANAGER <b>Pete BEAVER</b>		PHONE NUMBER <b>(510) 295-1650</b>		FAX NUMBER		CONSULTANT CONTRACT NUMBER
BP CONTACT		BP ADDRESS		PHONE NUMBER		FAX NO.
LAB CONTACT <b>Ross Chew</b>		LABORATORY ADDRESS <b>11 DENTAL DR NOVATO CA</b>		PHONE NUMBER <b>(415) 883-6100</b>		FAX NO.
SAMPLED BY (Please Print Name) <b>Scott Polston</b>		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE		SHIPMENT METHOD

TAT:  24 Hours  48 Hours  1 Week  Standard 2 Weeks

#### ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE 9/19/94 COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE HCl	TPH		COMMENTS
			NO.	TYPE (VOL.)		LAB SAMPLE #	TPH CAS STX	
Sta # 11109 - INF	1453	GW	5		39744.8	X	X	
Sta # 11109 - A	1456	↓	3		39745.0	X		
Sta # 11109 - EFF	1458	↓	5		39746.4	X	X	
Sta # 11109 - Field Blank	1500	↓	3		39747.2	X		GPS Per Peter Beaver 9/22

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i>	9/20/94	12:30	Brenda D. [Signature]	9/20/94	12:30	5/1 C/1
Brenda D. [Signature]	9/20/94	5:00	Juan [Signature]	9/20/94	5:00	

July 26, 1994



Mr. Peter Beaver  
Alisto Engineering Group  
1777 Oakland Blvd, Ste. 200  
Walnut Creek, CA 94596

RE: PACE Project No. 440715.516  
Client Reference: BP Site #11109/10-005-03-001

Dear Mr. Beaver:

Enclosed is the report of laboratory analyses for samples received July 15, 1994.

Footnotes are given at the end of the report.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Ronald M. Chew  
Project Manager

Enclosures





# REPORT OF LABORATORY ANALYSIS

Alisto Engineering Group  
 1777 Oakland Blvd, Ste. 200  
 Walnut Creek, CA 94596

July 26, 1994  
 PACE Project Number: 440715516

Attn: Mr. Peter Beaver

Client Reference: BP Site #11109/10-005-03-001

PACE Sample Number:	70 0356865
Date Collected:	07/14/94
Date Received:	07/15/94
Client Sample ID:	Sta#11109
Parameter	<u>Units</u> <u>MDL</u> <u>INF</u> <u>DATE ANALYZED</u>

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/20/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	500	5300	07/20/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/20/94
Benzene	ug/L	5.0	260	07/20/94
Toluene	ug/L	5.0	180	07/20/94
Ethylbenzene	ug/L	5.0	58	07/20/94
Xylenes, Total	ug/L	5.0	820	07/20/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	2.1	07/19/94
Date Extracted			07/18/94	

**REPORT OF LABORATORY ANALYSIS**

Mr. Peter Beaver  
 Page 2

July 26, 1994  
 PACE Project Number: 440715516

Client Reference: BP Site #11109/10-005-03-001

PACE Sample Number:  
 Date Collected:  
 Date Received:  
 Client Sample ID:  
 Parameter

70 0356873  
 07/14/94  
 07/15/94  
 Sta#11109

Units                      MDL                      A                      DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/19/94
Benzene	ug/L	0.5	ND	07/19/94
Toluene	ug/L	0.5	ND	07/19/94
Ethylbenzene	ug/L	0.5	ND	07/19/94
Xylenes, Total	ug/L	0.5	ND	07/19/94

**REPORT OF LABORATORY ANALYSIS**

Mr. Peter Beaver  
 Page 3

July 26, 1994  
 PACE Project Number: 440715516

Client Reference: BP Site #11109/10-005-03-001

PACE Sample Number:  
 Date Collected:  
 Date Received:  
 Client Sample ID:  
 Parameter

70 0356881  
 07/14/94  
 07/15/94  
 Sta#11109  
 EFF

Units      MDL      DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/19/94
Benzene	ug/L	0.5	ND	07/19/94
Toluene	ug/L	0.5	ND	07/19/94
Ethylbenzene	ug/L	0.5	ND	07/19/94
Xylenes, Total	ug/L	0.5	ND	07/19/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	ND	07/19/94
Date Extracted			07/18/94	

These data have been reviewed and are approved for release.

*Darrell C. Cain*  
 Darrell C. Cain  
 Regional Director

Mr. Peter Beaver  
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FOOTNOTES  
for pages 1 through 3

July 26, 1994  
PACE Project Number: 440715516

Client Reference: BP Site #11109/10-005-03-001.

MDL Method Detection Limit  
ND Not detected at or above the MDL.

Mr. Peter Beaver  
 Page 5

QUALITY CONTROL DATA

July 26, 1994  
 PACE Project Number: 440715516

Client Reference: BP Site #11109/10-005-03-001

EXTRACTABLE FUELS EPA 3510/8015

Batch: 70 32151

Samples: 70 0356865, 70 0356881

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Extractable Fuels, as Diesel	mg/L	0.05	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dup1 Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.05	1.00	92%	94%	2%

**REPORT OF LABORATORY ANALYSIS**

Mr. Peter Beaver  
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QUALITY CONTROL DATA

July 26, 1994  
 PACE Project Number: 440715516

Client Reference: BP Site #11109/10-005-03-001

PURGEABLE FUELS AND AROMATICS  
 Batch: 70 32160  
 Samples: 70 0356873, 70 0356881

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700356792	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	93%	92%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1000	98%	95%	3%

Mr. Peter Beaver  
 Page 7

QUALITY CONTROL DATA

July 26, 1994  
 PACE Project Number: 440715516

Client Reference: BP Site #11109/10-005-03-001

PURGEABLE FUELS AND AROMATICS

Batch: 70 32177  
 Samples: 70 0356865

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700357403	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	93%	104%	11%
Toluene	ug/L	0.5	ND	100	93%	100%	7%
Ethylbenzene	ug/L	0.5	ND	100	92%	96%	4%
Xylenes, Total	ug/L	0.5	ND	300	93%	96%	3%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	96%	99%	3%
Toluene	ug/L	0.5	100	95%	98%	3%
Ethylbenzene	ug/L	0.5	100	95%	96%	1%
Xylenes, Total	ug/L	0.5	300	96%	96%	0%



# REPORT OF LABORATORY ANALYSIS

Mr. Peter Beaver  
Page 8

FOOTNOTES  
for pages 5 through 7

July 26, 1994  
PACE Project Number: 440715516

Client Reference: BP Site #11109/10-005-03-001

MDL Method Detection Limit  
ND Not detected at or above the MDL.  
RPD Relative Percent Difference





440715.516

# CHAIN OF CUSTODY

No.053146

Page 1 of 1

CONSULTANT'S NAME <b>ALISO ENGINEERING GROUP</b>		ADDRESS <b>1777 OAKLAND BLVD #200</b>	CITY <b>WA</b>	STATE <b>CA</b>	ZIP CODE
BP SITE NUMBER <b>11109</b>	BP CORNER ADDRESS/CITY <b>4280 FOOTHILL BLVD OAKLAND CA</b>		CONSULTANT PROJECT NUMBER <b>10-005-03-001</b>		
CONSULTANT PROJECT MANAGER <b>Peter BEAVER</b>		PHONE NUMBER <b>(510) 295-1650</b>	FAX NUMBER		CONSULTANT CONTRACT NUMBER
BP CONTACT	BP ADDRESS		PHONE NUMBER		FAX NO.
LAB CONTACT <b>RON CHEW</b>	LABORATORY ADDRESS <b>11 DIGITAL DR NOVATO CA</b>		PHONE NUMBER <b>(415) 883-6100</b>		FAX NO.
SAMPLED BY (Please Print Name) <b>SCOTT POLSTON</b>		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE	SHIPMENT METHOD

TAT:  24 Hours  48 Hours  1 Week  Standard 2 Weeks

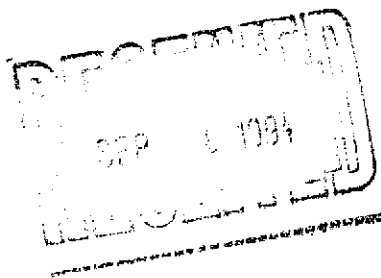
ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE LAB SAMPLE #	HPLC TPH		PH	COMMENTS
			NO.	TYPE (VOL.)		ONE	TWO		
Sta# 11109-INF	0832	OW	5	NA	351686.5	X	X	27	
Sta# 11109-A	0835	↓	13	↓	351687.3	X			
Sta# 11109-EFF	0837	↓	5V	↓	351688.1	X	X	27	one only c-w. liter

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i>	7/15/14	1430	Edithy Pore	7/15/14	1430	10/2 B11
Patricia Lyle	7/15					
Edithy Pore	7/15/14	1630	Jim McWhorter	7/15/14	1630	

September 02, 1994



Mr. Peter Beaver  
Alisto Engineering Group  
1777 Oakland Blvd, Ste. 200  
Walnut Creek, CA 94596

RE: PACE Project No. 440824.516  
Client Reference: BP Site #11109/10-005-03-001

Dear Mr. Beaver:

Enclosed is the report of laboratory analyses for samples received August 24, 1994.

Footnotes are given at the end of the report.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Ronald M. Chew  
Project Manager

Enclosures



# REPORT OF LABORATORY ANALYSIS

September 02, 1994  
 PACE Project Number: 440824516

Alisto Engineering Group  
 1777 Oakland Blvd, Ste. 200  
 Walnut Creek, CA 94596

Attn: Mr. Peter Beaver

Client Reference: BP Site #11109/10-005-03-001

PACE Sample Number:  
 Date Collected:  
 Date Received:  
 Client Sample ID:  
 Parameter

70 0380570  
 08/23/94  
 08/24/94  
 STA#11109

Units                      MDL                      INF                      DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1000	-	08/30/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	10	690	08/30/94
Toluene	ug/L	10	120	08/30/94
Ethylbenzene	ug/L	10	52	08/30/94
Xylenes, Total	ug/L	10	590	08/30/94
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	1.4	08/31/94
Date Extracted			08/29/94	

Mr. Peter Beaver  
 Page 2

September 02, 1994  
 PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

PACE Sample Number:  
 Date Collected:  
 Date Received:  
 Client Sample ID:  
 Parameter

70 0380588  
 08/23/94  
 08/24/94  
 STA#11109

Units                      MDL                      A                      DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	-	08/29/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	ND	08/29/94
Toluene	ug/L	0.5	ND	08/29/94
Ethylbenzene	ug/L	0.5	ND	08/29/94
Xylenes, Total	ug/L	0.5	ND	08/29/94

**REPORT OF LABORATORY ANALYSIS**

Mr. Peter Beaver  
 Page 3

September 02, 1994  
 PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

PACE Sample Number:  
 Date Collected:  
 Date Received:  
 Client Sample ID:  
 Parameter

70 0380596  
 08/23/94  
 08/24/94  
 STA#11109  
 EFF DATE ANALYZED

Units

MDL

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015M) ug/L 50 ND 08/29/94

PURGEABLE AROMATICS (BTXE BY EPA 8020M):

Benzene ug/L 0.5 ND 08/29/94

Toluene ug/L 0.5 ND 08/29/94

Ethylbenzene ug/L 0.5 ND 08/29/94

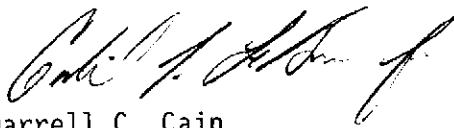
Xylenes, Total ug/L 0.5 ND 08/29/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel mg/L 0.05 ND 08/30/94

Date Extracted 08/29/94

These data have been reviewed and are approved for release.



Darrell C. Cain  
 Regional Director

Mr. Peter Beaver  
Page 4

FOOTNOTES  
for pages 1 through 3

September 02, 1994  
PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

MDL Method Detection Limit  
ND Not detected at or above the MDL.

Mr. Peter Beaver  
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QUALITY CONTROL DATA

September 02, 1994  
 PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

EXTRACTABLE FUELS EPA 3510/8015  
 Batch: 70 33490  
 Samples: 70 0380570

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Extractable Fuels, as Diesel	mg/L	0.05	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.05	1.00	93%	89%	4%

**REPORT OF LABORATORY ANALYSIS**

Mr. Peter Beaver  
 Page 6

QUALITY CONTROL DATA

September 02, 1994  
 PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

EXTRACTABLE FUELS EPA 3510/8015

Batch: 70 33491

Samples: 70 0380596

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Extractable Fuels, as Diesel	mg/L	0.05	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dup1 Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.05	1.00	70%	89%	24%



Mr. Peter Beaver  
 Page 7

QUALITY CONTROL DATA

September 02, 1994  
 PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

PURGEABLE FUELS AND AROMATICS

Batch: 70 33459  
 Samples: 70 0380588, 70 0380596

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700380421	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	97%	86%	12%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1000	96%	95%	1%

Mr. Peter Beaver  
Page 8

QUALITY CONTROL DATA

September 02, 1994  
PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

PURGEABLE FUELS AND AROMATICS

Batch: 70 33549  
Samples: 70 0380570

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700382408	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	103%	103%	0%
Toluene	ug/L	0.5	ND	100	102%	102%	0%
Ethylbenzene	ug/L	0.5	ND	100	97%	97%	0%
Xylenes, Total	ug/L	0.5	ND	300	103%	104%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	108%	106%	2%
Toluene	ug/L	0.5	100	106%	105%	1%
Ethylbenzene	ug/L	0.5	100	100%	100%	0%
Xylenes, Total	ug/L	0.5	300	107%	106%	1%

Mr. Peter Beaver  
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FOOTNOTES  
for pages 5 through 8

September 02, 1994  
PACE Project Number: 440824516

Client Reference: BP Site #11109/10-005-03-001

MDL Method Detection Limit  
ND Not detected at or above the MDL.  
RPD Relative Percent Difference



440824.SIC

### CHAIN OF CUSTODY

No.063431 Page 1 of 1

CONSULTANT'S NAME <b>ALTO Engineering Group</b>		ADDRESS <b>1777 OAKLAND BLVD #200</b>		CITY <b>WC</b>	STATE <b>CA</b>	ZIP CODE <b>94596</b>
BP SITE NUMBER <b>11109</b>	BP CORNER ADDRESS/CITY <b>4280 Foothill BLVD OAKLAND CA</b>			CONSULTANT PROJECT NUMBER <b>10-005-03-001</b>		
CONSULTANT PROJECT MANAGER <b>Pete BEAVER</b>		PHONE NUMBER <b>(510) 295-1650</b>		FAX NUMBER		CONSULTANT CONTRACT NUMBER
BP CONTACT		BP ADDRESS		PHONE NUMBER		FAX NO.
LAB CONTACT <b>Ron Chew</b>		LABORATORY ADDRESS <b>11 Digital DR Novato CA</b>		PHONE NUMBER <b>(415) 883-6100</b>		FAX NO.
SAMPLED BY (Please Print Name) <b>Scott Polston</b>		SAMPLED BY (Signature) 		SHIPMENT DATE		SHIPMENT METHOD

TAT:  24 Hours  48 Hours  1 Week  Standard 2 Weeks

#### ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE 8/23/94 COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE LAB SAMPLE #	Kd TPH or BTEX	N/A TPH diesel	ANALYSIS REQUIRED										COMMENTS					
			NO.	TYPE (VOL.)																			
Sta# 11109 - INF	0810	GN	5		36057.0	X	X																
Sta# 11109 - A	0813	↓	3		36058.8	X																	
Sta# 11109 - EFF	0815	↓	5		36059.6	X	X																

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	8/24/94	1515	Ed Kelly - BP	8/24/94	1600
Ed Kelly - BP	8/24/94	1900		8/24/94	1900

10/2  
F/2