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Alameda, CA 94501
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XTRA OIL COMPANY

May 31, 2000

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

Regarding: 1701 Park Street, Alameda

Dear Ms. Chu:

Please find enclosed the quarterly report(s) for the above referenced sites.

If you have any questions, please do not hesitate to call.

Sincerely,

Keith Simas
Operations Supervisor

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-210-12-001

do PNAs in well MW-2
Need to implement CAP
Need to delineate extent of plume to east, SE
need to confirm MTBE + other oxygenates w/ 8260.

Prepared for:

Xtra Oil Company
2307 Pacific Avenue
Alameda, California

Prepared by:

Alisto Engineering Group
1575 Treat Boulevard, Suite 201
Walnut Creek, California

May 22, 2000

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. 10-210-12-001

May 22, 2000

INTRODUCTION

This report presents the results and findings of the March 31, 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 March 31, 2000 groundwater monitoring and sampling event are as follows:

- Less than 0.01 foot of free product was observed in Monitoring Well MW-2. Free product was not observed in Monitoring Wells MW-1, MW-3 or MW-4.

- Groundwater elevation data indicates a gradient of approximately 0.005 foot per foot in a southeasterly direction across the site.

- Analysis of the groundwater samples detected dissolved-phase petroleum hydrocarbons in three of the four groundwater monitoring wells at concentrations of up to 48,000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline, 3200 ug/l benzene, 5500 ug/l toluene, 2000 ug/l ethylbenzene, and 6700 ug/l xylenes in Well MW-1; and 200,000 ug/l total petroleum hydrocarbons as diesel and 4000 ug/l benzene in Well MW-2.

- Methyl tert-butyl ether (MTBE) was detected in Wells MW-1, MW-2 and MW-4 at concentrations of up to 13,000 ug/l.

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 (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-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	8.10	---	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	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-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	---		8.1	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 (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-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
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 reportad 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'

CALIF

QUADRANGLE LOCATION

FIGURE 1

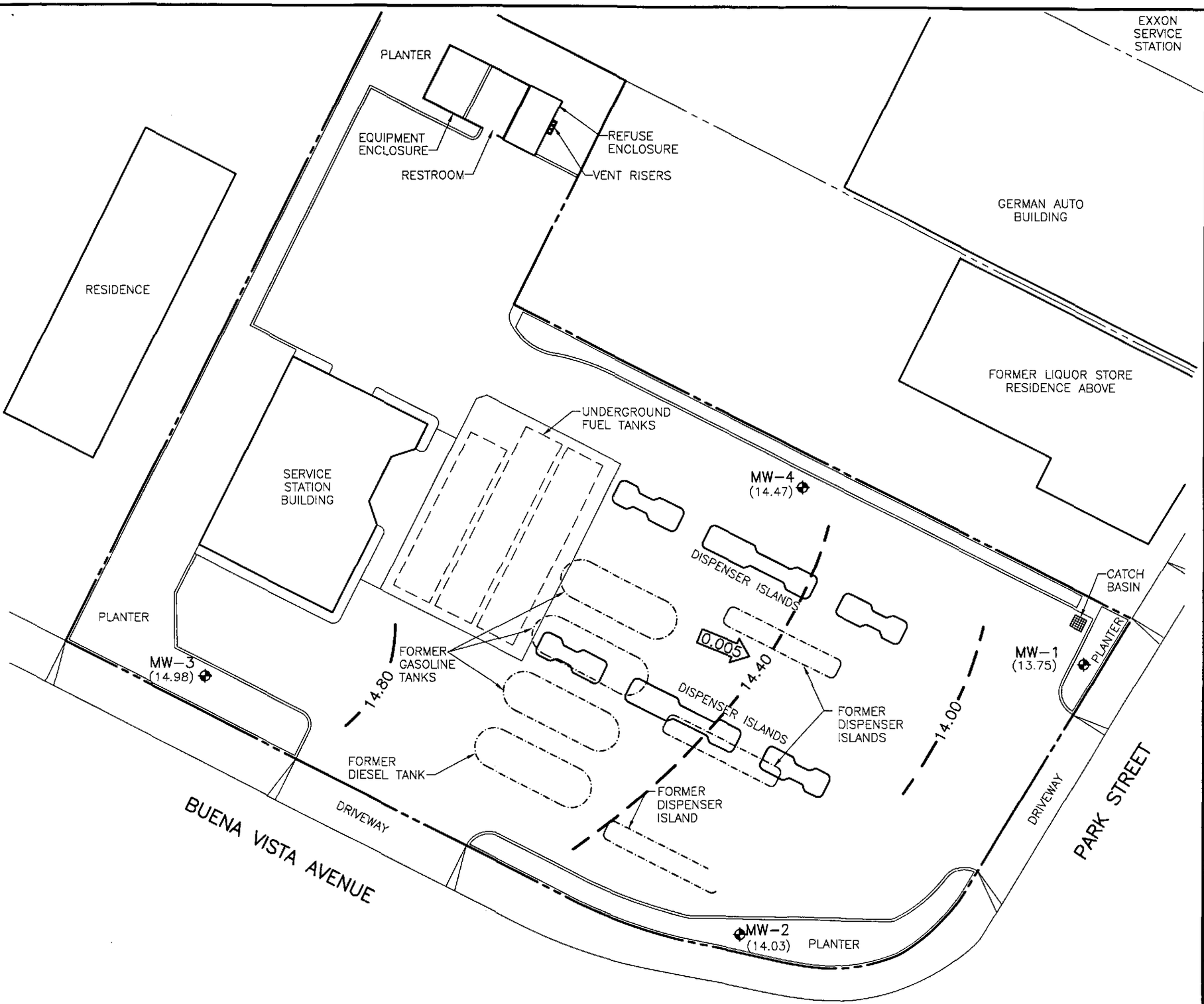
SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210D---.DWG 8-3-94 RKW 1=1



N

0 20 40

SCALE IN FEET

LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (13.75) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 14.40 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.40 FOOT)
- 0.005 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

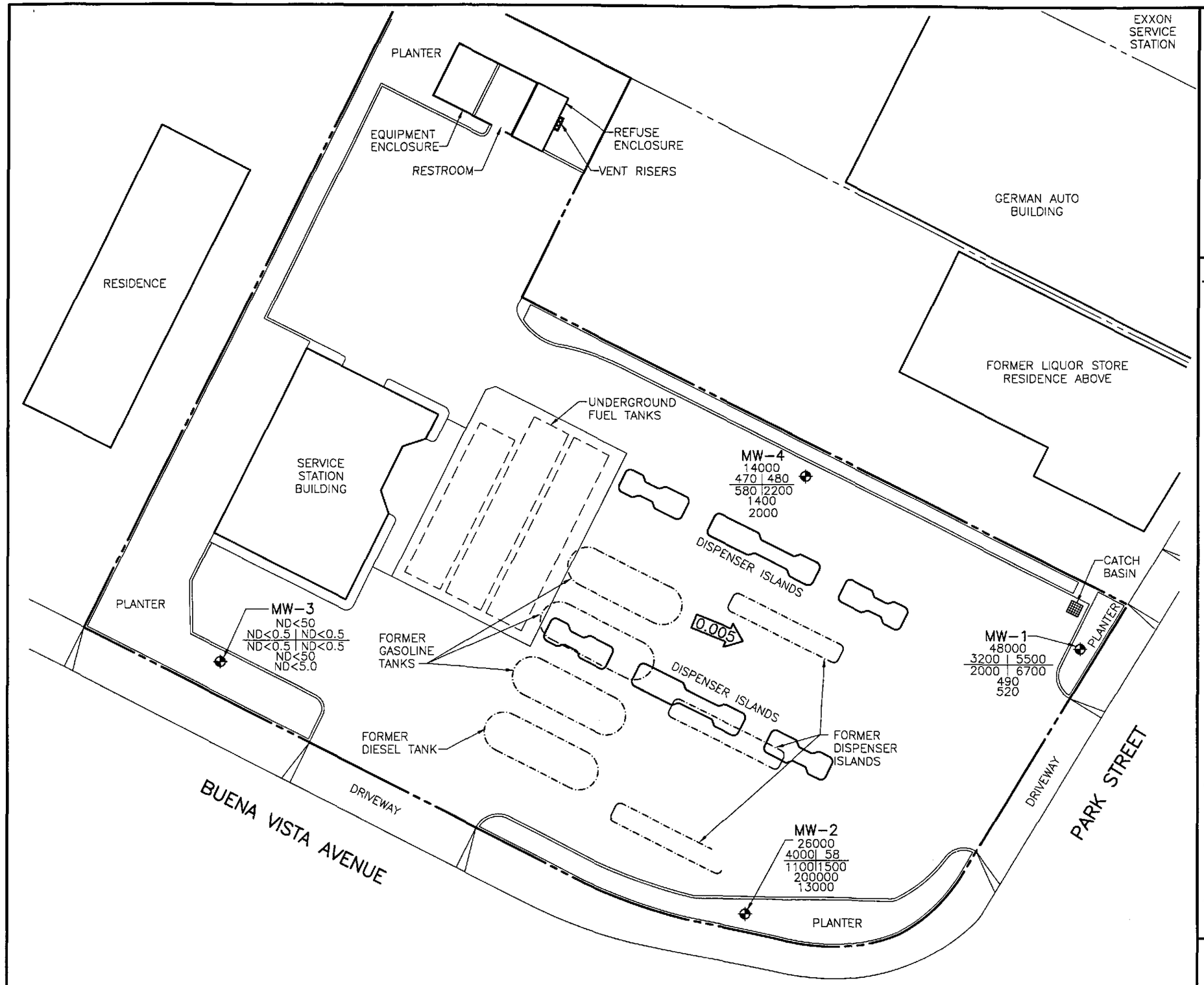
MARCH 31, 2000

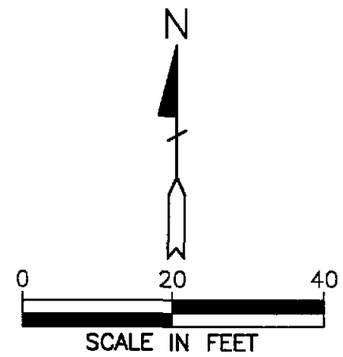
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210D-7.DWG 04-18-00 BAC 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
0.005	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

MARCH 31, 2000

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210E-7.DWG 04-18-00 BKC 1=20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-210-12-001 Date: 3/31/00
Address 1701 Park Street Day: M T W TH (F)
Contract No. n/a City: Alameda
Station No. XTRA Sampler: CLS

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1	N/A	2"	20.00	5.85	Ø	1040	
MW-2	↓	2"	20.00	6.29	<.01'	1045	Serviced PPRS ~1/16 gal FP & H2O Mixture
MW-3		2"	20.00	5.59	Ø	1030	
MW-4		2"	~20.00	5.22	Ø	1035	

FIELD INSTRUMENT CALIBRATION DATA

pH METER Aqua Check 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (Y) N TIME 1010 WEATHER Clear
D.O. METER Aqua Check ZERO d.O. SOLUTION 0 BAROMETRIC PRESSURE 760 TEMP 70
CONDUCTIVITY METER Aqua Check 10,000 TURBIDITY METER 5.0 NTU OTHER X
LEAK DETECTOR : ALARM MODE NON ALARM MODE

Well ID	Depth to Water	Diam	Cap/Locl	Product	Odor/Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-3	5.59	2"	OK	Ø	Y (N)	2	1110	70.2	7.68	462 µs/cm	2.5
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	Purge Vol.			4		69.1	7.40	469 µs/cm	
20' - 5.59' = 14.41	X .16 = 2.31	X 3 =	6.93			7	1122	69.6	7.28	469 µs/cm	2.8

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

O EPA 601
X TPH-G/BTEX MTBE
X TPH Diesel
O TOG 5520

TIME/SAMPLE ID
1130

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-210-12-001 Date: 3/31/00
Address 1701 Park Street Day: M T W TH F
Contract No. City: Alameda
Station No. XTRA Sampler: LCB

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-4	5.22	2"	OIC	Ø	(Y) N	3	1145	67.3	7.78	661 µs/cm	6.7
Total Depth - Water Level=	x Well Vol. Factor=	x#Vol. to Purge=	PurgeVol.			5	1150	68.1	7.62	640 µs/cm	
20 - 5.22 = 14.78 X .16 = 2.36 X 3 = 7.08						7.5	1155	68.5	7.60	627 µs/cm	6.8

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

O EPA 601 ____
⊗ TPH-G/BTEX MTBE
⊗ TPH Diesel ____
O TOG 5520 ____
TIME/SAMPLE ID: 1200

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-1	5.85	2"	OL	Ø	Y (N)	3	1213	66.3	7.66	454 µs/cm	7.7
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.			5		66.7	7.58	442 µs/cm	
20.00 - 5.85 = 13.71 X .16 = 2.19 X 3 = 6.57						7	1221	66.9	7.50	434 µs/cm	7.9

Purge Method: OSurface Pump ODisp.Tube OWinch ⊗Disp. Bailer(s) 1 OSys Port
Comments: QC-1 (Dup) From this well

⊗ EPA 601 ____
⊗ TPH-G/BTEX MTBE
⊗ TPH Diesel ____
O TOG 5520 ____
TIME/SAMPLE ID: 1227

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-2	6.29	2"	OIC	.01	(Y) N	3	1240	67.2	7.42	507 µs/cm	8.3
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.			5		66.3	7.39	477 µs/cm	
20 - 6.29 = 13.71 X .16 = 2.19 X 3 = 6.57						7	1250	66.5	7.30	472 µs/cm	8.1

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

⊗ EPA 601 ____
⊗ TPH-G/BTEX MTBE
⊗ TPH Diesel ____
O TOG 5520 ____
TIME/SAMPLE ID: 1253

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 1575 Treat Blvd, Ste 201 Walnut Creek, CA 94598	Client Project ID: #10-210-12-001; Groundwater Sampling	Date Sampled: 03/31/00
		Date Received: 03/31/00
	Client Contact: Brady Nagle	Date Extracted: 03/31/00
	Client P.O:	Date Analyzed: 03/31/00

04/07/00

Dear Brady:

Enclosed are:

1). the results of **5** samples from your **#10-210-12-001; Groundwater Sampling** 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.
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Alisto Engineering Group 1575 Treat Blvd, Ste 201 Walnut Creek, CA 94598	Client Project ID: #10-210-12-001; Groundwater Sampling	Date Sampled: 03/31/00
		Date Received: 03/31/00
	Client Contact: Brady Nagle	Date Extracted: 04/01/00
	Client P.O:	Date Analyzed: 04/01/00

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
34374	MW-1	W	48,000,a	520	3200	5500	2000	6700	93
34375	MW-2	W	26,000,h,a	13,000	4000	58	1100	1500	119
34376	MW-3	W	ND	ND	ND	ND	ND	ND	98
34377	MW-4	W	14,000,a	2000	470	480	580	2200	111
34378	QC-1	W	54,000,a	730	3500	6000	2300	7300	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

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Alisto Engineering Group 1575 Treat Blvd, Ste 201 Walnut Creek, CA 94598	Client Project ID: #10-210-12-001; Groundwater Sampling	Date Sampled: 03/31/00
		Date Received: 03/31/00
	Client Contact: Brady Nagle	Date Extracted: 03/31/00
	Client P.O:	Date Analyzed: 03/31/00

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
34374	MW-1	W	490,d	100
34375	MW-2	W	200,000,a,d,h	107
34376	MW-3	W	ND	98
34377	MW-4	W	1400,d	103
34378	QC-1	W	3300,d,b	106
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: 03/31/00-04/01/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 33100				Instrument: GC-3			
Surrogate1	0.000	100.0	101.0	100.00	100	101	1.0
Xylenes	0.000	284.0	284.0	300.00	95	95	0.0
Ethyl Benzene	0.000	95.0	95.0	100.00	95	95	0.0
Toluene	0.000	99.0	98.0	100.00	99	98	1.0
Benzene	0.000	104.0	103.0	100.00	104	103	1.0
MTBE	0.000	88.0	87.0	100.00	88	87	1.1
GAS	0.000	938.0	907.9	1000.00	94	91	3.3
SampleID: 33100				Instrument: MB-1			
Oil & Grease	0.000	19.9	20.0	20.00	100	100	0.5
SampleID: 33100				Instrument: GC-2 B			
Surrogate1	0.000	107.0	107.0	100.00	107	107	0.0
TPH (diesel)	0.000	277.0	258.0	300.00	92	86	7.1
SampleID: 33100				Instrument: IR-1			
TRPH	0.000	22.0	24.2	23.70	93	102	9.5

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

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

RPD means Relative Percent Deviation

ALISTO ENGINEERING GROUP

CHAIN OF CUSTODY

19580 ZAEG 61

Project Information:		Report To:		Samples Submitted To:	
Project No:	10-210-12-001	Consultant:	Alisto Engineering Group	Laboratory:	McCampbell Analytical
Project Title:	Groundwater Sampling	Address:	1575 Treat Blvd., Suite 201	Address:	110 Second Avenue, Suite D7
Location:	Xtra Oil Station		Walnut Creek, CA 94598		Pacheco, California
	1701 Park Avenue, Alameda	Contact:	Brady Nagle	Contact:	Ed Hamilton
Sampler's Name: (print)	~~Dan Birch~~ Larry Brenvenida	Phone:	(925) 295-1650	Phone:	925.798.1620
Sampler's Signature:		Fax:	(925) 295-1823	Fax:	925.798.1622
		Bill To:		Date Results Required:	
		Consultant:	Alisto Engineering	Date Report Required:	STAT
		Address:	1575 Treat Blvd., Suite 201 Walnut Creek, CA 94598		

TURN AROUND TIME

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

ANALYSIS

Sample ID.	Date	# Containers	Matrix	TPH-Gasoline (EPA 8015)	BTEX/MTBE (EPA 8020)	TPH-Diesel (EPA 8015)	COMMENTS: Container / VOA — Liters — Helpres; Preservative/ Hcl
MW-1	3/31/00	4	Water	X	X	X	34374
MW-2		4	Water	X	X	X	34375
MW-3		4	Water	X	X	X	34376
MW-4		4	Water	X	X	X	34377
QC-1	↓	4	Water	X	X	X	34378

ICE/A° _____ VOAS | O&G | METALS | OTHER
GOOD CONDITION _____ PRESERVATION _____
HEAD SPACE ABSENT _____ APPROPRIATE _____
CONTAINERS _____

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
	3/31/00	1330		3/31/00	
	3/31	4.55	Maria Venegas	3/31/00	5:05

SPECIAL INSTRUCTIONS:

Bill Xtra Oil directly for the analytical costs.

L:SN

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