



**ALISTO ENGINEERING GROUP**

May 27, 2003

**Alameda County**

**MAY 30 2003**

**Environmental Health**

Mr. Amir K. Gholami  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

10-210-19-002

Subject: Groundwater Monitoring and Sampling Report  
Xtra Oil Company Service Station (dba Shell)  
1701 Park Street  
Alameda, California

Dear Mr. Gholami:

On behalf of Xtra Oil Company, Alisto Engineering Group is pleased to submit this groundwater monitoring and sampling report for the Xtra Oil Company service station (dba Shell), 1701 Park Street, Alameda, California.

Please call if you have questions or comments.

Sincerely,

**ALISTO ENGINEERING GROUP**

Chris Reinheimer  
Project Manager

Enclosure

cc: Mr. Keith Simas, Xtra Oil Company (with enclosure)  
Ms. Ade Fagorala, California Regional Water Quality Control Board, San Francisco Bay  
Region (with enclosure)

**GROUNDWATER MONITORING AND SAMPLING REPORT**

**Xtra Oil Company Service Station (dba Shell)  
1701 Park Street  
Alameda, California**

**Project No. 10-210-19-002**

**Alameda County  
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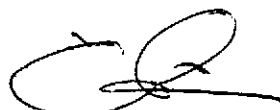
**Prepared for:**

**Xtra Oil Company  
2307 Pacific Avenue  
Alameda, California**

**Prepared by:**

**Alisto Engineering Group  
2737 North Main Street, Suite 100  
Walnut Creek, California**

**May 27, 2003**



**Chris Reinheimer  
Project Manager**



**Al Sevilla, P.E.  
Principal**



# GROUNDWATER MONITORING AND SAMPLING REPORT

Xtra Oil Company Service Station (dba Shell)  
1701 Park Street  
Alameda, California

Project No. 10-210-19-002

May 27, 2003

## INTRODUCTION

This report presents the results and findings of the May 2, 2003 groundwater monitoring and sampling conducted by Alisto Engineering Group at the Xtra Oil Company service station (dba Shell), 1701 Park Street, Alameda, California. A site vicinity map is shown on Figure 1.

## FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the Alameda County Health Care Services Agency (ACHCSA) and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean sea level. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of three casing volumes while recording field readings of pH, temperature and electrical conductivity. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in each well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A. Groundwater monitoring was performed concurrently with former Exxon Service Station 7-0104, 1725 Park Street, Alameda, California, the results of which are presented in Table 2.

## SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples for this and previous events are summarized in Table 1. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown on Figure 2. The results of laboratory analysis are shown on Figure 3. The laboratory report and chain of custody record are presented in Appendix B.



TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
 XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	OTHER SVOCs (ug/l)	NAPHTHALENE (ug/l)	BENZO-PYRENE (ug/l)	DO (ppm)	LAB
MW-1	11/04/94	19.60		8.8		10.96		60000	6400	13000	4900	1300	5500						MCC
QC-1	(c) 11/04/94							54000		12000	4500	1200	5200						MCC
MW-1	01/11/95	19.60		6.10		13.50													
MW-1	02/24/95	19.60		6.57		13.03		58000	4400	13000	7000	1400	5100						MCC
QC-1	(c) 02/24/95							43000		8900	4600	970	3300						MCC
MW-1	05/25/95	19.60		6.54		13.06		53000	4700	11000	5700	1200	4000					4.3	MCC
QC-1	(c) 05/25/95							48000		11000	5300	1200	3600						MCC
MW-1	08/30/95	19.60		8.15		11.45		14000	3700	5000	1100	3900	103					2.8	MCC
QC-1	(c) 08/30/95							57000		17000	7000	1500	5200						MCC
MW-1	11/16/95	19.60		8.79		10.81		100000	5900	22000	17000	2100	8500						MCC
QC-1	(c) 11/16/95							95000		20000	15000	1800	7800						MCC
MW-1	03/20/96	19.60		8.45		13.15		46000	3300	10000	6200	1100	3200						MCC
QC-1	(c) 03/20/96							42000		9600	5800	970	3000						MCC
MW-1	06/13/96	19.60		7.14		12.46		44000	5400	9500	5500	1100	4000	19000					MCC
QC-1	(c) 06/13/96							48000		9300	5600	1000	3800	17000					MCC
MW-1	09/23/96	19.60		7.56		12.04		76000	14000	14000	11000	1600	7100	17000				6.1	MCC
MW-1	12/19/96	19.60		7.08		12.52		46000		12000	5500	1200	4100						MCC
MW-1	05/09/97	19.60		7.39		12.21		80000	7500	14000	12000	1700	7600	14000	ND	280	ND<2	2.7	MCC/CHR
MW-1	09/11/97	19.60		7.50		12.10		100000	7700	19000	19000	2400	11000	ND<2100				7.2	MCC
MW-1	12/15/97	19.60		7.61		11.99		45000	3500	11000	5300	1500	5200	13000				6.8	MCC
QC-1	(c) 12/15/97							45000		11000	5400	1400	5100	14000					MCC
MW-1	03/11/98	19.60		5.35		14.25		40000	3600	5900	3900	1300	4900	8700				6	MCC
QC-1	(c) 03/11/98							43000		7200	5000	1400	5300	14000					MCC
MW-1	06/23/98	19.60		6.63		12.97		44000	3700	5900	6200	1800	6200	870				6.2	MCC
QC-1	(c) 06/23/98							47000		6000	6400	1800	6300	1000					MCC
MW-1	12/01/98	19.60		6.48		13.12		57000		7400	12000	2100	8200	7200				2.4	MCC
QC-1	(c) 12/01/98							57000		6800	11000	1900	7500	8300					MCC
MW-1	03/30/99	19.60		5.74		13.86		87000	6500	5700	9400	2500	9400	3200				2.1	MCC
QC-1	(c) 03/30/99							84000	6400	5500	9000	2400	9100	3100					MCC
MW-1	08/16/99	19.60		7.02		12.58		83000		3800	9100	2800	11000	ND<1700				1.3	MCC
QC-1	(c) 08/16/99							84000		3700	8800	2600	11000	ND<1400					MCC
MW-1	12/31/99	19.60		7.45		12.15		62000	5100	2900	9400	2700	11000	ND<100				8.3	MCC
QC-1	(c) 12/31/99							67000	4900	2900	9700	2800	12000	ND<100					MCC
MW-1	03/31/00	19.60		5.85		13.75		48000	490	3200	5500	2000	8700	520				7.9	MCC
QC-1	(c) 03/31/00							54000	3300	3500	6000	2300	7300	730					MCC
MW-1	07/14/00	19.60		7.00		12.60		78000	5700	5600	14000	2300	9500	ND<200				3.2	MCC
QC-1	(c) 07/14/00							72000		4900	14000	2100	8200	ND<200					MCC
MW-1	10/04/00	19.60		7.80		12.00		65000	2900	3800	11000	2400	8200	ND<100				1.4	MCC
QC-1	(c) 10/04/00							68000		3900	13800	2400	8900	ND<100					MCC
MW-1	12/21/00	19.60		6.91		12.69		74000	2500	3800	17000	3400	15000	ND<200				1.3	MCC
QC-1	(c) 12/21/00							69000		2700	12000	2400	11000	ND<550					MCC
MW-1	04/13/01	19.60		6.06		13.54		55000	2400	2900	7900	2400	9400	ND<900				0.8	MCC
QC-1	(c) 04/13/01							51000		2300	6100	2800	7900	ND<350					MCC
MW-1	06/27/01	19.60		6.54		13.06		80000	3600	2800	13000	2300	10000	ND<250				1.1	MCC
QC-1	(c) 06/27/01							76000		3100	13000	2300	10000	ND<250					MCC
MW-1	09/20/01	19.60		7.08		12.52		74000	6600	1600	7700	2500	10000	ND<200				0.8	MCC
QC-1	(c) 09/20/01							67000		1600	7800	2800	10000	ND<200					MCC
MW-1	12/21/01	19.60		5.71		13.89		58000	5500	2100	11000	2400	10000	ND<720				1.4	MCC
QC-1	(c) 12/21/01							58000		2100	11000	2300	10000	ND<820					MCC
MW-1	02/04/02	19.60		5.01		14.59		6500	1800	74	100	230	1500	140				4.1	MCC
QC-1	(c) 02/04/02							8000		90	130	270	1800	ND<500					MCC
MW-1	05/07/02	19.60		6.10		13.50		41000	7900	1300	5200	1700	6300	ND<1000				4.3	MCC
QC-1	(c) 05/07/02							40000		1300	5200	1700	6400	ND<500					MCC
MW-1	08/22/02	19.60		6.91		12.69		42000	4800	1100	6300	1900	7900	ND<500				4.9	MCC
QC-1	(c) 08/22/02							40000		1000	6100	1800	7500	ND<500					MCC
MW-1	11/08/02	19.60		8.46		13.14		38000	6800	770	4600	1800	6800	ND<1000					MCC
QC-1	(c) 11/08/02							49000		880	4800	1800	6700	ND<1700					MCC
MW-1	02/07/03	19.60		5.80		13.80		43000	3700	1600	6100	2100	9700	ND<500				1.1	MCC
MW-1	05/02/03	19.60		5.60		14.00		48000	4500	1100	5900	1800	7300	ND<1000					MCC
QC-1	(e) 05/02/03									1200	5800	1800	7100	ND<500					MCC

Environmental Health  
 Alameda County  
 MAY 30 2003



TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
XTRA OIL COMPANY SERVICE STATION  
1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	OTHER SVOCs (ug/l)	NAPHTHALENE (ug/l)	BENZO-PYRENE (ug/l)	DO (ppm)	LAB
MW-4	05/09/97	19.69		7.17	---	12.52		31000	15000	540	1300	1000	4500	1900	ND	2.1	ND<2	3.1	MCC/CHR
MW-4	09/11/97	19.69		7.71	---	11.98		40000	6500	2000	3100	1700	7700	3400	---	---	---	6.4	MCC
MW-4	12/15/97	19.69		7.87	---	11.82		14000	2100	910	690	390	2700	1700	---	---	---	6	MCC
MW-4	03/11/98	19.69		3.51	---	16.18		2800	780	68	94	72	430	140	---	---	---	5.5	MCC
MW-4	06/23/98	19.69		5.21	---	14.48		15000	2800	240	630	720	2700	370	---	---	---	5.4	MCC
MW-4	12/01/98	19.69		6.45	---	13.24		21000	---	580	1000	530	3600	1700	---	---	---	4.4	MCC
MW-4	03/30/99	19.69		5.41	---	14.28		41000	3600	3100	3400	1700	6700	5700	---	---	---	4.6	MCC
MW-4	08/16/99	19.69		7.35	---	12.34		24000	---	4600	940	1200	2700	9700	---	---	---	3.4	MCC
MW-4	12/31/99	19.69		7.71	---	11.98		14000	2000	510	630	600	3100	3500	---	---	---	10.1	MCC
MW-4	03/31/00	19.69		5.22	---	14.47		14000	1400	470	480	580	2200	2000	---	---	---	6.8	MCC
MW-4	07/14/00	19.69		7.31	---	12.38		37000	4300	770	1500	1800	7200	1700	---	---	---	3.3	MCC
MW-4	10/04/00	19.69		7.11	---	12.58		47000	3200	870	2000	2600	9800	ND<1500	---	---	---	1.7	MCC
MW-4	12/21/00	19.69		6.88	---	12.83		13000	1800	370	410	460	2300	1500	---	---	---	0.6	MCC
MW-4	04/13/01	19.69		6.02	---	13.87		20000	2800	710	640	620	2900	2300	---	---	---	1.0	MCC
MW-4	06/27/01	19.69		6.72	---	12.97		23000	2100	510	1100	4300	1400	---	---	---	1.0	MCC	
MW-4	09/20/01	19.69		7.30	---	12.39		36000	4400	480	1300	1700	6700	1000	---	---	---	2.0	MCC
MW-4	12/21/01	19.69		4.55	---	15.14		11000	5600	130	250	480	2400	ND<320	---	---	---	1.6	MCC
MW-4	02/04/02	19.69		5.82	---	13.87		50000	12000	3000	8100	1900	7600	ND<500	---	---	---	2.0	MCC
MW-4	05/07/02	19.69		6.08	---	13.61		17000	3200	270	820	870	3700	ND<500	---	---	---	2.6	MCC
MW-4	08/22/02	19.69		7.45	---	12.24		26000	3800	720	820	1500	6500	2100	---	---	---	4.6	MCC
MW-4	11/08/02	19.69		6.74	---	12.95		20000	3600	290	630	1200	5100	670	---	---	---	---	MCC
MW-4	02/07/03	19.69		4.86	---	14.83		13000	---	520	1300	ND<25	3600	420	---	---	---	2.1	MCC
QC-1 (c)	02/07/03	---		---	---	---		13000	---	510	1200	83	3100	420	---	---	---	---	MCC
MW-4	05/02/03	19.69		5.45	---	14.24		19000	3600	280	550	810	3600	470	---	---	---	---	MCC
QC-2 (e)	11/04/94	---		---	---	---		ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (e)	02/24/95	---		---	---	---		ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (e)	05/25/95	---		---	---	---		ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (e)	08/30/95	---		---	---	---		ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (e)	11/16/95	---		---	---	---		ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (e)	03/20/96	---		---	---	---		ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (e)	06/13/96	---		---	---	---		ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC

ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline using EPA Methods 5030/8015  
 TPH-D Total petroleum hydrocarbons as diesel using EPA Methods 3510/8015  
 B Benzene using EPA Methods 5030/8020  
 T Toluene using EPA Methods 5030/8020  
 E Ethylbenzene using EPA Methods 5030/8020  
 X Total xylene using EPA Methods 5030/8020  
 MTBE Methyl tert butyl ether using EPA Methods 5030/8020  
 SVOCs Semivolatile organic compounds using EPA Method 8270  
 DO Dissolved oxygen  
 ug/l Micrograms per liter  
 ppm Parts per million  
 --- Not analyzed/applicable/measurable  
 ND Not detected above reported detection limit  
 MCC McCampbell Analytical, Inc.  
 CHR Chromalab, Inc.

NOTES:

- (a) Top of casing surveyed relative to mean sea level.
- (b) Groundwater elevations expressed in feet above mean sea level, and adjusted assuming a specific gravity of 0.75 for free product.
- (c) Blind duplicate.
- (d) Other SVOCs detected at concentrations of 200 ug/l 2-methylnaphthalene and 14 ug/l phenanthrene.
- (e) Travel blank.

TABLE 2 - SUMMARY OF GROUNDWATER SAMPLING  
FORMER EXXON SERVICE STATION 7-0104  
1725 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet) (a)	GROUNDWATER ELEVATION (Feet) (b)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	F (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	LAB
MW-1	02/04/02	17.29	5.00	12.29	75	52.0	0.70	ND<0.50	0.50	ND<0.50	67.1	TAI
MW-1	05/06/02	17.29	5.48	11.81	793	129	6.6	ND<0.50	0.50	1.1	702	TAI
MW-1	08/22/02	17.29	7.14	10.15	1150	602	120	0.8	9.0	3.6	181	TAI
MW-1	11/08/02	17.29	6.19	11.10	947	504	95.6	4.0	3.7	2.7	182	TAI
MW-1	02/07/03	17.29	6.00	11.29	1190	610	89.7	3.8	45.3	13.2	284	TAI
MW-1	05/02/03	17.29	5.76	11.53	1020	797	75.8	9.0	5.7	11.9	296	TAI
MW-2	02/04/02	16.39	4.71	11.68	122.0	69.0	31.4	5.40	9.10	10.4	7.10	TAI
MW-2	05/06/02	16.39	5.08	11.31	1250	252	125	22.5	68.2	63.1	646	TAI
MW-2	08/22/02	16.39	6.88	9.51	1270	178	269	ND<0.5	4.3	10.6	652	TAI
MW-2	11/08/02	16.39	6.20	10.19	158	83	14.0	0.7	0.6	1.0	177	TAI
MW-2	02/07/03	16.39	5.72	10.67	173	ND<50	43.1	3.4	4.5	5.5	78.1	TAI
MW-2	05/02/03	16.39	4.18	12.21	60.0	56	4.10	ND<0.5	0.6	1.4	50.5	TAI
MW-3	02/04/02	17.02	4.59	12.43	8830	402	2300	166	150	158	1420	TAI
MW-3	05/06/02	17.02	4.84	12.18	7950	1300	1930	18.0	80.0	648	544	TAI
MW-3	08/22/02	17.02	6.42	10.60	2270	416	506	3.5	8.0	6.5	298	TAI
MW-3	11/08/02	17.02	5.66	11.36	1640	193	330	1.8	4.9	2.7	470	TAI
MW-3	02/07/03	17.02	4.99	12.03	1360	800	328	6.5	9.0	35.0	662	TAI
MW-3	05/02/03	17.02	4.73	12.29	2500	562	306	4.8	17.5	29.1	300	TAI
MW-4	02/04/02	17.29	4.35	12.94	1250	774	124	4.40	48.7	43.5	46.1	TAI
MW-4	05/06/02	17.29	4.95	12.34	2040	776	165	5.0	42.0	39.0	1410	TAI
MW-4	08/22/02	17.29	6.65	10.64	1570	445	73.3	ND<0.5	9.9	6.8	1070	TAI
MW-4	11/08/02	17.29	5.60	11.69	2340	680	169	4.3	34.9	23.3	1200	TAI
MW-4	02/07/03	17.29	4.97	12.32	2250	429	125	24.9	60.0	109	672	TAI
MW-4	05/02/03	17.29	4.92	12.37	2450	631	82.9	2.8	26.4	24.7	1230	TAI
MW-5	02/04/02	16.64	4.69	11.95	4980	976	1440	38.0	84.0	50.0	620	TAI
MW-5	05/06/02	16.64	5.00	11.64	3610	1360	1110	20.0	26.0	28.0	764	TAI
MW-5	08/22/02	16.64	6.98	9.66	3190	695	823	9.0	11.0	31.0	545	TAI
MW-5	11/08/02	16.64	5.31	11.33	3360	645	1050	9.4	11.1	17.8	746	TAI
MW-5	02/07/03	16.64	5.75	10.89	3550	689	1100	25.0	65.0	29.0	400	TAI
MW-5	05/02/03	16.64	5.34	11.30	4070	934	818	16.9	31.9	28.6	439	TAI
MW-6	02/04/02	17.31	4.24	13.07	14800	168	425	120	1480	4030	545	TAI
MW-6	05/06/02	17.31	4.83	12.48	8580	1540	988	24.0	866	1080	380	TAI
MW-6	08/22/02	17.31	6.49	10.82	4050	10400	44.5	11.5	460	270	716	TAI
MW-6	11/08/02	17.31	5.49	11.82	5640	822	49.3	42.7	566	858	1150	TAI
MW-6	02/07/03	17.31	4.89	12.42	14300	1590	134	393	1000	3720	572	TAI
MW-6	05/02/03	17.31	4.68	12.83	8680	1550	92.0	167	672	1530	1560	TAI
MW-7	02/04/02	17.06	3.81	13.25	928	88.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	610	TAI
MW-7	05/06/02	17.06	4.51	12.55	591	72	2.4	ND<0.5	2.5	4.1	565	TAI
MW-7	08/22/02	17.06	6.25	10.81	586	ND<50	2.5	ND<2.5	ND<2.5	3.0	482	TAI
MW-7	11/08/02	17.06	5.03	12.03	463	ND<50	1.7	ND<0.5	ND<0.5	0.6	319	TAI
MW-7	02/07/03	17.06	4.57	12.49	344	ND<50	0.9	0.9	0.8	3.5	440	TAI
MW-7	05/02/03	17.06	4.39	12.67	323	ND<50	0.80	ND<0.5	ND<0.5	ND<0.5	307	TAI

TABLE 2 - SUMMARY OF GROUNDWATER SAMPLING  
FORMER EXXON SERVICE STATION 7-0104  
1725 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (Feet) (b)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	LAB
MW-8	02/04/02	(c) 16.24		---	---	---	---	---	---	---	---	---	---
MW-8	05/06/02	16.24		5.31	10.93	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-8	08/22/02	16.24		6.07	10.17	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-8	11/08/02	16.24		5.91	10.33	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-8	02/07/03	16.24		5.34	10.90	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-8	05/02/03	16.24		5.27	10.97	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-9	02/04/02	15.56		4.77	10.79	ND<50.0	ND<50.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.50	TAI
MW-9	05/06/02	15.56		6.29	9.27	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-9	08/22/02	15.56		6.70	8.86	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-9	11/08/02	15.56		6.55	9.01	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-9	02/07/03	15.56		6.35	9.21	ND<50.0	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-9	05/02/03	15.56		6.16	9.40	ND<50.0	91	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	TAI
MW-11	02/04/02	17.98		5.14	12.84	37800	2430	3340	3550	1450	6480	1910	TAI
MW-11	05/06/02	17.98		5.51	12.47	27200	3000	1420	1580	1110	4980	1350	TAI
MW-11	08/22/02	17.98		6.63	11.35	28100	5660	2020	1520	1120	5360	2240	TAI
MW-11	11/08/02	17.98		5.34	12.64	26000	3680	1170	2130	1020	5390	246	TAI
MW-11	02/07/03	17.98		5.42	12.56	50000	4360	3680	4500	1920	8600	1400	TAI
MW-11	05/02/03	17.98		5.17	12.81	41200	2330	1980	1860	1450	7100	1080	TAI
MW-12	02/04/02	(c) 16.15		---	---	---	---	---	---	---	---	---	---
MW-12	05/06/02	(c) 16.15		---	---	---	---	---	---	---	---	---	---
MW-12	08/22/02	(c) 16.15		---	---	---	---	---	---	---	---	---	---
MW-12	11/08/02	16.15		---	---	---	---	---	---	---	---	---	---
MW-12	02/07/03	16.15		---	---	---	---	---	---	---	---	---	---

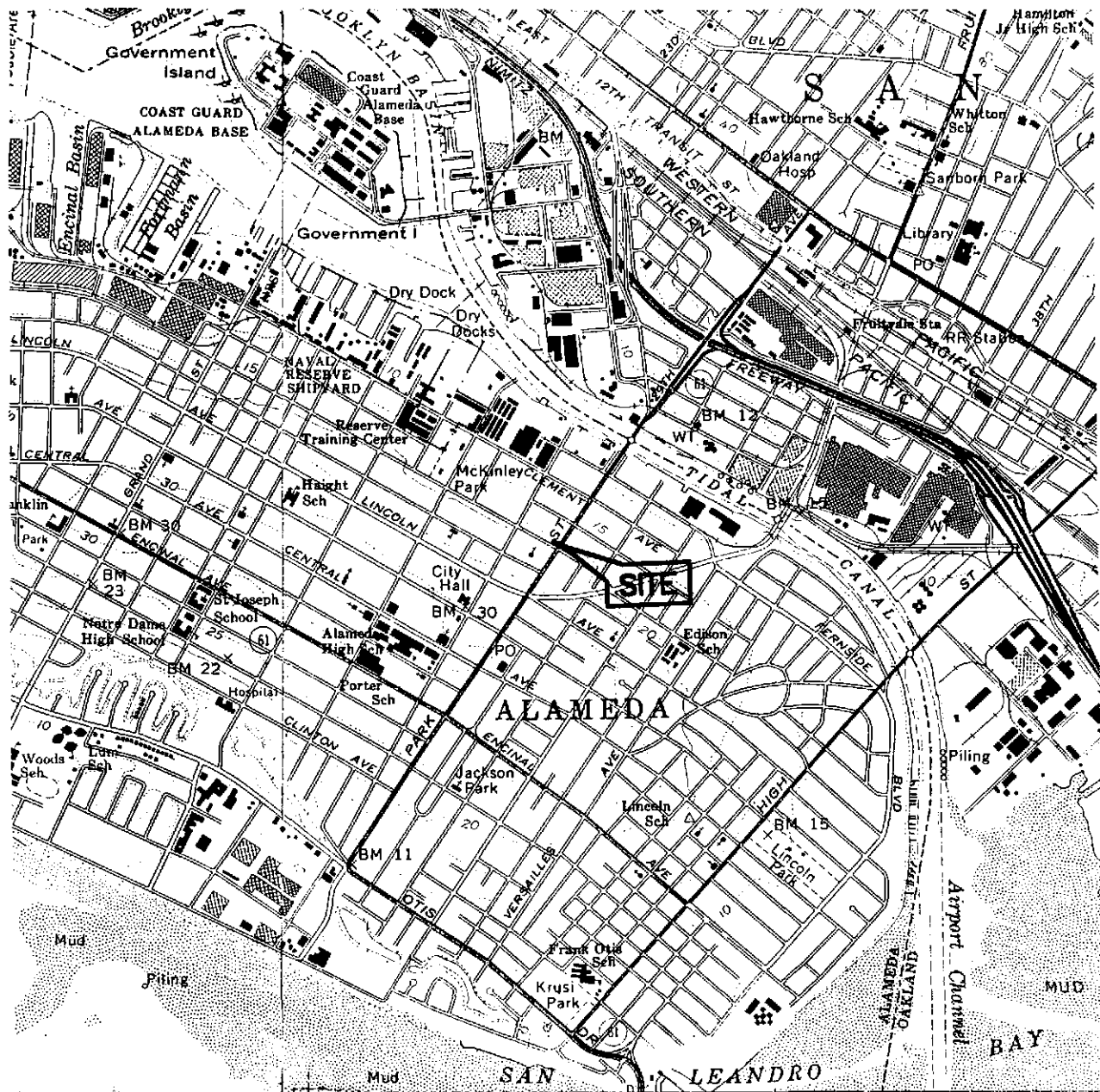
ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline using EPA Methods 8015m/5030  
 TPH-D Total petroleum hydrocarbons as diesel using EPA Methods 8015B/3510  
 B Benzene using EPA Methods 8121B  
 T Toluene using EPA Methods 8121B  
 E Ethylbenzene using EPA Methods 8121B  
 X Total xylenes using EPA Methods 8121B  
 MTBE Methyl tert butyl ether using EPA Methods 8121B  
 ug/l Micrograms per liter  
 --- Not analyzed/applicable/measurable  
 ND Not detected above reported detection limit  
 TAI Test America Incorporated

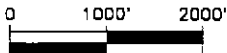
NOTES:

(a) Top of casing surveyed relative to mean sea level.  
 (b) Groundwater elevations expressed in feet above mean sea level.  
 (c) Not monitored or sampled





SOURCE:  
 USGS MAP, OAKLAND WEST AND EAST QUADRANGLE,  
 7.5 MINUTE SERIES. 1959.  
 PHOTOREVISED 1980.



## FIGURE 1

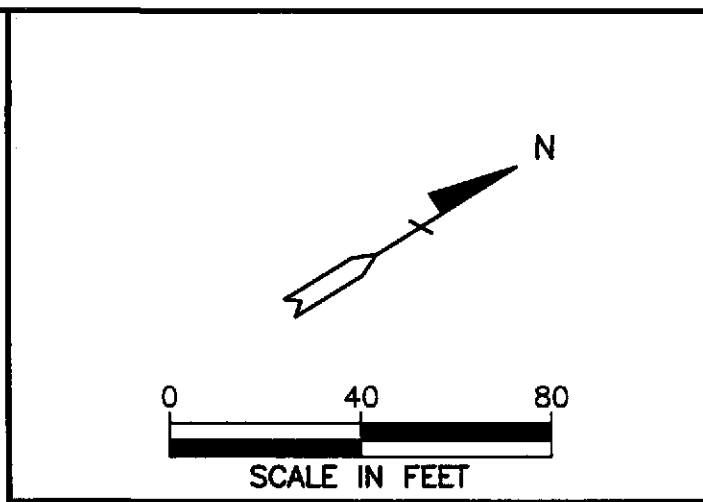
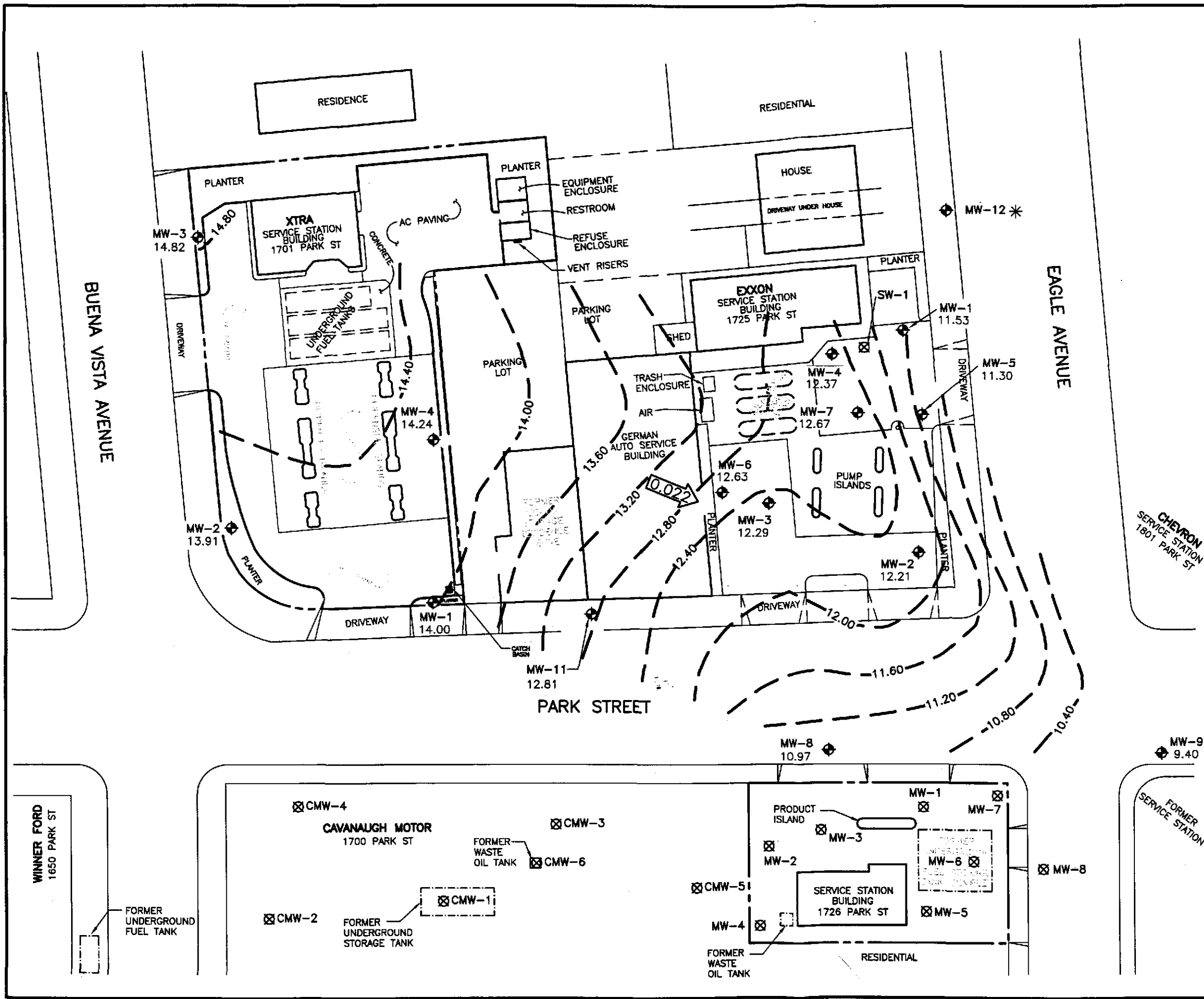
### SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET  
 ALAMEDA, CALIFORNIA

PROJECT NO. 10-210



**ALISTO ENGINEERING GROUP**  
 WALNUT CREEK, CALIFORNIA



- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
  - ⊗ DESTROYED WELL
  - - - PROPERTY LINE
  - 11.53 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
  - - - 11.40 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL - 0.40 FOOT)
  - ← 0.022 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT
  - \* NOT MONITORED

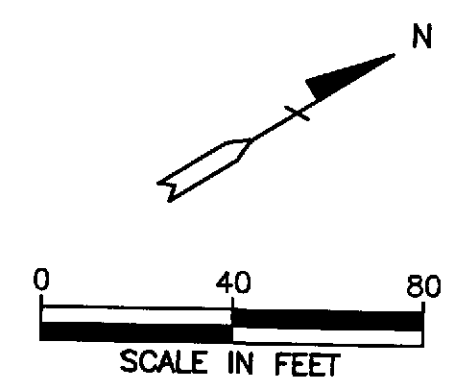
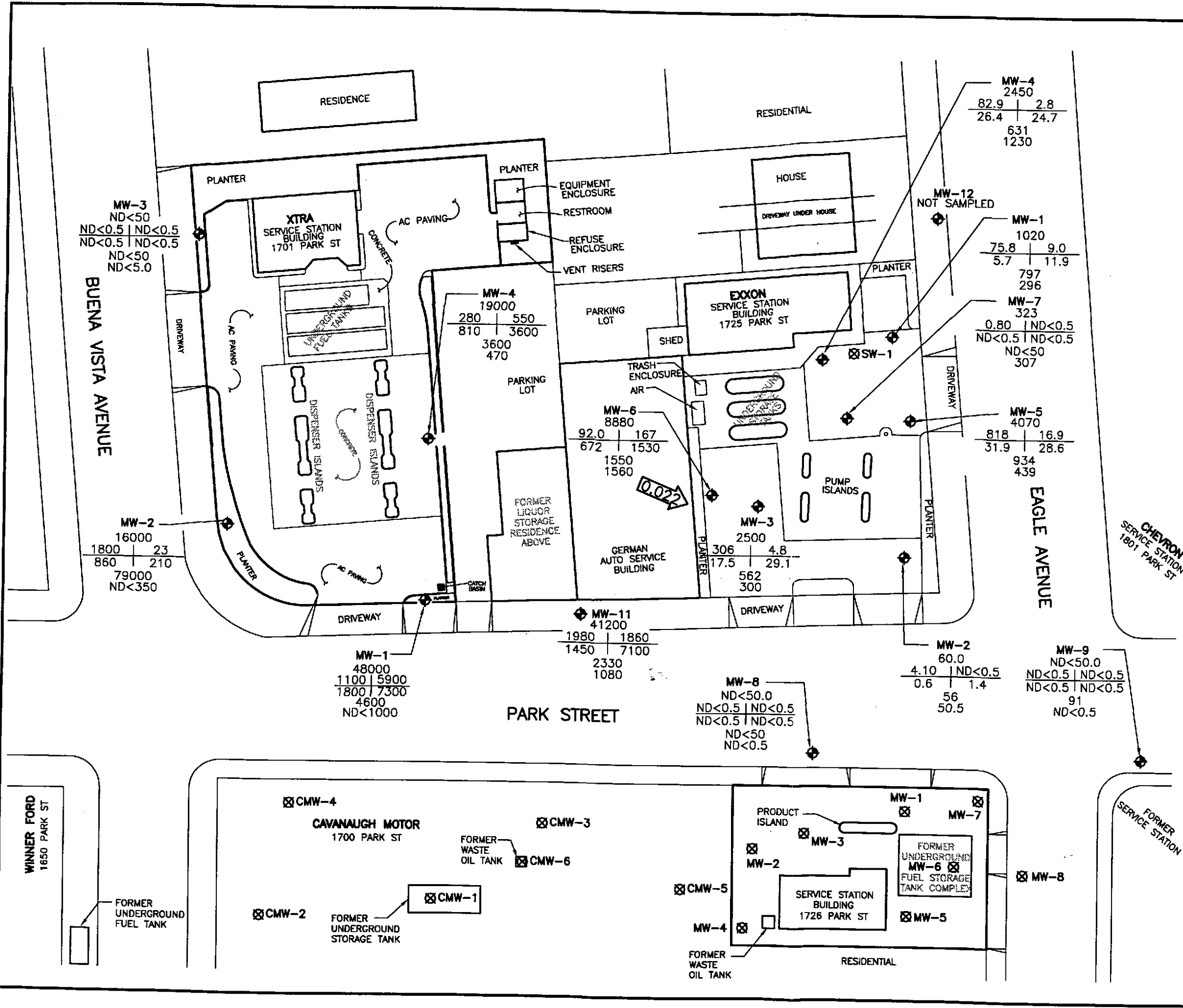
**NOTE:**  
 Potentiometric groundwater elevation contours were generated with Quicksurf using the Kriging method with a piece-wise variogram on a triangulated grid surface.

**FIGURE 2**  
**POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP**

**MAY 2, 2003**  
 XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET  
 ALAMEDA, CALIFORNIA  
 PROJECT NO. 10-210



101104-20M.DWG 05-20-03 ONE 1 of 1



- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
  - ⊗ DESTROYED WELL
  - PROPERTY LINE
  - TPH-G  
B  
T  
E  
X  
TPH-D  
MTBE
  - CONCENTRATION OF CONSTITUENTS  
IN MICROGRAMS PER LITER
  - TPH-G
  - B
  - T
  - E
  - X
  - TPH-D
  - MTBE
  - ND
  - NA
  - ←0.022
  - CALCULATED GROUNDWATER  
GRADIENT DIRECTION AND  
MAGNITUDE IN FOOT PER FOOT

**FIGURE 3**  
**CONCENTRATIONS OF PETROLEUM  
 HYDROCARBONS IN GROUNDWATER**  
**MAY 2, 2003**  
**XTRA OIL COMPANY SERVICE STATION**  
**1701 PARK STREET**  
**ALAMEDA, CALIFORNIA**  
**PROJECT NO. 10-210**

103106-20M.DWG 05-20-03 ONE 1 of 40

**APPENDIX A**  
**WATER SAMPLING FIELD SURVEY FORMS**



# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING GROUP  
2737 North Main Street, Suite 100  
Walnut Creek, CA 94597

Site: XTRA Oil  
Address: 1701 Park, Alameda, CA

Date: 5/2/03  
Day: M T W T F (F)  
LVB

PHONE (925) 279-5000 FAX (925) 279-5001

Project No. : 10-210-19-001

Well ID	DTW	Diameter	Lab / Field Filtered	Cap / Lock	Gal.	Time	Temp	pH	E.C. ms/cm umhos/cm	D.O. mg/l	Eh Millivolts	Turbidity NTU	Laboratory Analyses Requested
MW-3/5.75		2"	N/A	OK									See Coc
TD-WL = ___ X well vol. factor = ___ X # vol. to purge = Purge Vol.					3	1045	19.7	7.20	.590	N/A	N/A	N/A	
20.57 - 5.75 = 14.82 X .16 = 2.37 X 3 = 7.11					5	1052	19.3	7.10	.480	↓	↓	↓	
					8	1100	19.3	7.06	.440	↓	↓	↓	
Purge Method: ___ Pump/ 1 Disp. Bailer(s) / ___ Port													
Comments:													
													TIME/SAMPLE ID
													1100

Well ID	DTW	Diameter	Lab / Field Filtered	Cap / Lock	Gal.	Time	Temp	pH	E.C. ms/cm umhos/cm	D.O. mg/l	Eh Millivolts	Turbidity NTU	Laboratory Analyses Requested
MW-1/5.60		2"	N/A	OK									See Coc
TD-WL = ___ X well vol. factor = ___ X # vol. to purge = Purge Vol.					3	1107	20.7	7.42	.412	N/A	N/A	N/A	
19.60 - 5.60 = 14.00 X .16 = 2.24 X 3 = 6.72					5	1114	19.3	7.22	.400	↓	↓	↓	
					7	1120	19.7	6.97	.372	↓	↓	↓	
Purge Method: ___ Pump/ 1 Disp. Bailer(s) / ___ Port													
Comments:													
QC-1 taken from this well													
													TIME/SAMPLE ID
													1120

Well ID	DTW	Diameter	Lab / Field Filtered	Cap / Lock	Gal.	Time	Temp	pH	E.C. ms/cm umhos/cm	D.O. mg/l	Eh Millivolts	Turbidity NTU	Laboratory Analyses Requested
MW-4/5.45		2"	N/A	OK									See Coc
TD-WL = ___ X well vol. factor = ___ X # vol. to purge = Purge Vol.					3	1130	19.7	7.37	.510	N/A	N/A	N/A	
19.69 - 5.45 = 14.24 X .16 = 2.28 X 3 = 6.84					5	1135	19.0	7.11	.430	↓	↓	↓	
					8	1140	19.3	7.04	.400	↓	↓	↓	
Purge Method: ___ Pump/ 1 Disp. Bailer(s) / ___ Port													
Comments: Slow Producer, Let Recharge before Sampling													
													TIME/SAMPLE ID
													1220

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING GROUP  
 2737 North Main Street, Suite 100  
 Walnut Creek, CA 94597  
 PHONE (925) 279-5000 FAX (925) 279-5001

Site: XTRA Oil  
 Address: 1701 Park, Alameda, CA

Date: 5/2/03  
 Day: M T W T F  
LCB

Project No.: 10-210-19-001

Well ID	DTW	Diameter	Lab / Field Filtered	Cap / Lock	Gal.	Time	Temp	pH	E.C. <small>umhos/cm</small>	D.O. <small>mg/l</small>	Eh <small>Millivolts</small>	Turbidity <small>NTU</small>	Laboratory Analyses Requested
Mw-2/6.40		2"	N/A	OK			<del>Port</del>		<small>umhos/cm</small>				See Coc
TD-WL = ___ X well vol.factor = ___ X # vol. to purge = Purge Vol.					3	1140	20.1	7.30	.482	N/A	N/A	N/A	
20.31-6.40 = 13.91 X .16 = 2.23 X 3 = <del>6.69</del>					5	1145	19.6	7.10	.437	↓	↓	↓	
					7	1150	19.1	6.92	.412	↓	↓	↓	
Purge Method: ___ Pump/ ___ Disp. Bailer(s) ___ / ___ Port													
Comments:													
												<b>TIME/SAMPLE ID</b>	
												1150	

Well ID	DTW	Diameter	Lab / Field Filtered	Cap / Lock	Gal.	Time	Temp	pH	E.C. <small>umhos/cm</small>	D.O. <small>mg/l</small>	Eh <small>Millivolts</small>	Turbidity <small>NTU</small>	Laboratory Analyses Requested
							<del>Port</del>		<small>umhos/cm</small>				
TD-WL = ___ X well vol.factor = ___ X # vol. to purge = Purge Vol.													
Purge Method: ___ Pump/ ___ Disp. Bailer(s) ___ / ___ Port													
Comments:													
												<b>TIME/SAMPLE ID</b>	

Well ID	DTW	Diameter	Lab / Field Filtered	Cap / Lock	Gal.	Time	Temp	pH	E.C. <small>umhos/cm</small>	D.O. <small>mg/l</small>	Eh <small>Millivolts</small>	Turbidity <small>NTU</small>	Laboratory Analyses Requested
							<del>Port</del>		<small>umhos/cm</small>				
TD-WL = ___ X well vol.factor = ___ X # vol. to purge = Purge Vol.													
Purge Method: ___ Pump/ ___ Disp. Bailer(s) ___ / ___ Port													
Comments:													
												<b>TIME/SAMPLE ID</b>	

**APPENDIX B**

**LABORATORY REPORT AND CHAIN OF CUSTODY RECORD**







**McC Campbell Analytical Inc.**

110 Second Avenue South, #D7  
 Pacheco, CA 94553-5560  
 (925) 798 1620

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0305064

Client:

Allsto Engineering Grp.  
 2737 North Main Street, Ste 100  
 Walnut Creek, CA 94597

TEL: (925) 962-6970  
 FAX: (925) 982-6971  
 ProjectNo: #10-210-19-001; Groundwater Sampling  
 PO:

Date Received: 5/5/03

Date Printed: 5/5/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests					
					SW8015C	NB021B/8015C				
0305064-001	MW-1	Water	5/2/03 11:20:00 AM	<input type="checkbox"/>	B	A				
0305064-002	MW-2	Water	5/2/03 11:50:00 AM	<input type="checkbox"/>	B	A				
0305064-003	MW-3	Water	5/2/03 11:00:00 AM	<input type="checkbox"/>	B	A				
0305064-004	MW-4	Water	5/2/03 12:20:00 PM	<input type="checkbox"/>	B	A				
0305064-005	QC-1	Water	5/2/03 11:20:00 AM	<input type="checkbox"/>		A				


Prepared by: Sonia Valles

Comments:

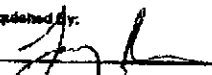

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

# ALISTO ENGINEERING GROUP CHAIN OF CUSTODY

0305064

<b>Project Information:</b>		<b>Report To:</b>		<b>Samples Submitted To:</b>	
Project No:	10-210-18-001	Consultant:	Alisto Engineering Group	Laboratory:	McCampbell Analytical
Project Title:	Groundwater Sampling	Address:	2737 North Main Street, Suite 100	Address:	110 Second Avenue, Suite D7
Location:	Xtra Oil Station 1701 Park Avenue, Alameda		Walnut Creek, CA 94597		Pacheco, California
Sampler's Name:		Contact:	Chris Reinheimer	Contact:	Ed Hamilton
(print)	Larry Buenvenida	Phone:	(925) 279-5000	Phone:	925.798.1620
Sampler's Signature:		Fax:	(925) 279-5001	Fax:	925.798.1620
		<b>Bill To:</b>		<b>Date Results Required:</b>	
		Consultant:	Xtra Oil Company	<b>Date Report Required:</b>	
		Address:	2307 Pacific Avenue	STAT	
		Oakland, CA 94601			

TURN AROUND TIME					ANALYSIS										COMMENTS			
RUSH	24 Hour	48 Hour	5 Day	Standard (10-14 days)	TPH-Gasoline (EPA 8015)	BTEX/NPBE (EPA 8020)	TPH-Diesel (EPA 8015)											
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>														
Sample ID.	Time	Date	# Containers	Matrix														
MW-1	1100	5/2/03	5	H <sub>2</sub> O	X	X	X											1 Amber Litter no preservative
MW-2	1150	↓	6	↓	X	X	X											4 Jars 1 Liter
MW-3	1100	↓	↓	↓	X	X	X											4 Jars 2 Liters
MW-4	1200	↓	↓	↓	X	X	X											↓
QC-1	1120	↓	↓	↓			X											2 Jars

Relinquished By:		Date:	5/5/03	Time:	1145	Received By:		Date:	5/5/03	Time:	1145	<b>SPECIAL INSTRUCTIONS:</b> Bill Xtra Oil directly for the analytical costs.
Relinquished By:		Date:		Time:		Received By:		Date:		Time:		
Relinquished By:		Date:		Time:		Received By:		Date:		Time:		

VOLATILES  
 SEMI-VOLATILES  
 PRESERVATIVE APPLIED  
 CONTAINS HAZARDOUS MATERIALS  
 PRESERVED IN LAB