GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-210-12-002

Prepared for:

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Alameda, California

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November 7, 2000

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INTRODUCTION

This report presents the results and findings of the October 4, 2000 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 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 October 4, 2000 groundwater monitoring and sampling event are as follows:

- A hydrocarbon sheen was observed on the groundwater sample collected from Monitoring Wells MW-1 and MW-2. Free product or sheen was not observed in Monitoring Wells MW-3 and MW-4.

- Groundwater elevation data indicates a gradient of approximately 0.01 foot per foot in a southerly/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 68000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline and 39000 ug/l benzene in Well MW-1.

- Total petroleum hydrocarbons as diesel was detected in samples collected from Wells MW-1, MW-2, and MW-4 at concentrations ranging from 2900 ug/l to 67000 ug/l.

- Methyl tert-butyl ether (MTBE) was only detected in the sample from Well MW-2 at a concentration of 1900 ug/l.

- 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)	(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)	SVOCs (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	280	(d)	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		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	2600	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-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	0.18	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	1600	3900	2400	---		---	MCC
MW-2		12/19/96	20.31		7.37	0.01	12.95		29000	---	1800	240	1400	5400	---	(e)		---	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	---		2.6	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	---		6.1	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

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1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)	SVOCs (ug/l)	DO (ppm)	LAB
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	0.6	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-4	05/09/97	19.69	7.17	---	12.52	31000	15000	540	1300	1000	4500	1900	2.1 (d)	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
QC-2 (f)	11/04/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (f)	02/24/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (f)	05/25/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (f)	08/30/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (f)	11/16/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (f)	03/20/96	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (f)	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) SVOC analysis for polynuclear aromatics detected only naphthalene at the concentration stated.

(e) SVOCs detected at concentrations of 420 ug/l naphthalene, 200 ug/l 2-methylnapthalene, and 14 ug/l phenanthrene.

(f) Travel blank.

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

N

0 1000' 2000'

QUADRANGLE LOCATION

FIGURE 1

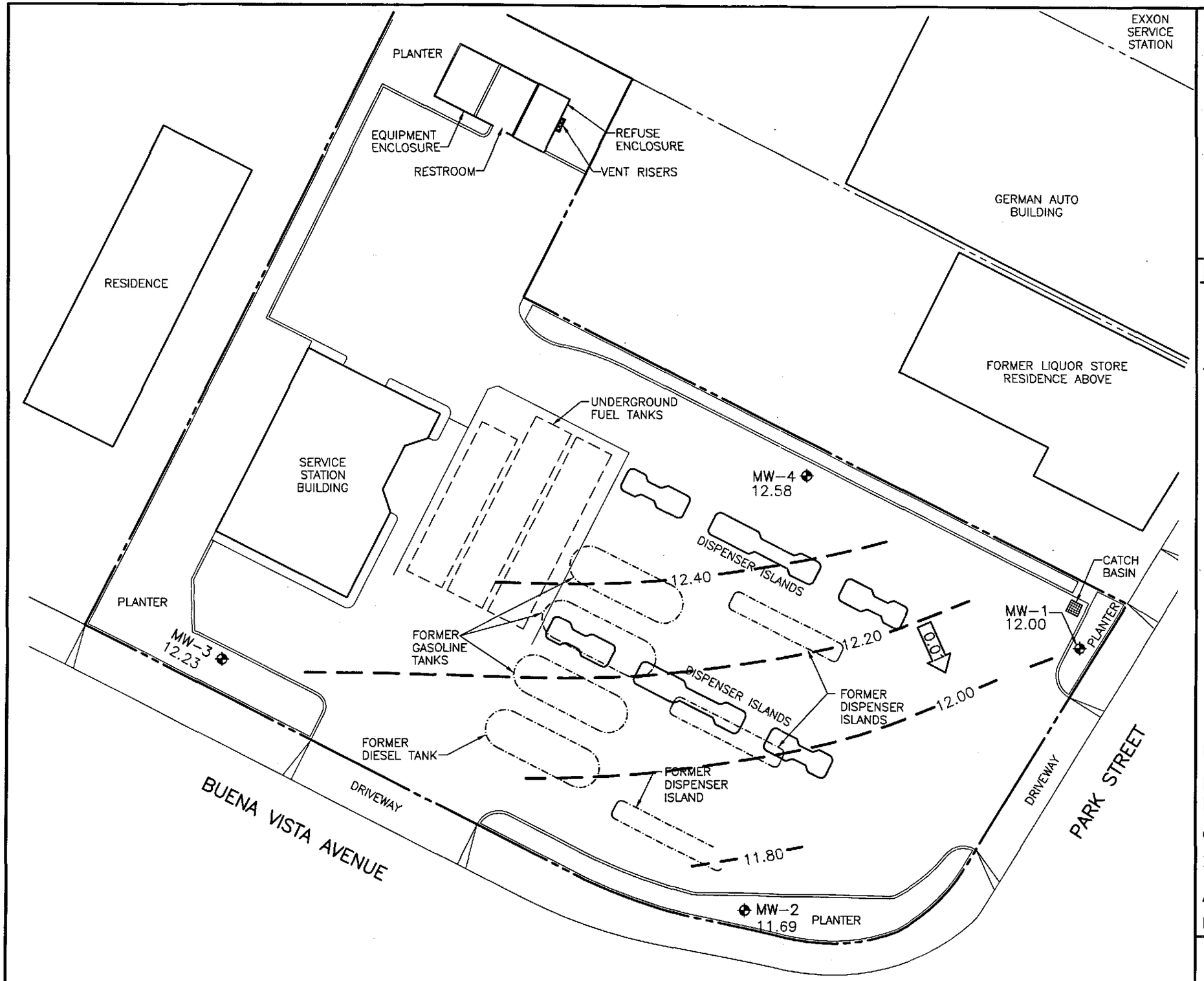
SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210B DWG 8-3-94 REV 1-1



N

0 20 40

SCALE IN FEET

LEGEND

⊕	GROUNDWATER MONITORING WELL
12.00	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
12.40	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.20 FOOT)
0.01	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

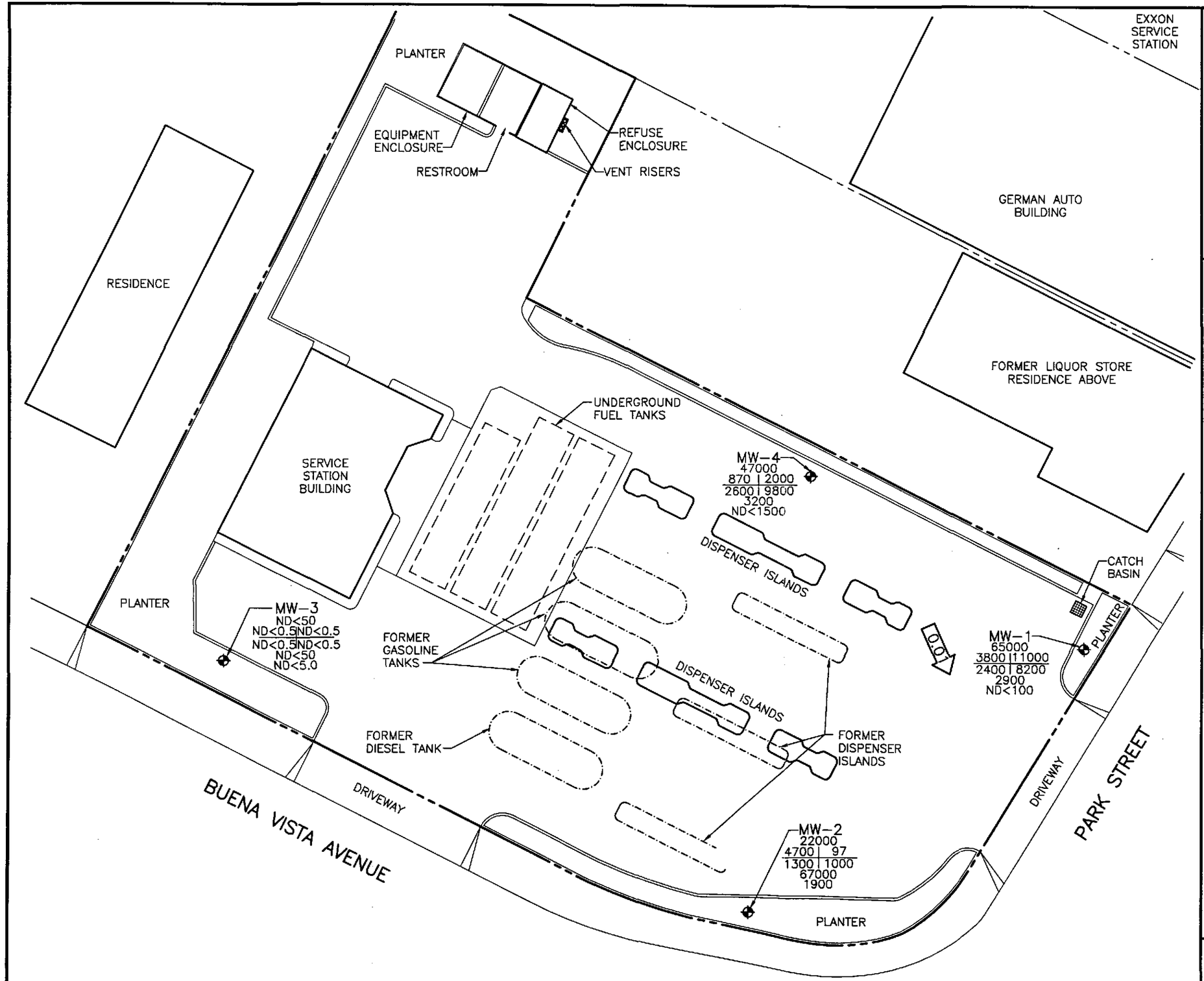
OCTOBER 4, 2000

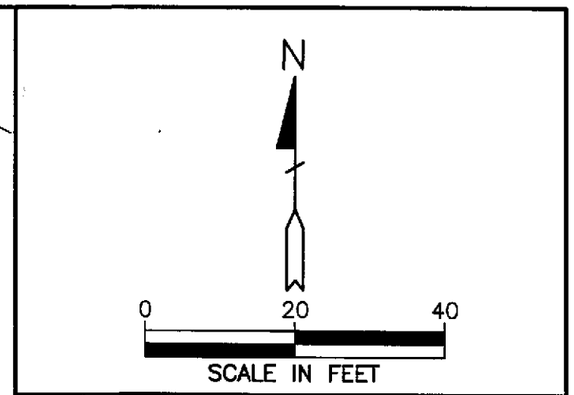
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–210

ALISTO ENGINEERING GROUP
LAFAYETTE, CALIFORNIA

10210G–10.DWG 10–30–00 GME 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
.01	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

OCTOBER 4, 2000

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
LAFAYETTE, CALIFORNIA

10210E-10.DWG 10-31-00 DME 1-20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO
ENGINEERING GROUP

3732 MT. DIABLO BOULEVARD, SUITE 270
LAFAYETTE CA 94598 (925) 962-6970 FAX 962-6971

Field Report / Sampling Data Sheet

Project No. 10-210-12-003 Date: 10/4/00
Address 1701 Park Street Day: M T W TH F
Contract No. n/a City: Alameda
Station No. XTRA Sampler: DJBIRCH

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	7.60	Sheen	1020	
MW-2		2"	20.00	8.62	Sheen	1010	
MW-3		2"	20.00	8.34	—	1000	
MW-4		2"		7.11	—	1026	

FIELD INSTRUMENT CALIBRATION DATA

pH METER HQ4 4.00 X 7.00 X 10.00 X TEMPERATURE COMPENSATED Y N TIME 1030 WEATHER ____
D.O. METER ____ ZERO d.O. SOLUTION UD BAROMETRIC PRESSURE — TEMP —
CONDUCTIVITY METER ____ 10,000 4pt TURBIDITY METER N/A 5.0 NTU ____ OTHER ____
LEAK DETECTOR : N/A ALARM MODE ____ NON ALARM MODE

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-3	8.34	2"	dk/lk	—	Y (N)	2		63.6	7.29	371 µs/cm	2.1
Total Depth - Water Level=		x Well Vol. Factor=		x#vol. to Purge=	PurgeVol.	5		62.9	7.19	366	2.0
						6	1117	62.7	7.20	362	2.0

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) 1 OSys Port
Comments:

- O EPA 601 ____
- X TPH-G/BTEX Hel
- X TPH Diesel None
- O TOG 5520 ____

TIME/SAMPLE ID
MW-3 / 1117

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING GROUP

3732 MT. DIABLO BOULEVARD, SUITE 270
LAFAYETTE CA 94598 (925) 962-6970 FAX 962-6971

Project No. 10-210-12-003 Date: 10/4/00
Address 1701 Park Street Day: M T (W) TH F
Contract No. City: Alameda
Station No. XTRA Sampler: DJB

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-2	8.62'	2	ok/ok	sheen	(Y) N	2		63.6	7.01	466	2.1
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.			5		63.1	7.06	471	2.0
20' - 8.62'						7	1145	63.0	7.14	472	1.8

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Baller(s) OSys Port
Comments: No F.P. Just a sheen

O EPA 601 ____
X TPH-G/BTEX Hel
X TPH Diesel None
O TOG 5520 ___
TIME/SAMPLE ID: MW-2 / 1145

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW 4	7.11	2	ok/ok		Y N	2		62.9	7.09	526	2.0
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.			5		62.1	7.11	519	1.6
						7	1230	62.5	7.11	521	1.7

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

Ø EPA 601 ____
Ø TPH-G/BTEX ___
Ø TPH Diesel ____
O TOG 5520 ___
TIME/SAMPLE ID: MW4 / 1230

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-1	7.60	2	ok/ok	—	(Y) N	2		63.5	7.31	821	1.7
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.			5		63.1	7.20	819	1.6
						6	1313	63.0	7.17	826	1.4

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Baller(s) OSys Port
Comments: Slight sheen only.

Ø EPA 601 ____
Ø TPH-G/BTEX ___
Ø TPH Diesel ____
O TOG 5520 ___
TIME/SAMPLE ID: MW-1 / 1313
QC-1 @ 1318

DRUM of water at site.

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: #10-210-12-003	Date Sampled: 10/04/00
		Date Received: 10/06/00
	Client Contact: Brady Nagle	Date Extracted: 10/06/00
	Client P.O:	Date Analyzed: 10/06/00

10/13/00

Dear Brady:

Enclosed are:

1). the results of **5** samples from your **#10-210-12-003** 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

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: #10-210-12-003	Date Sampled: 10/04/00
		Date Received: 10/06/00
	Client Contact: Brady Nagle	Date Extracted: 10/06/00
	Client P.O:	Date Analyzed: 10/06/00

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

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
49842	MW-1	W	65,000,a	ND<100	3800	11,000	2400	8200	102
49843	MW-2	W	22,000,a,h	1900	4700	97	1300	1000	110
49844	MW-3	W	ND	ND	ND	ND	ND	ND	103
49845	MW-4	W	47,000,a	ND<1500	870	2000	2600	9800	102
49846	QC-1	W	68,000,a	ND<100	3900	13,000	2400	9300	104
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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: #10-210-12-003	Date Sampled: 10/04/00
		Date Received: 10/06/00
	Client Contact: Brady Nagle	Date Extracted: 10/06/00
	Client P.O:	Date Analyzed: 10/06-10/09/00

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
49842	MW-1	W	2900,d	96
49843	MW-2	W	67,000,a,d,h	100
49844	MW-3	W	ND	100
49845	MW-4	W	3200,d	100
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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QC REPORT

Date: 10/06/00-10/07/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 40793				Instrument: GC-3			
Surrogate1	0.000	103.0	101.0	100.00	103	101	2.0
Xylenes	0.000	305.0	294.0	300.00	102	98	3.7
Ethyl Benzene	0.000	101.0	98.0	100.00	101	98	3.0
Toluene	0.000	105.0	101.0	100.00	105	101	3.9
Benzene	0.000	106.0	101.0	100.00	106	101	4.8
MTBE	0.000	109.0	116.0	100.00	109	116	6.2
GAS	0.000	860.7	853.0	1000.00	86	85	0.9
SampleID: 10600				Instrument: MB-1			
Oil & Grease	0.000	20.0	20.2	20.00	100	101	1.0
SampleID: 10400				Instrument: GC-6 B			
Surrogate1	0.000	85.0	87.0	100.00	85	87	2.3
TPH (diesel)	0.000	352.0	341.0	300.00	117	114	3.2
SampleID: 10600				Instrument: IR-1			
Surrogate1	0.000	108.0	110.0	100.00	108	110	1.8
TRPH	0.000	24.4	25.1	23.70	103	106	2.8

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

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

22350 ZAeg 69

ALISTO ENGINEERING GROUP
CHAIN OF CUSTODY

Project Information		Report To:		Samples Submitted To:	
Project No:	10-210-12-003	Consultant:	Alisto Engineering Group	Laboratory:	McCampbell Analytical
Project Title:	Groundwater Sampling	Address:	3732 Mt. Diablo Boulevard, Suite 270	Address:	110 Second Avenue, Suite D7
Location:	Xtra Oil Station		Lafayette, CA 94549		Pacheco, California
	1701 Park Avenue, Alameda	Contact:	Brady Nagle	Contact:	Ed Hamilton
Sampler's Name: (print)	Dan Birch	Phone:	(925) 962-6970	Phone:	925.798.1620
Sampler's Signature:		Fax:	(925) 962-6971	Fax:	925.798.1622
		Bill To:		Date Results Required:	
		Consultant:	Xtra Oil Company		
		Address:	2307 Pacific Avenue	Date Report Required:	
			Oakland, CA 94501		

TURN AROUND TIME

RUSH	24 Hour	48 Hour	5 Day	Standard (10-14 days)
☐	☐	☐	☒	☒ X

Sample ID.	Time	Date	# Containers	Matrix	TPH-Gasoline (EPA 8015)	BTEX/MTBE (EPA 8020)	TPH-Diesel (EPA 8015)	COMMENTS: Container / VOA Preservative/ Hcl
MW-1	1313	10/4/00	4	Water	X	X	X	49842 (X)
MW-2	1145	10/4/00	4	Water	X	X	X	49843 (X)
MW-3	1117	10/4/00	4	Water	X	X	X	49844 X
MW-4	1230	10/4/00	4	Water	X	X	X	49845 X
QC-1	1318	10/4/00	3	Water	X	X		49846 (X)

ICE/t ✓ VOAS | O&G | METALS | OTHER
GOOD CONDITION ✓ PRESERVATION ✓
HEAD SPACE ABSENT ✓ APPROPRIATE CONTAINERS ✓

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
	10/5/00	1200		10/6	11 am
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

SPECIAL INSTRUCTIONS:

Bill Xtra Oil directly for the analytical costs.

Fedex 8214 2339 5835
0215

Coolers received sealed & intact via Fed ex