Xtra OIL COMPANY

2307 PACIFIC AVENUE
ALAMEDA, CA 94501
(510) 865-9503 FAX (510) 865-1889

① Need to do active product removal

② attny for 1717 Park

June 2, 1998

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

RE: 1701 Park St., Alameda

Dear Ms. Chu:

Please find enclosed the groundwater and sampling report for the Xtra Oil Co. service station (d.b.a. Shell) at the above referenced address. Alisto Engineering Group of Walnut Creek prepared the report.

Please call if you have any questions or comments.

Sincerely,
Keith Simas

cc: Ms. Ade Fagorala, SWRCB

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-210-08-003

Prepared for:

Xtra Oil Company
2307 Pacific Avenue
Alameda, California

Prepared by:

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

May 27, 1998

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. 10-210-08-003

May 27, 1998

INTRODUCTION

This report presents the results and findings of the March 11, 1998 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 11, 1998 groundwater monitoring and sampling event are as follows:

- Approximately 0.18 foot of free product was observed in Monitoring Well MW-2. Free product or sheen was not observed in Monitoring Wells MW-1, MW-3 or MW-4.

- Groundwater elevation data indicate a gradient of approximately 0.03 foot per foot in an easterly to southeasterly direction across the site.

- Analysis of the groundwater samples detected up to 43000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline, 7200 ug/l benzene, and 14000 ug/l methyl tert butyl ether in the sample collected from Well MW-1; and up to 3800 ug/l total petroleum hydrocarbons as diesel in the sample collected from MW-2.

TABLE 1 - SUMMARY OF RESULTS 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	---	---	---	---	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	---	6.0	MCC
QC-1 (c)	03/11/98	---	---	---	---	43000	---	7200	5000	1400	5300	14000	---	---	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	0.16	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	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

TABLE 1 - SUMMARY OF RESULTS 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-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
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'

FIGURE 1

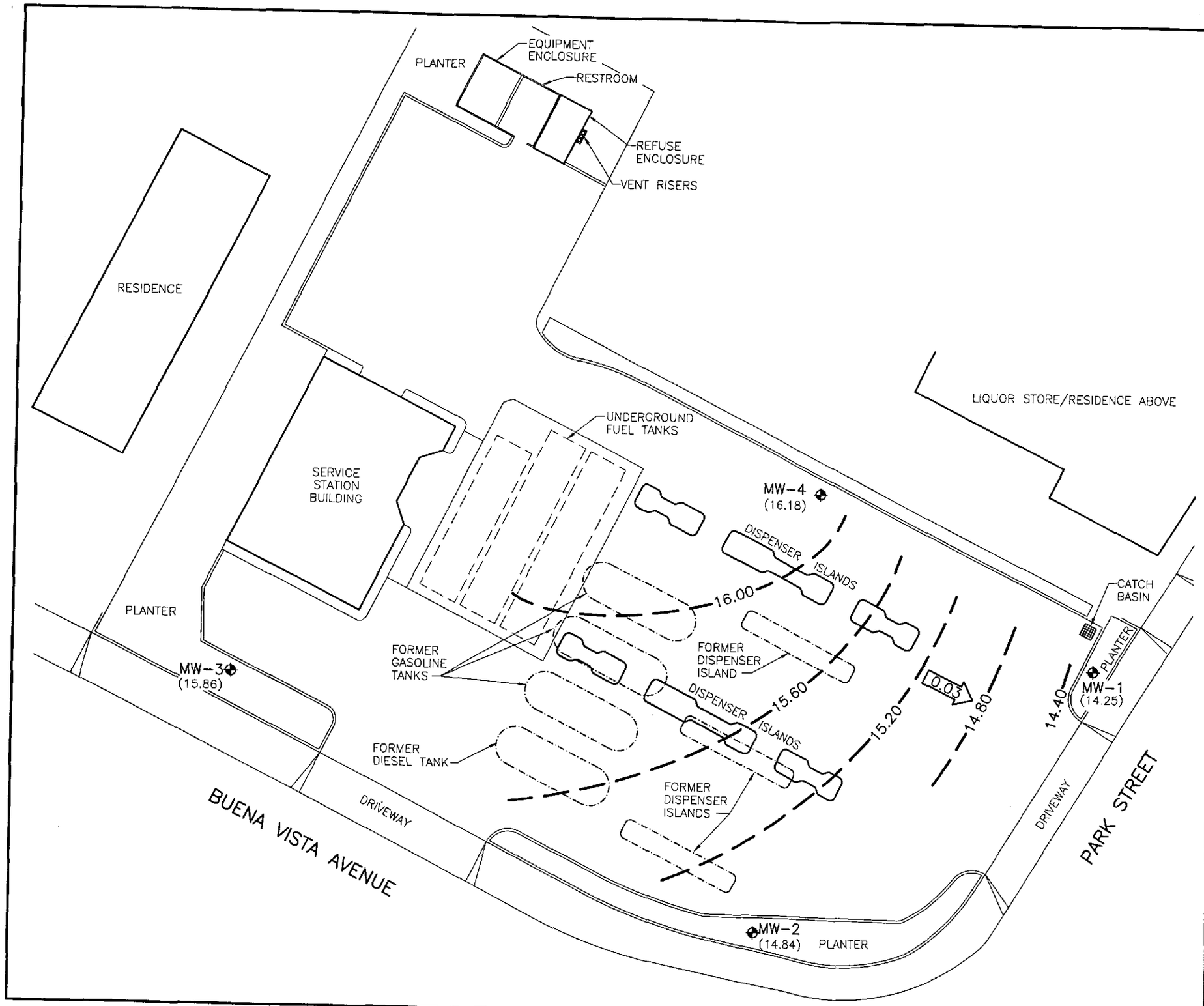
SITE VICINITY MAP

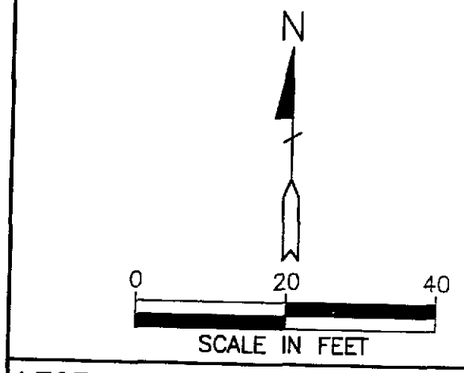
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210B---DWG 8-3-94 NKW 1=1





LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (14.25) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 14.40 — GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.40 FOOT)
- 0.003 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

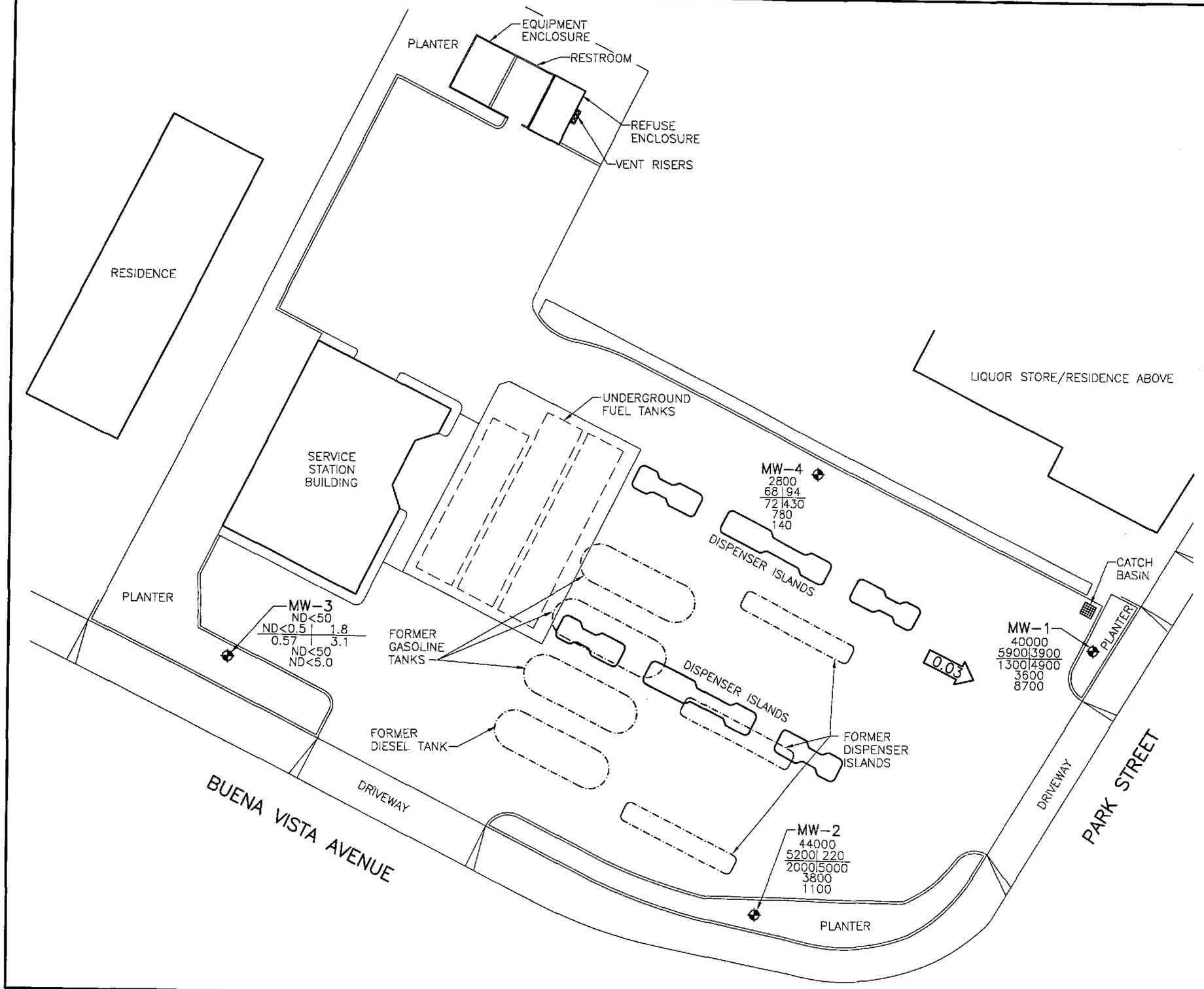
MARCH 11, 1998

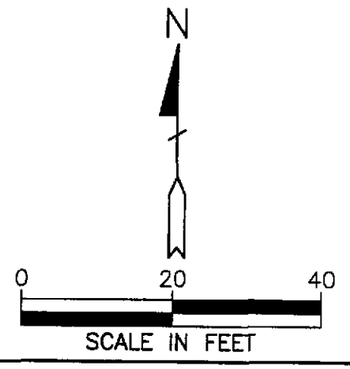
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210D-Y.DWG 3-20-98 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
0.03	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

MARCH 11, 1998

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210E-Y.DWG 3-20-98 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. 10-210-08-003 Date: 3/11/98
Address 1701 Park Street Day: M T W TH F
Contract No. Pending City: Alameda
Station No. XTRA Sampler: LCS

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1	S-3	2"	20.00	5.35	Ø	1450	QC-1 (S-5) from this well
MW-2	S-4	2"	20.00	5.61	.18	1453	
MW-3	S-1	2"	20.00	4.71	Ø	1437	
MW-4	S-2	2"	20.00	3.51	Ø	1444	

FIELD INSTRUMENT CALIBRATION DATA

pH METER Icm 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (Y) N TIME 0810 WEATHER Clear
D.O. METER Icm ZERO d.O. SOLUTION _____ BAROMETRIC PRESSURE 760 TEMP 61
CONDUCTIVITY METER Icm 10,000 _____ TURBIDITY METER _____ 5.0 NTU _____ OTHER _____
LEAK DETECTOR : _____ ALARM MODE X NON ALARM MODE

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-3	4.71	2"	OK	Ø	Y (N)	3	1503	60.3	7.30	671 µS	5.9
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			5		61.7	7.11	701 µS	
20.00-4.71=15.29	X.16=2.45	X3=	7.35			8	1512	61.9	7.09	711 µS	6.1

Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601 ___ TPH-G/BTEX ___ TPH Diesel ___ TOG 5520 ___
TIME/SAMPLE ID: 1514

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-4	3.51	2"	OK	Ø	Y (N)	3	1520	61.1	7.37	771 µS	5.2
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			5		61.9	7.21	797 µS	
20.00-3.51=16.49	X.16=2.64	X3=	7.92			8	1537	62.3	7.21	801 µS	5.5

Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601 ___ TPH-G/BTEX ___ TPH Diesel ___ TOG 5520 ___
TIME/SAMPLE ID: 1540

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. 10-210-08-003 Date: 3/11/98
Address 1701 Park Street Day: M T W TH F
Contract No. Pending City: Alameda
Station No. XTRA Sampler: LB

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-1	5.35	2"	OK	Ø	Y (N)	3	1555 60.7	60.7	7.18	822 µS	6.0
						5	61.3	61.3	7.09	849 µS	
						8	61.7	61.7	7.06	856 µS	6.0

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
20.00 - 5.35 = 14.65 X .16 = 2.34 X 3 = 7.02
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601___ TPH-G/BTEX___ TPH Diesel___ TOG 5520___
TIME/SAMPLE ID: 1610

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-2	5.61	2"	OK	[redacted]	Y (N)	3	1631	61.8	7.51	978 µS	6.2
						5		62.3	7.33	998 µS	
						7	1642	62.7	7.30	1.01 mS	6.4

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
20.00 - 5.61 = 14.39 X .16 = 2.30 X 3 = 6.90
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601___ TPH-G/BTEX___ TPH Diesel___ TOG 5520___
TIME/SAMPLE ID: 1645

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Alisto Engineering Group	Client Project ID: #10-210-8-3; Xtra	Date Sampled: 03/11/98
1575 Treat Blvd, Ste 201		Date Received: 03/12/98
Walnut Creek, CA 94598	Client Contact: Ken Simas	Date Extracted: 03/12-03/16/98
	Client P.O:	Date Analyzed: 03/12-03/16/98

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
86700	S-1	W	ND	ND	ND	1.8	0.57	3.1	100
86701	S-2	W	2800,a	140	68	94	72	430	99
86702	S-3	W	40,000,a	8700	5900	3900	1300	4900	104
86703	S-4	W	44,000,a,h	1100	5200	220	2000	5000	103
86704	S-5	W	43,000,a	14,000	7200	5000	1400	5300	103
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 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
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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
86700	S-1	W	ND	104
86701	S-2	W	780,d	105
86702	S-3	W	3600,a,d	106
86703	S-4	W	3800,a,d,h	109
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 FOR HYDROCARBON ANALYSES

Date: 03/12/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#86580)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	98.0	98.7	100.0	98.0	98.7	0.7
Benzene	0.0	10.1	10.1	10.0	101.0	101.0	0.0
Toluene	0.0	10.3	10.2	10.0	103.0	102.0	1.0
Ethyl Benzene	0.0	10.4	10.4	10.0	104.0	104.0	0.0
Xylenes	0.0	31.6	31.4	30.0	105.3	104.7	0.6
TPH(diesel)	0	168	138	150	112	92	19.5
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/16/98-03/17/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#86680)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	97.2	99.0	100.0	97.2	99.0	1.8
Benzene	0.0	9.8	10.1	10.0	98.0	101.0	3.0
Toluene	0.0	10.0	10.1	10.0	100.0	101.0	1.0
Ethyl Benzene	0.0	10.2	10.2	10.0	102.0	102.0	0.0
Xylenes	0.0	30.8	31.0	30.0	102.7	103.3	0.6
TPH(diesel)	0	150	150	150	100	100	0.0
TRPH (oil & grease)	0	21900	21200	23700	92	89	3.2

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

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

10684 xaaq 216.doc

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CHAIN OF CUSTODY RECORD

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

Report To:
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 #: 10-210-8-3 Project Name: XTRA
Project Location: Alameda, Ca
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
S-1		3/11/98		5		X								
(4) S-2						X								
(4) S-3						X								
(4) S-4						X								
(3) S-5				3		X								

Analysis Request

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)	RCI
X	X													
X	X													
X	X													
X	X													
X	X													

Other: MTBE

Comments: HCL Preg

Relinquished By:	Date:	Time:	Received By:
	3/12/98	1500	Patricia Lyelton
Patricia Lyelton	3/12/98	1548	Heidi Rice A
Relinquished By:	Date:	Time:	Received By:

Remarks:

86700
86701
86702
86703
86704

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

PRESERVATION APPROPRIATE CONTAINERS ✓

VOAS ✓	O&G	METALS	OTHER