



ALISTO ENGINEERING GROUP

JUN 18 2001

May 14, 2001

Ms. Eva Chu
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

10-210-14-001

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

Dear Ms. Chu:

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

Brady Nagle
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. 10-210-14-001

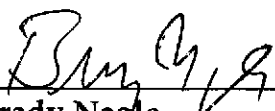
Prepared for:

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


Prepared by:

**Alisto Engineering Group
3732 Mt. Diablo Boulevard, Suite 270
Lafayette, California**

2001



**Brady Nagle
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. 10-210-14-001

May 17, 2001

INTRODUCTION

This report presents the results and findings of the April 13, 2001 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 3 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.

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.



FINDINGS

The findings of the April 13, 2001 groundwater monitoring and sampling event are as follows:

- A hydrocarbon sheen was observed on the groundwater sample collected from Monitoring Well MW-2. Free product or sheen was not observed in Monitoring Wells MW-1, MW-3, and MW-4.
- Groundwater elevation data indicates a gradient of approximately 0.008 foot per foot in a southeasterly direction across the site.
- Analysis of the samples detected dissolved-phase petroleum hydrocarbons in Monitoring Wells MW-1, MW-2, and MW-4 at concentrations of up to 55000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline in Well MW-1 and up to 6400 ug/l benzene in Well MW-2.
- Total petroleum hydrocarbons as diesel was detected in samples from Wells MW-1, MW-2, and MW-4 at concentrations ranging from 2400 to 21000 ug/l.
- Methyl tert-butyl ether (MTBE) was detected in the sample collected from Wells MW-2 and MW-4 at a concentration of 8300 ug/l and 2300 ug/l, respectively.
- Dissolved-phase petroleum hydrocarbons, including MTBE, were not detected in the sample collected from Well MW-3.



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)	DEPTH TO WATER (a) (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	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	8.6	---	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	56000	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	3800	---	---	---	---	---	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	6.45	---	13.15	46000	3300	10000	6200	1100	3200	---	---	---	---	---	MCC
QC-1 (c)	03/20/96	---	---	---	---	42000	---	9800	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	---	---	---	---	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	67000	6500	5700	9400	2500	9400	3200	---	---	---	2.1	MCC
QC-1 (c)	03/30/99	---	---	---	---	64000	6400	5500	9000	2400	9100	3100	---	---	---	---	MCC
MW-1	08/16/99	19.60	7.02	---	12.58	63000	---	3800	9100	2800	11000	ND<1700	---	---	---	1.3	MCC
QC-1 (c)	08/16/99	---	---	---	---	64000	---	3700	8800	2800	11000	ND<1400	---	---	---	---	MCC
MW-1	12/31/99	19.6	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	19.6	5.85	---	13.75	48000	490	3200	5500	2000	6700	520	---	---	---	7.9	MCC
QC-1 (c)	03/31/00	---	---	---	---	54000	3300	3500	6000	2300	7300	730	---	---	---	---	MCC
MW-1	07/14/00	19.6	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	9200	ND<200	---	---	---	---	MCC
MW-1	10/04/00	19.6	7.60	---	12.00	65000	2900	3800	11000	2400	8200	ND<100	---	---	---	1.4	MCC
QC-1 (c)	10/04/00	---	---	---	---	68000	---	3900	13000	2400	9300	ND<100	---	---	---	---	MCC
MW-1	12/21/00	19.6	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	19.6	6.06	---	13.54	55000	2400	2900	7800	2400	9400	ND<800	---	---	---	0.8	MCC
QC-1 (c)	04/13/01	---	---	---	---	51000	---	2300	6100	2000	7900	ND<350	---	---	---	---	MCC

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)	DEPTH TO WATER (a) (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	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-2	11/04/94	20.31	9.12	0.16	11.31	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	01/11/95	20.31	6.75	---	13.56	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	02/24/95	20.31	7.11	0.16	13.34	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	05/25/95	20.31	7.01	0.01	13.31	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	08/30/95	20.31	8.58	0.12	11.82	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	11/16/95	20.31	9.07	0.01	11.25	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	03/20/96	20.31	6.79	0.01	13.53	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	06/13/96	20.31	7.41	0.01	12.91	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	09/23/96	20.31	7.83	0.01	12.49	30000	19000	4600	180	1500	4100	2600	---	---	---	5.5	MCC
QC-1 (c)	09/23/96	---	---	---	---	33000	---	4700	170	1800	3900	2400	---	---	---	---	MCC
MW-2	12/19/96	20.31	7.37	0.01	12.95	29000	---	1800	240	1400	5400	---	(d)	420	ND<10	---	MCC
QC-1 (c)	12/19/96	---	---	---	---	29000	---	580	210	1300	5100	---	---	---	---	---	MCC
MW-2	05/09/97	20.31	6.11	0.21	14.36	34000	6700000	4600	260	1500	4300	1600	---	---	---	3.7	MCC
MW-2	09/11/97	20.31	7.70	0.03	12.63	44000	1200000	3900	250	2400	7400	ND<610	---	---	---	6.5	MCC
QC-1 (c)	09/11/97	---	---	---	---	47000	1100000	4000	420	2700	8300	920	---	---	---	---	MCC
MW-2	12/15/97	20.31	7.87	0.03	12.46	32000	68000	4600	130	2200	5400	ND<470	---	---	---	6	MCC
MW-2	03/11/98	20.31	5.61	0.18	14.84	44000	3800	5200	220	2000	5000	1100	---	---	---	6.2	MCC
MW-2	06/23/98	20.31	6.74	0.02	13.59	75000	570000	5900	390	3100	8300	8400	---	---	---	6.3	MCC
MW-2	12/01/98	20.31	7.30	---	13.01	36000	---	3800	73	1500	3900	2000	---	---	---	1.9	MCC
MW-2	03/30/99	20.31	6.51	0.13	13.90	23000	23000	5000	100	610	870	21000	---	---	---	1.7	MCC
MW-2	08/16/99	20.31	8.04	0.21	12.43	30000	---	5200	67	1100	1800	6000	---	---	---	2.8	MCC
MW-2	12/31/99	20.31	8.20	0.01	12.12	43000	340000	7600	97	1400	2500	4300	---	---	---	9.0	MCC
MW-2	03/31/00	20.31	6.29	0.01	14.03	26000	200000	4000	58	1100	1500	13000	---	---	---	8.1	MCC
MW-2	07/14/00	20.31	8.02	---	12.29	35000	170000	5000	76	1100	2500	4900	---	---	---	3.9	MCC
MW-2	10/04/00	20.31	8.62	---	11.69	22000	67000	4700	97	1300	1000	1900	---	---	---	1.8	MCC
MW-2	12/21/00	20.31	7.70	---	12.61	23000	16000	7500	65	770	490	8600	---	220	ND<10	0.6	MCC
MW-2	04/13/01	20.31	7.05	---	13.26	25000	21000	6400	79	790	670	8300	---	---	---	1.1	MCC
MW-3	11/04/94	20.57	8.92	---	11.65	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
MW-3	01/11/95	20.57	5.67	---	14.90	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	02/24/95	20.57	6.11	---	14.46	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
MW-3	05/25/95	20.57	6.24	---	14.33	91	ND<50	28.0	12.0	2.1	6.5	---	---	---	---	---	MCC
MW-3	08/30/95	20.57	8.27	---	12.30	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	4.6	MCC
MW-3	11/16/95	20.57	8.82	---	11.75	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
MW-3	03/20/96	20.57	5.44	---	15.13	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
MW-3	06/13/96	20.57	6.17	---	14.40	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	---	MCC
MW-3	09/23/96	20.57	6.57	---	14.00	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	4.9	MCC
MW-3	12/19/96	20.57	6.59	---	13.98	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
MW-3	05/09/97	20.57	7.00	---	13.57	ND<50	59	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	3.3	MCC
MW-3	09/11/97	20.57	6.92	---	13.65	ND<50	82	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	7	MCC
MW-3	12/15/97	20.57	7.03	---	13.54	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	6.5	MCC
MW-3	03/11/98	20.57	4.71	---	15.86	ND<50	ND<50	ND<0.5	1.8	0.8	3.1	ND<5.0	---	---	---	6.1	MCC
MW-3	06/23/98	20.57	6.33	---	14.24	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	5.7	MCC
MW-3	12/01/98	20.57	6.74	---	13.83	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	4	MCC
MW-3	03/30/99	20.57	5.68	---	14.89	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	4.6	MCC
MW-3	08/16/99	20.57	7.67	---	12.90	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	2.7	MCC
MW-3	12/31/99	20.57	8.07	---	12.50	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	9.0	MCC
MW-3	03/31/00	20.57	5.59	---	14.98	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	2.8	MCC
MW-3	07/14/00	20.57	7.64	---	12.93	68	ND<50	0.89	1.7	2.1	9.5	ND<5.0	---	---	---	2.1	MCC
MW-3	10/04/00	20.57	8.34	---	12.23	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	2.0	MCC
MW-3	12/21/00	20.57	7.00	---	13.57	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	1.4	MCC
MW-3	04/13/01	20.57	6.38	---	14.19	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	1.3	MCC

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XTRA OIL COMPANY SERVICE STATION
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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	8500	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	6.86	---	12.83	13000	1800	370	410	460	2300	1500	---	88	ND<10	0.6	MCC
MW-4	04/13/01	19.69	6.02	---	13.67	20000	2800	710	640	620	2900	2300	---	---	---	1.0	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 xylenes 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.



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



QUADRANGLE LOCATION

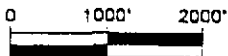


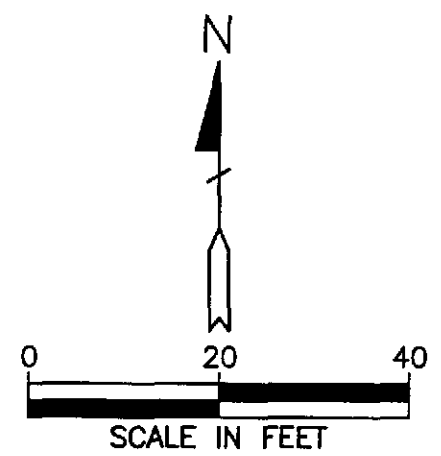
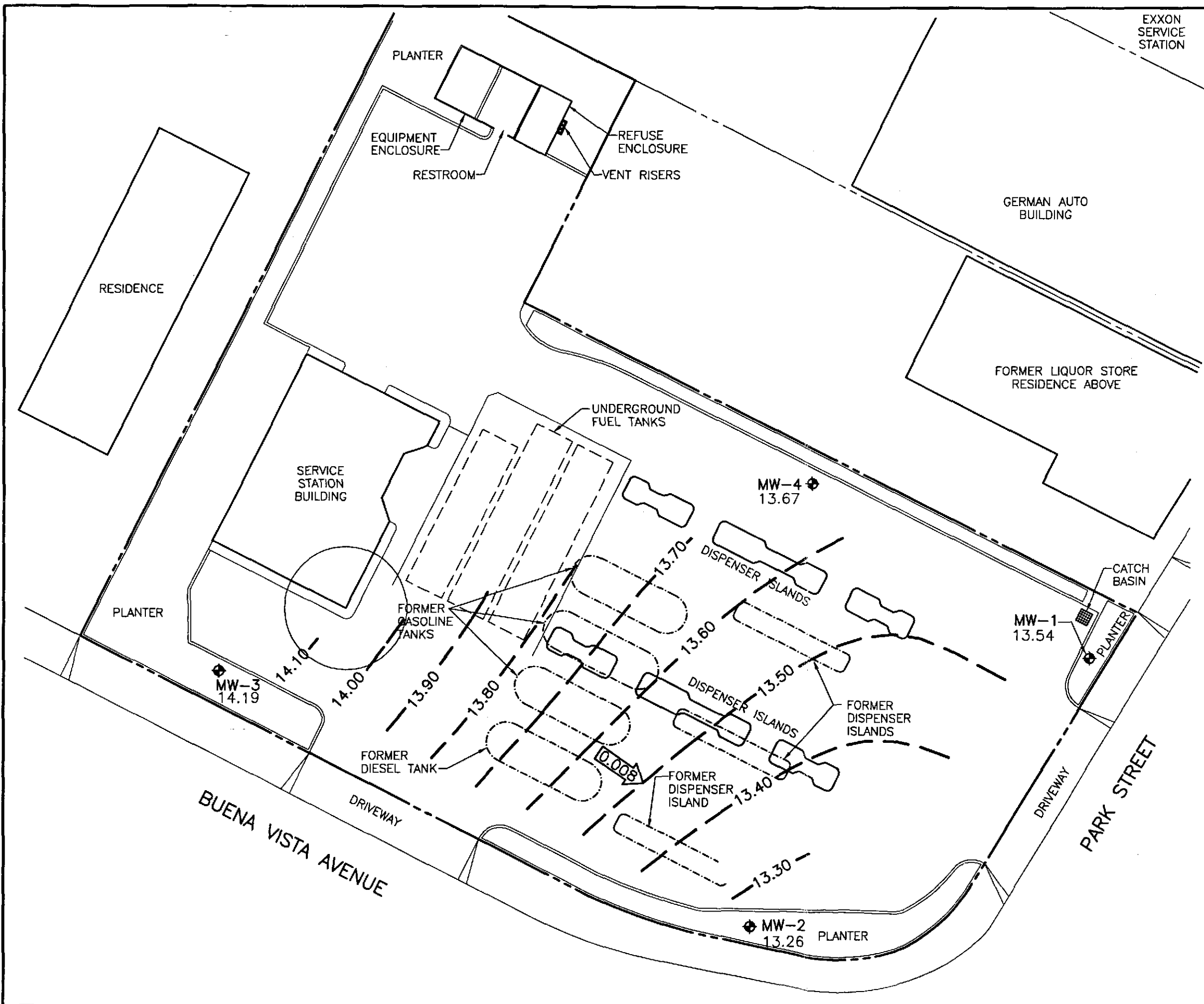
FIGURE 1
SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION
 1701 PARK STREET
 ALAMEDA, CALIFORNIA

PROJECT NO. 10-210



ALISTO ENGINEERING GROUP
 WALNUT CREEK, CALIFORNIA



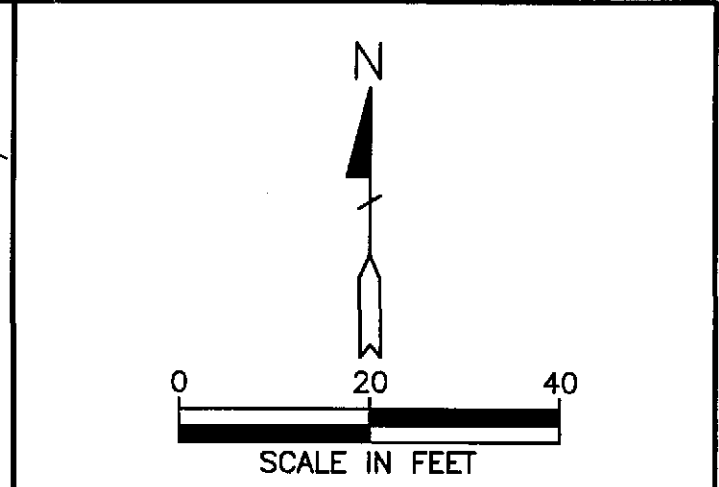
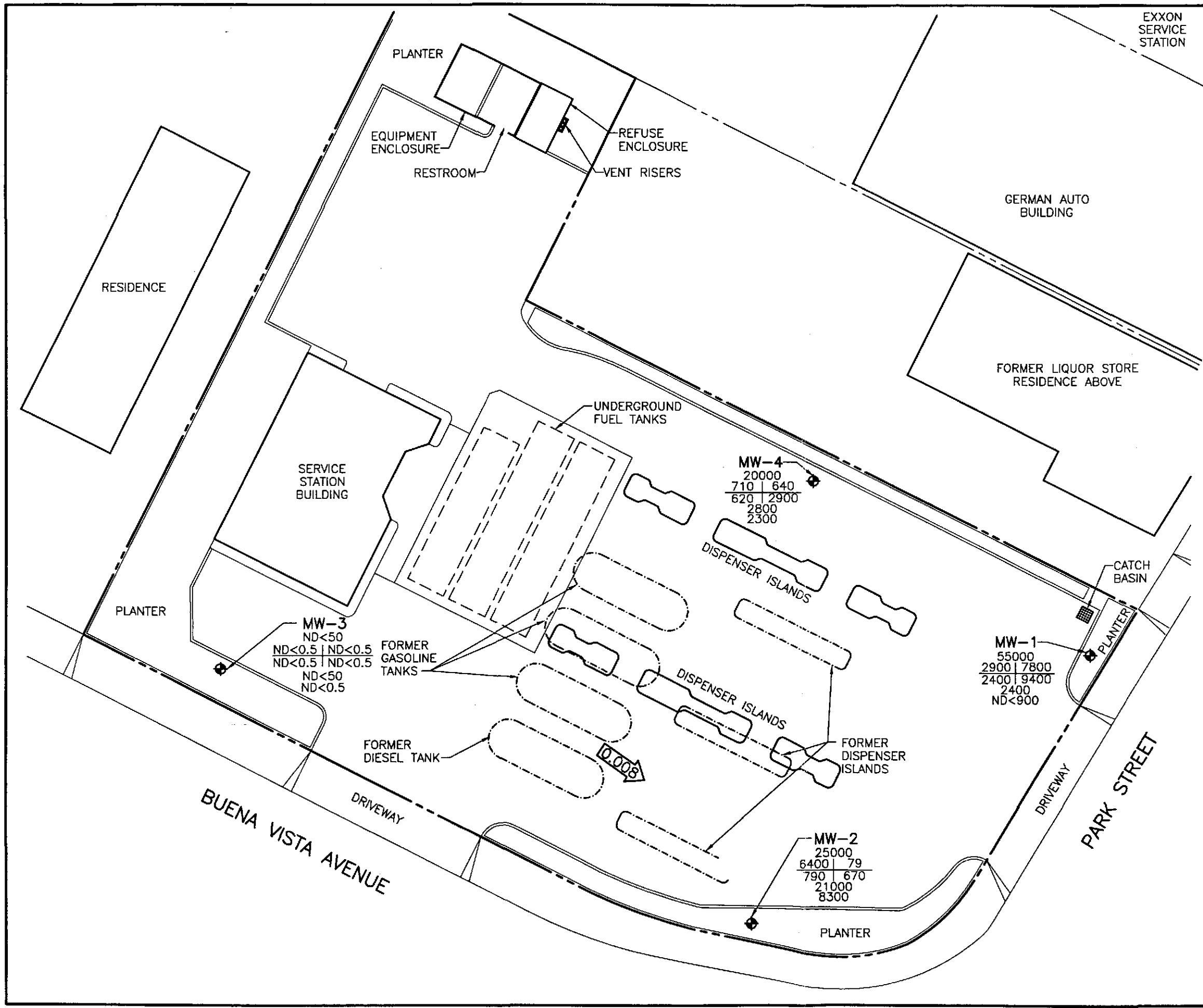
LEGEND

- ◆ GROUNDWATER MONITORING WELL
- 13.54 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 12.80 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL - 0.10 FOOT)
- ← 0.008 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

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
 APRIL 13, 2001
 XTRA OIL COMPANY SERVICE STATION
 1701 PARK STREET
 ALAMEDA, CALIFORNIA
 PROJECT NO. 10-210

102100-12.DWG 04-30-01 ONE 1=20



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- TPH-G
B | T
E | X
TPH-D
MTBE
CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER
- TPH-G
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- B
BENZENE
- T
TOLUENE
- E
ETHYLBENZENE
- X
TOTAL XYLENES
- TPH-D
TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- MTBE
METHYL TERT BUTYL ETHER
- ND
NOT DETECTED ABOVE REPORTED DETECTION LIMIT
- ←0.008
CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
APRIL 13, 2001
 XTRA OIL COMPANY SERVICE STATION
 1701 PARK STREET
 ALAMEDA, CALIFORNIA
 PROJECT NO. 10-210

APPENDIX A
WATER SAMPLING FIELD SURVEY FORMS

ALISTO

ENGINEERING GROUP

Field Report / Sampling Data Sheet

3732 MT. DIABLO BOULEVARD, SUITE 270
LAFAYETTE CA 94590 (925) 962-6970 FAX 962-6971

Project No. 10-210-14-001 Date: 4-13-01
Address 1701 Park Street Day: MTWTF
Contract No. n/a City: Alameda
Station No. XTRA Sampler:

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1		2"	20.00	6.06		1509	QC-1
MW-2		2"	20.00	7.05	Sheen	1500	
MW-3		2"	20.00	6.38	None	1448	
MW-4		2"		6.02		1506	

FIELD INSTRUMENT CALIBRATION DATA

pH METER AO/4.00 X 7.00 X 10.00 X TEMPERATURE COMPENSATED Y N TIME 1450 WEATHER Clear, Cool
D.O. METER ZERO d.O. SOLUTION yes BAROMETRIC PRESSURE _____ TEMP _____
CONDUCTIVITY METER 10.000 4 PT TURBIDITY METER _____ 5.0 NTU OTHER _____
LEAK DETECTOR: NM ALARM MODE NONALARM MODE

Well ID	epth to Wat	Diam	Cap/Lock	Product Dr	Iridescenc	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW-3	6.38	2	OK	NO	Y (N)	2	1511	17.6	6.85	458	1.2	<input type="radio"/> EPA 601
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge= Purge Vol.												<input checked="" type="radio"/> TPH-G/BTEX <u>WBE</u>
												<input checked="" type="radio"/> TPH Diesel
												<input type="radio"/> TOG 5520
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> ODisp.Tube <input type="checkbox"/> OWinch <input type="checkbox"/> ODisp. Bailer(s) <input type="checkbox"/> OSys Port												TIME/SAMPLE ID
Comments:												MW3 / 1520

APR-24 01 (TUE) 15:32 ALISTO ENGINEERING TEL:925 962 6971 P. 019

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING GROUP

3732 MT. DIABLO BOULEVARD, SUITE 270
LAFAYETTE CA 94506 (925) 962-6970 FAX 962-6971

Project No. 10-210-14-001

Address 1701 Park Street

Contract No.
Station No. XIRA

Date: 4-13-01

Day: M T W T H F

City: Alameda

Sampler:

Well ID	epth to Wat	Diam	Cap/Loc	Product Dr	Iridescenc	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-1	6.06	2	4/4	→	(Y) N	3	1611	18.0	6.79	399 ^{us}	0.9	
Total Depth - Water Level=						x Well Vol. Factor=	x#vol. to Purge=	Purge Vol.				
						7	1616	17.9	6.81	406	0.8	
						9	1621	17.6	6.81	401	0.8	

Purge Method: Surface Pump ODisp. Tube OWinch ODisp. Baller(s) OSys Port

Comments: DL-1 from MW-1 @ 1621

- EPA 601
- TPH-G/BTEX
- TPH Diesel
- TOG 5520

TIME/SAMPLE ID 1621

MW-1 / 1600

Well ID	epth to Wat	Diam	Cap/Loc	Product Dr	Iridescenc	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-2	7.05	2	4/4		(Y) N	2	1551	18.0	6.71	926 ^{us}	1.0
Total Depth - Water Level=						x Well Vol. Factor=	x#vol. to Purge=	Purge Vol.			
						5	1556	18.2	6.70	921	1.1
						8	1600	18.2	6.72	922	1.1

Purge Method: Surface Pump ODisp. Tube OWinch ODisp. Baller(s) OSys Port

Comments:

- EPA 601
- TPH-G/BTEX
- TPH Diesel
- TOG 5520

TIME/SAMPLE ID

MW-2 / 1600

Well ID	epth to Wat	Diam	Cap/Loc	Product Dr	Iridescenc	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-4	6.02	2	4/4		(Y) N	2	1650	15.9	6.99	599 ^{us}	0.9
Total Depth - Water Level=						x Well Vol. Factor=	x#vol. to Purge=	Purge Vol.			
						5	1655	17.1	7.01	606	0.8
						7	1701	17.2	7.02	610	1.0

Purge Method: Surface Pump ODisp. Tube OWinch ODisp. Baller(s) OSys Port

Comments:

- EPA 601
- TPH-G/BTEX
- TPH Diesel
- TOG 5520

TIME/SAMPLE ID

MW-4 / 1701

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Alisto Engineering Group 3732 Mt. Diablo Blvd. Ste 270 Lafayette, CA 94549	Client Project ID: #10-210-14-001; Groundwater Sampling, Xtra Oil Station	Date Sampled: 04/13/01
		Date Received: 04/17/01
	Client Contact: Brady Nagle	Date Extracted: 04/17/01
	Client P.O:	Date Analyzed: 04/17/01

04/24/01

Dear Brady:

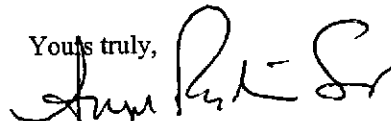
Enclosed are:

- 1). the results of 5 samples from your #10-210-14-001; Groundwater Sampling, Xtra Oil Station project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Edward Hamilton, Lab Director



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Alisto Engineering Group 3732 Mt. Diablo Blvd. Ste 270 Lafayette, CA 94549	Client Project ID: #10-210-14-001; Groundwater Sampling, Xtra Oil Station	Date Sampled: 04/13/01
	Client Contact: Brady Nagle	Date Received: 04/17/01
	Client P.O:	Date Extracted: 04/17-04/18/01
		Date Analyzed: 04/17-04/18/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 801S, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)*	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
65592	MW-1	W	55,000,a	ND<900	2900	7800	2400	9400	100
65593	MW-2	W	25,000,a,h	8300	6400	79	790	670	115
65594	MW-3	W	ND	ND	ND	ND	ND	ND	106
65595	MW-4	W	20,000,a	2300	710	640	620	2900	104
65596	QC-1	W	51,000,a	ND<350	2300	6100	2000	7900	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

* cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



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Alisto Engineering Group 3732 Mt. Diablo Blvd. Ste 270 Lafayette, CA 94549	Client Project ID: #10-210-14-001; Groundwater Sampling, Xtra Oil Station	Date Sampled: 04/13/01
	Client Contact: Brady Nagle	Date Received: 04/17/01
	Client P.O:	Date Extracted: 04/17/01
		Date Analyzed: 04/17-04/20/01

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) ⁺	% Recovery Surrogate
65592	MW-1	W	2400,d	101
65593	MW-2	W	21,000,a,d,h	107
65594	MW-3	W	ND	103
65595	MW-4	W	2800,d,b	119
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	
	S		1.0 mg/kg	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

* cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.



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Alisto Engineering Group 3732 Mt. Diablo Blvd. Ste 270 Lafayette, CA 94549	Client Project ID: #10-210-14-001; Groundwater Sampling, Xtra Oil Station	Date Sampled: 04/13/01
	Client Contact: Brady Nagle	Date Received: 04/17/01
	Client P.O:	Date Extracted: 04/19/01
		Date Analyzed: 04/19/01

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	65593	Reporting Limit	
Client ID	MW-2		
Matrix	W	S	W
Compound	Concentration*	ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND<170	5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND<170	5.0	1.0
Methyl-tert Butyl Ether (MTBE)	7500	5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND<170	5.0	1.0
tert-Butanol	ND<850	25	5.0

Surrogate Recoveries (%)

Dibromofluoromethane	103
Comments:	h

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L

ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis

(h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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Alisto Engineering Group 3732 Mt. Diablo Blvd. Ste 270 Lafayette, CA 94549	Client Project ID: #10-210-14-001; Groundwater Sampling, Xtra Oil Station	Date Sampled: 04/13/01
		Date Received: 04/17/01
	Client Contact: Brady Nagle	Date Extracted: 04/19/01
	Client P.O:	Date Analyzed: 04/19/01

Ethylene Dibromide (1,2-Dibromoethane) and 1,2-Dichloroethane (1,2-DCA)

EPA method 8260

Lab ID	Client ID	Matrix	EDB	1,2-DCA	% Recovery Surrogate
65593	MW-2	W	ND<170 _{j,h}	ND<170	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	1.0 ug/L	1.0		
	S	5.0 ug/kg	5.0		

* water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / SPLP extracts in ug/L
h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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Alisto Engineering Group 3732 Mt. Diablo Blvd. Ste 270 Lafayette, CA 94549	Client Project ID: #10-210-14-001; Groundwater Sampling, Xtra Oil Station	Date Sampled: 04/13/01
	Client Contact: Brady Nagle	Date Received: 04/17/01
	Client P.O:	Date Extracted: 04/19/01
		Date Analyzed: 04/19/01

cis-1,2-Dichloroethene & trans-1,2-Dichloroethene *

EPA method 8260

Lab ID	Client ID	Matrix	1,2-DCE (cis)*	1,2-DCE (trans)*	% Recovery Surrogate
65593	MW-2	W	ND<170,j,h	ND<170	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		1.0 ug/L	1.0 ug/L	
	S		5.0 ug/kg	5.0 ug/kg	

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

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QC REPORT

Date: 04/17/01 Matrix: Water

Extraction: TTLC

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 41701				Instrument:		GC-12	
Surrogate1	0.000	102.0	103.0	100.00	102	103	1.0
Xylenes	0.000	25.5	26.7	30.00	85	89	4.6
Ethyl Benzene	0.000	8.4	8.8	10.00	84	88	4.7
Toluene	0.000	8.7	9.1	10.00	87	91	4.5
Benzene	0.000	8.8	9.1	10.00	88	91	3.4
MTBE	0.000	8.6	8.5	10.00	86	85	1.2
GAS	0.000	127.5	105.1	100.00	128	105	19.3
SampleID: 41801				Instrument:		GC-11 B	
Surrogate1	0.000	114.0	107.0	100.00	114	107	6.3
TPH (diesel)	0.000	8100.0	7650.0	7500.00	108	102	5.7

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 200$$

RPD means Relative Percent Deviation



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QC REPORT

VOCs (EPA 8240/8260)

Date: 04/19/01-04/20/01 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 41301

Instrument: GC-10

Surrogate	0.000	103.0	103.0	100.00	103	103	0.0
tert-Amyl Methyl Ether	0.000	97.0	100.0	100.00	97	100	3.0
Methyl tert-Butyl Ether	0.000	120.0	126.0	100.00	120	126	4.9
Ethyl tert-Butyl Ether	0.000	101.0	107.0	100.00	101	107	5.8
Di-isopropyl Ether	0.000	100.0	105.0	100.00	100	105	4.9
Toluene	0.000	97.0	98.0	100.00	97	98	1.0
Benzene	0.000	96.0	101.0	100.00	96	101	5.1
Chlorobenzene	0.000	95.0	95.0	100.00	95	95	0.0
Trichloroethane	0.000	82.0	84.0	100.00	82	84	2.4
1,1-Dichloroethene	0.000	81.0	89.0	100.00	81	89	9.4


$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2100$$

RPD means Relative Percent Deviation


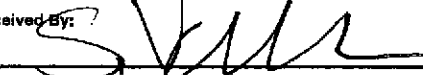
25450zaeg79.doc

ALISTO ENGINEERING GROUP CHAIN OF CUSTODY

Project Information:		Report To:		Samples Submitted To:	
Project No: 10-210-14-001 Project Title: Groundwater Sampling Location: Xtra Oil Station 1701 Park Avenue, Alameda		Consultant: Alisto Engineering Group Address: 3732 Mt. Diablo Boulevard, Suite 270 Lafayette, CA 94549 Contact: Brady Nagle Phone: (925) 962-6970 Fax: (925) 962-6971		Laboratory: McCampbell Analytical Address: 110 Second Avenue, Suite D7 Pacheco, California Contact: Ed Hamilton Phone: 925.798.1620 Fax: 925.798.1622	
Sampler's Name: (print) DAN BIRCH Sampler's Signature: 		Bill To: Consultant: Xtra Oil Company Address: 2307 Pacific Avenue Oakland, CA 94501		Date Results Required: Date Report Required:	

TURN AROUND TIME					ANALYSIS									COMMENTS	
RUSH	24 Hour	48 Hour	5 Day	Standard (10-14 days)	TPH-Gasoline (EPA 8015)	BTEX/MTBE (EPA 8020)	TPH-Diesel (EPA 8015)	MTBE, DIPE, ETBE, TAME, TBA, 12-DCA, 12-DCE, EDB (EPA 8260)							
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
Sample ID.	Date	# Containers	Matrix												
MW-1	1/21	4/1/01	Water		X	X	X								
MW-2	1/20	↓	Water		X	X	X	X							
MW-3	1/20	↓	Water		X	X	X								
MW-4	1/20	↓	Water		X	X	X								
QC-1	1/26	↓	Water		X	X									

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Relinquished By: 	Date: 4/16/01 Time: 1:00	Received By: 	Date: 4/17 Time: 8:40	SPECIAL INSTRUCTIONS: Bill Xtra Oil Direct Bill Xtra Oil directly to [] for special costs. VOA [] CAS [] METALS [] OTHER []			
				ICE/GOOD HEAD SPACE	Date: [] Time: []	PRESERVATION APPROPRIATE CONTAINERS	
Relinquished By:	Date:	Received By:	Date:				
Relinquished By:	Date:	Received By:	Date:				