this report was sent in March 2001 - wrong rpt. Need QMR for Oct 2000 sampling event.

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-210-10-002

Prepared for:

Xtra Oil Company
2307 Pacific Avenue
Alameda, California

Prepared by:

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

April 27, 1999

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

REGISTERED PROFESSIONAL ENGINEER
ALBERTO SANCHEZ SEVILLA
26392
Exp. Date 3-31-00
CIVIL
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-210-10-002

April 27, 1999

INTRODUCTION

This report presents the results and findings of the March 30, 1999 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 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 30, 1999 groundwater monitoring and sampling event are as follows:

- Approximately 0.13 foot of free product was observed in Monitoring Well MW-2. Free product or hydrocarbon sheen was not observed in Monitoring Wells MW-1, MW-3 or MW-4.

- Groundwater elevation data indicate a gradient of approximately 0.01 foot per foot in a southeasterly direction across the site.

- Analysis of the groundwater samples detected petroleum hydrocarbons in three of the four groundwater monitoring wells at concentrations of up to 67000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline, 5700 ug/l benzene, 9400 ug/l toluene, 2500 ug/l ethylbenzene, 9400 ug/l xylenes; methyl tert butyl ether was detected at concentrations up to 21000 ug/l in Monitoring Well MW-2 and 23000 ug/l total petroleum hydrocarbons as diesel were detected in the sample collected from Well MW-2.

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	8.64	—	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	---	---	---	---	46000	---	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	---	6.0	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-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	---	6.0	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

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	12	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	---	7.0	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	0.57	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	---	4.0	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-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	---	6.0	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
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.

F:\02\10-210\10-210GW.WQ2

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

N

0 1000' 2000'

QUADRANGLE LOCATION

FIGURE 1

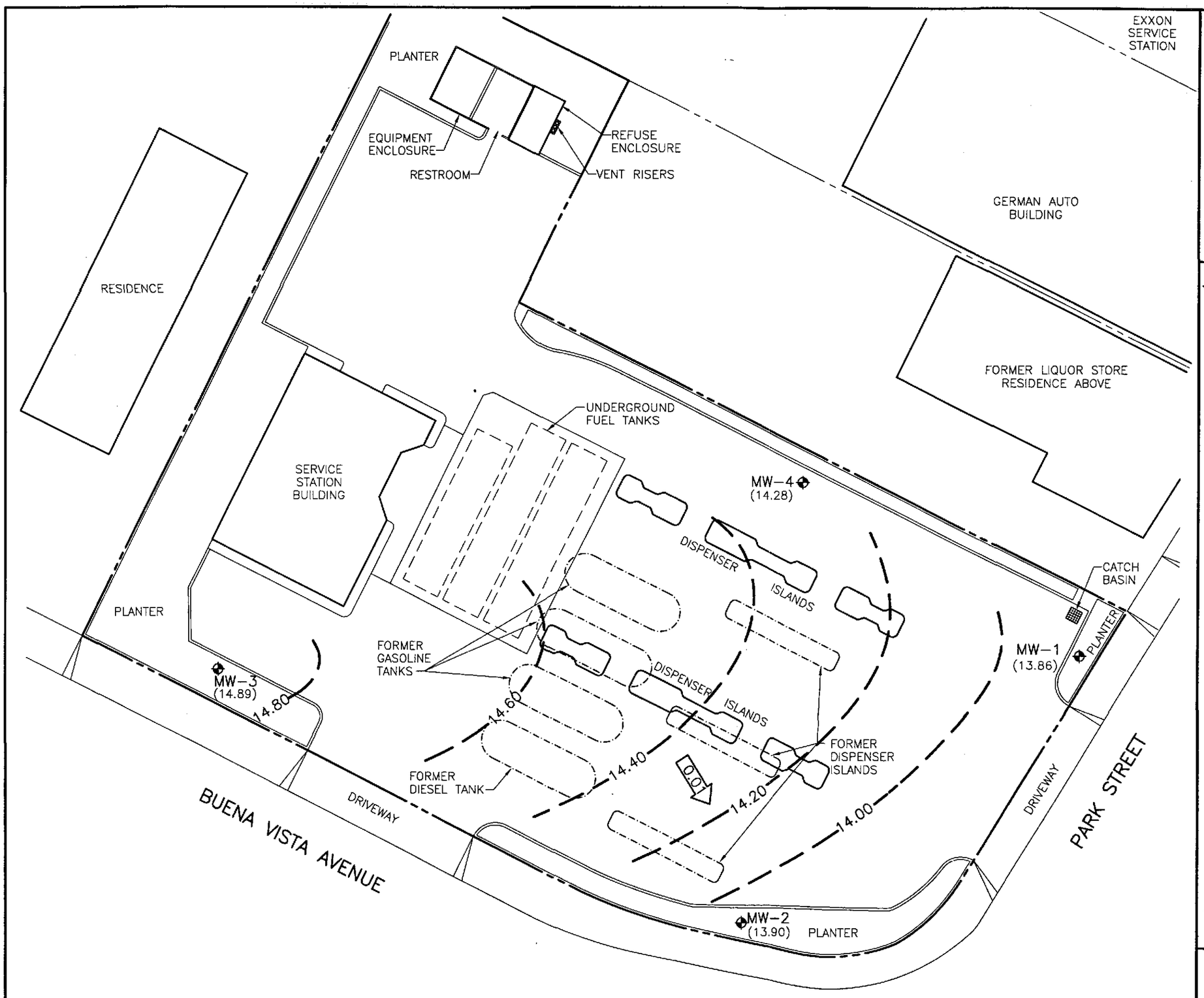
SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

1=1 MAR 15-3-9 DWG--10210B



N

0 20 40

SCALE IN FEET

LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (13.86) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 14.00 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

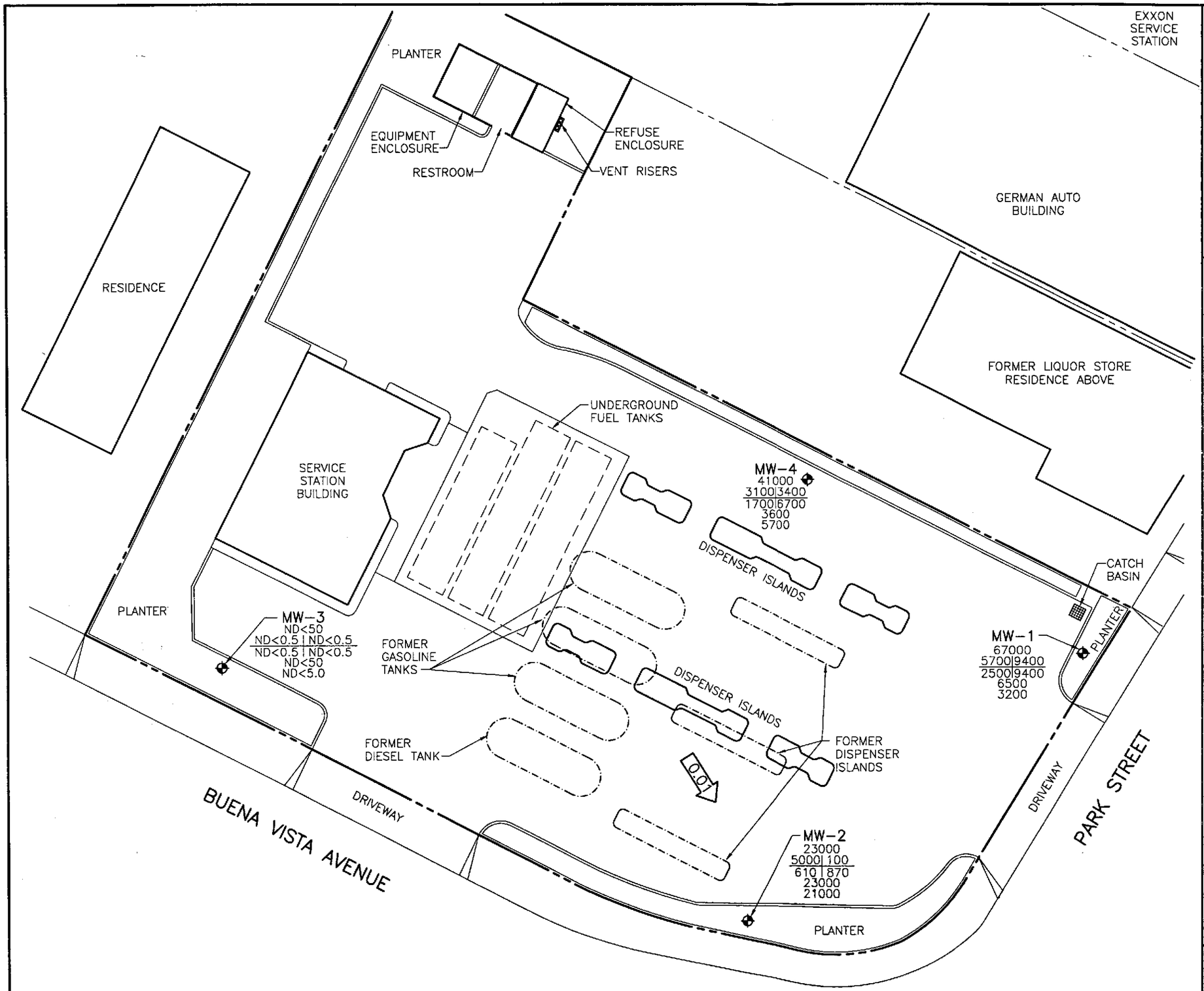
MARCH 30, 1999

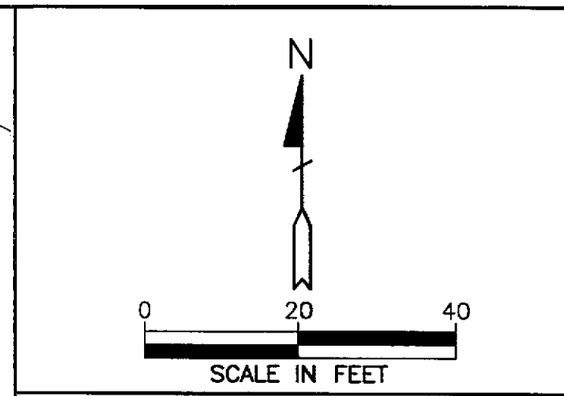
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210D-3.DWG 4-12-99 RKW 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
0.01	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

MARCH 30, 1999

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210C-3.DWG 4-12-99 RKW 1=20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

ENGINEERING

GROUP

1575 TREAT BOULEVARD, SUITE 201

WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

Project No. 10-210-10-002 Date: 03/30/99

Address 1701 Park Street Day: M T W TH F

Contract No. 10-98-154 City: Alameda

Station No. XTRA Sampler: H. Barney

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1	S-3/S-5	2"	20.00	5.74		1217	QC-1 / S-5 from this well
MW-2	S-4	2"	20.00	6.51	0.13	1222	
MW-3	S-1	2"	20.00	5.68		1213	
MW-4	S-2	2'		5.41		1215	

FIELD INSTRUMENT CALIBRATION DATA

pH METER _____ 4.00 _____ 7.00 ✓ 10.00 __ TEMPERATURE COMPENSATED Y N TIME _____ WEATHER Clear/Sunny

D.O. METER _____ ZERO d.O. SOLUTION _____ BAROMETRIC PRESSURE _____ TEMP _____

CONDUCTIVITY METER _____ 10,000 _____ TURBIDITY METER _____ 5.0 NTU _____ OTHER _____

LEAK DETECTOR : _____ ALARM MODE _____ NON ALARM MODE

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescend Y N	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-3	5.68	2"	OK/OK			3	1254	67.9	5.81	412	5.2
						5	1259	63.6	6.11	466	4.9
						7	1304	62.1	6.42	422	4.6

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge= PurgeVol.

20 - 5.68 = 14.32 x .16 x 3 = 6.8

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

Comments:

- O EPA 601 _____
- ⊗ TPH-G/BTEX ___
- ⊗ TPH Diesel ____
- O TOG 5520 ___

TIME/SAMPLE ID

1309 / S-1

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. 10-210-10-002 Date: 03/30/99
Address 1701 Park Street Day: M/O/W TH F
Contract No. 10-98-154 City: Alameda
Station No. XTRA Sampler: H. Barney

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc Y N	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-4	5.41	2"	ok/ok		Y N	3	1331	60.1	6.48	701	4.3
						5	1335	60.2	6.74	703	4.8
						7	1338	59.0	6.17	710	4.6

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
20 - 5.41 = 14.59 x 0.16 x 3 = 7.0

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

Comments:

O EPA 601___
⊗ TPH-G/BTEX___
⊗ TPH Diesel___
O TOG 5520 ___

TIME/SAMPLE ID: 1345 / S-2

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc Y N	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-1	5.74	2"	ok/ok		Y N	3	1403	66.2	5.24	613	1.8
						5	1407	64.1	5.07	539	2.3
						7	1409	64.5	5.69	524	2.1

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
20 - 5.74 = 14.26 x 0.16 x 3 = 6.8

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

Comments: QC-1 / S-5 From this well

O EPA 601___
⊗ TPH-G/BTEX___
⊗ TPH Diesel___
O TOG 5520 ___

TIME/SAMPLE ID: 1416/S-3 1418/S-5

Well ID	epth to Wat	Diam	Cap/Locl	Product De	Iridescenc Y N	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-2	6.51	2"	ok/ok		Y N	3	1442	62.5	5.38	941	1.5
						5	1445	62.4	5.47	934	2.6
						7	1447	63.2	4.97	939	1.7

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
20 - 6.51 = 13.49 x .16 x 3 = 6.5

Purge Method: OSurface Pump ODisp.Tube OWinch ODIsp. Bailer(s)___ OSys Port

Comments:

O EPA 601___
⊗ TPH-G/BTEX___
⊗ TPH Diesel___
O TOG 5520 ___

TIME/SAMPLE ID: 1458 / S-4

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: #10-210-2; Xtra Station	Date Sampled: 03/30/99
		Date Received: 04/01/99
	Client Contact: Brady Nagle	Date Extracted: 04/02-04/04/99
	Client P.O:	Date Analyzed: 04/02-04/04/99

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
08366	S-1	W	ND	ND	ND	ND	ND	ND	105
08367	S-2	W	41,000,a	5700	3100	3400	1700	6700	103
08368	S-3	W	67,000,a	3200	5700	9400	2500	9400	105
08369	S-4	W	23,000,a,h	21,000	5000	100	610	870	104
08370	S-5	W	64,000,a	3100	5500	9000	2400	9100	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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http://www.mccampbell.com E-mail: main@mccampbell.com

Alisto Engineering Group 1575 Treat Blvd, Ste 201 Walnut Creek, CA 94598	Client Project ID: #10-210-2; Xtra Station	Date Sampled: 03/30/99
		Date Received: 04/01/99
	Client Contact: Brady Nagle	Date Extracted: 04/01/99
	Client P.O:	Date Analyzed: 04/02-04/05/99

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
08366	S-1	W	ND	98
08367	S-2	W	3600,d	100
08368	S-3	W	6500,d,b	97
08369	S-4	W	23,000,a,d,h	104
08370	S-5	W	6400,d,b	101
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

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/02/99-04/03/99 Matrix: WATER

Analyte	Concentration (ug/L) Sample (#05350)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	107.3	106.9	100.0	107.3	106.9	0.4
Benzene	0.0	10.6	10.7	10.0	106.0	107.0	0.9
Toluene	0.0	10.7	10.8	10.0	107.0	108.0	0.9
Ethyl Benzene	0.0	10.9	11.0	10.0	109.0	110.0	0.9
Xylenes	0.0	32.6	33.1	30.0	108.7	110.3	1.5
TPH(diesel)	0.0	7953	7611	7500	106	101	4.4
TRPH (oil & grease)	0	23554	23800	23700	99	100	1.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

14544 ZAEG13

McCAMBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (510) 798-1620 Fax: (510) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Brady Hayle Bill To: XTRA OIL
Company: Alisto Engineering Group
1575 Treat Blvd., #201
Walnut Creek, CA 94598
Tele: (510) 295-1650 Fax: (510) 295-1823
Project #: 10-210-10-2 Project Name: XTRA Station
Project Location: 1701 Park Street, Alameda
Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	WET (STLC) Chromium & Lead	Other: RCI	Comments
S-1	Alameda	3/30/94	1309	4	VOA	X					X	X			X	X															08366
S-2			1345			X					X	X			X	X															08367
S-3			1416			X					X	X			X	X															08368
S-4			1458			X					X	X			X	X															08369
S-5			1418			X					X	X			X	X															08370

VOAs O&G METALS OTHER

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

Relinquished By:	Date:	Time:	Received By:
	3/31/94	0915	
Relinquished By:	Date:	Time:	Received By:
	4/1	9:45	Dina A Butler
Relinquished By:	Date:	Time:	Received By:

Remarks:
Liters not preserved