PACIFIC
ENVIRONMENTAL
GROUP, INC.

ALCO
HAZMAT
93 NOV 23 AM 11:32

Efficiency test
for Cat oxidizer
Be 5/2/94 # 530

November 19, 1993
Project 305-79.01

Mr. Robert E. Cave
Permit Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Re: BAAQMD Permit to Operate 10111 Efficiency Test Results
Shell Service Station
285 Hegenberger Road at Leet Drive
Oakland, California
WIC No 204-7620-1502

Dear Mr. Cave:

On behalf of Shell Oil Company, Pacific Environmental Group, Inc. (PACIFIC) is operating a soil vapor extraction (SVE) and treatment system (S-1 and A-2, respectively) at the site referenced above. As stated in PACIFIC's notification letter dated September 21, 1993, abatement device A-1, internal combustion engine, has been replaced by abatement device A-2, catalytic oxidizer. This letter presents source emission test results following abatement device changeover to A-2, as required by the permit referenced above. Source test data (Table 1) verify that the SVE system is in compliance with permit conditions.

Condition 11 of the referenced permit requires that within 10 days of abatement device changeover from A-1 to A-2, an efficiency test shall be conducted to determine the weight percent reduction of precursor organic compound (POC) emissions through A-2. In addition, Condition 11 requires that the influent and effluent vapor from the SVE system shall be sampled and analyzed for benzene and POC concentrations.

System operation using A-2 began October 27, 1993. Influent and effluent vapor samples were collected on October 27 through 29, 1993 and sent to Sequoia Analytical, a California State-certified laboratory. The samples were analyzed for

total petroleum hydrocarbons calculated as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) using EPA Method 8015/8020. Certified analytical reports and chain-of-custody documentation for both influent and effluent samples are included as Attachment A.

If you have any questions or require addition information, please do not hesitate to call.

Sincerely,

Pacific Environmental Group, Inc.

Suzanne McClurkin-Nelson
Engineering Technician

Mark W. Boyd
Staff Engineer

Attachments: Table 1 - Soil Vapor Extraction System Start-up Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)
Attachment A - Certified Analytical Reports and Chain-of-Custody Documentation

cc: Mr. Dan Kirk, Shell Oil Company
Mr. Barney Chan, Alameda County Health Care Services Agency

Table 1
Soil Vapor Extraction System Start–up Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and Benzene)

Shell Service Station
285 Hegenberger Road at Leet Drive
Oakland, California

		TPH as Gasoline				Benzene			
Date Sampled	Flow Rate (cfm)	Influent Concentration (ppmv)	Effluent Concentration (ppmv)	Destruction Efficiency (%)	Emmision Rate (lbs/day)	Influent Concentration (ppmv)	Effluent Concentration (ppmv)	Destruction Efficiency (%)	Emmision Rate (lbs/day)
08/30/93 a	33.5	7,801	NS	--	--	124	NS	--	--
08/31/93	37.3	2,364	57	97.60	0.805	28	0.15	99.47	0.002
09/01/93	30.1	3,073	19	99.39	0.214	49	0.07	99.85	0.001
09/02/93 b	46.3	2,080	15	99.27	0.266	55	0.49	99.11	0.007
10/27/93 c	85	120.6	1.2 d	99.02	0.038	1.5	0.01 d	99.06	0.0004
10/28/93	85	186.8	1.2 d	99.37	0.038	5.2	0.01 d	99.72	0.0004
10/29/93	87	186.8	1.2 d	99.37	0.039	4.0	0.03	99.36	0.0007

scfm = Standard cubic feet per minute
ppmv = Parts per million by volume
lbs = Pounds
NS = Not sampled
a. 8/30/93 system start–up terminated due to equipment malfunctions.
b. Internal combustion engine operated from 8/30/93 to 9/14/93.
c. Catalytic oxizider start–up on 10/27/93.
d. Detection limit with multiplication factor used for non–detectable value.
Destruction efficiency [%] = [(1 – (effluent concentration/influent concentration))*100]

ATTACHMENT A

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RECEIVED
NOV 01 1993
PACIFIC ENVIRONMENTAL GROUP, INC.

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Project: 305-79.01L/Shell, Oakland

Enclosed are the results from 2 air samples received at Sequoia Analytical on October 28,1993. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3JE5201	Air, Infl	10/27/93	EPA 5030/8015/8020
3JE5202	Air, Effl	10/27/93	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	305-79.01L/Shell, Oakland	Sampled:	Oct 27, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Air	Received:	Oct 28, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported:	Oct 29, 1993
Attention: Maree Doden	First Sample #:	3JE5201		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3JE5201 Infl	Sample I.D. 3JE5202 Effl
Purgeable Hydrocarbons	5.0	510	N.D.
Benzene	0.050	5.3	N.D.
Toluene	0.050	2.6	0.060
Ethyl Benzene	0.050	2.0	N.D.
Total Xylenes	0.050	4.3	0.070
Chromatogram Pattern:		Gas + Non-gas < C8	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	10/28/93	10/28/93
Instrument Identification:	GCHP-2	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	157*	102

*Coelution confirmed

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-79.01L/Shell, Oakland

QC Sample Group: 3JE5201-02

Reported: Oct 29, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
Conc. Spiked:	10	10	10	30
Units:	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	GBLK102893	GBLK102893	GBLK102893	GBLK102893
Date Prepared:	N.A.	N.A.	N.A.	N.A.
Date Analyzed:	10/28/93	10/28/93	10/28/93	10/28/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
LCS % Recovery:	81	80	81	80
Control Limits:	80-120	80-120	80-120	80-120
MS/MSD Batch #:	3JD2401	3JD2401	3JD2401	3JD2401
Date Prepared:	N.A.	N.A.	N.A.	N.A.
Date Analyzed:	10/28/93	10/28/93	10/28/93	10/28/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
Matrix Spike % Recovery:	91	91	93	90
Matrix Spike Duplicate % Recovery:	98	98	97	100
Relative % Difference:	7.4	7.4	4.2	11

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEC
REC. BY (PRINT): PH

MASTER LOG NO. / PAGE: 9310E52
DATE OF LOG-IN: 10-28

CIRCLE THE APPROPRIATE RESPONSE	
1. Custody Seal(s):	Present / (Absent) Intact / Broken*
2. Custody Seal Nos.:	—
3. Chain-of-Custody Records:	(Present) / Absent*
4. Traffic Reports or Packing List:	Present / (Absent)
5. Airbill:	Airbill / Sticker Present / (Absent)
6. Airbill No.:	—
7. Sample Tags: Sample Tag Nos.:	(Present) / Absent* (Listed) / Not Listed on Chain-of-Custody
8. Sample Condition:	(Intact)/Broken*/Leaking*
9. Does information on custody reports, traffic reports and sample tags agree?	(Yes) / No*
10. Proper Preservatives Used:	(Yes) / No*
11. Date Rec. at Lab:	10-28-93
Time Rec. at Lab:	1147

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC)
01	A	INFL	TEDLAR	A	10-27	
02	"	EFFL	"	"	"	

* If so, contact Project Manager and attach record of resolution

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	305-79.01L/Shell, Oakland	Sampled:	Oct 28, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Air	Received:	Oct 29, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported:	Nov 5, 1993
Attention: Maree Doden	First Sample #:	3JF4801		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3JF4801 Infl	Sample I.D. 3JF4802 Effl
Purgeable Hydrocarbons	5.0	790	N.D.
Benzene	0.050	18	N.D.
Toluene	0.050	14	N.D.
Ethyl Benzene	0.050	N.D.	N.D.
Total Xylenes	0.050	24	N.D.
Chromatogram Pattern:		Gas + Non-gas < C8	--

Quality Control Data

Report Limit Multiplication Factor:	20	1.0
Date Analyzed:	10/29/93	10/30/93
Instrument Identification:	GCHP-3	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	110	95

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-79.01L/Shell, Oakland
QC Sample Group: 3JF4801-02
Reported: Nov 5, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
Conc. Spiked:	10	10	10	30
Units:	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	GBLK102993	GBLK102993	GBLK102993	GBLK102993
Date Prepared:	-	-	-	-
Date Analyzed:	10/29/93	10/29/93	10/29/93	10/29/93
Instrument I.D.#:	GCHP-3	GCHP-3	GCHP-3	GCHP-3
LCS % Recovery:	110	96	91	90
Control Limits:	80-120	80-120	80-120	80-120
MS/MSD Batch #:	3JD7902	3JD7902	3JD7902	3JD7902
Date Prepared:	-	-	-	-
Date Analyzed:	10/29/93	10/29/93	10/29/93	10/29/93
Instrument I.D.#:	GCHP-3	GCHP-3	GCHP-3	GCHP-3
Matrix Spike % Recovery:	113	103	93	91
Matrix Spike Duplicate % Recovery:	113	102	94	93
Relative % Difference:	0.0	0.97	1.1	2.2

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-79.01L/Shell, Oakland

QC Sample Group: 3JF4801-02

Reported: Nov 5, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	Harabajahian	Harabajahian	Harabajahian	Harabajahian
Conc. Spiked:	10	10	10	30
Units:	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	GBLK103093	GBLK103093	GBLK103093	GBLK103093
Date Prepared:	-	-	-	-
Date Analyzed:	10/30/93	10/30/93	10/30/93	10/30/93
Instrument I.D.#:	GCHP-3	GCHP-3	GCHP-3	GCHP-3
LCS % Recovery:	100	95	95	97
Control Limits:	80-120	80-120	80-120	80-120
MS/MSD Batch #:	3JE7702	3JE7702	3JE7702	3JE7702
Date Prepared:	-	-	-	-
Date Analyzed:	10/30/93	10/30/93	10/30/93	10/30/93
Instrument I.D.#:	GCHP-3	GCHP-3	GCHP-3	GCHP-3
Matrix Spike % Recovery:	110	110	110	110
Matrix Spike Duplicate % Recovery:	100	100	100	103
Relative % Difference:	9.5	9.5	9.5	6.6

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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SHELL OIL COMPANY 305 7901 -L

RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: _____

Date: 10/27/93

Page 1 of 1

Site Address: 285 MacArthur, Oakland

WIC#: 204-5508-5504

Shell Engineer: Dan Kirk Phone No: (510) 675-6168 Fax #: 675-6172

Consultant Name & Address: PACIFIC ENVIRONMENTAL GROUP, INC. 2025 GATEWAY PLACE, Ste. 440 SAN JOSE, CALIFORNIA 95110

Consultant Contact: Maree Doden Phone No.: 408 441-7500 Fax #: 441-7539

Comments: Day 2, 5V, samples

Sampled by: [signature] Printed Name: Mark Gubrud

LAB: SEQUOIA

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
UNFL	10/26/93		-01		X	1						X		BAJ	NP	N	UST Soil	9310F48
EFFL	10/26/93		-02		X	1						X		BAJ	NP	N	Gasoline	LICT 44

CHECK ONE (1) BOX ONLY — CT/DT

- G.W. Monitoring ☐ 4461
- Site Investigation ☐ 4441
- Soil Classify/Disposal ☐ 4442
- Water Classify/Disposal ☐ 4443
- Soil/Air Rem. or Sys. O & M ☒ 4452
- Water Rem. or Sys. O & M ☐ 4453
- Other ☐

TURN AROUND TIME

- 24 hours ☐
- 48 hours ☐
- 15 days ☒ (Normal)
- Other ☐ ____

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: _____

	Printed Name	Date/Time		Printed Name	Date/Time
Relinquished By (signature): [signature]	Mark Gubrud	10/26/93 1758	Received (signature): [signature]	M. DODEN	10/26/93 1750
Relinquished By (signature): [signature]	M DODEN	10/27/93 0730	Received (signature): SFO	S O'Donnell	10/27/93 1522
Relinquished By (signature): SFO	S O'Donnell	10/27/93 1522	Received (signature): [signature]	Stenstrom	10/29 1645

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Shell Oil Chain of Custody

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT): LS

MASTER LOG NO. / PAGE: 9310F48
DATE OF LOG-IN: 10-29

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC)
1. Custody Seal(s):	Present / (Absent) Intact / Broken*	1	A	empty	Tedlar	A	10/28	
2. Custody Seal Nos.:		2	↓	Effl	↓	↓	↓	
3. Chain-of-Custody Records:	(Present) / Absent*							
4. Traffic Reports or Packing List:	Present / (Absent)							
5. Airbill:	Airbill / Sticker Present / (Absent)							
6. Airbill No.:								
7. Sample Tags: Sample Tag Nos.:	(Present) / Absent* (Listed) / Not Listed on Chain-of-Custody							
8. Sample Condition:	(Intact) / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample tags agree?	(Yes) / No*							
10. Proper Preservatives Used:	(Yes) / No*							
11. Date Rec. at Lab:	10/29							
12. Time Rec. at Lab:	1645							

*If no, contact Project Manager and attach record of resolution

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RECEIVED
NOV 08 1993
INC

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Project: 305-79.01L/Shell, Oakland

Enclosed are the results from 2 air samples received at Sequoia Analytical on October 29,1993. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3JF4701	Air, Infl	10/29/93	EPA 5030/8015/8020
3JF4702	Air, Effl	10/29/93	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	305-79.01L/Shell, Oakland	Sampled:	Oct 29, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Air	Received:	Oct 29, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported:	Nov 5, 1993
Attention: Maree Doden	First Sample #:	3JF4701		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3JF4701 Infl	Sample I.D. 3JF4702 Effl
Purgeable Hydrocarbons	5.0	790	N.D.
Benzene	0.050	14	0.089
Toluene	0.050	12	N.D.
Ethyl Benzene	0.050	2.1	N.D.
Total Xylenes	0.050	27	N.D.
Chromatogram Pattern:		Gas	--

Quality Control Data

Report Limit Multiplication Factor:	10	1.0
Date Analyzed:	10/30/93	10/30/93
Instrument Identification:	GCHP-2	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%) *Coelution confirmed	172*	104

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-79.01L/Shell, Oakland

QC Sample Group: 3JF4701-02

Reported: Nov 5, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	V. Harabajahian	V. Harabajahian	.Harabajahian	.Harabajahian
Conc. Spiked:	10	10	10	30
Units:	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	GBLK103093	GBLK103093	GBLK103093	GBLK103093
Date Prepared:	-	-	-	-
Date Analyzed:	10/30/93	10/30/93	10/30/93	10/30/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
LCS % Recovery:	98	98	99	100
Control Limits:	80-120	80-120	80-120	80-120
MS/MSD Batch #:	3JD7203	3JD7203	3JD7203	3JD7203
Date Prepared:	-	-	-	-
Date Analyzed:	10/30/93	10/30/93	10/30/93	10/30/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
Matrix Spike % Recovery:	100	100	100	100
Matrix Spike Duplicate % Recovery:	95	95	96	97
Relative % Difference:	5.1	5.1	4.1	3.0

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-79.01L/Shell, Oakland

QC Sample Group: 3JF4701-02

Reported: Nov 5, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
Conc. Spiked:	10	10	10	30
Units:	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	GBLK102993	GBLK102993	GBLK102993	GBLK102993
Date Prepared:	-	-	-	-
Date Analyzed:	10/29/93	10/29/93	10/29/93	10/29/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
LCS % Recovery:	99	98	99	100
Control Limits:	80-120	80-120	80-120	80-120
MS/MSD Batch #:	3JE0001	3JE0001	3JE0001	3JE0001
Date Prepared:	-	-	-	-
Date Analyzed:	10/29/93	10/29/93	10/29/93	10/29/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
Matrix Spike % Recovery:	94	94	93	93
Matrix Spike Duplicate % Recovery:	97	96	97	97
Relative % Difference:	3.1	2.1	0.0	4.2

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SHELL OIL COMPANY 357901-L
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 10/29/93
Page 1 of 1

Site Address: 285 HEGENBERGER, OAKLAND

WIC#: 204 5508 5504

Shell Engineer: Dan Kirk — Phone No.: 675 6168 — Fax #: 675 6172

Consultant Name & Address: PACIFIC ENVIRONMENTAL GROUP, INC. 2025 GATEWAY PLACE, Ste. 440 SAN JOSE, CALIFORNIA 95110

Consultant Contact: MAREE DODEN — Phone No.: 408 441-7500 — Fax #: 441-7539

Comments: DAY 3 SOIL SAMPLES

Sampled by: _____

Printed Name: MARK GUBRUD

LAB: SEQUOIA

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020 Gas	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
TNF2	10/29/93				X	1						X		BAG	DP	N	UST Soil	9310F47
EFF2	"				X	1						X		BAG	DP	N	Gasoline	

UST @ 4 4½

CHECK ONE (1) BOX ONLY — CT/DT — TURN AROUND TIME

	CT/DT	
G.W. Monitoring	4461	24 hours
Site Investigation	4441	48 hours
Soil Classify/Disposal	4442	15 days (Normal)
Water Classify/Disposal	4443	Other
Soil/Air Rem. or Sys. O & M	4452	
Water Rem. or Sys. O & M	4453	
Other		

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: _____

Relinquished By (signature)	Printed Name	Date/Time	Received (signature)	Printed Name	Date/Time
	MARK GUBRUD	Date: 10/29/93 Time: 1545	M Doden	M DODEN	Date: 10/29/93 Time: 1825
M Doden	M DODEN	Date: 10/29/93 Time: 1615	SPO	S. O'Donnell	Date: 10/29/93 Time: 1522
SPO	S. O'Donnell	Date: 10/29/93 Time: 1645	K Stenstrom	Stenstrom	Date: 10/29 Time: 1645

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Shell Oil Chn. of Custody

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT): LS

MASTER LOG NO. / PAGE: 9310F47
DATE OF LOG-IN: 10/29

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s): Present / (Absent) — Intact / Broken*
2. Custody Seal Nos.:
3. Chain-of-Custody Records: (Present) / Absent*
4. Traffic Reports or Packing List: Present / (Absent)
5. Airbill: Airbill / Sticker — Present / (Absent)
6. Airbill No.:
7. Sample Tags: (Present) / Absent* — Sample Tag Nos.: (Listed) / Not Listed on Chain-of-Custody
8. Sample Condition: (Intact) / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree? (Yes) / No*
10. Proper Preservatives Used: (Yes) / No*
11. Date Rec. at Lab: 10-29-93
12. Time Rec. at Lab: 1645

* If so, contact Project Manager and attach record of resolution

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC)
1	A	Influ	Tedlar	A	10/29	
2	A	Effl	↓	↓	↓	