CAMBRIA

April 9, 1998

Eva Chu
Alameda County Department of
Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502-6577

Just analyze for MTBE using 8260 in MW1 and 2 now. If no/little MTBE - then review for closure

Re: **Sampling Frequency Reduction Request**
Shell Service Station
1601 Webster Street
Alameda, California 94501
WIC #204-0072-0403
Cambria Project #240-314-198

Dear Ms. Chu:

On behalf of Shell Oil Products Company, Cambria Environmental Technology, Inc. (Cambria) is submitting this request for a reduction in the sampling frequency at the site referenced above.

Based on current site conditions and eight years of ground water monitoring data, we believe reductions in the monitoring well sampling frequencies are warranted. The proposed sampling frequency reductions (SFRs) are presented in the attached table. Analytical results for ground water and a monitoring well location map from the *Fourth Quarter 1997 Monitoring Report* are included as Attachment A. We will implement these SFRs beginning in the fourth quarter of 1998 unless otherwise directed by your office.

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

Sincerely,
Cambria Environmental Technology, Inc.

Maureen D. Feineman
Staff Geologist

Khaled B. Rahman, R.G., C.H.G.
Senior Geologist

Attachments: A - Analytical Results for Ground Water and Ground Water Elevation Contours

cc: A.E. (Alex) Perez, Shell Oil Products Company, PO Box 8080, Martinez, California 94553

G:\Alameda 1601\SFR WPD

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
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PH (510) 420-0700
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PROPOSED WELL SAMPLING FREQUENCIES
Shell Service Station, WIC #204-0072-0403
1601 Webster Street, Alameda, California

Monitoring Well ID	Current Sampling Frequency and Analytes	Proposed Sampling Frequency and Analytes	Justification
MW-1	Annually (2nd qtr) TPHg, BTEX, MTBE, VOCs, DO	Annually (2nd qtr) TPHg, BTEX, MTBE, DO	VOCs near or below detection limits for eight years.
MW-2	Bi-annually (2nd and 4th qtrs) TPHg, BTEX, MTBE, VOCs, DO	Annually (2nd qtr) TPHg, BTEX, MTBE, DO	Stable hydrocarbon and MTBE concentrations, VOCs near or below detection limits for eight years.
MW-3	Bi-annually (2nd and 4th qtrs) TPHg, BTEX, MTBE, VOCs, DO	Annually (2nd qtr) TPHg, BTEX, MTBE, DO	No detectable hydrocarbons and low asymptotic MTBE concentrations, VOCs near or below detection limits for five years.
S-1	Annually (2nd qtr) TPHg, BTEX, MTBE, DO	Annually (2nd qtr) TPHg, BTEX, MTBE, DO	No change.

Abbreviations:
TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
BTEX = Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020
MTBE = Methyl tert-butyl ether by EPA Method 8020 and/or 8260
VOCs = Volatile organic compounds by EPA Method 8010
DO = Dissolved oxygen, measured in field

Attachment A

Analytical Results for Ground Water and
Ground Water Elevation Contours

Table 1. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← parts per billion (µg/L) →										
MW-1	04/11/90	8.22	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	---	---
(Annually,	07/18/90	9.14	<50	---	<0.5	<0.5	<0.5	<0.5	3	<0.5	<5,000	---	---
2nd Qtr.)	10/18/90	10.37	<50	---	<0.5	<0.5	<0.5	<0.5	7.9	<0.5	<5,000	---	---
	01/25/91	10.41	<50	---	<0.5	<0.5	<0.5	<0.5	5.6	<0.5	---	---	---
	04/11/91	7.37	<50	---	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	---	---	---
	07/18/91	8.86	<50	---	<0.5	<0.5	<0.5	<0.5	4.4	<0.5	---	---	---
	10/17/91	10.47	<50	---	<0.5	<0.5	<0.5	<0.5	7.2	<0.5	---	---	---
	01/24/92	9.18	<50	---	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	---	---	---
	04/23/92	6.95	<50		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/02/92	8.01	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/02/92	9.81	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	---	---
	01/05/93	7.26	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	---	---
	04/08/93[a]	5.85	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/20/93[b]	6.83	<50	---	<0.5	<0.5	<0.5	<0.5	0.76	<0.5	---	---	---
	10/15/93	8.07	<50	---	<0.5	<0.5	<0.5	<0.5	0.71	<0.5	---	---	---
	01/07/94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	3.1	0.85	---	---	5.5
	04/13/94	6.91	<50	---	<0.5	<0.5	<0.5	<0.5	3.6	0.95	---	---	---
	07/26/94	7.51	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	2.8
	10/06/94[c]	8.71	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	4.0
	04/20/95	5.50	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	---
	04/10/96	5.78	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	<2.5	---
	07/12/96	6.65	---	---	---	---	---	---	---	---	---	---	---
	10/17/96	7.48	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.16	<1,000	---	<10	<10	<10	<10	<1.2	<1.2	---	3,000	2.6
MW-2	04/11/90	7.69	580	430	20	4.9	1.2	73	<0.5	1.1	<10,000	---	---
(Biannually,	07/18/90	8.56	1,400	---	110	310	71	310	<0.5	0.7	<5,000	---	---
2nd & 4th Qtr.)	10/18/90	9.76	1,900	1,300[d]	110	470	89	400	<0.5	0.9	<5,000	---	---
	01/25/91	9.78	8,100	---	430	1,200	480	2,600	<0.5	0.8	---	---	---
	04/11/91	6.87	2,600	---	130	150	250	330	<0.5	<0.5	---	---	---
	07/15/91	8.27	1,300	---	100	59	84	120	<0.5	0.8	---	---	---
	10/17/91	9.89	2,100	---	180	260	150	520	<0.5	0.6	---	---	---
	01/24/92	8.60	7,100	---	450	450	960	1,600	110	<0.5	---	---	---
	04/23/92	6.48	16,000	---	320	740	650	2,600	<2.5	<2.5	---	---	---

Table 1. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← parts per billion (µg/L) →										
	07/02/92	7.37	33,000	---	2,500	3,700	2,000	9,600	<50	<50	---	---	---
	10/02/92	9.20	7,000	---	960	650	570	1,200	<50	<50	---	---	---
	01/05/93	6.80	8,900	---	550	500	600	1,900	<2	<2	---	---	---
	04/08/93	5.40	13,000	---	670	580	900	2,900	0.68	<0.5	---	---	---
	04/08/93[dup]	5.40	13,000	---	830	740	1,100	3,700	0.64	<0.5	---	---	---
	07/20/93	6.05	10,000	---	1,200	630	1,100	4,000	0.87	<0.5	---	---	---
	07/20/93[dup]	6.05	12,000	---	1,200	600	1,100	3,800	0.80	<0.5	---	---	---
	10/15/93	7.04	24,000	---	1,400	3,400	1,200	5,200	<0.5	<0.5	---	---	---
	10/15/93[dup]	7.04	19,000	---	1,200	2,800	1,000	4,400	<0.5	<0.5	---	---	---
	01/07/94	6.99	27,000	---	1,300	2,700	1,900	7,900	<10	<10	---	---	3.6
	01/07/94[dup]	6.99	33,000	---	1,100	2,300	1,700	6,900	<10	<10	---	---	3.6
	04/13/94	6.20	16,000	---	460	93	820	2,700	<25	<25	---	---	---
	04/13/94[dup]	6.20	18,000	---	500	100	880	3,000	<25	<25	---	---	---
	07/26/94	6.63	25,000	---	1,600	1,500	1,500	6,800	<0.4	<0.4	---	---	3.2
	07/26/94[dup]	6.63	28,000	---	1,700	1,600	1,600	7,300	<0.4	<0.4	---	---	3.2
	10/06/94	7.75	15,000	---	850	650	1,000	4,000	<0.4	<0.4	---	---	2.4
	10/06/94[dup]	7.75	17,000	---	1000	630	1,200	4,500	<0.4	<0.4	---	---	2.4
	01/26/95	4.49	3,200	---	63	14	300	1,000	<0.4	<0.4	---	---	1.6
	01/26/95[dup]	4.49	3,100	---	31	13	140	820	<0.4	<0.4	---	---	1.6
	04/20/95	5.28	<50	---	4.4	<0.5	1.3	3.3	<0.4	<0.4	---	---	---
	04/20/95[dup]	5.28	<50	---	0.5	<0.5	0.6	3.3	<0.4	<0.4	---	---	---
	07/12/95	5.84	<50	---	1.1	1.1	<0.5	<0.5	---	---	---	---	10.4
	07/12/95[dup]	5.84	<50	---	0.9	0.8	<0.5	<0.5	---	---	---	---	10.4
	10/12/95	6.68	370	---	20	3.0	8.2	92	<0.5	<0.4	---	---	6.4
	01/11/96	6.29	90	---	3.8	<0.5	3.5	3.0	0.6	<0.4	---	---	5.8
	04/10/96	5.48	61	---	9.9	<0.5	3.6	1.8	---	---	---	<2.5	---
	04/10/96[dup]	5.48	54	---	10	<0.5	4.0	1.7	---	---	---	<2.5	---
	07/12/96	6.02	510	---	25	1.9	39	61	<1.0	<1.0	---	3.3	2.3
	07/12/96[dup]	6.02	510	---	24	2.0	38	59	<1.0	<1.0	---	5.5	2.3
	10/17/96	6.95	4,100	---	130	13	280	590	0.52	<0.5	---	26	2.2
	10/17/96[dup]	6.95	3,500	---	120	12	230	510	0.58	<0.5	---	(<20)	2.2
	04/08/97	5.83	1,500	---	77	19	120	32	0.59	<0.50	---	5.7	2.6

Table 1. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← parts per billion (µg/L) →										
	10/16/97	**7.98**	**4,000**	**---**	**160**	**<5.0**	**250**	**140**	**<2.5**	**<2.5**	**---**	**44**	**2.4**
	10/16/97[dup]	**7.98**	**4,000**	**---**	**170**	**<5.0**	**270**	**98**	**<1.0**	**<1.0**	**---**	**<2.5**	**2.4**
MW-3	02/25/93	5.37	58	140	<0.5	<0.5	2.5	6.4	<0.5	1.5	<5,000	---	---
(Biannually,	04/08/93	5.48	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
2nd & 4th Qtr.)	07/20/93[e]	6.38	<50	---	1.2	<0.5	<0.5	<0.5	<0.5	2.8	---	---	---
	10/15/93[f]	7.53	60	---	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	---	---	---
	01/07/94	7.38	74	---	<0.5	<0.5	<0.5	0.76	<0.5	0.91	---	---	4.6
	04/13/94	6.50	<50	---	<0.5	<0.5	<0.5	<0.5	<1.3	<1.3	---	---	---
	07/26/94	7.00	750[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	1.7
	10/06/94	8.10	1,900[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	3.0
	01/26/95	5.00	580[g]	---	<0.5	<0.5	<0.5	1.3	<0.4	<0.4	---	---	1.3
	04/20/95	5.24	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	---
	07/12/95	6.10	50	---	4.2	2.9	<0.5	0.9	---	---	---	---	7.2
	10/12/95	6.98	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	7.1
	10/12/95[dup]	6.98	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	7.1
	01/11/96	6.48	50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	6.4
	01/11/96[dup]	6.48	50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	---
	04/10/96	5.57	200	---	<2.0	<2.0	<2.0	<2.0	---	---	---	670	---
	07/12/96	6.23	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	230	3.5
	10/17/96	7.18	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	3.0
	04/08/97	5.75	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	240	3.0
	10/16/97	**7.76**	**<50**	**---**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<1.0**	**---**	**100**	**2.2**
S-1	09/04/87[h]		---	---	<5	<5	<5	<5	<0.5	<0.5	---	---	---
(Annually,	09/11/89[i]	9.82	<50	<100	<0.5	<1	<1	<3	<0.5	<0.5	<1,000	---	---
2nd Qtr.)	04/11/90	8.41	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	---	---
	07/18/90	9.31	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	---	---
	10/18/90	10.43	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	---	---
	01/25/91	10.49	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/11/91	7.68	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/18/91	8.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/17/91	10.62	<50	---	<0.5	<0.5	<0.5	<5	---	---	---	---	---
	01/24/92	9.32	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

Table 1. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← parts per billion (µg/L) →										
	04/23/92	7.27	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/02/92	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/02/92	9.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/05/93	7.64	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/08/93	6.10	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/20/93	7.18	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/15/93	8.39	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/07/94	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	6.8
	04/13/94	7.22	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/26/94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	2.6
	10/06/94	9.01	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	6.0
	04/20/95	6.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/10/96	5.80	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	<2.5	---
	07/12/96	6.60	---	---	---	---	---	---	---	---	---	---	---
	10/17/96	7.63	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.00	<50	---	0.73	<0.50	<0.50	1.7	---	---	---	3.8	2.8
	04/08/97[dup]	6.00	<50	---	1.0	0.64	0.65	2.4	---	---	---	<2.5	2.8
Trip Blank	07/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/25/91		<50	---	<0.5	<0.5	<0.5	0.8	---	---	---	---	---
	04/11/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/18/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/17/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/24/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/23/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/05/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/08/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/20/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/15/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/07/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/13/94		<50	---	<0.5	<0.5[j]	<0.5	<0.5	---	---	---	---	---

Table 1. **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← parts per billion (µg/L) →										
	07/26/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/06/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/26/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/20/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/12/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/12/95		<50	---	<0.5	<0.5	<0.5	---	---	---	---	---	---
	07/12/96		<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2..5	---
	10/17/96		<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	---
													---
MCLs			NE	NE	1	150	700	1,750	6.0	0.5	NE	NE	---

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
B = Benzene by EPA Method 602, 624, or 8020
T = Toluene by EPA Method 602, 624, or 8020
E = Ethylbenzene by EPA Method 602, 624, or 8020
X = Xylenes by EPA Method 602, 624, or 8020
c-1,2-DCE = cis-1,2-dichloroethene by EPA Method 601, 624, or 8010
1,2-DCA = 1,2-dichloroethane by EPA Method 601, 624, or 8010
TOG = Total non-polar oil and grease by American Public Health Association Standard Method 503E
DO= Dissolved oxygen
<n = Not detected at detection limit of n µg/L
--- = Not analyzed/measured
dup= Duplicate sample
ft = Feet
µg/L= Micrograms per liter
mg/L= Milligrams per liter
MCLs =California Primary maximum contaminant level for drinking water (22 CCR 64444)
NE = Not established

Notes:

a = Chloroform detected at 0.71 µg/L by EPA Method 8010
b = Chloroform detected at 1.1 µg/L by EPA Method 8010
c = Trichloroethylene detected at 1.7 µg/L
d = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline
e = Chloroform detected at 1.5 µg/L by EPA Method 8010
f = Chloroform detected at 3.6 µg/L by EPA Method 8010
g = The result for gasoline is an unknown hydrocarbon which consists of a single peak
h = 0.12 mg/L acetone detected by EPA Method 624; no other volatile organic compounds detected
i = Metals detected by EPA Method 6010; 0.020 mg/L chromium, 0.060 mg/L lead and 0.030 mg/L zinc; no cadmium detected above detection limit of 0.010 mg/L; no PCBs or semi-volatile compounds detected by EPA Method 625
j = 0.54 µg/L toluene detected in equipment blank

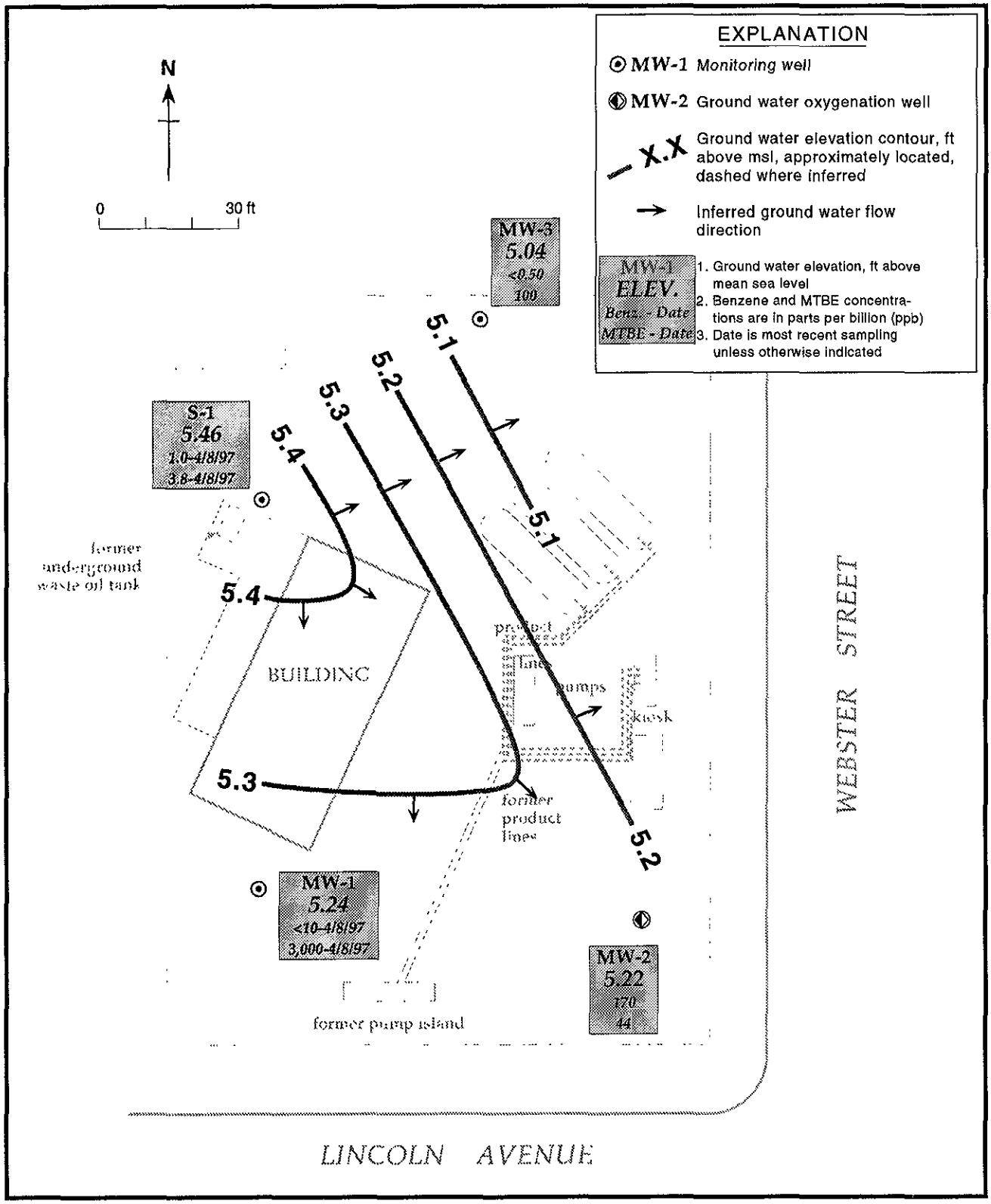

Figure 1. Ground Water Elevation Contours - October 16, 1997 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California