CAMBRIA

September 21, 1998

Barney Chan
Alameda County
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

• No correlation of bioparameters & TPH conc. + no interpretation made. Should continue to monitor for bio parameters

Re: **Third Quarter 1998 Monitoring Report**
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, California
WIC #204-5510-0600
Cambria Project #24-314-398

Dear Mr. Chan:

On behalf of Equilon Enterprises LLC, Cambria Environmental Technology, Inc. (Cambria) is submitting this ground water monitoring report in accordance with the reporting requirements of 23 CCR 2652d.

THIRD QUARTER 1998 ACTIVITIES

Ground Water Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California checked for separate-phase hydrocarbons (SPH) and gauged and sampled the site wells (Figure 1). Blaine removed SPH from the passive skimmer device in well MW-2 (Table 1). The quantities removed are presented in the table below. Cambria calculated ground water elevations (Table 2), compiled the analytical data (Table 3), and prepared a ground water elevation contour map (Figure 1). The Blaine report is included as Attachment A.

Separate-Phase Hydrocarbon Removal Summary	
This Quarter (lbs)	Cumulative Removal (lbs)
0.81	21.18

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

Cambria Environmental Technology, Inc.

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

ANTICIPATED FOURTH QUARTER 1998 ACTIVITIES

Ground Water Monitoring: Blaine will measure and remove detected SPH and gauge and sample the site wells. Cambria will tabulate the data and prepare a monitoring report.

Monitoring Well Installation: Pending written approval from your office of our June 1998 *Additional Investigation Work Plan*, Cambria will obtain the necessary drilling and encroachment permits and install two ground water monitoring wells.

CLOSING

We appreciate the opportunity to work with you on this project. Please call Brian Busch at (510) 420-3312 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Brian Busch
Project Environmental Scientist

Diane M. Lundquist, P.E.
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
DIANE M. LUNDQUIST
NO. C46725
CIVIL
STATE OF CALIFORNIA

Attachment: A - Blaine Ground Water Monitoring Report

cc: Karen Petryna, Equiva Services LLC, P.O. Box 8080, Martinez, California 94553

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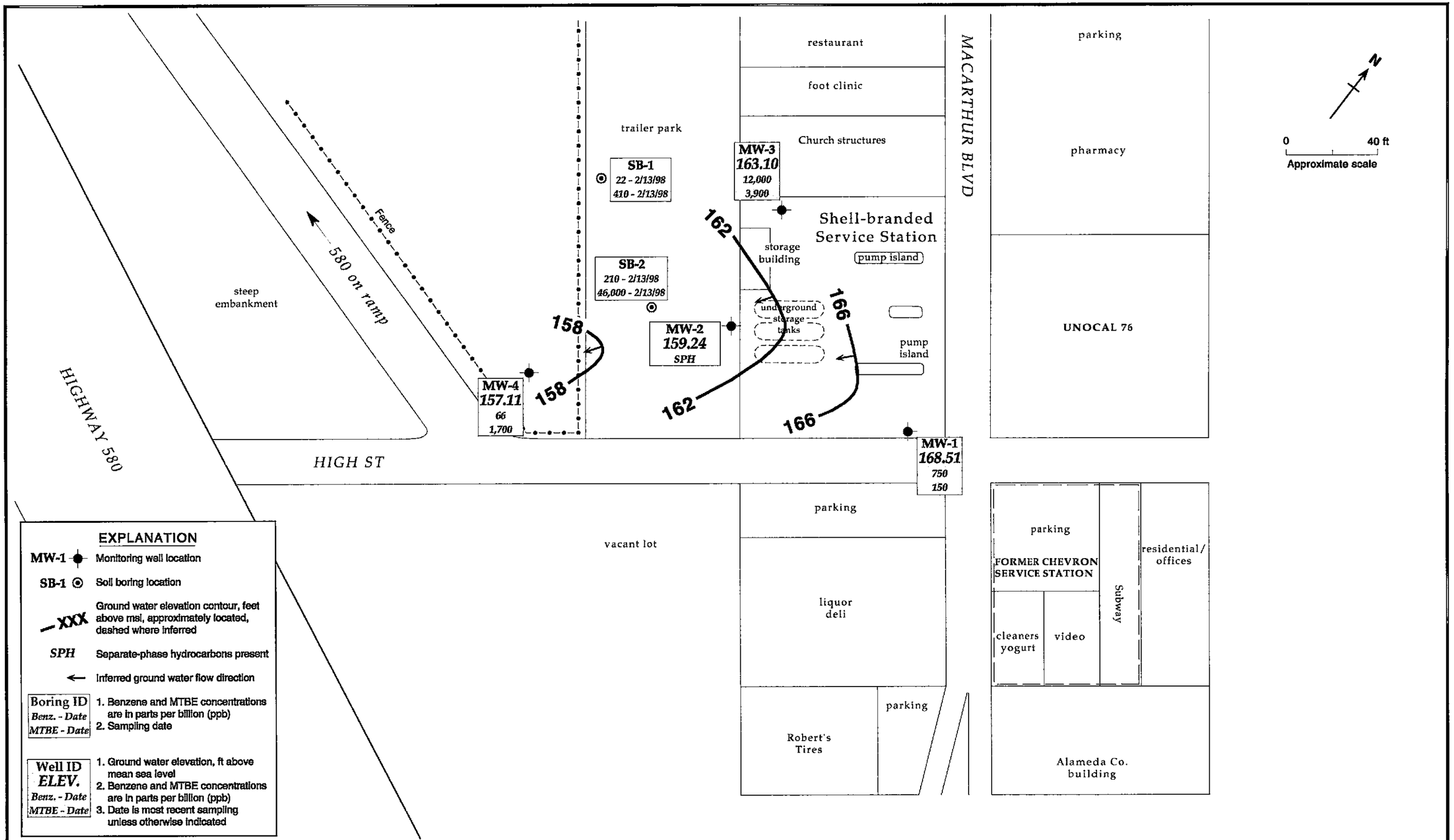

Figure 1. Ground Water Elevation Contours - July 17, 1998 - Shell-branded Service Station, WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California

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08/11/98

Table 1. **Separate-Phase Hydrocarbon Removal** – Shell-branded Service Station
WIC# 204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date	SPH Thickness (ft)	SPH Removed (lbs)	Cumulative SPH Removed (lbs)
MW-2	08/10/95	0.52	5.98[a]	5.98
	10/18/95	0.13	0.0	5.98
	01/17/96	0.17	1.74	7.72
	04/25/96	0.03	0.65	8.37
	07/17/96	0.48	2.11	10.48
	10/01/96	0.28	0.81	11.29
	01/22/97	0.11	0.48	11.77
	04/08/97	0.20	0.97	12.74
	07/08/97	0.19	0.97	13.71
	10/08/97	0.05	0.81	14.52
	01/08/98	0.08	1.29	15.81
	04/13/98	0.00	0.02	15.83
	07/17/98	**0.10**	**0.81**	**16.64**
MW-3	01/13/95	---	0.02	0.02
	04/12/95	---	0.02	0.04
	08/10/95	0.06	0.69[a]	0.73
	10/18/95	0.05	0.0	0.73
	01/17/96	0.24	2.62	3.35
	04/25/96	0.02	0.33	3.68
	07/17/96	0.03	0.70	4.38
	04/08/97	0.03	0.16	4.54
TOTAL HYDROCARBONS REMOVED				**21.18**

Abbreviations and Notes:

SPH = Separate-phase hydrocarbons
ft = Feet
lbs = Pounds
--- = Not measured
a = SPH in 10" boring and 4" well estimated by following factor: 1 ft of SPH = 11.5 lbs of SPH
Weight of SPH converted from volume using the relation: 1 liter gasoline = 1.61 pounds

Table 2. **Ground Water Elevations** – Shell-branded Service Station WIC# 204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date Gauged	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	SPH Thickness (ft)	Ground Water Elevation[a] (ft above msl)
MW-1	11/17/93	175.79	8.59	---	167.20
	01/20/94		8.22	---	167.57
	04/25/94		7.63	---	168.16
	07/07/94		8.31	---	167.48
	10/27/94		8.84	---	166.95
	11/17/94		7.60	---	168.19
	11/28/94		7.56	---	168.23
	01/13/95		7.11	---	168.68
	04/12/95		7.08	---	168.71
	07/25/95		7.73	---	168.06
	10/18/95		8.42	---	167.37
	01/17/96		7.83	---	167.96
	04/25/96		7.35	---	168.44
	07/17/96		7.70	---	168.09
	10/01/96		8.07	---	167.72
	01/22/97		7.21	---	168.58
	04/08/97		7.75	---	168.04
	07/08/97		8.01	---	167.78
	10/08/97		8.10	---	167.69
	01/08/98[b]		7.14	---	168.65
	04/13/98		6.78	---	169.01
	07/17/98		**7.28**	**---**	**168.51**
MW-2	11/17/93	170.91	12.31	---	158.60
	01/20/94		11.48	---	159.43
	04/25/94		10.84	---	160.07
	07/07/94		11.89	---	159.02
	10/27/94		12.89	---	158.02
	11/17/94		9.11	---	161.80
	11/28/94		9.22	---	161.69
	01/13/95		8.10	---	162.81
	04/12/95		10.12	---	160.79
	07/25/95		11.53	0.52	159.80
	10/18/95		14.02	0.13	156.99
	01/17/96		10.27	0.17	160.78
	04/25/96		11.68	0.03	159.25
	07/17/96		12.78	0.48	158.81
	10/01/96		14.21	0.28	156.70
	01/22/97		10.92	0.11	160.08
	04/08/97		14.12	0.20	156.95
	07/08/97		14.98	0.19	156.08
	10/08/97		12.97	0.05	157.98
	01/08/98		12.54	0.08	158.43
	04/13/98		10.05	---	160.86
	07/17/98		**11.75**	**0.10**	**159.24**

Table 2. **Ground Water Elevations** – Shell-branded Service Station WIC# 204-5510-0600, 4255 MacArthur Blvd., Oakland, California (continued)

Well ID	Date Gauged	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	SPH Thickness (ft)	Ground Water Elevation[a] (ft above msl)
MW-3	11/17/93	174.61	15.40	---	159.21
	01/20/94		14.61	---	160.00
	04/25/94		13.12	---	161.49
	07/07/94		14.54	0.02	160.07
	10/27/94		15.62	0.05	159.03
	11/17/94		13.83	---	160.78
	11/28/94		14.02	---	160.59
	01/13/95		12.13	---	162.48
	04/12/95		12.96	---	161.65
	07/25/95		14.28	0.06	160.38
	10/18/95		15.88	0.05	158.77
	01/17/96		13.86	0.24	160.94
	04/25/96		13.82	0.02	160.81
	07/17/96		16.11	0.03	158.52
	10/01/96		16.56	---	158.05
	01/22/97		13.07	---	161.54
	04/08/97		17.09	0.03	157.54
	07/08/97		15.85	---	158.76
	10/08/97		16.22	---	158.39
	01/08/98		13.80	---	160.81
	04/13/98		12.97	---	161.64
	07/17/98		**11.51**	**---**	**163.10**
MW-4	11/17/94	164.06	6.62	---	157.44
	11/28/94		6.11	---	157.95
	01/13/95		6.05	---	158.01
	04/12/95		6.31	---	157.75
	07/25/95		7.36	---	156.70
	10/18/95		8.54	---	155.52
	01/17/96		8.48	---	155.58
	04/25/96		7.40	---	156.66
	07/17/96		7.75	---	156.31
	10/01/96		8.82	---	155.24
	01/22/97		7.51	---	156.55
	04/08/97		7.18	---	156.88
	07/08/97		9.00	---	155.06
	10/08/97		8.97	---	155.09
	01/08/98		7.90	---	156.16
	04/13/98		7.35	---	156.71
	07/17/98		**6.95**	**---**	**157.11**

Table 2. **Ground Water Elevations** – Shell-branded Service Station WIC# 204-5510-0600, 4255 MacArthur Blvd., Oakland, California (continued)

Abbreviations and Notes:

msl = Mean sea level
TOC = Top of casing
SPH = Separate-phase hydrocarbons
a = When SPH are present, ground water elevation is corrected using the relation:
Corrected ground water elevation = TOC elevation - depth to water + (0.8 x SPH thickness)
b = Well MW-1 sampled on January 9, 1998
--- = SPH not present

Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** – Shell-branded Service Station
WIC# 204-5510-0600, 4255 MacArthur Boulevard, Oakland, California

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	MTBE	B	T	E	X
			← (Concentrations in µg/L) →					
MW-1	11/17/93	8.59	410	---	21	11	7.9	47
	01/20/94	8.22	1,200	---	180	19	48	47
	04/25/94	7.63	3,100	---	610	<10	130	27
	07/07/94	8.31	2,400	---	1,000	10	250	20
	10/27/94	8.84	2,200	---	500	3.1	72	1.8
	01/13/95	7.11	570	---	75	2.5	6.7	11
	04/12/95	7.08	1,800	---	480	<5.0	79	<5.0
	07/25/95	7.73	120	---	15	1.1	2.1	2.9
	07/25/95[dup]	7.73	300	---	88	2.4	11	6.5
	10/18/95	8.42	130	---	9.5	0.8	1.3	1.7
	10/18/95[dup]	8.42	120	---	11	0.8	1.4	1.8
	01/17/96	7.83	250	---	22	0.9	1.6	2.3
	04/25/96	7.35	<50	500[b]	4.6	<0.5	<0.5	0.60
	07/17/96	7.70	<250	540	15	<2.5	<2.5	<2.5
	10/01/96	8.07	1,200	1,900	500	12	57	82
	01/22/97	7.21	640	1,200	170	4.3	33	33
	04/08/97	7.75	<200	950	34	<2.0	3.3	4.3
	04/08/97[dup]	7.75	<200	740	66	<2.0	6.4	8.0
	07/08/97	8.01	190	560	49	1.2	5.8	8.6
	10/08/97	8.10	<100	620	7.0	<1.0	<1.0	<1.0
	01/09/98[c]	7.14	970	1,200	390	12	48	71
	04/13/98	6.78	<50	170	136	<0.50	1.5	1.8
	07/17/98	**7.28**	**2,500**	**150**	**750**	**11**	**88**	**67**
MW-2	11/17/93	12.31	31,000	---	9,400	4,600	1,000	3,900
	01/20/94	11.48	40,000	---	6,900	5,600	780	4,100
	01/20/94[dup]	11.48	41,000	---	7,200	6,200	900	4,800
	04/25/94	10.84	60,000	---	9,300	6,100	1,400	6,200
	07/07/94	11.89	280,000[a]	---	40,000	26,000	8,100	32,000
	07/07/94[dup]	11.89	53,000	---	13,000	6,600	2,000	8,400
	10/27/94	12.89	130,000	---	14,000	12,000	2,400	13,000
	10/27/94[dup]	12.89	390,000	---	8,800	7,000	1,700	11,000
	01/13/95	8.10	75,000	---	5,900	12,000	3,100	17,000
	04/12/95	10.12	100,000	---	8,500	11,000	2,400	12,000

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Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** – Shell-branded Service Station
WIC# 204-5510-0600, 4255 MacArthur Boulevard, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	MTBE	B	T	E	X
			← (Concentrations in µg/L) →					
	04/12/95[dup]	10.12	80,000	---	4,200	9,300	2,500	12,000
	08/10/95[SPH]	11.53	---	---	---	---	---	---
	10/18/95[SPH]	14.02	---	---	---	---	---	---
	01/17/96[SPH]	10.27	---	---	---	---	---	---
	04/25/96[SPH]	11.68	---	---	---	---	---	---
	07/17/96[SPH]	12.78	---	---	---	---	---	---
	10/01/96[SPH]	14.21	---	---	---	---	---	---
	01/22/97[SPH]	10.92	---	---	---	---	---	---
	04/08/97[SPH]	14.12	---	---	---	---	---	---
	07/08/97[SPH]	14.98	---	---	---	---	---	---
	10/08/97[SPH]	12.97	---	---	---	---	---	---
	01/08/98[SPH]	12.54	---	---	---	---	---	---
	04/13/98	10.05	180,000	71,000	2,800	5,200	2,400	13,000
	07/17/98[SPH]	**11.75**	---	---	---	---	---	---
MW-3	11/17/93	15.40	18,000	---	5,400	660	720	2,200
	01/20/94	14.61	55,000	---	13,000	2,600	2,200	6,500
	04/25/94	13.12	96,000	---	11,000	1,600	3,100	9,900
	04/25/94[dup]	13.12	78,000	---	12,000	1,900	2,600	7,300
	07/07/94[SPH]	14.54	---	---	---	---	---	---
	10/27/94[SPH]	15.62	---	---	---	---	---	---
	01/13/95	12.13	180,000	---	3,200	2,700	1,700	5,200
	01/13/95[dup]	12.13	23,000	---	4,000	690	960	3,000
	04/12/95	12.96	56,000	---	8,700	1,500	2,100	6,300
	08/10/95[SPH]	14.28	---	---	---	---	---	---
	10/18/95[SPH]	15.88	---	---	---	---	---	---
	01/17/96[SPH]	13.86	---	---	---	---	---	---
	04/25/96[SPH]	13.82	---	---	---	---	---	---
	07/17/96[SPH]	16.11	---	---	---	---	---	---
	10/01/96	16.56	46,000	3,200	7,300	530	1,700	3,900
	10/01/96[dup]	16.56	47,000	2,900	7,100	530	1,700	4,000
	01/22/97	13.07	82,000	1,100	5,200	1,300	2,800	8,900
	01/22/97[dup]	13.07	61,000	2,700	8,400	1,100	2,300	7,000
	04/08/97[SPH]	17.09	---	---	---	---	---	---

Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** – Shell-branded Service Station
WIC# 204-5510-0600, 4255 MacArthur Boulevard, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	MTBE	B	T	E	X
			← (Concentrations in µg/L) →					
	07/08/97	15.85	56,000	2,800	8,800	580	2,000	4,900
	10/08/97	16.22	48,000	5,100	8,000	590	1,700	3,400
	01/08/98	13.80	47,000	6,300	9,400	810	2,300	4,700
	01/08/98[dup]	13.80	48,000	5,800	8,100	750	2,000	4,100
	04/13/98	12.97	32,000	4,000	6,800	540	1,400	3,400
	04/13/98[dup]	12.97	36,000	4,000	7,300	660	1,600	3,700
	07/17/98	**11.51**	**71,000**	**3,900**	**11,000**	**590**	**2,200**	**6,900**
	07/17/98[dup]	**11.51**	**76,000**	**3,000**	**12,000**	**700**	**2,600**	**8,000**
MW-4	11/28/94	6.11	2,900	---	200	17	76	260
	01/13/95	6.05	1,900	---	130	5.6	13	40
	04/14/95	6.31	680	---	150	<2.0	10	13
	07/25/95	7.36	340	---	100	0.8	8.8	3.0
	10/18/95	8.54	150	---	31	<0.5	3.5	0.8
	01/17/96	8.48	290	---	14	<0.5	1.8	0.8
	04/25/96	7.40	<500	1,700	65	<5	<5	<5
	04/25/96[dup]	7.40	<500	1,500	66	<5	8.7	<5
	07/17/96	7.75	<500	1,500	84	<5.0	6.5	<5.0
	07/17/96[dup]	7.75	<500	1,700 (2,100)	54	<5.0	<5.0	<5.0
	10/01/96	8.82	<500	3,000	1.9	<5.0	<5.0	<5.0
	01/22/97	7.51	580	1,200	130	<2.5	18	5.2
	04/08/97	7.18	770	1,500	200	7.0	26	55
	07/08/97	9.00	570	1,200	78	<5.0	14	11
	07/08/97[dup]	9.00	640	1,600	81	<5.0	16	19
	10/08/97	8.97	<500	1,400	40	<5.0	7.4	5.4
	10/08/97[dup]	8.97	<500	1,400	36	<5.0	5.9	<5.0
	01/08/98	7.90	<1,000	2,000	55	<10	13	<10
	04/13/98	7.35	350	<2.5	110	2.4	20	26
	07/17/98	**6.95**	**210**	**1,700**	**66**	**0.78**	**5.4**	**9.8**
Trip Blank	01/20/94		<50	---	<0.5	<0.5	<0.5	<0.5
	04/25/94		<50	---	<0.5	<0.5	<0.5	<0.5
	07/07/94		<50	---	<0.5	<0.5	<0.5	<0.5
	10/27/94		<50	---	<0.5	<0.5	<0.5	<0.5

Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** – Shell-branded Service Station
WIC# 204-5510-0600, 4255 MacArthur Boulevard, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	MTBE	B	T	E	X
			← (Concentrations in µg/L) →					
	01/13/95		<50	---	<0.5	<0.5	<0.5	<0.5
	04/12/95		<50	---	<0.5	<0.5	<0.5	0.89
	07/25/95		<50	---	<0.5	<0.5	<0.5	<0.5
	10/18/95		<50	---	<0.5	<0.5	<0.5	<0.5
MCLs			NE	NE	1	150	700	1,750

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
MTBE = Methyl tert-butyl ether by EPA Method 8020. Result in parentheses indicates MTBE by EPA Method 8260
B = Benzene by EPA Method 8020
T = Toluene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
X = Total xylenes by EPA Method 8020
SPH = Separate-phase hydrocarbons present; well not sampled
dup = Duplicate sample
ft = Feet
µg/L = Micrograms per liter
MCLs = California primary maximum contaminant levels for drinking water (22 CCR 64444)
NE = MCLs not established

Notes:

a = Ground water surface had a sheen when sampled
b = MTBE value is estimated by Sequoia Analytical of Redwood City, California
c = Well MW-1 gauged on January 8, 1998
--- = Not analyzed/Not available
<n = Below detection limits of n µg/L

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Table 4. **Ground Water Analytical Data - Bioattenuation Parameters** - Shell-branded Service Station WIC #204-5510-0600 - 4255 MacArthur Blvd., Oakland, California

Well ID	Date	Ground Water Depth (ft)	DO	Total Alkalinity	Ferrous Iron	Nitrate as Nitrate	Sulfate	Notes
			← (Concentrations in mg/L) →					
MW-1	07/17/98	7.28	0.8	460	1.6	<1.0	12	
MW-2	07/17/98	11.75	---	---	---	---	---	SPH
MW-3	07/17/98	11.51	1.3	860	5.3	<1.0	6.5	
	07/17/98	11.51	1.3	860	5.4	<1.0	5.8	duplicate
MW-4	07/17/98	6.95	1.4	630	2.8	<1.0	13	

Notes and Abbreviations:

DO = Dissolved oxygen
ft = Feet
mg/L = Milligrams per liter
SPH = Separate-phase hydrocarbons in well; not sampled
--- = Not analyzed
<n = Below detection limit of n mg/L
Total alkalinity by EPA Method 310.2, concentrations in mg CaCO3/L
Ferrous iron by EPA Method 200.7
Nitrate as nitrate and sulfate by EPA Method 300.0

CAMBRIA

ATTACHMENT A

Blaine Ground Water Monitoring Report

BLAINE
TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
(408) 573-7771 FAX
(408) 573-0555 PHONE

August 12, 1998

Equilon Enterprises, L.L.C.
108 Cutting Blvd.
Richmond, CA 94804

Attn: Karen Petryna

Shell WIC #204-5510-0600
4255 MacArthur Blvd.
Oakland, California

3rd Quarter 1998

Groundwater Monitoring Report 980717-Y-3

Blaine Tech Services, Inc. performs environmental monitoring and documentation as an independent third party. Copies of our Monitoring Report along with the laboratory's Certified Analytical Report are forwarded to the consultant overseeing work at this site. Submission of the assembled documents to interested regulatory agencies will be made by the designated consultant.

Groundwater monitoring at this site was performed in accordance with Standard Operating Procedures provided to the interested regulatory agencies. If you have any questions about the work performed at this site please call me at (408) 573-0555 ext. 201.

Yours truly,

Derek Kwan for:

Francis Thie

attachments: Table of Well Gauging Data
Chain of Custody
Field Data Sheets
Certified Analytical Report

cc: Cambria Environmental Technology, Inc.
1144 65th Street, Suite C
Oakland, CA 94608-2411
Attn: Maureen Feineman

(Any professional evaluations or recommendations will be made by the consultant under separate cover.)

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	07/17/98	TOC	--	NONE	--	--	7.28	23.32
MW-2	07/17/98	TOC	--	11.65	0.10	500	11.75	--
MW-3*	07/17/98	TOC	ODOR	NONE	--	--	11.51	21.83
MW-4	07/17/98	TOC	--	NONE	--	--	6.95	30.52

* Sample DUP was a duplicate sample taken from well MW-3.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 980717 Y3

Date:

Page 1 of 1

Site Address: 4255 MacArthur Blvd., Oakland

WIC#: 204-5510-0600

Shell Engineer: Alex Perez — Phone No.: (510) 675-6168 Fax #: 675-6172

Consultant Name & Address: Blaine Tech Services, 1680 Rogers Ave., San Jose, CA 95112

Consultant Contact: Fran Thie — Phone No.: (408) 573-0555 Fax #: 573-7771

Comments:

Sampled by:

Printed Name: BROOKS TAYLOR

LAB: SEQ

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 + MTBE	ALKALINITY EPA 310.2	SULFATE EPA 300.0	Asbestos NITRATE EPA 300.0	Corrosivity FERROUS IRON EPA 200.7	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
01 MW1	7/17			X		6						X	X	X	X	X				
02 MW3				X		6						X	X	X	X	X				
03 MW4				X		6						X	X	X	X	X				
04 EB				X		3						X								
05 DUP				X		6						X	X	X	X	X				

Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
	BROOKS TAYLOR	7-20-98	12:15		Jeff Bonneville	7-20-98	12:15
Jeff Bonneville	Jeff Bonneville	7-20-98					
				E.C. BLANCO	E.C. BLANCO	7-20-98	1302

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Project: Shell 4255 MacArthur Blvd

Enclosed are the results from samples received at Sequoia Analytical on July 20, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9807B82 -01	LIQUID, MW-1	07/17/98	Ferrous Iron
9807B82 -01	LIQUID, MW-1	07/17/98	Alkalinity: Total
9807B82 -01	LIQUID, MW-1	07/17/98	Nitrate as Nitrate
9807B82 -01	LIQUID, MW-1	07/17/98	Sulfate
9807B82 -01	LIQUID, MW-1	07/17/98	Purgeable TPH/BTEX/MTBE
9807B82 -02	LIQUID, MW-3	07/17/98	Ferrous Iron
9807B82 -02	LIQUID, MW-3	07/17/98	Alkalinity: Total
9807B82 -02	LIQUID, MW-3	07/17/98	Nitrate as Nitrate
9807B82 -02	LIQUID, MW-3	07/17/98	Sulfate
9807B82 -02	LIQUID, MW-3	07/17/98	Purgeable TPH/BTEX/MTBE
9807B82 -03	LIQUID, MW-4	07/17/98	Ferrous Iron
9807B82 -03	LIQUID, MW-4	07/17/98	Alkalinity: Total
9807B82 -03	LIQUID, MW-4	07/17/98	Nitrate as Nitrate
9807B82 -03	LIQUID, MW-4	07/17/98	Sulfate

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
)807B82 -03	LIQUID, MW-4	07/17/98	Purgeable TPH/BTEX/MTBE
)807B82 -04	LIQUID, EB	07/17/98	Purgeable TPH/BTEX/MTBE
)807B82 -05	LIQUID, Dup	07/17/98	Ferrous Iron
)807B82 -05	LIQUID, Dup	07/17/98	Alkalinity: Total
)807B82 -05	LIQUID, Dup	07/17/98	Nitrate as Nitrate
)807B82 -05	LIQUID, Dup	07/17/98	Sulfate
)807B82 -05	LIQUID, Dup	07/17/98	Purgeable TPH/BTEX/MTBE

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

'ery truly yours,

SEQUOIA ANALYTICAL

for

'eggy Penner
'roject Manager

Sequoia Analytical

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell 4255 MacArthur Blvd

Lab Proj. ID: 9807B82

Sampled: 07/17/98
Received: 07/20/98
Analyzed: see below

Reported: 08/05/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9807B82-01				
Sample Desc : **LIQUID,MW-1**				
Alkalinity: Total	**mg CaCO3/L**	**07/24/98**	**40.0**	**460**
Ferrous Iron	**mg/L**	**07/29/98**	**0.010**	**1.6**
Nitrate as Nitrate	mg/L	07/20/98	1.0	N.D.
Sulfate	**mg/L**	**07/20/98**	**1.0**	**12**
Lab No: 9807B82-02				
Sample Desc : **LIQUID,MW-3**				
Alkalinity: Total	**mg CaCO3/L**	**07/24/98**	**40.0**	**860**
Ferrous Iron	**mg/L**	**07/29/98**	**0.010**	**5.3**
Nitrate as Nitrate	mg/L	07/20/98	1.0	N.D.
Sulfate	**mg/L**	**07/20/98**	**1.0**	**6.5**
Lab No: 9807B82-03				
Sample Desc : **LIQUID,MW-4**				
Alkalinity: Total	**mg CaCO3/L**	**07/24/98**	**40.0**	**630**
Ferrous Iron	**mg/L**	**07/29/98**	**0.010**	**2.8**
Nitrate as Nitrate	mg/L	07/20/98	1.0	N.D.
Sulfate	**mg/L**	**07/20/98**	**1.0**	**13**
Lab No: 9807B82-05				
Sample Desc : **LIQUID,Dup**				
Alkalinity: Total	**mg CaCO3/L**	**07/24/98**	**40.0**	**860**
Ferrous Iron	**mg/L**	**07/29/98**	**0.010**	**5.4**
Nitrate as Nitrate	mg/L	07/20/98	1.0	N.D.
Sulfate	**mg/L**	**07/20/98**	**1.0**	**5.8**

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

for

Peggy Penner
Project Manager

Sequoia Analytical

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Blaine Tech Services	Client Proj. ID: Shell 4255 MacArthur Blvd	Sampled: 07/17/98
1680 Rogers Avenue	Sample Descript: MW-1	Received: 07/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/31/98
Attention: Fran Thie	Lab Number: 9807B82-01	Reported: 08/05/98

QC Batch Number: GC073198BTEX03A
nstrument ID: GCHP3

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**1000**	**2500**
Methyl t-Butyl Ether	**50**	**150**
Benzene	**10**	**750**
Toluene	**10**	**11**
Ethyl Benzene	**10**	**88**
Xylenes (Total)	**10**	**67**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	121

nalytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

eggy Penner
roject Manager

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell 4255 MacArthur Blvd
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9807B82-02

Sampled: 07/17/98
Received: 07/20/98

Analyzed: 07/31/98
Reported: 08/05/98

QC Batch Number: GC073198BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50000**	**71000**
Methyl t-Butyl Ether	**2500**	**3900**
Benzene	**500**	**11000**
Toluene	**500**	**590**
Ethyl Benzene	**500**	**2200**
Xylenes (Total)	**500**	**6900**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	78

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell 4255 MacArthur Blvd	Sampled: 07/17/98
1680 Rogers Avenue	Sample Descript: MW-4	Received: 07/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/31/98
Attention: Fran Thie	Lab Number: 9807B82-03	Reported: 08/05/98

QC Batch Number: GC073198BTEX02A
nstrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**210**
Methyl t-Butyl Ether	**12.5**	**1700**
Benzene	**0.50**	**66**
Toluene	**0.50**	**0.78**
Ethyl Benzene	**0.50**	**5.4**
Xylenes (Total)	**0.50**	**9.8**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	113

nalytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

eggy Penner
roject Manager

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell 4255 MacArthur Blvd
Sample Descript: EB
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9807B82-04

Sampled: 07/17/98
Received: 07/20/98

Analyzed: 07/31/98
Reported: 08/05/98

QC Batch Number: GC073198BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	80

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell 4255 MacArthur Blvd	Sampled: 07/17/98
1680 Rogers Avenue	Sample Descript: Dup	Received: 07/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/31/98
Attention: Fran Thie	Lab Number: 9807B82-05	Reported: 08/05/98

QC Batch Number: GC073198BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**25000**	**76000**
Methyl t-Butyl Ether	**1250**	**3000**
Benzene	**250**	**12000**
Toluene	**250**	**700**
Ethyl Benzene	**250**	**2600**
Xylenes (Total)	**250**	**8000**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	89

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell 4255 MacArthur Blvd	Received: 07/20/98
1680 Rogers Avenue San Jose, CA 95112	Lab Proj. ID: 9807B82	Reported: 08/05/98
Attention: Fran Thie		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 15 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Blaine Tech Services
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell 4255 MacArthur Blvd

QC Sample Group: 9807B82-01

Reported: Aug 5, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid
Method:	EPA 8015
Analyst:	N. Herrera
ANALYTE	Gasoline

QC Batch #: GC073198BTEX03A

Sample No.:	GW9807B96-4MS
Date Prepared:	7/31/98
Date Analyzed:	7/31/98
Instrument I.D.#:	GCHP03
Sample Conc., ug/L:	N.D.
Conc. Spiked, ug/L:	250
Matrix Spike, ug/L:	240
% Recovery:	96
Matrix pike Duplicate, ug/L:	230
% Recovery:	94
elative % Difference:	2.1
RPD Control Limits:	0-25

LCS Batch#: GWBLK073198AS

Date Prepared:	7/31/98
Date Analyzed:	7/31/98
Instrument I.D.#:	GCHP03
Conc. Spiked, ug/L:	250
LCS Recovery, ug/L:	240
LCS % Recovery:	95

Percent Recovery Control Limits:

MS/MSD	60-140
LCS	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Peggy Penner
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 matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

Sequoia Analytical

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Blaine Tech Services
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell 4255 MacArthur Blvd

QC Sample Group: 9807B82-01-03, -05

Reported: Aug 5, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid	
Method:	EPA 300.0	
Analyst:	G. Fish	
ANALYTE	Nitrate	Sulfate
QC Batch #:	720983000ACC	
Sample No.:	9807B75-1	
Date Prepared:	7/20/98	7/20/98
Date Analyzed:	7/20/98	7/20/98
Instrument I.D.#:	INAC1	INAC1
Sample Conc., mg/L:	210	110
Conc. Spiked, mg/L:	100	100
Matrix Spike, mg/L:	320	220
% Recovery:	110	110
Matrix pike Duplicate, mg/L:	330	230
% Recovery:	120	120
elative % Difference:	8.7	8.7
RPD Control Limits:		

LCS Batch#:	LCS0720983000ACC	
Date Prepared:	7/20/98	7/20/98
Date Analyzed:	7/20/98	7/20/98
Instrument I.D.#:	INAC1	INAC1
Conc. Spiked, mg/L:	5	5
LCS Recovery, mg/L:	4.6	5.0
LCS % Recovery:	92	100.0

Percent Recovery Control Limits:

MS/MSD	75-125	75-125
LCS	90-110	90-110

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Blaine Tech Services
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell 4255 MacArthur Blvd

QC Sample Group: 9807B82-01-03, -05

Reported: Aug 5, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 310.2
Analyst: K. CESAR

ANALYTE ALKALINITY

QC Batch #: IN0724983102FIA

Sample No.:	9807E10-2
Date Prepared:	7/24/98
Date Analyzed:	7/24/98
Instrument I.D.#:	FIA
Sample Conc., mg/L:	380
Conc. Spiked, mg/L:	100
Matrix Spike, mg/L:	490
% Recovery:	110
Matrix pike Duplicate, mg/L:	490
% Recovery:	110
elative % Difference:	0.0
RPD Control Limits:	0-20

LCS Batch#: LCS072498

Date Prepared:	7/24/98
Date Analyzed:	7/24/98
Instrument I.D.#:	FIA
Conc. Spiked, mg/L:	142
LCS Recovery, mg/L:	140
LCS % Recovery:	99

Percent Recovery Control Limits:

MS/MSD	75-125
LCS	80-120

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell 4255 MacArthur Blvd

QC Sample Group: 9807B82-04

Reported: Aug 5, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid
Method:	EPA 8015
Analyst:	N. Herrera
ANALYTE	Gasoline

QC Batch #: GC073198BTEX21A

Sample No.:	GW9807A42-2MS
Date Prepared:	7/31/98
Date Analyzed:	7/31/98
Instrument I.D.#:	GCHP21
Sample Conc., ug/L:	N.D.
Conc. Spiked, ug/L:	250
Matrix Spike, ug/L:	260
% Recovery:	105
Matrix pike Duplicate, ug/L:	260
% Recovery:	103
elative % Difference:	1.9
RPD Control Limits:	0-25

LCS Batch#: GWBLK073198AS

Date Prepared:	7/31/98
Date Analyzed:	7/31/98
Instrument I.D.#:	GCHP21
Conc. Spiked, ug/L:	250
LCS Recovery, ug/L:	250
LCS % Recovery:	101

Percent Recovery Control Limits:

MS/MSD	60-140
LCS	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Blaine Tech Services
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell 4255 MacArthur Blvd

QC Sample Group: 9807B82-02-03, -05

Reported: Aug 5, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid
Method:	EPA 8015
Analyst:	N. Herrera
ANALYTE	Gasoline

QC Batch #: GC073198BTEX02A

Sample No.:	9807A06-1
Date Prepared:	7/31/98
Date Analyzed:	7/31/98
Instrument I.D.#:	GCHP2
Sample Conc., ug/L:	N.D.
Conc. Spiked, ug/L:	250
Matrix Spike, ug/L:	210
% Recovery:	83
Matrix pike Duplicate, ug/L:	220
% Recovery:	90
elative % Difference:	8.1
RPD Control Limits:	0-25

LCS Batch#: GWBLK073198AS

Date Prepared:	7/31/98
Date Analyzed:	7/31/98
Instrument I.D.#:	GCHP2
Conc. Spiked, ug/L:	250
LCS Recovery, ug/L:	220
LCS % Recovery:	87

Percent Recovery Control Limits:

MS/MSD	60-140
LCS	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Blaine Tech Services, Inc.
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell 4255 MacArthur Blvd.
Matrix: Liquid
Work Order #: 9807B82 -01-05
Reported: Aug 7, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0729986010M2A	ME0729986010M2A	ME0729986010M2A	ME0729986010M2A
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010
Analyst:	C. Caoile	C. Caoile	C. Caoile	C. Caoile
MS/MSD #:	9807B8205	9807B8205	9807B8205	9807B8205
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/29/98	7/29/98	7/29/98	7/29/98
Analyzed Date:	7/29/98	7/29/98	7/29/98	7/29/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	0.93	0.89	0.90	0.90
MS % Recovery:	93	89	90	90
Dup. Result:	0.93	0.88	0.90	0.90
MSD % Recov.:	93	88	90	90
RPD:	0.0	1.1	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	CCVMI072398	CCVMI072398	CCVMI072398	CCVMI072398
Prepared Date:	7/23/98	7/23/98	7/23/98	7/23/98
Analyzed Date:	7/29/98	7/29/98	7/29/98	7/29/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	5.0 mg/L	5.0 mg/L	5.0 mg/L	5.0 mg/L
LCS Result:	4.9	5.0	5.0	5.1
LCS % Recov.:	98	100	100	102

MS/MSD	80-120	80-120	80-120	80-120
LCS	80-120	80-120	80-120	80-120
Control Limits				

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference