Xtra Oil Company
2307 Pacific Avenue, Alameda, CA 94501
Tel. (510) 865-9503, Fax (510) 865-1889

ENVIRONMENTAL PROTECTION
97 AUG 19 AM 9:04

August 12, 1997

Ms. Eva Chu
Hazardous Materials Program
Department of Environmental Health
1131 Harbor Bay Pkwy. 2nd floor
Alameda, Ca. 94502-6577

Regarding: 1701 Park St.
STID 3836

Dear Ms. Chu,

Please find enclosed the additional site investigation report for the above location. If you have any questions feel free to contact us.

Sincerely,

Keith Simas

ENVIRONMENTAL PROTECTION
97 AUG 19 AM 9:04

ADDITIONAL SITE INVESTIGATION

Xtra Oil Company Service Station
1701 Park Street
Alameda, California

8/27/97

Project No. 10-210-07-004

- free product still detected in MW-1 - increase
- check depth of catch basin - could it be preferential pathway?
- Need aggressive product removal if new release. Check to see product thickness in Arg monitoring

Prepared for:

Xtra Oil Company
2307 Pacific Avenue
Alameda, California

Prepared by:

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

June 27, 1997

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

TABLE OF CONTENTS

1.0 INTRODUCTION

Xtra Oil Company retained Alisto Engineering Group to conduct additional site investigation at the Xtra Oil service station (doing business as a Shell station) at 1701 Park Street, Alameda, California. A site vicinity map is shown on Figure 1.

1.1 Purpose and Scope of Work

This work was performed to further assess the nature and extent of petroleum hydrocarbons in the subsurface soil and/or groundwater at the site and to comply with applicable regulations of the governing regulatory agencies. Activities were performed in response to the letter from the Alameda County Health Care Services Agency (ACHCSA), dated March 10, 1997, which requested installation of an additional monitoring well and analysis of additional soil and groundwater samples (ACHCSA, 1997). The scope of work for this additional site investigation included:

- Procuring a permit to install one additional groundwater monitoring well (MW-4) and one exploratory soil boring (SB-1).
- Drilling and logging the exploratory soil boring (SB-1) and collecting soil samples.
- Installing, developing, sampling, and surveying Groundwater Monitoring Well MW-4.
- Analyzing soil and groundwater samples for specific hydrocarbon constituents and physical parameters.
- Evaluating the data and analytical results and preparing this report.

The above tasks and related field and sampling activities were performed in accordance with a work plan prepared by Alisto, dated March 13, 1997, and the requirements of the ACHCSA and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

1.2 Site Description and Background

The Xtra Oil Company service station is on the north corner of the intersection of Park Street and Buena Vista Avenue, Alameda, California. The site is an operating service station with three underground fuel storage tanks, the locations of which are shown on Figure 2.

In April 1994, one underground diesel storage tank and three underground gasoline storage tanks were removed and replaced with three double-walled storage tanks. One underground storage tank, used to store home heating oil, was also removed from the adjoining property. Analysis of soil samples collected from the sidewalls of the fuel tank cavity and below the former dispenser islands detected total petroleum hydrocarbons as gasoline (TPH-G) and diesel (TPH-D), as well as benzene, toluene, ethylbenzene, and total xylenes (BTEX). Analysis of a soil sample collected from beneath the former fuel oil tank did not detect TPH-D or BTEX above the reported detection limits (Alisto 1994). The former tank and dispenser island locations are shown on Figure 2.

To assess the nature and extent of petroleum hydrocarbons in soil and groundwater, Monitoring Wells MW-1, MW-2 and MW-3 were installed onsite in November 1994 (Alisto, 1995a). Since their installation, the monitoring wells have been sampled on a quarterly basis. The groundwater gradient direction, as interpreted for each sampling event, has ranged from northeasterly to southeasterly. Liquid-phase petroleum hydrocarbons were observed in MW-2 at a thickness of up to 0.18 foot; weekly product removal has reduced the product thickness to 0.01 foot. TPH-G, TPH-D and BTEX have been detected in groundwater samples collected from MW-1 and MW-2. Petroleum hydrocarbons have not been detected in the groundwater samples collected from MW-3 except during the second quarter of 1995 (Alisto, 1995b, c and d; 1996a and b).

In June 1996, review of subsurface utility records at the City of Alameda Public Works Department revealed the presence of a 10-inch-diameter sanitary sewer along the centerline of Park Street at a depth of about 11 feet below grade. There is also a 6-inch-diameter sanitary sewer along the centerlines of Buena Vista Avenue and Eagle Avenue (Alisto, 1997).

what about depth to storm drain

2.0 FIELD METHODS

The field methods used during this investigation included soil sampling, well construction, development, sampling, and surveying. A permit to install the monitoring well was acquired on April 25, 1997 from the Alameda County Flood Control and Water Conservation District Zone 7 and is presented in Appendix A.

2.1 Drilling and Soil Sampling

On April 28, 1997, Precision Sampling, Inc. under contract to Alisto drilled one soil boring to a depth of about 14 feet below grade using direct-push technology. Soil samples were collected from this boring at 6 and 11.5 feet below grade. This boring was later connected to Monitoring Well MW-4. Drilling and soil sampling procedures are presented in Appendix B. The soil samples were transported in an iced cooler to a state-certified laboratory following chain of custody procedures.

On April 28, 1997, one exploratory soil boring (SB-1) was also drilled to a depth of 6.5 feet. Soil samples were collected at 5.5, 6 and 6.5 feet below grade using a 3-inch-diameter hand auger.

Boring logs were prepared using the Unified Soil Classification System, which includes a description of soil characteristics such as color, moisture, consistency, and grain size. The boring logs generated during this investigation are presented in Appendix C.

2.2 Monitoring Well Installation and Construction

Monitoring Well MW-4 was installed in accordance with the procedures for groundwater monitoring well installation presented in Appendix B. The well was constructed of 2-inch-diameter, flush-threaded, Schedule 40 PVC blank casing from surface grade to 4.5 feet below grade and 0.010-inch slotted casing from 4.5 to 14.5 feet below grade. Well construction details are included on the boring log in Appendix C.

2.3 Monitoring Well Development and Sampling

Well development and sampling was performed in accordance with the guidelines of the governing regulatory agencies (State Water Resources Control Board, 1989, and U.S. Environmental Protection Agency (USEPA), 1986). The field procedures for groundwater monitoring well development and sampling are presented in Appendix D.

Monitoring Well MW-4 was developed on May 1, 1997 by removing more than 10 casing volumes. The well development data is presented in the field survey forms in Appendix E.

On May 9, 1997, groundwater samples were collected from Monitoring Wells MW-1 through MW-4. The wells were purged of at least 3 casing volumes before sample collection while monitoring pH, specific conductivity, and temperature. The samples were transported in an iced cooler to a state-certified laboratory following chain of custody procedures. The groundwater sampling data are presented in the field survey forms in Appendix E.

2.4 Groundwater Level Monitoring and Well Surveying

Monitoring Well MW-4 was surveyed to the top of the well casing by a licensed land surveyor, Andreas Deak, of Alameda, California. On May 1, 1997, the depth to groundwater in Well MW-4 was measured from the top of the well casing to the nearest 0.01 foot using an electronic sounder. The survey data and groundwater elevation are presented in Table 2. The well elevation survey coordinates for the monitoring well are presented in Appendix F.

3.0 SITE GEOLOGY AND HYDROGEOLOGY

The site is in Alameda, California, which is east of San Francisco Bay, and lies in the Coastal Range geomorphic province that is characterized by northwesterly-trending mountains and valleys. San Francisco Bay occupies a Pliocene age structural depression and is underlain by Late Pliocene-Early Pleistocene alluvial sediment. The upper 500 feet of this coarse, poorly-sorted sediment is derived mainly from the Sacramento-San Joaquin drainage system. The recent sediment load in this system has been greatly increased by hydraulic mining and farming. Bay mud, the youngest deposit in San Francisco Bay, is a soft, unconsolidated sediment generally consisting of 90 percent clay and silt-size detritus, and is prevalent in the area (Page, 1966).

Soil types encountered at the site during drilling include sand, silt and clay. Silty to gravelly sands were encountered from surface grade to about 8 feet below grade, which is underlain by sandy silty to sandy clay to the total depth of the boring at 18 feet.

During drilling of the boring (SB-1), groundwater was observed at approximately 9.5 feet below grade. After well development, groundwater was measured at 7.2 feet below the top of the casing on May 1, 1997. The depth to groundwater at the site has historically varied from about 7 to 9 feet below grade, corresponding to about 11 to 14 feet above mean sea level.

4.0 ANALYTICAL METHODS

Soil and groundwater samples were analyzed by McCampbell Analytical, Inc., Sequoia Analytical, and Chromalab, Inc., all of which are state-certified laboratories, using standard testing methods of the USEPA and the California Department of Health Services, for the following:

- TPH-G using EPA Methods 5030/8015
- BTEX using EPA Methods 5030/8020
- Methyl tert butyl ether (MTBE) using EPA Methods 5030/8020
- TPH-D using EPA 8015
- Polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8100
- Total Organic Carbon (TOC) for Boring SB-1 from 6 to 6.5 feet

Additionally, soil samples collected from Boring SB-1 were analyzed by Woodward-Clyde for the following physical analyses:

- Grain size analysis using American Society for Testing and Materials (ASTM) D422
- Bulk density using ASTM D422
- Moisture content using ASTM D422

The laboratory chemical analysis results for the soil and groundwater samples are summarized in Tables 1 and 2. The field procedures for chain of custody documentation, the laboratory reports, and chain of custody records are included in Appendix G.

5.0 DISCUSSION OF RESULTS

The results of this site investigation, based on field observations and laboratory analysis, are:

- Soil types encountered during drilling of the boring for installation of Monitoring Well MW-4 consisted of silty fine-grained sand to fine-grained sand with minor clay to the total depth of the borings at 18 feet.
- Groundwater was observed at approximately 9.5 feet below grade during installation of Monitoring Well MW-4. After development, groundwater level was measured at 7.17 feet below the top of the casing.
- During the May 9, 1997 groundwater sampling event, free product was observed only in Monitoring Well MW-2 at a thickness of 0.21 foot, which was removed during well purging before sampling.

- The groundwater gradient at the site, as interpreted from the May 1997 data, was 0.02 foot in a northeasterly direction, which is consistent with previous monitoring events at the site.

- Analysis of the soil sample collected from Monitoring Well MW-4 at 6 feet below grade detected 3.8 milligram per kilogram (mg/kg) TPH-G, 2.2 mg/kg TPH-D, and 15 mg/kg MTBE. BTEX constituents were also detected in soil samples.

- Analysis of the soil sample collected from Monitoring Well MW-4 at 11.5 feet below grade, which is below the groundwater table, detected 5300 mg/kg TPH-G and 1100 mg/kg TPH-D. Benzene was not detected above the reported detection limits in this sample.

- Of the PAHs analyzed, only naphthalene, at a concentration of 4.1 mg/kg, was detected in the soil sample collected from a depth of 11.5 feet in Monitoring Well MW-4. PAHs were not detected in the soil sample collected from a depth of 6 feet.

- The TOC concentration reported for the soil sample collected from Boring SB-1 was 830 mg/kg.

- Physical analysis of representative soil samples collected from Boring SB-1 revealed that the subsurface material in the vadose zone consists of a silty sand with a water content of 7.22 percent and a dry unit density of 109.1 pounds per cubic foot. Effective porosity for fine-grained silty sand is typically 38 percent.

- Analysis of groundwater samples collected from the four monitoring wells detected dissolved-phase petroleum hydrocarbons at concentrations of up to 80000 micrograms per liter (ug/l) TPH-G, and 14000 ug/l MTBE. BTEX constituents were also detected in groundwater samples, with benzene detected at concentrations of up to 14000 ug/l in Monitoring Well MW-1.

- PAHs analysis of groundwater samples collected from Monitoring Wells MW-1 and MW-4 detected only naphthalene at a concentration of 280 and 2.1 ug/l.

REFERENCES

Alameda County Health Care Services Agency, 1997. Additional Monitoring Well for 1701 Park Street, Alameda, CA. March 10.

Alisto Engineering Group, 1994. Tank Closure Report, Xtra Oil Company Service Station, 1701 Park Street, Alameda. July.

Alisto Engineering Group, 1995a. Preliminary Site Assessment Report, Xtra Oil Company Service Station, 1701 Park Street, Alameda. January.

Alisto Engineering Group, 1995b, c and d. Groundwater Monitoring and Sampling Report, Xtra Oil Company Service Station, 1701 Park Street, Alameda. March 24, June 29, and December 4.

Alisto Engineering Group, 1996a and b. Groundwater Monitoring and Sampling Report, Xtra Oil Company Service Station, 1701 Park Street, Alameda. February 7 and April 23.

Alisto Engineering Group, 1997. Revised Work Plan for Additional Site Characterization, Xtra Oil Company Service Station, 1701 Park Street, Alameda. March 13.

Page, Ben M., 1966. Geology of the Coastal Ranges of California. California Division of Mines and Geology, Bulletin 190, pp. 255-276.

TABLE 1 - SUMMARY OF RESULTS OF SOIL SAMPLING
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL/ BORING ID	DEPTH (feet)	DATE OF MONITORIN SAMPLING/	TPH-G (mg/kg)	TPH-D (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	PAHs (mg/kg)		TOC (mg/kg)	LAB
MW-1	7.5 to 8.0	10/20/94	4800	2800	83	330	120	580	---	---		---	MCC
MW-2	7.0 to 7.5	10/20/94	12000	6700	70	59	220	870	---	---		---	MCC
MW-3	8.0 to 8.5	10/20/94	ND<1.0	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	---	---		---	MCC
MW-4	6.0 to 6.5	04/28/97	3.8	2.2	0.018	0.012	0.053	0.12	0.070	ND		---	MCC/C
MW-4	11.5 to 12.0	04/28/97	5300	1100	ND<0.25	23	98	390	15	4.1	(a)	---	MCC/C
SB-1	6.0 to 6.5	04/28/97	---	---	---	---	---	---	---	---		830	SEQ

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
PAHs	Polynuclear aromatic hydrocarbons using EPA Method 8270A
TOC	Total organic carbon
(mg/kg)	Milligrams per kilogram
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measured
MCC	McCampbell Analytical Inc.
CHR	Chromalab, Inc.
SEQ	Sequoia Analytical

NOTES:

(a) Naphthalene

TABLE 2 - 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 (Feet)	(a)	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	19.49		8.64	---	10.85	60000	6400	13000	4900	1300	5500	---	---		---	MCC
QC-1	(c)	11/04/94	---		---	---	---	54000	---	12000	4500	1200	5200	---	---		---	MCC
MW-1		01/11/95	19.49		6.10	---	13.39	---	---	---	---	---	---	---	---		---	---
MW-1		02/24/95	19.49		6.57	---	12.92	56000	4400	13000	7000	1400	5100	---	---		---	MCC
QC-1	(c)	02/24/95	---		---	---	---	43000	---	8900	4600	970	3300	---	---		---	MCC
MW-1		05/25/95	19.49		6.54	---	12.95	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	19.49		8.15	---	11.34	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	19.49		8.79	---	10.70	100000	5900	22000	17000	2100	8500	---	---		---	MCC
QC-1	(c)	11/16/95	---		---	---	---	95000	---	20000	15000	1800	7800	---	---		---	MCC
MW-1		03/20/96	19.49		6.45	---	13.04	46000	3300	10000	6200	1100	3200	---	---		---	MCC
QC-1	(c)	03/20/96	---		---	---	---	42000	---	9800	5800	970	3000	---	---		---	MCC
MW-1		06/13/96	19.49		7.14	---	12.35	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	19.49		7.56	---	11.93	76000	14000	14000	11000	1600	7100	17000	---		6.1	MCC
MW-1		12/19/96	19.49		7.08	---	12.41	46000	---	12000	5500	1200	4100	---	---		---	MCC
MW-1		05/09/97	19.60	(d)	7.39	---	12.21	80000	7500	14000	12000	1700	7600	14000	280	(e)	2.7	MCC/CHR
MW-2		11/04/94	20.29		9.12	0.16	11.29	---	---	---	---	---	---	---	---		---	---
MW-2		01/11/95	20.29		6.75	---	13.54	---	---	---	---	---	---	---	---		---	---
MW-2		02/24/95	20.29		7.11	0.18	13.32	---	---	---	---	---	---	---	---		---	---
MW-2		05/25/95	20.29		7.01	0.01	13.29	---	---	---	---	---	---	---	---		---	---
MW-2		08/30/95	20.29		8.58	0.12	11.80	---	---	---	---	---	---	---	---		---	---
MW-2		11/16/95	20.29		9.07	0.01	11.23	---	---	---	---	---	---	---	---		---	---
MW-2		11/16/95	20.29		9.07	0.01	11.23	---	---	---	---	---	---	---	---		---	---
MW-2		03/20/96	20.29		6.79	0.01	13.51	---	---	---	---	---	---	---	---		---	---
MW-2		06/13/96	20.29		7.41	0.01	12.89	---	---	---	---	---	---	---	---		---	---
MW-2		09/23/96	20.29		7.83	0.01	12.47	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	20.29		7.37	0.01	12.93	29000	---	1800	240	1400	5400	---	(f)		---	MCC
QC-1	(c)	12/19/96	---		---	---	---	29000	---	580	210	1300	5100	---	---		---	MCC
MW-2		05/09/97	20.31	(d)	6.11	0.21	14.36	34000	[redacted]	4600	260	1500	4300	1600	---		3.7	MCC

9/11/97

.03

TABLE 2 - 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	20.58	8.92	---	11.66	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
MW-3	01/11/95	20.58	5.67	---	14.91	---	---	---	---	---	---	---	---	---	—
MW-3	02/24/95	20.58	6.11	---	14.47	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
MW-3	05/25/95	20.58	6.24	---	14.34	91	ND<50	28	12	2.1	6.5	---	---	---	MCC
MW-3	08/30/95	20.58	8.27	---	12.31	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	4.6	MCC
MW-3	11/16/95	20.58	8.82	---	11.76	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
MW-3	11/16/95	20.58	8.82	---	11.76	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
MW-3	03/20/96	20.58	5.44	---	15.14	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
MW-3	06/13/96	20.58	6.17	---	14.41	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	20.58	6.57	---	14.01	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	20.58	6.59	---	13.99	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
MW-3	05/09/97	20.57 (d)	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-4	05/09/97	19.69	7.17	---	12.52	31000	15000	540	1300	1000	4500	1900	2.1 (e)	3.1	MCC/CHR
QC-2 (g)	11/04/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (g)	02/24/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (g)	05/25/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (g)	08/30/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5 q		ND<0.5	---	---	---	MCC
QC-2 (g)	11/16/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (g)	11/16/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (g)	03/20/96	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC
QC-2 (g)	06/13/96	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	MCC

TABLE 2 - 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

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.

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) Top of casing elevation resurveyed on April 29, 1997.

(e) SVOC analysis for polynuclear aromatics detected only napthalene at the concentration stated.

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

(g) Travel blank.

F:\0\10-210\210-7-1.WQ2

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

N

0 1000' 2000'

FIGURE 1

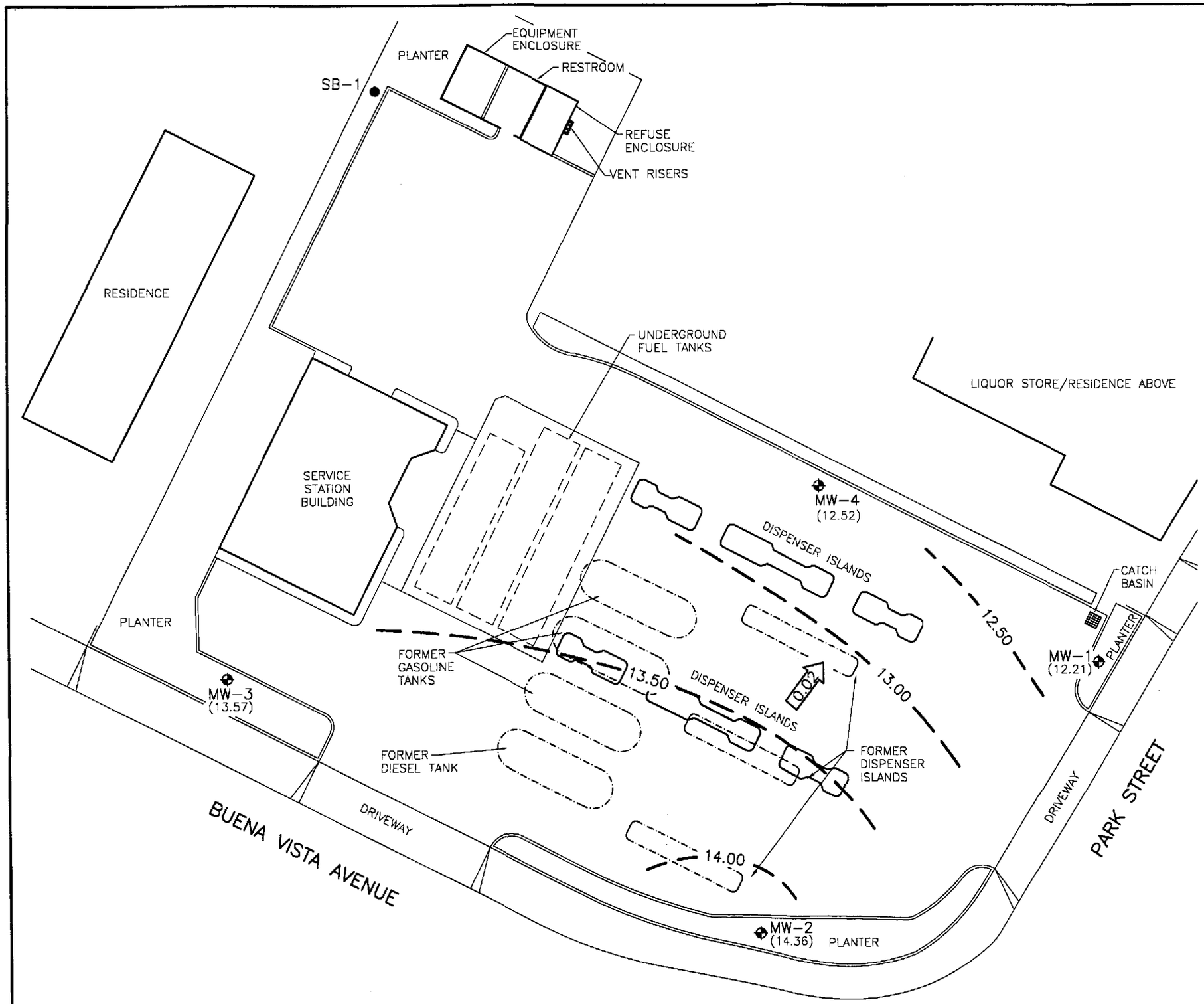
SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

102109---.DWG 8-3-94 RKW 1=1



N

0 20 40

SCALE IN FEET

LEGEND

- ◆ GROUNDWATER MONITORING WELL
- ● SOIL BORING LOCATION
- (12.21) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 12.50 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.50 FOOT)
- 0.02 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

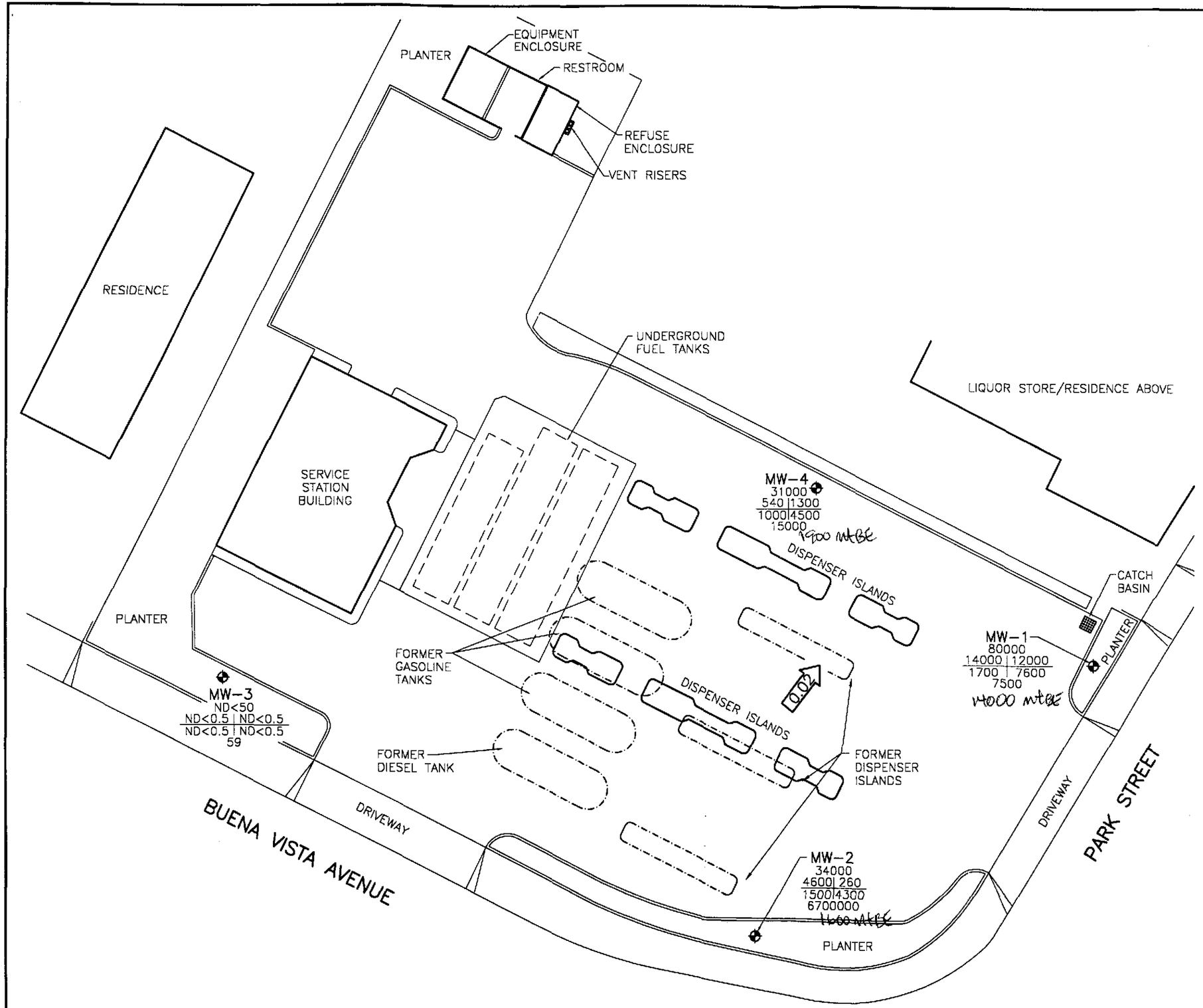
MAY 9, 1997

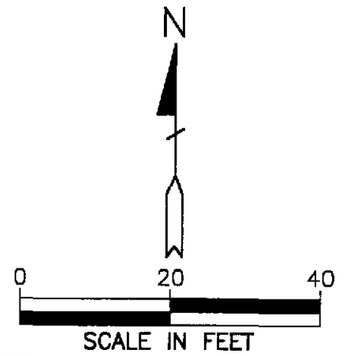
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210D-V.DWG 8-24-97 DDM 1=20





LEGEND

⊕	GROUNDWATER MONITORING WELL
TPH-G / B | T / E | X / TPH-D	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
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
⟵ 0.02	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

MAY 9, 1997

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210E-V.DWG 8-2-97 DDM 1=20

APPENDIX A

WELL INSTALLATION PERMIT

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE, PLEASANTON, CALIFORNIA 94588-6127 PHONE (510) 484-2600 X235
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1701 Park Street
Alameda

California Coordinates Source _____ ft. Accuracy ± _____ ft.
CCN _____ ft. CCE _____ ft.
APN _____

CLIENT
Name Keith Simas - Xtra Oil Company
Address 2307 Pacific Ave Phone 510. 865.9503
City Alameda CA Zip 94501

APPLICANT
Name Brady Nagle - Alisto Engineering
Fax 295.1823
Address 1575 Treat Blvd #201 Phone 295.1650
City Walnut Creek CA Zip 94598

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☒	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other _____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☒		

DRILLER'S LICENSE NO. C57 636387

WELL PROJECTS

Drill Hole Diameter	3 to 6 in.	Maximum Depth	15 ft.
Casing Diameter	2 in.		
Surface Seal Depth	5 ft.	Number	1

GEOTECHNICAL PROJECTS

Number of Borings	_____	Maximum Depth	_____ ft.
Hole Diameter	_____ in.		

ESTIMATED STARTING DATE 4/28/97
ESTIMATED COMPLETION DATE 4/29/97

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Brady Nagle Date 4/18/97

FOR OFFICE USE

PERMIT NUMBER 97258
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at t Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitt work the original Department of Water Resources Water W Drillers Report or equivalent for well projects, or drilling lc and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approv date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement gro placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industr wells or 20 feet for domestic and irrigation wells unless lesser depth is specially approved.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grc placed by tremie.
2. Minimum seal depth for monitoring wells is the maximu depth practicable or 20 feet.

D. GEOTECHNICAL. Backfill bore hole with compacted cuttings heavy bentonite and upper two feet with compacted material. areas of known or suspected contamination, tremied ceme grout shall be used in place of compacted cuttings.

E. CATHODIC. Fill hole above anode zone with concrete placed tremie.

F. WELL DESTRUCTION. See attached.

G. SPECIAL CONDITIONS

Approved Wyman Hong Date 25 Apr 97
Wyman Hong

1019

APPENDIX B

FIELD PROCEDURES FOR DRILLING, SOIL SAMPLING, AND GROUNDWATER MONITORING WELL INSTALLATION

FIELD PROCEDURES
FOR
DRILLING, SOIL SAMPLING,
AND GROUNDWATER MONITORING WELL INSTALLATION

Drilling Procedures

The soil borings were advanced using direct-push technology. To avoid cross-contamination, equipment in contact with potentially contaminated material was decontaminated by steam cleaning before and after each use. Decontamination fluids were placed into DOT-approved drums for disposal.

Soil Sampling Procedures

During drilling, soil sampling was accomplished by pushing a California-modified split-spoon sampler lined with brass tubes ahead of the advanced casing into undisturbed soil.

After retrieval, the sampler was split, the sample tubes removed, and a soil sample was selected for possible chemical analysis. The sample was retained within the brass tube, and both ends were immediately covered with Teflon sheeting and polyurethane caps. The caps were sealed with tape and labeled with the following information: Alisto Engineering project number, boring number, sample depth interval, sampler's initials, and date of collection. The soil sample was immediately placed in a waterproof plastic bag and stored in a cooler containing blue or dry ice. Possession of the soil samples was documented from the field to a state-certified analytical laboratory by using a chain of custody form.

Soil samples were described by Alisto personnel using the Unified Soil Classification System, and field estimates of soil type, color, moisture, density, and consistency were noted on the boring logs. The logs were reviewed by a civil engineer registered in the State of California.

Groundwater Monitoring Well Installation

Construction of the groundwater monitoring well was based on the stratigraphy encountered in the soil borings. The well construction materials were introduced into the boring through the hollow-stem augers to centralize the well casing and minimize the possibility of native material entering the annular space of the well.

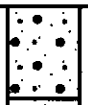
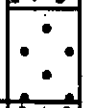
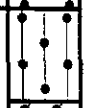
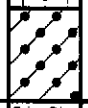
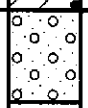
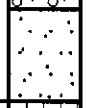
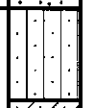
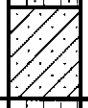
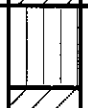
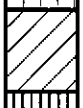
The 2-inch-diameter PVC well casing consisted of 0.010-inch slotted casing from the bottom of the boring to a depth interval above the highest anticipated water level, and solid casing was installed from the top of the slotted casing to approximately 4 inches below grade.

The annular space surrounding the screened portion was backfilled with No. 2/12 Lonestar sand (filter pack) to approximately 0.5 foot above the top of the screened section. An interval of bentonite pellets about 0.5-feet-thick was added to the annulus above the filter pack and hydrated with approximately 2 gallons of deionized water to minimize intrusion of well seal into the filter pack. A 0.5-foot-thick interval of concrete was placed above the bentonite and a traffic-rated utility box was installed around the top of the well casing. An expanding, watertight well cap and lock were installed on the top of the well casing to secure the well from surface fluid and tampering.

APPENDIX C

BORING LOGS AND WELL CONSTRUCTION DETAILS

GEOLOGIC LEGEND

COARSE-GRAINED SOILS	GRAVELS more than 1/2 of coarse fraction > No. 4 Sieve	LITTLE OR NO FINES		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly-graded gravels, gravel-sand mixtures
		APPRECIABLE NO FINES		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS more than 1/2 of coarse fraction < No. 4 Sieve	LITTLE OR NO FINES		SW	Well-graded sands, gravelly sands, little or no fines
				SP	Poorly-graded sands, gravelly sands, little or no fines
		APPRECIABLE NO FINES		SM	Silty sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS	SILTS AND CLAYS Liquid limit < 50			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit > 50			MH	Inorganic silts, micaceous or diatomoceous fine sandy or silty soils, elastic silts
				CH	Inorganic clays of high plasticity, fat clays
				OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS				Pt	Peat and other highly organic soils
MISCELLANEOUS					Sandstone

SYMBOL LEGEND:

- Neat Cement
- Sand
- Bentonite
- ■ Sample preserved for possible analysis
- ⊻ Groundwater level encountered during drilling

LEGEND TO BORING LOGS

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10210U—DWG 6-24-97 RKW 1=1

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF WELL MW-4

SEE SITE PLAN

ALISTO PROJECT NO: *10-210-07* DATE DRILLED: *04/28/97*

CLIENT: *Xtra Oil Company Service Station*

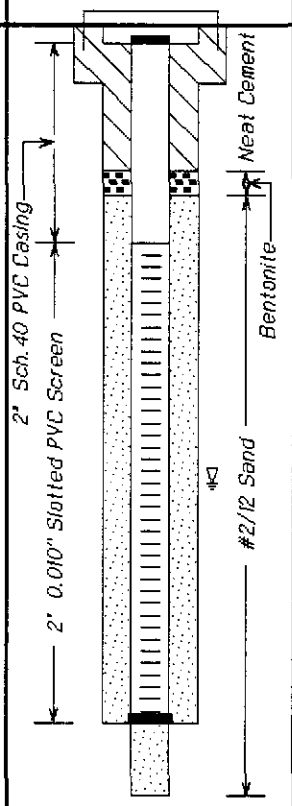
LOCATION: *1707 Park Street, Alameda, California*

DRILLING METHOD: *Hand auger/Direct push (6"/3"); 2 split spoon*

DRILLING COMPANY: *Precision Sampling, Inc.* CASING ELEVATION:

LOGGED BY: *Brady Nagle* APPROVED BY: *Al Sevilla*

PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GEOLOGIC DESCRIPTION
				Planted area: import to 1 foot, some gravel at 1/2 foot.
				Sand with Silt: light brown, damp.
108		4		Color change to olive-gray at 5.5'.
		8		Same: increase in clay content.
803				Same: moisture change to wet at 9.5'.
		12		Color change to light brown at 12.5'.
		16		Boring terminated at 18 feet.
		20		
		24		



ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING SB-1

SEE SITE PLAN

ALISTO PROJECT NO: *10-210-07* DATE DRILLED: *04/28/97*

CLIENT: *Xtra Oil Company Service Station*

LOCATION: *1707 Park Street, Alameda, California*

DRILLING METHOD: *Hand auger (3"); hand sampler*

DRILLING COMPANY: *N/A* CASING ELEVATION:

LOGGED BY: *Brady Nagle* *APPROVED BY: Al Sevilla*

WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
					Planted landscape surface: irrigated. Sand with silt: brown, moist. Base rock for about 2" at 1'.
Neat Cement	1			SM	silty SAND: brown, damp to moist; some gravel and brick.
	2				
	3				
	4			SP	Sand with silt: dark brown, moist; no gravels.
	5				Color change to light brown at 5'.
	6				
					Boring terminated at 6.5 feet.

APPENDIX D

FIELD PROCEDURES FOR GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING

FIELD PROCEDURES
FOR
GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING

Groundwater Monitoring Well Development

The groundwater monitoring well was developed to consolidate and stabilize the filter pack to optimize well production, and to reduce the turbidity of subsequent groundwater samples. The monitoring well was developed by evacuating 10 well volumes and the groundwater was relatively free of sediment. Well development fluids were placed into DOT-approved drums for disposal.

Groundwater Level Measurement

Before sampling, the groundwater level in each well was measured from the permanent survey reference point at the top of the well casing. The groundwater in the well was monitored for free-floating product or sheen. The depth to groundwater was measured to an accuracy of 0.01 feet from the top of the PVC well casing using an electronic sounder.

Groundwater Monitoring Well Sampling

To ensure that the groundwater samples were representative of the aquifer, the well was purged of 3 casing volumes while monitoring stabilization of pH, electrical conductivity, and temperature.

The groundwater samples were collected using a disposable bailer and transferred into laboratory-supplied containers. The samples were labeled with well number, site identification, date of collection, and sampler's initials, and transported in an iced cooler to a state-certified laboratory following preservation and chain of custody protocol. The sampling technician wore nitrile gloves during purging and well sampling.

APPENDIX E

GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING FIELD SURVEY FORMS

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Development
☒ Groundwater ~~Sampling~~

Date: 5/1/97 Project No. 10-210
Day: Thurs Station No. Xtra
Weather: Clear Address Alameda, Ca
SAMPLER: MS

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-4	7.20	2"	OK	Ø	Ø	4	1612	71.4	7.42	729 µS	4.1
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.			8		70.3	7.21	757 µS	
13.88 - 7.20 = 6.68 X .16 = 1.07 X 10 = 10.70						11	1622	69.7	7.14	766 µS	3.7

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

O EPA 601
O TPH-G/BTEX
O TPH Diesel
O TOG 5520 ___
Time Sampled
MS

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.								

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

O EPA 601
O TPH-G/BTEX
O TPH Diesel
O TOG 5520 ___
Time Sampled

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge=	PurgeVol.								

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

O EPA 601
O TPH-G/BTEX
O TPH Diesel
O TOG 5520 ___
Time Sampled

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. 10-210-07-001 Date: 5/9/97
Address 1701 Park Street Day: M T W TH F
Contract No. Pending City: Alameda
Station No. XTRA Sampler: LB

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 ~~20~~	7.39	Ø	1120	
MW-2	S-4	2"	NM	6.11	.21	1126	QC-1 (S-5) Removed .04 gal FP
MW-3	S-1	2"	19.50	7.00	Ø	1110	
MW-4	S-2	2"	14.00	7.17	Ø	1115	

FIELD INSTRUMENT CALIBRATION DATA

pH METER Alton 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED Y N TIME _____ WEATHER clear
D.O. METER Alton ZERO d.O. SOLUTION _____ BAROMETRIC PRESSURE 760 TEMP 60
CONDUCTIVITY METER Alton 10,000 _____ TURBIDITY METER _____ 5.0 NTU _____ OTHER X
LEAK DETECTOR : _____ ALARM MODE X NON ALARM MODE

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-3	7.00	2"	OK	Ø	Y (N)	2	1321	71.2	7.47	727 µS	2.7
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			4		70.3	7.30	741 µS	
19.50-7.00 = 12.50 X .16 = 2.00 X 3 = 6.00						6	1340	69.9	7.21	741 µS	3.3

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

O EPA 601____
⊘ TPH-G/BTEX HCL
O TPH Diesel____
O TOG 5520 __
TIME/SAMPLE ID
1343

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-4	7.17	2"	OK	Ø	Y (N)	1	1355	69.9	7.40	710 µS	3.0
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			2		69.0	7.21	741 µS	
14.00-7.17 = 6.83 X .16 = 1.0 X 3 = 3.0						4	1408	68.4	7.19	750 µS	3.1

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

O EPA 601____
⊘ TPH-G/BTEX HCL
O TPH Diesel____
O TOG 5520 __
TIME/SAMPLE ID
1412

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. 10-210-07-003 Date: 5/9/97
Address 1701 Park Street Day: M T W TH F
Contract No. Pending City: Alameda
Station No. XTRA Sampler: [illegible]

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-1	7.39	2"	OK	0	Y (N)	2	1425	71.4	7.77	1007 uS	2.7
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			4		70.6	7.60	1021 uS	
20.00 - 7.39 = 12.61	X .16 = 2.023	= 6.06				7	1435	70.2	7.54	1025 uS	2.7

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

O EPA 601____
O TPH-G/BTEX [illegible]
O TPH Diesel____
O TOG 5520 __
TIME/SAMPLE ID
1445

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-2	6.11	2"	OK		(Y) N	7	1507	72.1	7.47	927 uS	3.4
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			16		71.0	7.39	941 uS	
N/M - 6.11 = Purged approx 25 gal						25	1520	70.6	7.36	950 uS	3.7

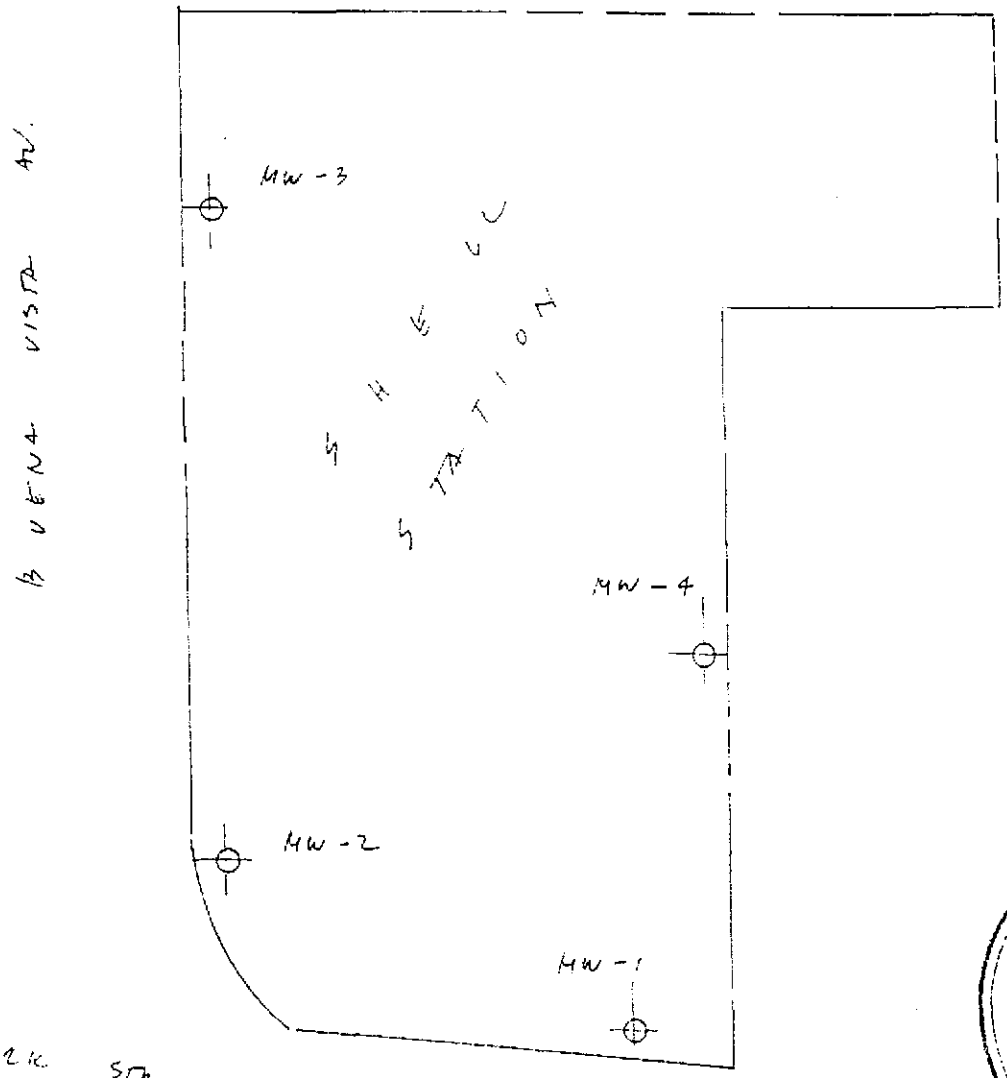
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments: QC-1 5-5 From this well

O EPA 601____
O TPH-G/BTEX [illegible]
O TPH Diesel____
O TOG 5520 __
TIME/SAMPLE ID
1535

PAGE_____ OF_____

APPENDIX F

WELL ELEVATION SURVEY COORDINATES



MONITORING WELL	EL. 10-25-1994	EL. 4-29-1997	
MW-1	19.493	19.602	
MW-2	20.289	20.306	
MW-3	20.578	20.565	
MW-4		19.691	

LICENSED LAND SURVEYOR
ANDREAS P. DEAK
No. 4739
STATE OF CALIFORNIA

ELEVATIONS ARE TAKEN AT THE HIGHEST POINT OF CASING OF MONITORING WELLS. ELEVATIONS ARE BASED ON MEAN SEA LEVEL

CLIENT: X MA OIL CO.

DATE 4-29-1997
SCALE NONE
SURVEY DEAK
PLAT DEAK

ANDREAS DEAK
LICENSED LAND SURVEYOR
2116 BUENA VISTA AVENUE ALAMEDA CA 94501

APPENDIX G

FIELD PROCEDURES FOR CHAIN OF CUSTODY DOCUMENTATION, LABORATORY REPORTS, AND CHAIN OF CUSTODY RECORDS

FIELD PROCEDURES
FOR
CHAIN OF CUSTODY DOCUMENTATION

Samples collected were handled in accordance with the California Department of Health Services guidelines. Each sample was labeled in the field and immediately stored in a cooler and preserved with blue ice for transport to a state-certified laboratory for analysis.

A chain of custody record accompanied the samples and included the site and sample identification, date of collection, analysis requested, and the name and signature of the sampling technician. When transferring possession of the samples, the transferee signed and dated the chain of custody record.

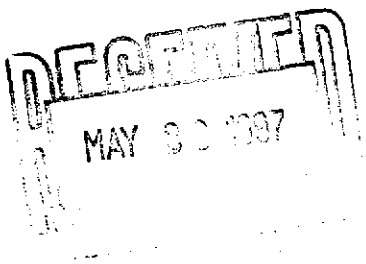
Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alisto Engineering Group	Client Project ID:	1701 Park St., Alameda	Sampled:	Apr 28, 1997
1575 Treat Blvd., Ste. 201	Sample Descript:	Soil	Received:	Apr 30, 1997
Walnut Creek, CA 94598	Analysis for:	Total Organic Carbon		
Attention: Brady Nagle	First Sample #:	704-1631	Analyzed:	May 9, 1997
			Reported:	May 12, 1997

LABORATORY ANALYSIS FOR: Total Organic Carbon

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg	QC Batch Number	Instrument ID
704-1631	SB-1 6-6.5	50	830	IN0509979060TCA	TOC-1



Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1210

Melissa A. Brewer

Melissa A. Brewer
Client Services Representative

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alisto Engineering Group
1575 Treat Blvd., Ste. 201
Walnut Creek, CA 94598
Attention: Brady Nagle

Client Project ID: 1701 Park St., Alameda
Matrix: Solid
QC Sample Group: 7041631

Reported: May 12, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Total Organic Carbon
QC Batch#:	IN050997 9060TCA
Analy. Method:	EPA 9060
Prep. Method:	-
Analyst:	C. Hiratsu
MS/MSD #:	9704F61-01
Sample Conc.:	830 mg/kg
Prepared Date:	5/9/97
Analyzed Date:	5/9/97
Instrument I.D.#:	TOC-1
Conc. Spiked:	5000 mg/kg
Result:	6100
MS % Recovery:	105
Dup. Result:	6000
MSD % Recov.:	103
RPD:	1.7
RPD Limit:	0-20

LCS #:	LCS050997
Prepared Date:	5/9/97
Analyzed Date:	5/9/97
Instrument I.D.#:	TOC-1
Conc. Spiked:	2000 mg/kg
LCS Result:	2100
LCS % Recov.:	105

MS/MSD LCS Control Limits	80-120

SEQUOIA ANALYTICAL, #1210

Melissa A. Brewer

Melissa A. Brewer
Client Services Representative

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600 FAX (415) 364-9233
819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

[redacted] Consulting Firm: Alisto Engineering
Address: 1575 Treat Blvd #201
City: Walnut Creek State: CA Zip: 94598
Tel: 510.295.1650 Fax.: 510.295.1823

Station No./Site Address: 1701 Park Street, Alameda
Project Contact: Brady Nagle
[redacted]
Sampler(s) (signature): Brady Nagle

Sample I.D.	Matrix	Date Sampled	Time	Preservation	Number of Containers	Type of Containers	BTEX - EPA 602/8020	BTEX -TPH EPA M602/8015/8020 (GAS)	TPH EPA Modified 8015 Gas ☐ Diesel ☐	Oil & Grease - EPA 413.2	TPH - EPA 418.1	EPA 601/8010	EPA 624/8240	EPA 625/8270	Title 22 Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead Total ☐	EDB/DBCD - EPA 504	pH	Bioassay - Title 22 Haz. Waste	Bioassay - Effluent	Total Organic Carbon	
~~B-1~~ 6-6.5	Soil	4/28/97	0830	—	1	TUBE		7041631													X	
SB-1																						

CODING (check one)

- Code 1 ☐ Emergency Response
- Code 2 ☐ Site Assessment
- Code 3 ☐ Remediation (Plan Devlpmt.)
- Code 4 ☐ Active Remed. (Install./Start-up)
- Code 5 ☐ Active Remed. (O & M)
- Code 6 ☐ Passive Remed/ Monitoring
- Code 7 ☐ Closure
- Code 8 ☐ Construction
- Code 9 ☐ Litigation/Claims Fines

Relinquished by: Brady Nagle	Date/Time: 4/29/97	Relinquished by: Patricia Lyellon	Date/Time: 4/29/97 1630
Relinquished by: Patricia Lyellon	Date/Time: 4/30/97 1030	Relinquished by:	Date/Time:
Relinquished by:	Date/Time:	Relinquished in Lab by:	Date/Time: 4/30/97 1000

Turnaround Time: (check one): Normal X Same day ____ 1 day ____ 2 day ____ 5 day ____

Sample Integrity: Intact ____ On Ice ____

Remarks: Invoice: Alisto Engineering

not mobile project

ASTM D2937

WATER CONTENT(%), WET AND DRY UNIT WEIGHT(PCF)

Project Name ALISTO ENG. GROUP Project Number 971077NA Date 05/01/97

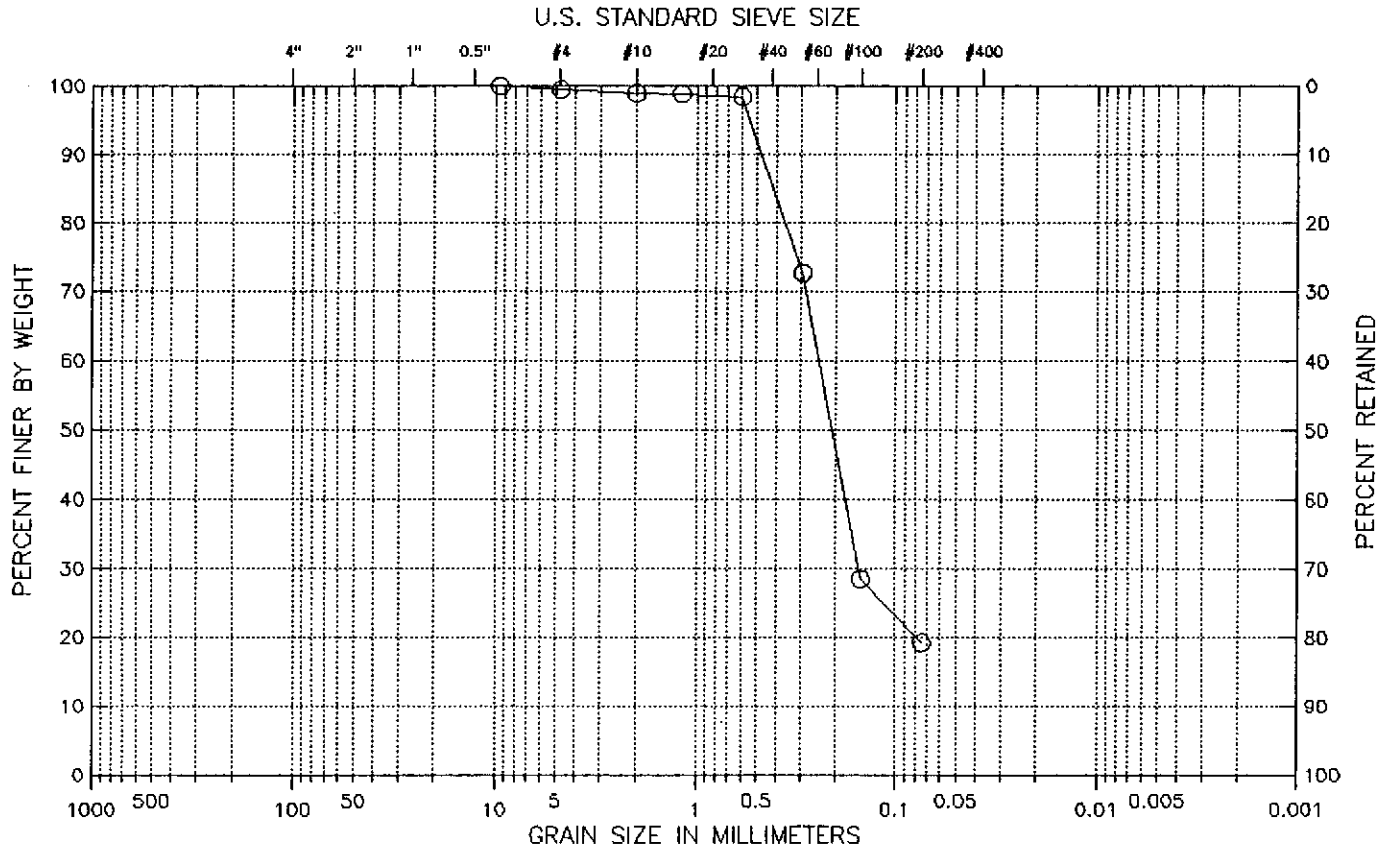
Tested By S. CAPPS Reduced By S. CAPPS Checked By C. WASON

Location 1701 PARK STREET, ALAMEDA, CA Page 1 of 1

Specimen Number	Diam. Inch	Height CM.	Wet Wt. Grams	Dry Wt. Grams	Visual Description	Water Content	Wet Unit Weight	Dry Unit Weight
SB-1 5-5.5 ft.	1.94	13.5	482.4	449.9	brown silty sand	7.22	116.9	109.1

Woodward-Clyde

	Boring No. : SB-1 Sample No.: 5.5-6 Tested by : S. CAPPS Filename : SB1-6	Project : ALISTO ENGINEERING GROUP 10-210-7-2 Project No.: 971077NA Location: 1701 PARK ST., ALAMEDA, CA Date : Fri May 02 1997



Classification :
(SM) Silty sand
Visual Description :
BROWN SILTY SAND

Remarks :
DEPTH: 5.5-6.0 FEET

Figure 1

Woodward-Clyde

Fri May 02 08:03:04 1997

GEOTECHNICAL LABORATORY TEST DATA

Project : ALISTO ENGINEERING GROUP 10-210-7-2
Project No. : 971077NA
Boring No. : SB-1
Sample No. : 5.5-6
Location : 1701 PARK ST., ALAMEDA, CA
Soil Description : BROWN SILTY SAND
Remarks : DEPTH: 5.5-6.0 FEET

Depth : 5.5-6.0 FT.
Test Date : 05/02/97
Test Method : ASTM D422

Filename : SB1-6
Elevation :
Tested by : S. CAPPS
Checked by : C. WASON

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	2.55	2.55	99
#10	0.079	2.00	2.73	5.28	99
#16	0.047	1.19	0.45	5.73	99
#30	0.023	0.60	1.95	7.68	98
#50	0.012	0.30	130.64	138.32	73
#100	0.006	0.15	224.73	363.05	28
#200	0.003	0.07	46.70	409.75	19

Total Dry Weight of Sample = 507.6

D85 : 0.4120 mm
D60 : 0.2423 mm
D50 : 0.2077 mm
D30 : 0.1525 mm
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : SM
ASTM Group Name : Silty sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

Fri May 02 08:03:04 1997

GEOTECHNICAL LABORATORY TEST DATA

Project : ALISTO ENGINEERING GROUP 10-210-7-2 Filename : SB1-6
Project No. : 971077NA Depth : 5.5-6.0 FT. Elevation :
Boring No. : SB-1 Test Date : 05/02/97 Tested by : S. CAPPS
Sample No. : 5.5-6 Test Method : ASTM D422 Checked by : C. WASON
Location : 1701 PARK ST., ALAMEDA, CA
Soil Description : BROWN SILTY SAND
Remarks : DEPTH: 5.5-6.0 FEET

Natural Moisture Content

Moisture Content ID	Mass of Container (gm)	Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
1) SB1-6	217.10	767.90	724.70	8.51

Average Moisture Content = 8.51

ALISTO ENGINEERING GROUP

Woodward-Clyde

CHAIN OF CUSTODY

Page 1 of 1

Consultant's Name: Alisto Engineering

Address: 1575 Treat Blvd #201, Walnut Creek, CA 94598

Project Contact: Brady Nagle | Consultant Project #: 10-210-7-2 | Phone #: 510.295.1620 | Fax #: 295/823

Sampled by (print): Brady Nagle | Sampler's Signature: Brady Nagle

Shipment Method: | Site Location #: — | Site Location: 1701 Park St, Alameda

TAT: ☐ 24 hr ☐ 48 hr ☐ 72 hr ☐ Standard (10 day)

ANALYSIS REQUIRED

Sample Condition as Received
Temperature ° C: ____
Cooler #: ____
Inbound Seal Yes No
Outbound Seal Yes No

Sample Description	Collection Date/Time	Matrix Soil/Water	Prsv	# of Cont	Sample #	TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	Oil & Grease SM 5520	HVOC 8010	Grain Size Analysis	Bulk Density	Moisture Content					COMMENTS
SB-1 5-5.5	4/28/97	Soil	—	1							X	X					
SB-1 5.5-6	4/28/97	Soil	—	1						X							

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time
Brady Nagle	4/29/97	1630	Patricia Lyelton	4/29/97	1632
Patricia Lyelton	4/30/97	807	Sam Coppa/WCC	4/30/97	8:11

Additional Comments:

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

05/09/97

Dear Ken:

Enclosed are:

1). the results of **2** samples from your **# 10-210; 1701 Park Street, Alameda** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

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

MAY

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Alisto Engineering Group 1575 Treat Blvd., Suite 201 Walnut Creek, CA 94598	Client Project ID: # 10-210; 1701 Park Street, Alameda	Date Sampled: 04/28/97
		Date Received: 04/30/97
	Client Contact: Ken Simas	Date Extracted: 04/30/97
	Client P.O:	Date Analyzed: 04/30-05/01/97

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	% Rec. Surrogate
75979	MW-4 6-6.5'	S	3.8,a	0.070	0.018	0.012	0.053	0.12	97
75980	MW-4 11.5-12'	S	5300,b,j	15	ND< 0.25	23	98	390	99
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, soil and sludge samples in mg/kg, and all TCLP extracts in mg/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) stronglyaged 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
Tele: 510-798-1620 Fax: 510-798-1622

Alisto Engineering Group 1575 Treat Blvd., Suite 201 Walnut Creek, CA 94598	Client Project ID: # 10-210; 1701 Park Street, Alameda	Date Sampled: 04/28/97
		Date Received: 04/30/97
	Client Contact: Ken Simas	Date Extracted: 04/30/97
	Client P.O:	Date Analyzed: 04/30-05/01/97

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
75979	MW-4 6-6.5'	S	2.2,d	99
75980	MW-4 11.5-12'	S	1100,d	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

* water samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP and STLC extracts in mg/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: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/30/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#75403)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.060	2.084	2.03	101	103	1.2
Benzene	0.000	0.192	0.194	0.2	96	97	1.0
Toluene	0.000	0.198	0.200	0.2	99	100	1.0
Ethylbenzene	0.000	0.194	0.196	0.2	97	98	1.0
Xylenes	0.000	0.588	0.596	0.6	98	99	1.4
TPH (diesel)	0	336	327	300	112	109	2.6
TRPH (oil and 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

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/01/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#74303)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.039	2.028	2.03	100	100	0.5
Benzene	0.000	0.190	0.190	0.2	95	95	0.0
Toluene	0.000	0.196	0.194	0.2	98	97	1.0
Ethylbenzene	0.000	0.188	0.188	0.2	94	94	0.0
Xylenes	0.000	0.566	0.568	0.6	94	95	0.4
TPH (diesel)	0	336	327	300	112	109	2.6
TRPH (oil and 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

CHROMALAB, INC.

Environmental Services (SDB)

May 7, 1997 *Submission #:* 9704515

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-XO-1701 PARK *Project#:* 8563
Received: April 30, 1997

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **MW-4-6-6.5/75979**
Spl#: 129672 *Matrix:* SOIL *Extracted:* May 2, 1997
Sampled: April 28, 1997 *Run#:* 6635 *Analyzed:* May 2, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	0.10	N.D.	--	1
ACENAPHTHYLENE	N.D.	0.10	N.D.	--	1
ACENAPHTHENE	N.D.	0.10	N.D.	85.2	1
FLUORENE	N.D.	0.10	N.D.	--	1
PHENANTHRENE	N.D.	0.10	N.D.	--	1
ANTHRACENE	N.D.	0.10	N.D.	--	1
FLUORANTHENE	N.D.	0.10	N.D.	--	1
PYRENE	N.D.	0.10	N.D.	63.9	1
BENZO(A)ANTHRACENE	N.D.	0.10	N.D.	--	1
CHRYSENE	N.D.	0.10	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	0.10	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	0.20	N.D.	--	1
BENZO(A)PYRENE	N.D.	0.035	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	0.20	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	0.20	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	0.20	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

S105 0:QC0405 MIKELEE 15:15

CHROMALAB, INC.

Environmental Services (SDB)

May 7, 1997 *Submission #:* 9704515

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-XO-1701 PARK *Project#:* 8563
Received: April 30, 1997

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **MW-4-11.5-12/75980**
Spl#: 129673 *Matrix:* SOIL *Extracted:* May 2, 1997
Sampled: April 28, 1997 *Run#:* 6635 *Analyzed:* May 4, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	4.1	0.10	N.D.	--	1
ACENAPHTHYLENE	N.D.	0.10	N.D.	--	1
ACENAPHTHENE	N.D.	0.10	N.D.	85.2	1
FLUORENE	N.D.	0.10	N.D.	--	1
PHENANTHRENE	N.D.	0.10	N.D.	--	1
ANTHRACENE	N.D.	0.10	N.D.	--	1
FLUORANTHENE	N.D.	0.10	N.D.	--	1
PYRENE	N.D.	0.10	N.D.	63.9	1
BENZO(A)ANTHRACENE	N.D.	0.10	N.D.	--	1
CHRYSENE	N.D.	0.10	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	0.10	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	0.20	N.D.	--	1
BENZO(A)PYRENE	N.D.	0.035	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	0.20	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	0.20	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	0.20	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

510-798-1622 MV 05/07

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

S105 0:0C0405 MIKELEE 15:15

CHROMALAB, INC.

Environmental Services (SDB)

May 7, 1997 *Submission #:* 9704515

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-XO-1701 PARK *Project#:* 8563
Received: April 30, 1997

re: **Surrogate** report for 2 samples for Polynuclear Aromatic
Method: SW846 Method 8270A Nov 1990
Lab Run#: 6635
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
129672-1	MW-4-6-6.5/75979	NITROBENZENE-D5	55.6	23-120
129672-1	MW-4-6-6.5/75979	2-FLUOROBIPHENYL	49.2	30-115
129672-1	MW-4-6-6.5/75979	TERPHENYL-D14	51.7	18-137
129673-1	MW-4-11.5-12/75980	NITROBENZENE-D5	82.9	23-120
129673-1	MW-4-11.5-12/75980	2-FLUOROBIPHENYL	78.0	30-115
129673-1	MW-4-11.5-12/75980	TERPHENYL-D14	65.3	18-137

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
130003-1	*Reagent blank (MDB)*	NITROBENZENE-D5	93.0	23-120
130003-1	*Reagent blank (MDB)*	2-FLUOROBIPHENYL	84.6	30-115
130003-1	*Reagent blank (MDB)*	TERPHENYL-D14	63.4	18-137
130004-1	*Spiked blank (BSP)*	NITROBENZENE-D5	85.0	23-120
130004-1	*Spiked blank (BSP)*	2-FLUOROBIPHENYL	84.9	30-115
130004-1	*Spiked blank (BSP)*	TERPHENYL-D14	66.2	18-137
130005-1	*Spiked blank duplicate (BSD)*	NITROBENZENE-D5	69.0	23-120
130005-1	*Spiked blank duplicate (BSD)*	2-FLUOROBIPHENYL	67.6	30-115
130005-1	*Spiked blank duplicate (BSD)*	TERPHENYL-D14	68.3	18-137
130007-1	*Matrix spike (MS)*	NITROBENZENE-D5	85.8	23-120
130007-1	*Matrix spike (MS)*	2-FLUOROBIPHENYL	87.5	30-115
130007-1	*Matrix spike (MS)*	TERPHENYL-D14	68.8	18-137
130008-1	*Matrix spike duplicate (MSD)*	NITROBENZENE-D5	82.3	23-120
130008-1	*Matrix spike duplicate (MSD)*	2-FLUOROBIPHENYL	82.9	30-115
130008-1	*Matrix spike duplicate (MSD)*	TERPHENYL-D14	62.8	18-137

S105
QCSURR1229 MIKELEE 07-May-97 15

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

C.L. 515/129672-129673

33470

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553

(510) 798-1620 FAX (510) 798-1622

CHAIN OF CUSTODY RECORD

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

REPORT TO: Ed Hamilton BILL TO: MAI

PROJECT NUMBER: 8563 PROJECT NAME: A-XO-1701 Park

PROJECT LOCATION: Alameda

ANALYSIS REQUEST / OTHER

JOB #: 9704515 REP: MV
CLIENT: MCCAM
DATE: 05/07/97
SF #: 33470

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCL	HNO3	ICE	OTHER	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080 – PCBs Only	EPA 624/8240/8260	EPA 625/8270	CAM – 17 Metals	EPA – Priority Pollutant Metals	LUFT Metals	LEAD (7240/7421/239.2/6010)	ORGANIC LEAD	RCI		PNA's by 8100			COMMENTS
MW-4-6-6.5		4/28/97	1010	1	VOA		X						X															X			75979
MW-4-11.5-12		4/28/97	1020	1	VOA		X						X															X			75980

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Heidi Rice	4/30/97	15:45	Musa
Musa Attari	4/30/97	18:00	
	DATE	TIME	RECEIVED BY LABORATORY:

REMARKS:

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553
(510) 798-1620 FAX (510) 798-1622

CHAIN OF CUSTODY RECORD

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

REPORT TO: Alisto Engineer BILL TO: Xtra Oil Company

COMPANY: Alisto Engineering Group
1575 Treat Blvd #201
Walnut Creek CA 94598

TELE: 510.295.1650 FAX #: 510.295.1

PROJECT NUMBER: 10-210 PROJECT NAME: 1701 Part St., Alameda

PROJECT LOCATION: 1701 Park ST, Alameda SAMPLER SIGNATURE:

8563
AAEGIZO

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	MATRIX: SOIL	MATRIX: AIR	MATRIX: SLUDGE	MATRIX: OTHER	METHOD PRESERVED: HCL	METHOD PRESERVED: HNO_3	METHOD PRESERVED: OTHER	ANALYSIS REQUEST: BTEX & TPH as Gasoline (602/8020 & 8015) MTBE	ANALYSIS REQUEST: TPH as Diesel (8015)	ANALYSIS REQUEST: Total Petroleum Oil & Grease (5520 E&F/5520 B&F)	ANALYSIS REQUEST: Total Petroleum Hydrocarbons (418.1)	ANALYSIS REQUEST: EPA 601/8010	ANALYSIS REQUEST: EPA 602/8020	ANALYSIS REQUEST: EPA 608/8080	ANALYSIS REQUEST: EPA 608/8080 - PCBs Only	ANALYSIS REQUEST: EPA 624/8240/8260	ANALYSIS REQUEST: EPA 625/8270	ANALYSIS REQUEST: CAM - 17 Metals	ANALYSIS REQUEST: EPA - Priority Pollutant Metals	ANALYSIS REQUEST: LUFT (GC/MS/7420/7421/239.2/6010)	ANALYSIS REQUEST: ORGANIC LEAD	ANALYSIS REQUEST: RCI	OTHER: EPA 8100 for PNAs	COMMENTS
MW-4 6-6.5		4/28/97	1010	1	TUBE		X							X	X														X	
MW-4 11.5-12		4/28/97	1020	1	TUBE		X							X	X															

759/79
759/80

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
	4/29/97	1600	Patricia Lyeton
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Patricia Lyeton	4/30/97	10:45	Heidi Rice
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:

REMARKS:
ICE? ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

	VOAS	O&G	METALS	OTHER
PRESERVATIVE APPROPRIATE				
CONTAINERS ✓				

07-15-1998 09:27AM FROM McCampbell Analytical Inc TO

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 1575 Treat Blvd, Ste 201 Walnut Creek, CA 94598	Client Project ID: #10-210-7-3; Xtra	Date Sampled: 05/09/97
		Date Received: 05/12/97
	Client Contact: Brady Nagle	Date Extracted: 05/12/97
	Client P.O:	Date Analyzed: 05/12/97

05/19/97

Dear Brady:

Enclosed are:

1). the results of **5** samples from your **#10-210-7-3; Xtra** 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

RECEIVED
MAY 30 1997

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: #10-210-7-3; Xtra	Date Sampled: 05/09/97
1575 Treat Blvd, Ste 201		Date Received: 05/12/97
Walnut Creek, CA 94598	Client Contact: Brady Nagle	Date Extracted: 05/12/97
	Client P.O:	Date Analyzed: 05/12/97

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
76347	S-1	W	ND	ND	ND	ND	ND	ND	99
76348	S-2	W	31,000,a	1900	540	1300	1000	4500	99
76349	S-3	W	80,000,a	14,000	14,000	12,000	1700	7600	99
76350	S-4	W	34,000,a,h	1600	4600	260	1500	4300	100
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
http://www.mccampbell.com E-mail: main@mccampbell.com

Alisto Engineering Group 1575 Treat Blvd, Ste 201 Walnut Creek, CA 94598	Client Project ID: #10-210-7-3; Xtra	Date Sampled: 05/09/97
		Date Received: 05/12/97
	Client Contact: Brady Nagle	Date Extracted: 05/12/97
	Client P.O:	Date Analyzed: 05/12/97

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
76347	S-1	W	59,b	109
76348	S-2	W	15,000,d	112[#]
76349	S-3	W	7500,d	---[#]
76350	S-4	W	6,700,000,d,a,h	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

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/12/97 Matrix: Water

Analyte	Concentration (mg/L) Sample (#76112)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	96.1	97.4	100.0	96.1	97.4	1.3
Benzene	0.0	8.6	8.6	10.0	86.0	86.0	0.0
Toluene	0.0	8.7	8.7	10.0	87.0	87.0	0.0
Ethyl Benzene	0.0	8.7	8.8	10.0	87.0	88.0	1.1
Xylenes	0.0	26.0	26.3	30.0	86.7	87.7	1.1
TPH (diesel)	0	149	145	150	99	96	2.6
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

CHROMALAB, INC.

Environmental Services (SDB)

May 20, 1997 *Submission #:* 9705171

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-10-210-7-3 *Project#:* 8626
Received: May 13, 1997

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **S-2**
Spl#: 131707 *Matrix:* WATER *Extracted:* May 15, 1997
Sampled: May 9, 1997 *Run#:* 6876 *Analyzed:* May 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	2.1	2.0	N.D.	--	1
ACENAPHTHYLENE	N.D.	2.0	N.D.	--	1
ACENAPHTHENE	N.D.	2.0	N.D.	85.3	1
FLUORENE	N.D.	5.0	N.D.	--	1
PHENANTHRENE	N.D.	2.0	N.D.	--	1
ANTHRACENE	N.D.	2.0	N.D.	--	1
FLUORANTHENE	N.D.	2.0	N.D.	--	1
PYRENE	N.D.	2.0	N.D.	95.7	1
BENZO(A)ANTHRACENE	N.D.	2.0	N.D.	--	1
CHRYSENE	N.D.	2.0	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	2.0	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	2.0	N.D.	--	1
BENZO(A)PYRENE	N.D.	2.0	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	2.0	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	2.0	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	2.0	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

S105 0:0C0405 MIKELEE 12:20

CHROMALAB, INC.

Environmental Services (SDB)

May 20, 1997 *Submission #:* 9705171

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-10-210-7-3 *Project#:* 8626
Received: May 13, 1997

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **S-3**
Spl#: 131708 *Matrix:* WATER *Extracted:* May 15, 1997
Sampled: May 9, 1997 *Run#:* 6876 *Analyzed:* May 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACENAPHTHYLENE	N.D.	2.0	N.D.	--	1
ACENAPHTHENE	N.D.	2.0	N.D.	85.3	1
FLUORENE	N.D.	5.0	N.D.	--	1
PHENANTHRENE	N.D.	2.0	N.D.	--	1
ANTHRACENE	N.D.	2.0	N.D.	--	1
FLUORANTHENE	N.D.	2.0	N.D.	--	1
PYRENE	N.D.	2.0	N.D.	95.7	1
BENZO(A)ANTHRACENE	N.D.	2.0	N.D.	--	1
CHRYSENE	N.D.	2.0	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	2.0	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	2.0	N.D.	--	1
BENZO(A)PYRENE	N.D.	2.0	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	2.0	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	2.0	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	2.0	N.D.	--	1
NAPHTHALENE	**280**	10	N.D.	--	5

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553
(510) 798-1620 FAX (510) 798-1622

CHAIN OF CUSTODY RECORD

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

REPORT TO: Brady Nagle BILL TO: Xtra Oil Co.

COMPANY: Alisto Engineering

1575 Treat Blvd #201

TELE: (510) 295-1650 FAX #: 295-1823

PROJECT NUMBER: 10-210-7-3 PROJECT NAME: Xtra

PROJECT LOCATION: Alameda 10-210-7-3 SAMPLER SIGNATURE:

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCL	HNO3	OTHER
S-1		5/4/97	1343	5	V	X							
S-2			1412	3	V								
S-3			1445	3	V								
S-4			1535	3	V								
S-5			1536	3	V								

ANALYSIS REQUEST

STEX + TPH as Gasoline (602/8020 + 8015)	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1520 E&F/5520 B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080 - PCBs Only	EPA 624/8240/8260	EPA 625/8270	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD (7240/7421/239.2/6010)	ORGANIC LEAD	RCI	OTHER: (8010) DNA'S MTBE
X	X														XX X

COMMENTS: 1 liter Pres. Amb for Diesel Unpreserved Liter for PNA's Voas HCl

Missing the for S-2

76347
76348
76349
76350
76351

RELINQUISHED BY: DATE: 5/4/97 TIME: RECEIVED BY: Patricia Yerton

RELINQUISHED BY: Patricia Yerton DATE: 5/4/97 TIME: 1500 RECEIVED BY LABORATORY: Heidi Bien

RELINQUISHED BY: DATE: TIME:

REMARKS: Missing the for S-2

ICE/T° ✓ GOOD CONDITION ✓ HEAD SPACE ABSENT ✓ PRESERVATIVE APPROPRIATE ✓ CONTAINERS ✓

VOAS | O&G | METALS | OTHER

C.V. 131701-131708

33667

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553

(510) 798-1620 FAX (510) 798-1622

CHAIN OF CUSTODY RECORD

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

REPORT TO: Ed Hamilton BILL TO: MAI

PROJECT NUMBER: 8626 PROJECT NAME: A-10-210-7-3

PROJECT LOCATION: ALAMEDA

ANALYSIS REQUEST / OTHER

JOB #: 9705171 REP: MV
CLIENT: MCCAM
DATE: 05/20/97
SF #: 33667

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCL	HNO3	ICE	OTHER	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080 – PCBs Only	EPA 624/8240/8260	EPA 625/8270	CAM – 17 Metals	EPA – Priority Pollutant Metals	LUFT Metals	LEAD (7240/7421/239.2/6010)	ORGANIC LEAD	RCI	PNA's	COMMENTS
S-2		5/9/97		1	Ltr	X							X														X	76348
S-3		"		1	Ltr	X							X														X	76349

RELINQUISHED BY: Linda Rivera DATE 5/13/97 TIME 1054 RECEIVED BY:

RELINQUISHED BY: DATE 5/13/97 TIME 1402 RECEIVED BY:

RELINQUISHED BY: DATE TIME RECEIVED BY LABORATORY: 5/13/97 1402

REMARKS: