Harding Lawson Associates

February 8, 1990

04167,309.02

Alameda County Environmental Health Department
Hazardous Materials Division
80 Swan Way, Suite 200
Oakland, California 94621

Attention: Mr. Ariu Levy

Dear Mr. Levy:

Aquifer Test
Exxon Station #7-0104
1725 Park Street
Alameda, California

Harding Lawson Associates (HLA) has scheduled an aquifer slug test at the referenced site for Tuesday, February 13, 1990. The work will be performed in accordance with our work plan dated January 17, 1990, which was submitted to you by Exxon on January 23, 1990.

Should you have any questions or comments, please contact me at 415/892-0821.

Yours very truly,

HARDING LAWSON ASSOCIATES

S. Michelle Watson

S. Michelle Watson
Project Geologist

cc: Mr. Gary Gibson, Exxon Company, USA
Mr. S.R. Ritchie, Regional Water Quality Control Board, San Francisco Bay Region

SMW:lh/m7/289

Quarterly Report
Exxon Station R/S #7-0104
1725 Park Street
Alameda, California
April 1990 - June 1990

Harding Lawson Associates

Background:
In 1986 underground storage tanks were removed and replaced at 1725 Park Street, Alameda, California (site). A Sensitive Receptor-Risk Assessment Survey for the site was conducted by HLA in May 1988.

Phase I Evaluation:
Groundwater samples were collected and analyzed onsite by a mobile laboratory. Three groundwater monitoring wells were installed and sampled. HLA report *Evaluation of Petroleum Hydrocarbons Regal Station 405, 1725 Park Street, Alameda, California* was issued on June 24, 1988.

Phase II Evaluation:
Three additional groundwater monitoring wells were installed at the site. All six monitoring wells at the site were sampled. HLA report *Phase II Evaluation of Petroleum Hydrocarbons, Exxon Service Station R/S #7-0104, 1725 Park Street, Alameda, California* was issued on March 21, 1989.

Phase III Evaluation:

HLA installed an additional monitoring well, performed slug tests in four wells, drilled and sampled seven borings, and collected and analyzed groundwater samples for organic and inorganic parameters. The results were submitted to Exxon in a report dated May 1, 1990. HLA also presented recommendations and preliminary remediation and treatment options to Exxon in a letter dated May 1, 1990.

Work Performed During the Quarter:
The seven onsite monitoring wells were sampled as part of a renewed year-long quarterly sampling program. Groundwater samples were analyzed for TPH as gasoline and BTEX. Depth to ground water was measured and recorded. The results will be issued in a report in July. Laboratory analytical results and groundwater elevations are attached as Table 1 and Table 2, respectively. Also attached is a site map showing monitoring well locations and June 1990 potentiometric groundwater surface elevations.

Product Recovery:
No product recovery operations are being conducted at this time.

Work to be Performed Next Quarter:
HLA will continue monthly groundwater level measurements and quarterly sampling at the site. HLA will also continue remediation discussions with Exxon.

Michael L. Siembieda
Associate Geologist

Attachments: Table 1
Table 2
Plate 1

SMW:lh/m5/199

Table 1. Summary of Chemical Results of Groundwater Samples

Well Number	Date	TPH Gasoline mg/l[1]	Benzene µg/l[2]	Toluene µg/l	Ethyl-benzene µg/l	Xylenes µg/l	Total Dissolved Solids mg/l
DHS Action Levels			0.7	100	680	620	
MW-1	06/07/88	27	5,000	77	1,100	2,700	NT[3]
	01/17/89	6.8	2,000	91	800	1,600	NT
	06/01/89	1.7	170	6.9	13	230	NT
	09/18/89	2.1	9.0	53	18	130	NT
	12/11/89	5.8	200	42	290	330	NT
	03/07/90	NT	NT	NT	NT	NT	910
	03/13/90	2.3	430	14	16	220	NT
	06/14/90	32	1,400	19	<5[4]	120	NT
MW-2	06/07/88	110	12,000	12,000	2,100	12,000	NT
	01/17/89	30	6,600	3,300	1,600	7,700	NT
	06/01/89	8.7	330	280	680	1,200	NT
	09/18/89	17	580	280	570	220	NT
	12/11/89	32	1,000	850	310	1,200	NT
	03/13/90	39	3,500	1,500	2,100	3,900	NT
	06/14/90	34	3,800	730	1,600	3,900	NT
MW-3	06/07/88	28	6,000	80	940	1,900	NT
	01/17/89	5.3	2,500	230	590	1,100	NT
	06/01/89	5.4	330	300	570	680	NT
	09/18/89	12	680	170	350	860	NT
	12/11/89	14	1,100	150	670	690	NT
	03/13/90	18	6,300	200	1,100	1,100	NT
	06/14/90	9.5	1,300	880	310	1,800	NT
MW-4	01/17/89	19	1,000	1,500	360	2,200	NT
	06/01/89	3.6	180	240	63	810	NT
	09/18/89	6.0	290	200	28	510	NT
	12/11/89	13	750	910	510	1,200	NT
	03/07/90	NT	NT	NT	NT	NT	370
	03/13/90	12	1,500	1,500	470	2,800	NT
	06/14/90	12	5,700	400	1,300	760	NT

Table 1. Summary of Chemical Results of Groundwater Samples (continued)

Well Number	Date	TPH Gasoline mg/l[1]	Benzene µg/l[2]	Toluene µg/l	Ethyl-benzene µg/l	Xylenes µg/l	Total Dissolved Solids mg/l
DHS Action Levels			0.7	100	680	620	3000
MW-5	01/17/89	26	8,700	3,900	990	5,900	NT
	06/01/89	5.2	240	220	130	690	NT
	09/18/89	8.0	340	150	140	460	NT
	12/11/89	15	720	320	450	870	NT
	03/13/90	10	3,400	220	280	800	NT
	06/14/90	12	3,300	160	350	730	NT
MW-6	01/17/89	38	7,400	9,300	2,000	9,900	NT
	06/01/89	23	1,900	2,500	2,000	6,000	NT
	09/18/89	17	650	410	650	320	NT
	12/11/89	29	1,100	810	330	1,500	NT
	03/13/90	38	12,000	15,000	2,500	12,000	NT
	06/14/90	38	9,100	7,800	2,900	12,000	NT
MW-7	01/09/90	17	380	180	330	1,300	NT
	03/13/90	16	360	270	83	460	NT
	06/14/90	14	1,200	2,800	75	930	NT
Field Blank	12/11/89	<0.5	0.88	0.95	0.62	1.7	NT
Trip Blank	06/14/90	<0.5	<0.5	<0.5	<0.5	<0.5	NT

1 mg/l: milligrams per liter (parts per million)

2 µg/l: micrograms per liter (parts per billion)

3 NT: Not tested

4 <: Numbers preceded by "<" indicate that sample was below the indicated detection limit.

Table 2. Groundwater Elevations and Product Thickness Measurements

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Well Number	Elevation Top of Well Casing[1]	Date	Depth to Water BTOC[2] (feet)	Depth to Product BTOC (feet)	Product Thickness (feet)	Potentiometric Surface Elevation (feet above MSL)
MW-1	17.35	06-10-88	6.35	NP[3]	NP	11.00
		01-17-89	5.81	NP	NP	11.54
		01-24-89	5.16	NP	NP	12.19
		06-01-89	6.27	NP	Sheen	11.08
		09-18-89	7.11	NP	NP	10.24
		10-20-89	7.28	NP	NP	10.07
		11-22-89	7.02	NP	NP	10.33
		12-11-89	6.60	NP	NP	10.75
		02-13-90	6.02	NP	NP	11.33
		03-13-90	5.91	NP	NP	11.44
		04-18-90	6.18	NP	NP	11.17
		05-23-90	6.29	NP	NP	11.06
		06-14-90	6.19	NP	NP	11.28
MW-2	16.67	06-10-88	6.20	NP	NP	10.47
		01-17-89	5.96	NP	NP	10.71
		01-24-89	5.04	NP	NP	11.63
		06-01-89	6.32	NP	Sheen	10.35
		09-18-89	6.73	NP	NP	9.94
		10-20-89	6.87	NP	NP	9.80
		11-22-89	6.80	NP	NP	9.87
		12-11-89	6.57	NP	NP	10.10
		02-13-90	6.12	NP	NP	10.55
		03-13-90	6.02	NP	NP	10.65
		04-18-90	6.35	NP	NP	10.32
		05-23-90	6.28	NP	NP	10.39
		06-14-90	6.14	NP	NP	10.53
MW-3	17.11	06-10-88	6.05	NP	NP	11.06
		01-17-89	5.49	NP	NP	11.62
		01-24-89	5.38	NP	NP	11.73
		06-01-89	5.96	NP	NP	11.15
		09-18-89	6.65	NP	NP	10.46
		10-20-89	6.88	NP	NP	10.23
		11-22-89	6.74	NP	NP	10.37
		12-11-89	6.37	NP	NP	10.74
		02-13-90	5.58	NP	NP	11.53
		03-13-90	5.48	NP	NP	11.63
		04-18-90	6.01	NP	NP	11.10
		05-23-90	6.14	NP	NP	10.97
		06-14-90	5.83	NP	NP	11.28

Table 2. Groundwater Elevations and Product Thickness Measurements

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Well Number	Elevation Top of Well Casing[1]	Date	Depth to Water BTOC[2] (feet)	Depth to Product BTOC (feet)	Product Thickness (feet)	Potentiometric Surface Elevation (feet above MSL)
MW-4	17.34	01-17-89	5.36	NP	NP	11.98
		01-24-89	5.46	NP	NP	11.88
		06-01-89	6.01	NP	NP	11.33
		09-18-89	6.80	NP	NP	10.54
		10-20-89	7.08	NP	NP	10.26
		11-22-89	6.82	NP	NP	10.52
		12-11-89	6.37	NP	NP	10.97
		02-13-90	5.49	NP	NP	11.85
		03-13-90	5.44	NP	NP	11.90
		04-18-90	6.14	NP	NP	11.20
		05-23-90	6.22	NP	NP	11.12
		06-14-90	5.92	NP	NP	11.42
MW-5	16.71	01-17-89	5.39	NP	NP	11.32
		01-24-89	5.51	NP	NP	11.20
		06-01-89	5.83	NP	Sheen	10.88
		09-18-89	6.52	NP	NP	10.19
		10-20-89	6.72	NP	NP	9.99
		11-22-89	6.54	NP	NP	10.17
		12-11-89	6.21	NP	NP	10.50
		02-13-90	5.60	NP	NP	11.11
		03-13-90	5.54	NP	NP	11.17
		04-18-90	5.75	NP	NP	10.76
		05-23-90	5.98	NP	NP	10.73
		06-14-90	5.81	NP	NP	10.90
MW-6	17.56	01-17-89	5.59	NP	NP	11.97
		01-24-89	5.27	NP	NP	12.29
		06-01-89	6.25	NP	Sheen	11.31
		09-18-89	6.95	NP	NP	10.61
		10-20-89	7.24	NP	NP	10.32
		11-22-89	7.05	NP	NP	10.51
		12-11-89	6.63	NP	NP	10.93
		02-13-90	5.70	NP	NP	11.86
		03-13-90	5.63	NP	NP	11.93
		04-18-90	6.26	NP	NP	11.30
		05-23-90	6.42	NP	NP	11.14
		06-14-90	6.19	NP	NP	11.37

Table 2. Groundwater Elevations and Product Thickness Measurements

Harding Lawson Associates

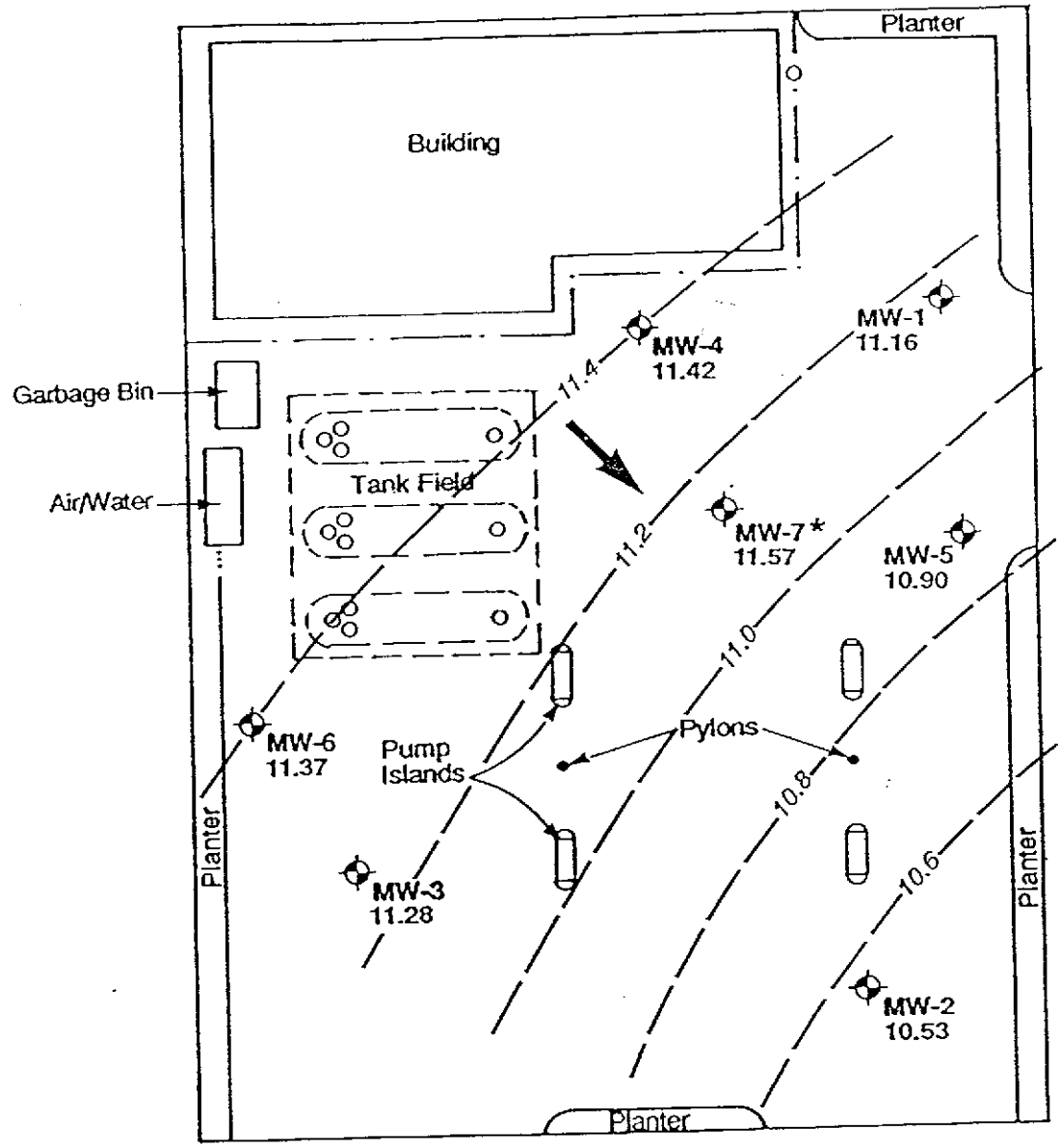
Well Number	Elevation Top of Well Casing[1]	Date	Depth to Water BTOC[2] (feet)	Depth to Product BTOC (feet)	Product Thickness (feet)	Potentiometric Surface Elevation (feet above MSL)
MW-7	17.12	02-13-90	4.98	NP	NP	12.14
		03-13-90	4.94	NP	NP	12.18
		05-23-90	5.87	NP	NP	11.25
		06-14-90	5.55	NP	NP	11.57

1 Elevations surveyed to mean sea level.

2 BTOC - Below top of casing.

3 NP: No product.

18750



EXPLANATION

MW-1 ⊕ Monitoring Well Location

11.28 Potentiometric Surface Elevation in Feet Above Mean Sea Level

11.4 Potentiometric Surface Elevation Contour

Approximate Direction of Local Ground-Water Flow

★ Elevation not used for contouring

N

0 20 40

APPROXIMATE SCALE IN FEET

PLATE

1

Harding Lawson Associates
Engineering and Environmental Services

Generalized Potentiometric Surface Contour Map - June 14, 1990
Phase III Evaluation of Petroleum Hydrocarbons
Exxon Station #7-0104
Alameda, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CVD	04167,326.02		7/90		