



October 10, 1996

Scott Seery
Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: **Third Quarter 1996**
Shell Service Station
WIC #204-5508-3301
6039 College Avenue
Oakland, California

Dear Mr. Seery:

On behalf of Shell Oil Products Company, Cambria Environmental Technology is submitting this status report to satisfy the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

Third Quarter 1996 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured depths to ground water and collected ground water samples from the site wells. The BTS report describing these activities and the analytic results for ground water are included as Attachment A.
- Cambria Environmental Technology, Inc. (Cambria) compiled the ground water elevation and analytic data (Tables 1 and 2) and prepared a map showing ground water elevations and benzene concentrations (Figure 1). Separate-phase hydrocarbon (SPH) removal data is included in Table 3.

Anticipated Fourth Quarter 1996 Activities:

- Cambria will submit a report presenting the results of third quarter 1996 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results and a ground water elevation contour map.

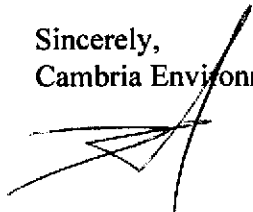
CAMBRIA
ENVIRONMENTAL
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OAKLAND,
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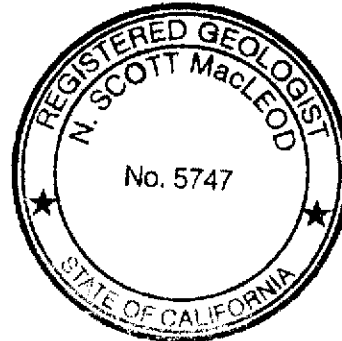
- Cambria will contact you regarding the RBCA review and modifications that you requested earlier this year.

We appreciate this opportunity to work with you on this project. Please call if you have any questions.

Sincerely,
Cambria Environmental Technology, Inc.



N. Scott MacLeod, R.G.
Principal Geologist



Attachments: A - BTS Ground Water Monitoring Report

cc: R. Jeff Granberry, Shell Oil Products Company, P.O. Box 4023, Concord, CA 94524
Tom Callaghan, San Francisco Bay Regional Water Quality Control Board, 2101 Webster Street, Oakland, CA 94612

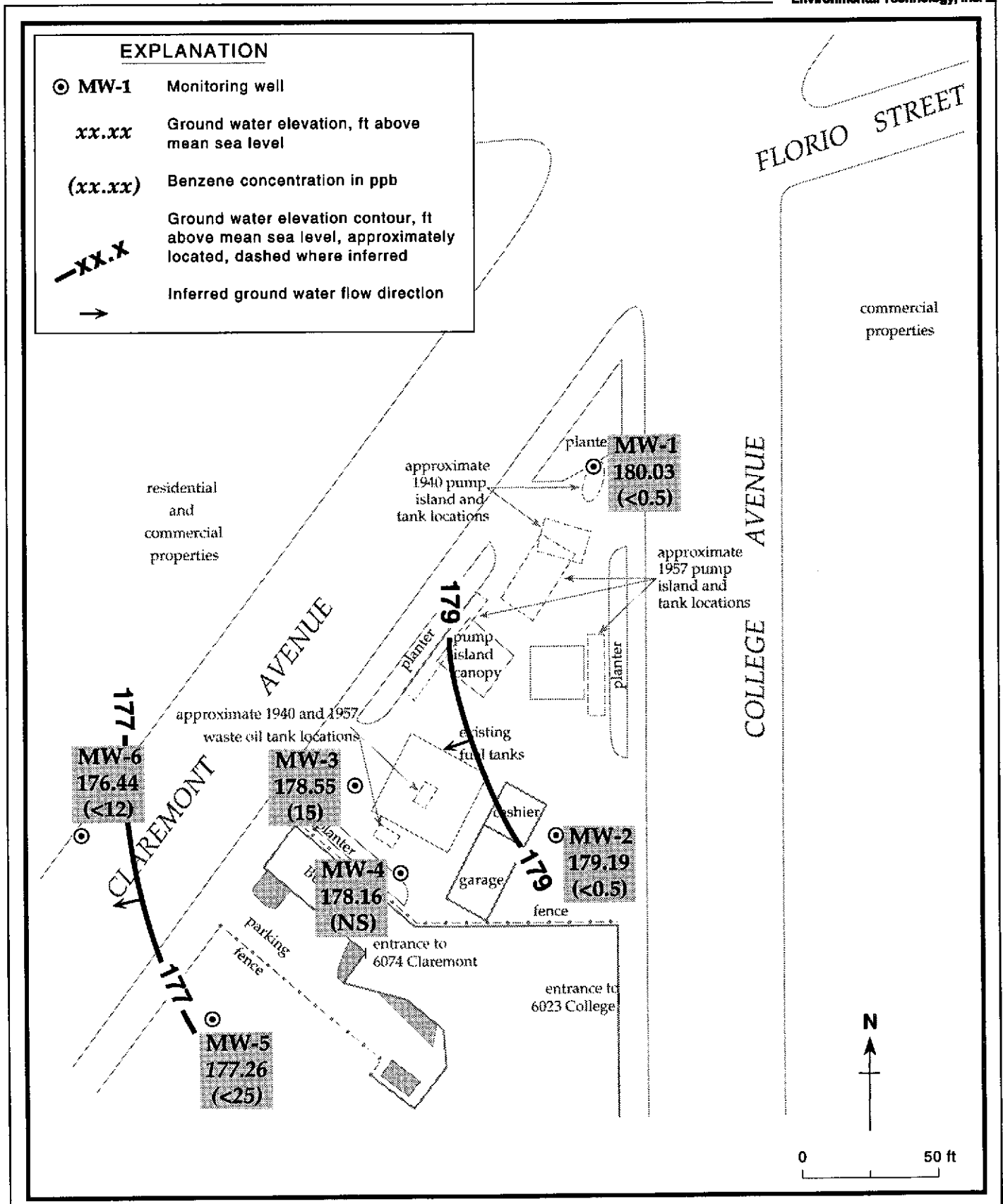


Figure 1. Monitoring Well Locations, Ground Water Elevation Contours, and Benzene Concentrations in Ground Water - August 19, 1996 - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-3301,
6039 College Avenue, Oakland, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl) ^a
MW-1	02/15/90	195.89	17.73		178.16
	04/19/90		18.51		177.38
	05/14/90		18.92		176.97
	06/21/90		18.21		177.68
	09/12/90		19.81		176.08
	11/27/90		20.39		175.50
	03/08/91		16.85		179.04
	06/03/91		17.82		178.07
	08/30/91		19.87		176.02
	11/22/91		20.58		175.31
	03/18/92		13.55		182.34
	05/28/92		17.08		178.81
	08/19/92		19.07		176.82
	11/17/92		20.11		175.78
	02/12/93		12.10		183.79
	06/10/93		14.87		181.02
	08/18/93		16.90		178.99
	11/19/93		19.72		176.17
	02/28/94		15.08		180.81
	05/04/94		17.20		178.69
	08/10/94		18.76		177.13
	11/08/94		16.00		179.89
	02/01/95		10.18		185.71
	05/10/95		11.88		184.01
	08/24/95		15.60		180.29
	11/10/95		18.24		177.65
02/24/96	9.88		186.01		
05/22/96	12.24		183.65		
08/19/96	15.86		180.03		
MW-2	02/15/90	194.27	16.90		177.37
	04/19/90		17.69		176.58
	05/14/90		18.01		176.26
	06/21/90		17.39		176.88
	09/12/90		19.00		175.27
	11/27/90		19.44		174.83
	03/08/91		15.96		178.31
	06/03/91		17.00		177.27
	08/30/91		18.95		175.32
	11/22/91		19.55		174.72
	03/18/92		12.91		181.36
	05/28/92		16.25		178.02
	08/19/92		18.21		176.06

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl) ^a
	11/17/92		19.15		175.12
	02/12/93		11.60		182.67
	06/10/93		14.14		180.13
	08/18/93		16.10		178.17
	11/19/93		18.77		175.50
	02/28/94		14.35		179.92
	05/04/94		16.34		177.93
	08/10/94		15.79		178.48
	11/08/94		15.04		179.23
	02/01/95		10.08		184.19
	05/10/95		11.68		182.59
	08/24/95		14.94		179.33
	11/10/95		13.36		180.91
	02/24/96		9.90		184.37
	05/22/96		11.80		182.47
	08/19/96		15.08		179.19
MW-3	02/15/90	192.52	15.81		176.71
	04/19/90		16.57		175.95
	05/14/90		16.97		175.55
	06/21/90		16.27		176.25
	09/12/90		18.78		173.74
	11/27/90		18.27		174.25
	03/08/91		14.86		177.66
	06/03/91		15.84		176.68
	08/30/91		17.79		174.73
	11/22/91		18.40		174.12
	03/18/92		12.03		180.49
	05/28/92		15.16		177.36
	08/19/92		17.03		175.49
	11/17/92		17.94		174.58
	02/12/93		9.16		183.36
	06/10/93		13.20		179.32
	08/18/93		14.93		177.59
	11/19/93		17.58		174.94
	02/28/94		13.30		179.22
	05/04/94		15.25		177.27
	08/10/94		16.63		175.89
	11/08/94		13.88		178.64
	02/01/95		9.25		183.27
	05/10/95		10.76		181.74
	08/24/95		13.90		178.62
	11/10/95		16.20		176.32

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl) ^a
	02/24/96		8.93		183.59
	05/22/96		10.86		181.66
	08/19/96		13.97		178.55
MW-4	02/15/90	193.37	16.73		176.65
	04/19/90		17.48		175.89
	05/14/90		17.88		175.49
	06/21/90		17.18		176.19
	09/12/90		17.85		175.52
	11/27/90		19.16		174.21
	03/08/91		15.77		177.60
	06/03/91		16.77		176.60
	08/30/91		18.71		174.66
	11/22/91		---		---
	03/18/92 ^a		13.15	0.24	180.41
	05/28/92 ^a		16.22	0.12	177.25
	08/19/92 ^a		18.05	0.09	175.39
	11/17/92		18.89		174.48
	02/12/93		11.78	<0.01	181.59
	06/10/93		14.20		179.17
	08/18/93		15.95	0.01	177.43
	11/19/93		18.48	0.01	174.90
	02/28/94		14.60	<0.01	178.77
	05/04/94		16.15	<0.01	177.22
	08/10/94		17.58	0.02	175.81
	11/08/94		15.05	0.05	178.36
	02/01/95		10.71	0.04	182.69
	05/10/95		11.90	0.06	181.52
	08/24/95		14.97	0.02	178.42
	11/10/95		17.27	---	176.10
	02/24/96		10.44	0.03	182.95
	05/22/96		11.88	0.03	181.51
	08/19/96		15.23	0.02	178.16
MW-5	08/30/91	190.35	16.74		173.61
	11/22/91		17.27		173.08
	03/18/92		11.28		179.07
	05/28/92 ^b		---		---
	08/19/92		15.99		174.36
	11/17/92		16.84		173.51
	02/12/93		10.30		180.05
	06/10/93		12.36		177.99
	08/18/93		14.02		176.33

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl) ^a
	11/19/93		16.50		173.85
	02/28/94		12.55		177.80
	05/04/94		14.27		176.08
	08/10/94		15.60		174.75
	11/08/94		12.85		177.50
	02/01/95		8.98		181.37
	05/10/95		10.16		180.19
	08/24/95		12.98		177.37
	11/10/95		15.12		175.23
	02/24/96 ^b		---		---
	05/22/96		10.10		180.25
	08/19/96		13.09		177.26
MW-6	09/21/93	189.05	14.64		174.41
	11/19/93		---		---
	02/28/94		12.18		176.87
	05/04/94		13.62		175.43
	08/10/94		14.98		174.07
	11/08/94		12.20		176.85
	02/01/95		8.70		180.35
	05/10/95		9.86		179.19
	08/24/95		12.46		176.59
	11/10/95		14.56		174.49
	02/24/96 ^b		---		---
	05/22/96		10.23		178.82
	08/19/96		12.61		176.44

Notes:

- a = When separate-phase hydrocarbons are present, ground water elevation is corrected by the relation: Corrected ground water elevation = (Top-of-Casing Elevation) - (depth to water) + (0.8 x separate-phase hydrocarbon thickness)
- b = Well inaccessible
- = Data not available

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California

Well/ Boring ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	POG	MTBE	parts per billion (µg/L)				SVOCs
								B	E	T	X	
MW-1	02/13/90	17.73	95	650	770	---	---	ND	0.37	0.67	3.2	---
	05/14/90	18.92	95	ND	770	---	---	0.70	0.71	0.57	3.5	---
	09/12/90	19.81	ND	84	ND	---	---	ND	ND	ND	ND	---
	11/27/90	20.39	---	---	---	---	---	---	---	---	---	---
	03/08/91	16.85	ND	50	ND	---	---	ND	ND	ND	ND	---
	06/03/91	17.82	ND	ND	ND	---	---	ND	ND	ND	ND	---
	08/30/91	19.87	16.85	520	ND	---	---	ND	ND	ND	ND	---
	11/22/91	20.58	<50	<50	<500	---	---	<0.5	<0.5	<0.5	<0.5	---
	03/18/92	13.55	<30	<50	---	---	---	<0.3	<0.3	<0.3	<0.3	---
	05/28/92	17.08	<50	<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/19/92	19.07	<50	<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/17/92	20.11	<50	<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/12/93	12.10	<50	<50	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/10/93	14.87	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/10/93 ^{dup}	14.87	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/18/93	16.90	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/19/93	19.72	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/18/94	15.08	<50	---	---	---	---	<0.5	<0.5	<0.5	1.7	---
	05/04/94	17.20	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/10/94	18.76	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/10/94 ^{dup}	18.76	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/08/94	16.00	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/01/95	10.18	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/10/95	11.88	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/95	15.60	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/10/95	18.24	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/24/96	9.88	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
05/22/96	12.24	<50	---	---	---	---	<2.5	<0.5	<0.5	<0.5	<0.5	
	08/19/96	15.86	<50	---	---	---	<2.5	<0.5	<0.5	<0.5	<0.5	---
MW-2	02/13/90	16.90	ND	560	ND	---	---	ND	ND	ND	ND	---
	05/14/90	18.01	ND	ND	ND	---	---	ND	ND	ND	ND	---
	09/12/90	19.00	ND	ND	ND	---	---	ND	ND	ND	ND	---

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well/ Boring ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	POG	MTBE	B	E	T	X	SVOCs
	11/27/90	19.44	ND	ND	ND	---	---	ND	ND	ND	ND	---
	03/08/91	15.96	ND	ND	ND	---	---	ND	ND	ND	ND	---
	06/03/91	17.00	ND	ND	ND	---	---	ND	ND	ND	ND	---
	08/30/91	18.95	ND	ND	ND	---	---	ND	ND	ND	ND	---
	11/22/91	19.55	<50	<50	<500	---	---	<0.5	<0.5	<0.5	<0.5	---
	03/18/92	12.91	<30	---	---	---	---	<0.3	<0.3	<0.3	<0.3	---
	05/28/92	16.25	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/19/92	18.21	<50	---	---	---	---	<0.5	1.2	2	1.9	---
	11/17/92	19.15	<50	---	---	---	---	<0.5	1.2	2	1.9	---
	02/12/93 ^{dup}	11.60	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/12/93	11.60	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/10/93	14.14	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/18/93	16.10	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/18/93 ^{dup}	16.10	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/19/93	18.77	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/18/94	14.55	<50	---	---	---	---	<0.5	<0.5	<0.5	1.6	---
	05/04/94	16.34	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/10/94	15.79	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/08/94	15.04	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/01/95	10.08	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/10/95	11.68	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/95	14.94	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/10/95	13.36	<50	---	---	---	---	1.7	1.4	0.8	4.9	---
	02/24/96	9.90	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/24/96 ^{dup}	9.90	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/22/96	11.80	<50	---	---	---	<2.5	<0.5	<0.5	<0.5	<0.5	---
	08/19/96	15.08	<50	---	---	---	<2.5	<0.5	<0.5	<0.5	<0.5	---
	08/19/96 ^{dup}	15.08	<50	---	---	---	<2.5	<0.5	<0.5	<0.5	<0.5	---
MW-3	02/13/90	15.81	4,700	3,100	3,000	---	---	320	110	29	33	---
	02/13/90 ^{dup}	15.81	4,600	4,500	8,300	---	---	380	160	8.6	57	---
	05/14/90	16.97	1,400	620	40,000	---	---	130	40	8.6	17	---
	05/14/90 ^{dup}	16.97	8,200	660	10,000	---	---	120	38	31	13	---

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well/ Boring ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	POG	MTBE	B	E	T	X	SVOCs
	09/12/90	18.78	2,000	1,500	19,000	---	---	58	16	5.8	15	---
	11/27/90	18.27	540	240	460	---	---	18	8.7	1.5	2.5	---
	03/08/91	14.86	3,400	2,100	ND	---	---	630	270	33	18	---
	06/03/91	15.84	1,700	690 ^a	ND	---	---	260	98	13	24	---
	08/30/91	17.79	870	370 ^b	500	---	---	44	10	6.1	2.9	---
	11/22/91	18.40	310	140	500	---	---	18	3.3	1.2	2.9	---
	03/18/92	12.03	67,100	1,900	20,000	---	---	620	220	28	38	---
	05/28/92	15.16	2,300	1,100 ^c	4,600	---	---	200	71	9	17	---
	08/19/92	17.03	5,700	1,000 ^c	1,800	---	---	71	52	77	130	---
	11/17/92	17.94	3,600	160 ^c	1,200	---	---	16	24	8.6	50	---
	02/12/93	9.16	4,700	560 ^c	< 50	---	---	820	130	58	77	---
	06/10/93	13.20	2,200	---	940 ^d	---	---	310	89	23	23	---
	08/18/93	14.93	260	---	460 ^d	---	---	27	7.0	2.0	2.2	---
	11/19/93	17.58	1,500 ^c	---	960 ^d	< 5,000	---	24	37	54	17	---
	02/18/94	13.30	2,700	---	1,600	< 5,000	---	65	16	5.2	6.3	---
	02/18/94 ^{dup}		3,100	---	2,200	< 5,000	---	82	19	6.7	7.9	---
	05/04/94	15.25	780	---	710	< 5,000	---	120	21	7.5	6.9	f
	05/04/94 ^{dup}	15.25	920	---	1,600	< 5,000	---	120	22	7.7	7.1	g
	08/10/94	16.63	920	---	< 500	< 5,000	---	20	3.0	2.3	2.2	r
	11/08/94	13.88	1,300	---	1,300	---	---	180	7.0	16	12	---
	11/08/94 ^{dup}	13.88	1,200	---	730	---	---	170	7.2	15	11	---
	02/01/95	9.25	1,400	---	900 ^s	---	---	210	11	8.5	8.7	t
	05/10/95	10.76	460	---	---	< 5,000	---	97	1.0	10	19	r
	08/24/95	13.90	640	---	---	< 5,000	---	68	14	21	19	u
	11/10/95	16.20	350	---	---	< 5,000	---	15	1.2	2.3	2.5	---
	02/24/96	8.93	3,300	---	---	< 5,000	---	240	38	53	55	---
	05/22/96	10.86	1,300	---	---	< 5,000	3,500	110	< 10	15	< 10	v
	08/19/96	13.97	350	---	---	9,200	340	15	3.4	3.3	3.3	x
MW-4	02/13/90	16.73	ND	1,200	3,000	---	---	ND	ND	ND	ND	---
	05/14/90	17.88	650	350	12,000	---	---	160	1.9	7	3.1	---
	09/12/90	17.85	440	260	2,600	---	---	91	0.75	1.1	0.79	---
	09/12/90 ^{dup}	17.85	520	1,100	16,000	---	---	85	0.71	0.71	0.81	---

SD

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well/ Boring ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	POG	MTBE	parts per billion (µg/L)					SVOCs
								B	E	T	X		
	11/19/93	16.50	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	11/19/93 ^{dup}	16.50	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	02/18/94	12.55	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	05/04/94	14.27	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	08/10/94	15.60	70 ^o	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	11/08/94	12.85	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	02/01/95	8.98	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	05/10/95	10.16	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	05/10/95 ^{dup}	10.16	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	08/24/95	12.98	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	11/10/95	15.12	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	02/24/96 ^j	---	---	---	---	---	---	---	---	---	---	---	
	05/22/96	10.10	<2,000	---	---	---	9,800	<20	<20	<20	<20	---	
	08/19/96	13.09	<2,500	---	---	---	13,000	<25	<25	<25	<25	---	
MW-6	09/21/93	14.64	<50	<50	---	<5,000	---	<0.5	<0.5	<0.5	<0.5	<10-50	
	11/19/93 ^k	---	---	---	---	---	---	---	---	---	---	---	
	02/28/94	12.18	98 ^l	---	---	<5,000	---	<0.5	<0.5	<0.5	<0.5	---	
	05/04/94	13.62	<50	---	---	<5,000	---	<0.5	<0.5	<0.5	<0.5	<2-10	
	08/10/94	14.98	80 ^o	---	---	<5,000	---	<0.5	<0.5	<0.5	<0.5	r	
	11/08/94 ⁱ	12.20	---	---	---	---	---	---	---	---	---	---	
	02/01/95	8.70	120	---	---	---	---	3.5	3.4	21	22	---	
	02/01/95 ^{dup}	8.70	110	---	---	---	---	0.6	0.5	0.6	0.9	---	
	05/10/95	9.86	---	---	---	---	---	---	---	---	---	---	
	08/24/95	12.46	80	---	---	---	---	<0.5	1.8	<0.5	2.4	---	
	08/24/95 ^{dup}	12.46	70	---	---	---	---	<0.5	1.2	<0.5	1.3	---	
	11/10/95	14.56	<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	11/10/95	14.56	60	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---	
	02/24/96 ^j	---	---	---	---	---	---	---	---	---	---	---	
	05/22/96	10.23	<50	---	---	---	290	<0.5	<0.5	<0.5	<0.5	---	
	08/19/96	12.61	<1,250	---	---	---	1,100	<12	<12	<12	<12	---	

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well/ Boring ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	POG	MTBE	B	E	T	X	SVOCs
BH-A	09/09/93	16.50	4,900	2,900 ^c	---	<5,000	---	18	54	<5	11	m
BH-B	09/09/93	15.85	<50	150	---	<5,000	---	<0.5	<0.5	<0.5	<0.5	ND
BH-C ^a	09/10/93	15.80	640 ^b	100	---	<5,000	---	3.5	0.6	<0.5	<0.5	ND
BH-D ^d	09/10/93	14.2	24,000 ^b	25,000 ^c	---	20,000	---	720	44	86	11	p
Bailer	08/19/92		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
Blank	11/17/92		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
Trip	02/13/90		ND	---	---	---	---	ND	ND	ND	ND	---
Blank	05/14/90		ND	---	---	---	---	ND	ND	ND	ND	---
	09/12/90		ND	---	---	---	---	ND	ND	ND	ND	---
	03/08/91		ND	---	---	---	---	ND	ND	ND	ND	---
	06/03/91		ND	---	---	---	---	ND	ND	ND	ND	---
	08/30/91		ND	---	---	---	---	ND	ND	ND	ND	---
	03/18/92		<30	<50	---	---	---	<0.3	<0.3	<0.3	<0.3	---
	05/28/92		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/19/92		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/17/92		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/12/93		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/10/93		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/19/93		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/28/94		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/04/94		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/10/94		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/08/94		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/01/95		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/10/95		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/95		<50	---	---	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/10/95		<50	---	---	---	---	<0.5	<0.5	0.7	<0.5	---
DTSC MCLs			NE	NE	NE	---	---	1	680	100 ^a	1,750	---

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
 TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
 TPH-MO = Total petroleum hydrocarbons as motor oil by EPA Method 8015
 B = Benzene by EPA Method 8020
 E = Ethylbenzene by EPA Method 8020
 T = Toluene by EPA Method 8020
 X = Xylenes by EPA Method 8020
 POG = Petroleum Oil & Grease by EPA Method 5520B/F
 SVOCs = Semivolatile organic compounds by EPA Method 8270
 NE = Not established
 DTSC MCLs = California Department of Toxic Substances Control Maximum Contaminant Levels drinking water
 — = Not analyzed or measured
 <n = Not detected at detection limits of n ppb
 ND = Not detected, detection limit not known
 SPH = Separate-phase hydrocarbons in well, not sampled
 dup = Duplicate sample

Notes:

a = Positive results for diesel appear to be less volatile constituents of gasoline
 b = Positive results for diesel has a typical diesel pattern
 c = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possibly gasoline or kerosene
 d = Concentration reported as motor oil is due to the presence of a combination of motor oil and a lighter petroleum product of hydrocarbon range C6-C12, possibly gasoline
 e = Concentration reported as gasoline is due to the presence of gasoline and a discrete peak not indicative of gasoline
 f = Compounds are within chromatographic range of gasoline but are not characteristic of the standard gasoline pattern
 g = Results include compounds apparently due to gasoline as well as those due to diesel
 h = 6.5 ppb Naphthalene detected
 i = 11.0 ppb Naphthalene detected
 j = Well inaccessible and not sampled
 k = Well inadvertently not sampled
 l = The concentration reported as gasoline is primarily due to the presence of a discrete peak not indicative of gasoline
 m = 13 ppb-methylnaphthalene and 23 ppb naphthalene detected
 n = Due to chain of custody mis-communication analyses run after holding time expiration
 o = The positive result has an atypical pattern for gasoline analysis
 p = 75 ppb 2-methylnaphthalene and 18 ppb naphthalene detected
 q = DTSC recommended action level; MCL not established
 r = Not detected at detection limits between 10 and 50 ppb
 s = Concentration reported as motor oil is due to the presence of heavier and lighter petroleum products.
 t = 27 ppb Naphthalene detected
 u = 12 ppb Naphthalene detected
 v = 37 ppb Naphthalene, 8.4 ppb 2methylnaphthalene detected.
 w = 37 ppb Naphthalene, 7.8 ppb 2methylnaphthalene detected.
 x = No SVOC's Detected

Table 3. Separate-Phase Hydrocarbon Removal - Shell Service Station
WIC #204-5508-3301, 6039 College Avenue, Oakland, California

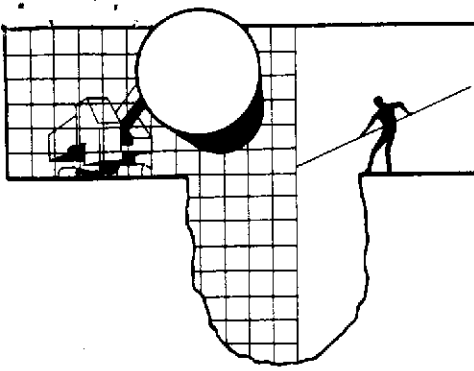
Well ID	Date	Separate-Phase Hydrocarbon Thickness (ft)	Separate-Phase Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)
MW-4 ^a	01/15/92	---	3.12	3.12
	02/15/92	---	3.12	6.24
	03/18/92	0.24	---	6.24
	04/29/92	---	1.50	7.74
	05/28/92	0.12	0.18	7.92
	08/19/92	0.09	0.96	8.86
	11/17/92	---	0.96	9.82
	02/12/93	<0.01	---	9.82
	06/10/93	0.02	0.06	9.88
	08/18/93	0.01	0.06	9.94
	11/19/93	0.01	0.06	10.00
	02/28/94	0.01	0.06	10.06
	05/04/94	0.00	0.06	10.12
	08/10/94	0.02	0.06	10.18
	11/10/94	0.05	0.08	10.26
	02/01/95	0.04	0.06	10.32
	05/10/95	0.06	0.16	10.48
	08/24/95	0.02	---	10.48
	11/10/95	<0.01	---	10.48
	02/24/96	0.03	0.44	10.92
05/22/96	0.03	---	10.92	
	08/19/96	0.02	---	10.92

Notes:

- a = Petrotrap separate-phase hydrocarbon skimmer installed in well
- = Not measured or no hydrocarbons removed

ATTACHMENT A

BTS GROUND WATER MONITORING REPORT



BLAINE TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

September 11, 1996

Shell Oil Company
P.O. Box 4023
Concord, CA 94524

Attn: R. Jeff Granberry

Shell WIC #204-5508-3301
6039 College Avenue
Oakland, California

3rd Quarter 1996

Quarterly Groundwater Monitoring Report 960819-A-1

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. Copies of our Sampling 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) 995-5535 ext. 201.

Yours truly,

Francis Thie

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

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
Attn: Grady Glasser

(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	8/19/96	TOC	--	NONE	--	--	15.86	24.13
MW-2 *	8/19/96	TOC	--	NONE	--	--	15.08	24.12
MW-3	8/19/96	TOC	--	NONE	--	--	13.97	24.73
MW-4	8/19/96	TOC	FREE PRODUCT	15.21	0.02	--	15.23	--
MW-5	8/19/96	TOC	--	NONE	--	--	13.09	28.88
MW-6	8/19/96	TOC	--	NONE	--	--	12.61	24.13
T-1	8/19/96	TOC	DRY	NONE	--	--	--	4.35
T-2	8/19/96	TOC	DRY	NONE	--	--	--	8.14

* Sample DUP was a duplicate sample taken from well MW-2.



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 760819-A1

Date: 8-19-96

Page 1 of 1

Site Address: 6039 College Ave., Oakland

WICH: 204-5508-3301

Shell Engineer: R. Jeff Granbery Phone No.: (510) 675-6168
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc.
985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller Phone No.: (408) 995-5535
Fax #: 293-8773

Comments:

Sampled by: RANDY VALENTINE
Printed Name:

Analysis Required

LAB: SEQUOIA

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/>	6441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	6442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. of Sys. O & M <input type="checkbox"/>	6462	
Water Rem. of Sys. O & M <input type="checkbox"/>	6463	
Other <input type="checkbox"/>		

NOTE: Holdy lab as soon as possible of 24/48 hr. TAT.

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	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	EPA 8270	OIL & GREASE	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/COMMENTS
MW-2				X		3						X				2	V		CONFIRM HIGHEST MTBE	
MW-3				X		7						X	X	X		3	A-G		HIT BY EPA 8260	
MW-5				X		3						X				4	A-C			
MW-6				X		3						X				5				
EB				X		3						X				6				
DUB				X		3						X				7	V			

Relinquished By (signature): <u>Randy Valentine</u>	Printed Name: <u>RANDY VALENTINE</u>	Date: <u>8-20-96</u> Time: <u>12:00</u>	Received (signature): <u>Michael Hess</u>	Printed Name: <u>M. Hess</u>	Date: <u>8-20-96</u> Time: <u>1:00</u>
Relinquished By (signature): <u>Michael Hess</u>	Printed Name:	Date:	Received (signature):	Printed Name:	Date:
Relinquished By (signature):	Printed Name:	Date:	Received (signature):	Printed Name: <u>Kenneth K.</u>	Date: <u>8/20/96</u> Time: <u>10:52</u>

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



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Project: Shell Oakland 960819-A1

Enclosed are the results from samples received at Sequoia Analytical on August 20, 1996.
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9608B73 -01	LIQUID, MW-1	08/19/96	TPGBMW Purgeable TPH/BTEX
9608B73 -02	LIQUID, MW-2	08/19/96	TPGBMW Purgeable TPH/BTEX
9608B73 -03	LIQUID, MW-3	08/19/96	TPGBMW Purgeable TPH/BTEX
9608B73 -03	LIQUID, MW-3	08/19/96	8270 SemiVolatile Organi
9608B73 -03	LIQUID, MW-3	08/19/96	TRPH (SM 5520 B&F)
9608B73 -04	LIQUID, MW-5	08/19/96	MTBEMW Methyl t-Butyl Ethe
9608B73 -04	LIQUID, MW-5	08/19/96	TPGBMW Purgeable TPH/BTEX
9608B73 -05	LIQUID, MW-6	08/19/96	TPGBMW Purgeable TPH/BTEX
9608B73 -06	LIQUID, EB	08/19/96	TPGBMW Purgeable TPH/BTEX
9608B73 -07	LIQUID, DUP	08/19/96	TPGBMW Purgeable TPH/BTEX

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

Peggy Penner
Project Manager





Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
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FAX (916) 921-0100

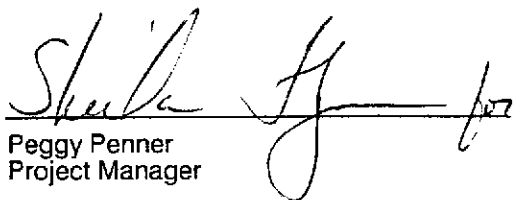
Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell Oakland 960819-A1 Lab Proj. ID: 9608B73	Sampled: 08/19/96 Received: 08/20/96 Analyzed: see below Reported: 09/04/96
Attention: Jim Keller		

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9608B73-03 Sample Desc : LIQUID,MW-3				
TRPH (SM 5520 B&F)	mg/L	08/26/96	5.0	9.2

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

SEQUOIA ANALYTICAL - ELAP #1210



Peggy Penner
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B73-01	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 08/27/96 Reported: 09/04/96
Attention: Jim Keller		

QC Batch Number: GC082796BTEX21A
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	91

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Peggy Penner
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: MW-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B73-02	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 08/27/96 Reported: 09/04/96
--	--	---

QC Batch Number: GC082796BTEX21A
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	85

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

SEQUOIA ANALYTICAL - ELAP #1210

Signature of Peggy Penner
Peggy Penner
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B73-03	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 08/27/96 Reported: 09/04/96
Attention: Jim Keller		

QC Batch Number: GC082796BTEX21A
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	350
Methyl t-Butyl Ether	2.5	340
Benzene	0.50	15
Toluene	0.50	3.3
Ethyl Benzene	0.50	3.4
Xylenes (Total)	0.50	3.3
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	118

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Peggy Penner
Project Manager



Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133

Attention: Jim Keller

Client Proj. ID: Shell Oakland 960819-A1
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: EPA 8270
Lab Number: 9608B73-03

Sampled: 08/19/96
Received: 08/20/96
Extracted: 08/21/96
Analyzed: 08/22/96
Reported: 09/04/96

QC Batch Number: MS0821968270EXA
Instrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthene	5.0	N.D.
Acenaphthylene	5.0	N.D.
Anthracene	5.0	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	5.0	N.D.
Benzo(b)fluoranthene	5.0	N.D.
Benzo(k)fluoranthene	5.0	N.D.
Benzo(g,h,i)perylene	5.0	N.D.
Benzo(a)pyrene	5.0	N.D.
Benzyl alcohol	5.0	N.D.
Bis(2-chloroethoxy)methane	5.0	N.D.
Bis(2-chloroethyl)ether	5.0	N.D.
Bis(2-chloroisopropyl)ether	5.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	5.0	N.D.
Butyl benzyl phthalate	5.0	N.D.
4-Chloroaniline	10	N.D.
2-Chloronaphthalene	5.0	N.D.
4-Chloro-3-methylphenol	5.0	N.D.
2-Chlorophenol	5.0	N.D.
4-Chlorophenyl phenyl ether	5.0	N.D.
Chrysene	5.0	N.D.
Dibenzo(a,h)anthracene	5.0	N.D.
Dibenzofuran	5.0	N.D.
Di-n-butyl phthalate	10	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	5.0	N.D.
Diethyl phthalate	5.0	N.D.
2,4-Dimethylphenol	5.0	N.D.
Dimethyl phthalate	5.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	5.0	N.D.
2,6-Dinitrotoluene	5.0	N.D.





Sequoia Analytical

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Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133

Client Proj. ID: Shell Oakland 960819-A1
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: EPA 8270
Lab Number: 9608B73-03

Sampled: 08/19/96
Received: 08/20/96
Extracted: 08/21/96
Analyzed: 08/22/96
Reported: 09/04/96

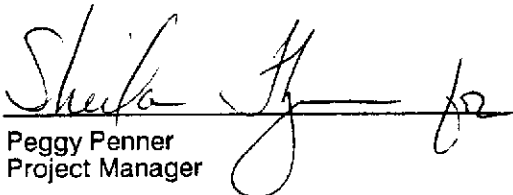
QC Batch Number: MS0821968270EXA
Instrument ID: F4

Analyte	Detection Limit ug/L	Sample Results ug/L
Di-n-octyl phthalate	5.0	N.D.
Fluoranthene	5.0	N.D.
Fluorene	5.0	N.D.
Hexachlorobenzene	5.0	N.D.
Hexachlorobutadiene	5.0	N.D.
Hexachlorocyclopentadiene	10	N.D.
Hexachloroethane	5.0	N.D.
Indeno(1,2,3-cd)pyrene	5.0	N.D.
Isophorone	5.0	N.D.
2-Methylnaphthalene	5.0	N.D.
2-Methylphenol	5.0	N.D.
4-Methylphenol	5.0	N.D.
Naphthalene	5.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	5.0	N.D.
2-Nitrophenol	5.0	N.D.
4-Nitrophenol	10	N.D.
n-Nitrosodiphenylamine	5.0	N.D.
n-Nitroso-di-n-propylamine	5.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	5.0	N.D.
Phenol	5.0	N.D.
Pyrene	5.0	N.D.
1,2,4-Trichlorobenzene	5.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	5.0	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	21	110	50
Phenol-d5	10	110	39
Nitrobenzene-d5	35	114	72
2-Fluorobiphenyl	43	116	72
2,4,6-Tribromophenol	10	123	84
p-Terphenyl-d14	33	141	77

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Penner
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: MW-5 Matrix: LIQUID Analysis Method: EPA 8260 Lab Number: 9608B73-04	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 09/03/96 Reported: 09/04/96
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QC Batch Number: MS0903968260F3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	200	15000
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76	114
Toluene-d8	88	110
4-Bromofluorobenzene	86	115

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

SEQUOIA ANALYTICAL - ELAP #1210

Sheela Jy for
Peggy Penner
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: MW-5 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B73-04	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 08/28/96 Reported: 09/04/96
Attention: Jim Keller		

QC Batch Number: GC082896BTEX20A
Instrument ID: GCZHP20

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2500	N.D.
Methyl t-Butyl Ether	125	13000
Benzene	25	N.D.
Toluene	25	N.D.
Ethyl Benzene	25	N.D.
Xylenes (Total)	25	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Handwritten signature of Peggy Penner

Peggy Penner
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: MW-6 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B73-05	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 08/16/96 Reported: 09/04/96
---	--	---

QC Batch Number: GC082896BTEX20A
Instrument ID: GZCHP20

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1250	N.D.
Methyl t-Butyl Ether	62	1100
Benzene	12	N.D.
Toluene	12	N.D.
Ethyl Benzene	12	N.D.
Xylenes (Total)	12	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

Shela H. Penner

 Peggy Penner
 Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: EB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B73-06	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 08/27/96 Reported: 09/04/96
Attention: Jim Keller		

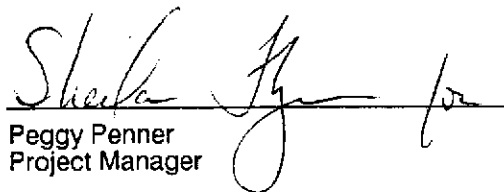
QC Batch Number: GC082796BTEX21A
Instrument ID: GCHP21

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	84

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Penner
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell Oakland 960819-A1 Sample Descript: DUP Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B73-07	Sampled: 08/19/96 Received: 08/20/96 Analyzed: 08/27/96 Reported: 09/04/96
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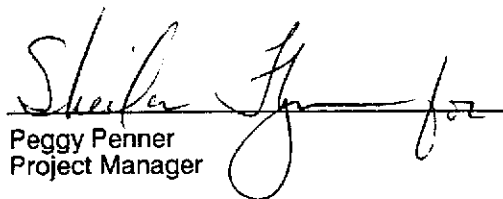
QC Batch Number: GC082796BTEX21A
Instrument ID: GCHP21

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	103

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Penner
Project Manager





Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960819-A1
Matrix: Liquid

Work Order #: 9608B73 -03

Reported: Sep 4, 1996

QUALITY CONTROL DATA REPORT

Analyte: Total Recoverable
Petroleum Hydrocarb.

QC Batch#: OP0820965520EXA
Analy. Method: SM 5520BF
Prep. Method: EPA 3510

Analyst: J. Aquino
MS/MSD #: BLK082096
Sample Conc.: N.D.
Prepared Date: 8/20/96
Analyzed Date: 8/21/96
Instrument I.D.#: Manual
Conc. Spiked: 10 mg/L

Result: 9.6
BS % Recovery: 96

Dup. Result: 11
BSD % Recov.: 110

RPD: 14
RPD Limit: 0-30

LCS #: BLK082396

Prepared Date: 8/23/96
Analyzed Date: 8/26/96
Instrument I.D.#: Manual
Conc. Spiked: 10 mg/L

LCS Result: 8.5
LCS % Recov.: 85

MS/MSD 60-140
LCS 70-130
Control Limits

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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

9608B73.BLA <1>





Sequoia Analytical

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Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960819-A1
Matrix: Liquid

Work Order #: 9608B73-04

Reported: Sep 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS090396826000A	MS090396826000A	MS090396826000A	MS090396826000A	MS090396826000A
Analy. Method:	EPA 8260	EPA 8260	EPA 8260	EPA 8260	EPA 8260
Prep. Method:	N/A	N/A	N/A	N/A	N/A

Analyst:	L. Duong	L. Duong	L. Duong	L. Duong	L. Duong
MS/MSD #:	-	-	-	-	-
Sample Conc.:	-	-	-	-	-
Prepared Date:	-	-	-	-	-
Analyzed Date:	-	-	-	-	-
Instrument I.D.#:	-	-	-	-	-
Conc. Spiked:	-	-	-	-	-
Result:	-	-	-	-	-
MS % Recovery:	-	-	-	-	-
Dup. Result:	-	-	-	-	-
MSD % Recov.:	-	-	-	-	-
RPD:	-	-	-	-	-
RPD Limit:	-	-	-	-	-

LCS #:	VDB090396	VDB090396	VDB090396	VDB090396	VDB090396
Prepared Date:	-	-	-	-	-
Analyzed Date:	9/3/96	9/3/96	9/3/96	9/3/96	9/3/96
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
LCS Result:	50	49	51	52	50
LCS % Recov.:	100	98	102	104	100

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	65-135	70-130	70-130	70-130	70-130
Control Limits					

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

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

9608B73.BLA <2>



Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960819-A1
Matrix: Liquid

Work Order #: 9608B73-01-03, 06

Reported: Sep 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC082796BTEX21A	GC082796BTEX21A	GC082796BTEX21A	GC082796BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	9608A2103	9608A2103	9608A2103	9608A2103
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/27/96	8/27/96	8/27/96	8/27/96
Analyzed Date:	8/27/96	8/27/96	8/27/96	8/27/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	11	11	33
MS % Recovery:	100	110	110	110
Dup. Result:	10	11	11	32
MSD % Recov.:	100	110	110	107
RPD:	0.0	0.0	0.0	3.1
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK082796	BLK082796	BLK082796	BLK082796
Prepared Date:	8/27/96	8/27/96	8/27/96	8/27/96
Analyzed Date:	8/27/96	8/27/96	8/27/96	8/27/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	33
LCS % Recov.:	110	110	110	110

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

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SEQUOIA ANALYTICAL

Peggy Penner
Project Manager





Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960819-A1
Matrix: Liquid

Work Order #: 9608B73-04-05

Reported: Sep 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC082896BTEX20A	GC082896BTEX20A	GC082896BTEX20A	GC082896BTEX20A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	9608A7202	9608A7202	9608A7202	9608A7202
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/28/96	8/28/96	8/28/96	8/28/96
Analyzed Date:	8/28/96	8/28/96	8/28/96	8/28/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.6	9.5	29
MS % Recovery:	100	96	95	97
Dup. Result:	9.8	9.0	9.2	27
MSD % Recov.:	98	90	92	90
RPD:	2.0	6.5	3.2	7.1
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK082896	BLK082896	BLK082896	BLK082896
Prepared Date:	8/28/96	8/28/96	8/28/96	8/28/96
Analyzed Date:	8/28/96	8/28/96	8/28/96	8/28/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	7.5	7.6	7.9	23
LCS % Recov.:	75	76	79	77

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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

9608B73.BLA <4>





Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960819-A1
Matrix: Liquid

Work Order #: 9608B73-03

Reported: Sep 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro benzene	N-Nitroso-Di-N-propylamine
QC Batch#:	MS0821968270EXA	MS0821968270EXA	MS0821968270EXA	MS0821968270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510

Analyst:	E. Manuel	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	9608B7303	9608B7303	9608B7303	9608B7303
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/21/96	8/21/96	8/21/96	8/21/96
Analyzed Date:	8/22/96	8/22/96	8/22/96	8/22/96
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
Result:	76	150	120	160
MS % Recovery:	38	75	60	80
Dup. Result:	86	150	130	170
MSD % Recov.:	43	75	65	85
RPD:	12	0.0	8.0	6.1
RPD Limit:	0-30	0-30	0-30	0-30

LCS #:	BLK082196	BLK082196	BLK082196	BLK082196
Prepared Date:	8/21/96	8/21/96	8/21/96	8/21/96
Analyzed Date:	8/22/96	8/22/96	8/22/96	8/22/96
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
LCS Result:	80	150	120	160
LCS % Recov.:	40	75	60	80

MS/MSD	DL-132	42-112	42-100	53-107
LCS	50-114	59-117	54-93	55-114
Control Limits				

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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



Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960819-A1
Matrix: Liquid

Work Order #: 9608B73-03

Reported: Sep 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	1,2,4-Trichloro benzene	4-Chloro-3 Methylphenol	Acenaphthene	4-Nitrophenol
QC Batch#:	MS0821968270EXA	MS0821968270EXA	MS0821968270EXA	MS0821968270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510

Analyst:	E. Manuel	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	9608B7303	9608B7303	9608B7303	9608B7303
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/21/96	8/21/96	8/21/96	8/21/96
Analyzed Date:	8/22/96	8/22/96	8/22/96	8/22/96
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
Result:	140	140	140	63
MS % Recovery:	70	70	70	32
Dup. Result:	150	150	140	78
MSD % Recov.:	75	75	70	39
RPD:	6.9	6.9	0.0	21
RPD Limit:	0-30	0-30	0-30	0-30

LCS #:	BLK082196	BLK082196	BLK082196	BLK082196
Prepared Date:	8/21/96	8/21/96	8/21/96	8/21/96
Analyzed Date:	8/22/96	8/22/96	8/22/96	8/22/96
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
LCS Result:	140	150	140	66
LCS % Recov.:	70	75	70	33

MS/MSD	43-107	42-107	43-107	DL-118
LCS	60-95	54-100	51-96	21-114
Control Limits				

SEQUOIA ANALYTICAL

Peggy Papner
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.

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



Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland / 960819-A1
Matrix: Liquid

Work Order #: 9608B73-03

Reported: Sep 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	MS0821968270EXA	MS0821968270EXA	MS0821968270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510

Analyst:	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	9608B7303	9608B7303	9608B7303
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	8/21/96	8/21/96	8/21/96
Analyzed Date:	8/22/96	8/22/96	8/22/96
Instrument I.D.#:	F4	F4	F4
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L

Result:	150	170	140
MS % Recovery:	75	85	70

Dup. Result:	150	170	140
MSD % Recov.:	75	85	70

RPD:	0.0	0.0	0.0
RPD Limit:	0-30	0-30	0-30

LCS #:	BLK082196	BLK082196	BLK082196
Prepared Date:	8/21/96	8/21/96	8/21/96
Analyzed Date:	8/22/96	8/22/96	8/22/96
Instrument I.D.#:	F4	F4	F4
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L
LCS Result:	150	160	140
LCS % Recov.:	75	80	70

MS/MSD	32-114	17-146	32-125
LCS	45-100	22-117	50-114
Control Limits			

SEQUOIA ANALYTICAL

Reggy Fenner
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.

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