



Xtra Oil Company

2307 Pacific Avenue, Alameda, CA 94501

Tel (510) 865-9503, Fax (510) 865-1889

January 19, 1995

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

RECEIVED
Hazardous Materials
Department of Environmental Health
January 20, 1995

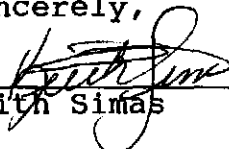
Regarding: 1701 Park St.
STID 3836

Dear Ms. Chu,

Please find enclosed the Preliminary Site Assessment Report for the above location; work was performed in accordance with Alisto Engineering's workplan, approved on August 22, 1994.

After discovery of free product in MW-2 on November 4, 1994, removal efforts began immediately. At this time free product is no longer present, and we currently are checking the well on a weekly basis to determine if any product will re-appear. Free product was placed in a 55-gallon drum and a complete log of activities is available for your review. If you have any questions feel free to contact us.

Sincerely,



Keith Simas

Disposal records should be sent to ACP&H.

**PRELIMINARY SITE
ASSESSMENT REPORT**

Xtra Oil Company Service Station
1701 Park Street
Alameda, California

Project No. 10-210

January 1995



PRELIMINARY SITE ASSESSMENT REPORT

Xtra Oil Company Service Station
1701 Park Street
Alameda, California

Project No. 10-210-03-004

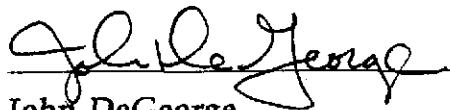
Prepared for:

Xtra Oil Company
2307 Pacific Avenue
Alameda, California

Prepared by:

Alisto Engineering Group
1777 Oakland Boulevard, Suite 200
Walnut Creek, California

January 13, 1995



John DeGeorge
Project Manager



Al Sevilla, P.E.
Principal



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- B Field Procedures for Drilling, Soil Sampling, and Monitoring Well Installation
- C Boring Logs and Well Construction Details
- D Field Procedures for Monitoring Well Development and Groundwater Sampling and Elevation Survey Map
- E Groundwater Monitoring Well Development and Sampling Field Survey Forms
- F Field Procedures for Chain of Custody Documentation, Laboratory Reports, and Chain of Custody Records
- G Soil Disposal Manifest and Weighmaster Certificate



1.0 INTRODUCTION

Xtra Oil Company retained Alisto Engineering Group to conduct a preliminary site assessment at the Xtra Oil Company service station (dba Shell service station), 1701 Park Street, Alameda, California.

1.1 Purpose and Scope of Work

This work was performed to assess the nature and extent of petroleum hydrocarbons in the subsurface soil and groundwater at the site, and to determine the appropriate courses of action to comply with applicable laws and regulations.

The tasks performed during assessment included the following:

- Drilled and logged three exploratory soil borings and collected soil samples.
- Installed groundwater Monitoring Wells MW-1, MW-2, and MW-3.
- Developed and surveyed the wells and collected groundwater samples.
- Analyzed the soil and groundwater samples for specific hydrocarbon constituents.
- Analyzed the data and analytical results.
- Prepared this report presenting the findings.

The above tasks and related field and sampling activities were performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA), the Zone 7 Alameda County Flood Control and Water Conservation District (Zone 7), and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

1.2 Site Location and Project Background

The Xtra Oil Company service station is on the north corner of Park Street and Buena Vista Avenue, Alameda, California. A site vicinity map is shown in Figure 1. The site is an operating service station with three underground fuel storage tanks. The storage tank and dispenser island locations are shown in Figure 2.

In April 1994, one underground diesel storage tank and three underground gasoline storage tanks were removed from the site for disposal. In addition one underground fuel oil storage tank, used to store home-heating oil, was also removed from the site. The tank removal activity is documented in the Tank Closure Report by Alisto Engineering Group dated July 5, 1994. The former tank and dispenser island locations are shown in Figure 3.



2.0 FIELD METHODS

Before drilling, a permit to install three groundwater monitoring wells was acquired from Zone 7. A copy of the permit is presented in Appendix A. The following are field activities performed at the site.

2.1 Drilling and Soil Sampling

On October 20, 1994, exploratory soil Borings B-1, B-2, and B-3 were drilled at the site to 20 feet below grade. Drilling was performed by Soils Exploration Services, Benicia, California, using a CME 55 drilling rig equipped with 8-inch-diameter, hollow-stem augers. Soil samples were collected at or near the capillary fringe, ~~between 4 and 12 feet~~ below grade. Drilling and soil sampling procedures are presented in Appendix B. Soil samples were transported in an iced cooler to a state-certified laboratory following chain of custody procedures. Boring logs were prepared using the Unified Soil Classification System and include a description of soil characteristics such as color, moisture, consistency, and grain size. The boring logs are presented in Appendix C.

2.2 Monitoring Well Installation and Construction

Soil Borings B-1, B-2, and B-3 were converted into Monitoring Wells MW-1, MW-2, and MW-3 in accordance with the field procedures for groundwater monitoring well installation presented in Appendix B. The wells were constructed of 2-inch-diameter, flush-threaded, Schedule 40, PVC casing. Blank casing was installed from surface to 5 feet below grade and 0.010-inch slotted casing from 5 to 20 feet below grade. Well construction details are included on the boring logs in Appendix C.

2.3 Monitoring Well Development and Sampling

Well development and sampling was performed in accordance with the guidelines of the ACHCSA and RWQCB. Field procedures for groundwater monitoring well development and sampling are presented in Appendix D.

Monitoring Wells MW-1, MW-2, and MW-3 were developed on November 1, 1994. The wells were developed by removing at least 10 casing volumes, until groundwater was relatively free of sediment, and/or stabilization of pH, specific conductivity, and temperature parameters was achieved, by alternately using a surge block and bailer. Field observations during well development are presented in the survey forms in Appendix E.

On November 4, 1994, groundwater samples were collected from Monitoring Wells MW-1, MW-2, and MW-3. The wells were purged of at least 3 well 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. Field observations during well sampling are presented in the survey forms in Appendix E.



2.4 Groundwater Level Monitoring and Well Surveying

The top of casing for each well was surveyed in reference to an established benchmark, by Andreas P. Deak, a licensed land surveyor. On November 4, 1994 and January 11, 1995, the depth to groundwater in the wells was measured from the top of the casing to the nearest 0.01 foot using an electronic sounder. The well elevation survey data are included in Appendix D, and the groundwater level monitoring data are presented in the survey forms in Appendix E. A summary of the survey data and groundwater level monitoring data are presented in Table 2, and a graphical interpretation of the groundwater gradient beneath the site on November 4, 1994, is shown in Figure 4.

2.5 Stockpile Soil Sampling

On November 4, 1994, four discrete soil samples, SP-1 through SP-4, were collected from the stockpiled drill cuttings. The samples were transported in an iced cooler to a state-certified laboratory following chain of custody procedures. The samples were composited and analyzed for soil disposal profiling.

3.0 ANALYTICAL METHODS

The soil and groundwater samples were analyzed by McCampbell Analytical, Inc., a state-certified laboratory, using standard test methods of the U.S. Environmental Protection Agency (EPA) and the California Department of Health Services.

Soil and groundwater samples were analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPH-G) using modified EPA Methods 5030/8015
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) constituents using EPA Methods 5030/8020
- Total petroleum hydrocarbons as diesel (TPH-D) using modified EPA Method 8015

In addition, soil samples for soil disposal profiling were analyzed for reactivity, corrosivity, and ignitability. Laboratory results for the soil and groundwater samples are summarized in Tables 1, 2, and 3. The laboratory reports and chain of custody records, including the procedure for chain of custody documentation, are presented in Appendix F. The concentrations of petroleum hydrocarbons in the groundwater are shown in Figure 5.

4.0 DISCUSSION OF RESULTS

The following are the results of field activities and laboratory analysis of soil and groundwater samples collected during this preliminary site assessment:



- During drilling, ~~groundwater~~ was encountered in Borings B-1, B-2, and B-3 at approximately ~~8.5 feet~~ below grade.
- ~~Fine-grained sand~~ was observed in Borings B-1, B-2, and B-3, from surface grade to the total depth of each boring at ~~20 feet~~.
- Analysis of soil samples detected up to 12000 milligrams per kilogram (mg/kg) TPH-G, 70 mg/kg benzene, and 6700 mg/kg TPH-D in the samples collected from Borings B-1 and B-2 at 7.0 to 8.0 feet below grade, which is ~~within the capillary fringe~~.
- TPH-G, BTEX constituents, and TPH-D were not detected above reported detection limits in the sample from Boring B-3 at 8.0 to 8.5 feet below grade, which is within the capillary fringe.
- Groundwater was measured in MW-1, MW-2, and MW-3 at approximately 9.0 feet below grade. ~~Groundwater~~ elevation data indicate a gradient of approximately 0.005 foot per foot in a ~~northeasterly~~ direction across the site.
- On November 4, 1994, free product was observed in Monitoring Well MW-2 at a thickness of 0.16 foot, and no free product or hydrocarbon sheen was observed in MW-1 or MW-3. On January 11, 1995, no free product or hydrocarbon sheen was observed in MW-1, MW-2, or MW-3.
- Analysis of groundwater samples detected 60000 micrograms per liter (ug/L) TPH-G, 13000 ug/L benzene, and 6400 ug/L TPH-D in Monitoring Well MW-1. TPH-G, BTEX constituents, and TPH-D were not detected above reported detection limits in MW-3.
- Four discrete soil samples were collected from the soil stockpile and composited for soil disposal profiling. Analysis of the composited sample detected 41 mg/kg TPH-G, 0.014 mg/kg benzene, 140 mg/kg TPH-D, and a corrosivity (pH) of 8.19. Reactivity and ignitability were negative. The stockpiled soil was profiled as non-hazardous, and transported to a Class III disposal facility. The soil disposal manifest and weighmaster certificate are included in Appendix G.

quantity? Only 1.5 cy from drill cuttings,
635 cy of stockpiled soil from 057
removed to disposal site 11/94



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

BORING	DEPTH (feet)	DATE	TPH-G (mg/kg)	TPH-D (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	LAB
B-1	7.5 to 8.0	10/20/94	4800	2800	63	330	120	580	MAI
B-2	7.0 to 7.5	10/20/94	12000	6700	70	59	220	870	MAI
B-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	MAI

ABBREVIATIONS:

TPH-G :Total petroleum hydrocarbons as gasoline
 TPH-D :Total petroleum hydrocarbons as diesel
 B :Benzene
 T :Toluene
 E :Ethylbenzene
 X :Total xylenes
 MAI :McC Campbell Analytical Inc.
 ND :Not detected above reported detection limit
 (mg/kg) :Milligram per kilogram.

TABLE 2
SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET, ALAMEDA, CALIFORNIA

WELL ID	DATE OF MONITORING/ SAMPLING	TOP OF CASING ELEVATION (a)	DEPTH TO GROUND WATER (feet)	FREE PRODUCT THICKNESS (feet)	GROUND WATER ELEVATION (a)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	LAB
MW-1	11/04/94	19.49	8.64	---	10.85	60000	6400	13000	4900	1300	5500	MAI
MW-1D	11/04/94	---	---	---	---	54000	---	12000	4500	1200	5200	MAI
MW-1	01/11/95	19.49	6.10	---	13.39	---	---	---	---	---	---	---
MW-2	11/04/94	20.29	9.12	0.16	11.29 (b)	---	---	---	---	---	---	---
MW-2	01/11/95	20.29	6.75	---	13.54	---	---	---	---	---	---	---
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	MAI
MW-3	01/11/95	20.58	5.67	---	14.91	---	---	---	---	---	---	---
TB	11/04/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	MAI

ABBREVIATIONS:

TPH-G :Total petroleum hydrocarbons as gasoline
 TPH-D :Total petroleum hydrocarbons as diesel
 B :Benzene
 T :Toluene
 E :Ethylbenzene
 X :Total xylenes
 MAI :McC Campbell Analytical Inc.
 ND :Not detected above reported detection limit
 TB :Trip blank
 D :Duplicate
 (ug/L) :Micrograms per liter.

NOTES:

(a) :Elevations expressed in feet above mean sea level.
 (b) :Groundwater elevation corrected assuming 0.75 specific gravity for gasoline.

TABLE 3
 SUMMARY OF RESULTS OF SOIL STOCKPILE SAMPLING
 XTRA OIL COMPANY SERVICE STATION
 1701 PARK STREET, ALAMEDA, CALIFORNIA

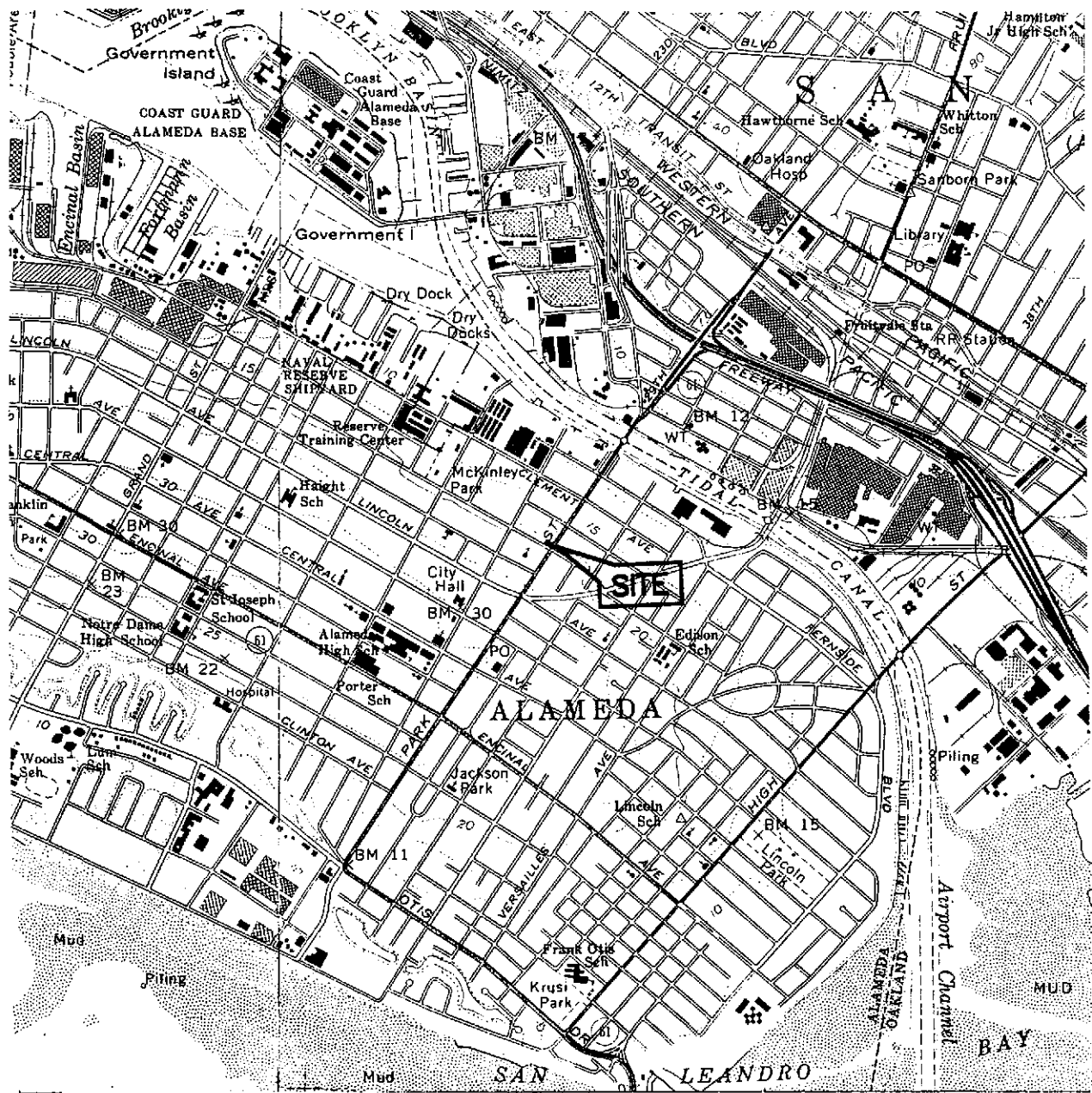
SAMPLE	DATE	TPH-G (mg/kg)	TPH-D (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	Reactivity	Corrosivity (pH)	Ignitability	LAB
SP-1 to 4 (a)	11/04/94	41	140	0.014	0.062	ND<0.005	1.5	Negative	8.19	Negative	MAI

ABBREVIATIONS:

TPH-G :Total petroleum hydrocarbons as gasoline
 TPH-D :Total petroleum hydrocarbons as diesel
 B :Benzene
 T :Toluene
 E :Ethylbenzene
 X :Total xylenes
 MAI :McC Campbell Analytical, Inc.
 ND :Not detected above reported detection limit
 (mg/kg) :Milligrams per kilogram.

NOTE:

(a) :Samples SP-1 to SP-4 composited.



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

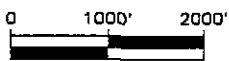


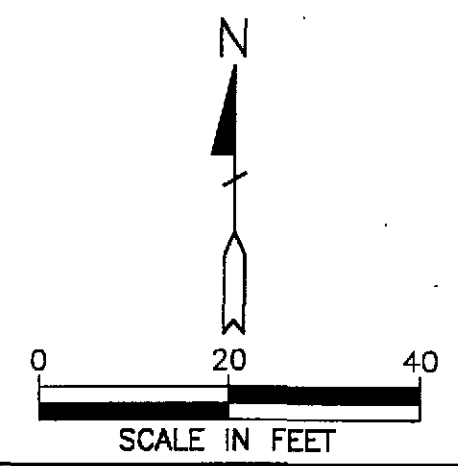
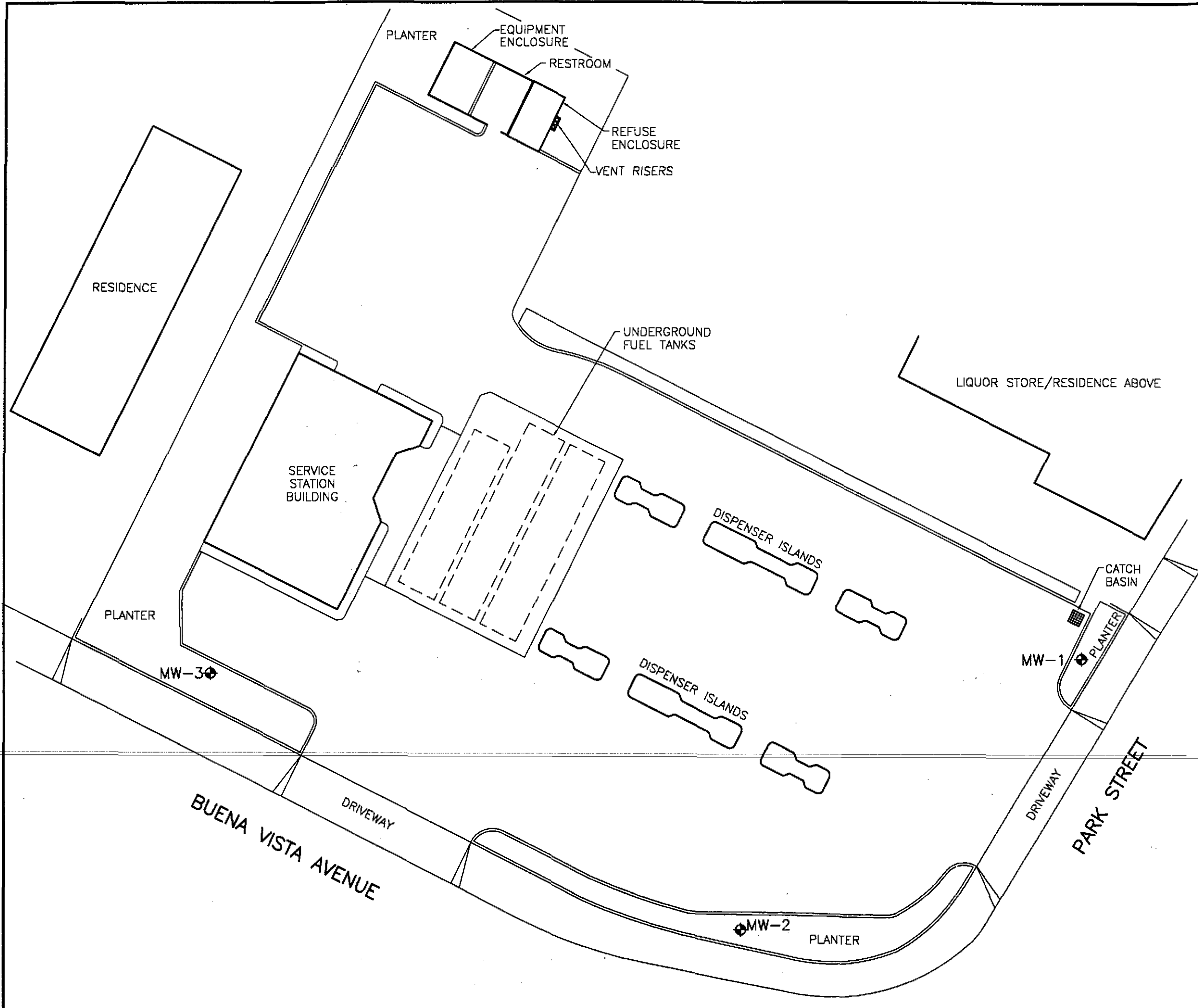
FIGURE 1
SITE VICINITY MAP

XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-210



ALISTO ENGINEERING GROUP
 WALNUT CREEK, CALIFORNIA



LEGEND
 ◆ GROUNDWATER MONITORING WELL

FIGURE 2
SITE PLAN
 XTRA OIL COMPANY SERVICE STATION
 1701 PARK STREET
 ALAMEDA, CALIFORNIA
 PROJECT NO. 10-210

102102B-DWG 12-13-94 RHW 1x20

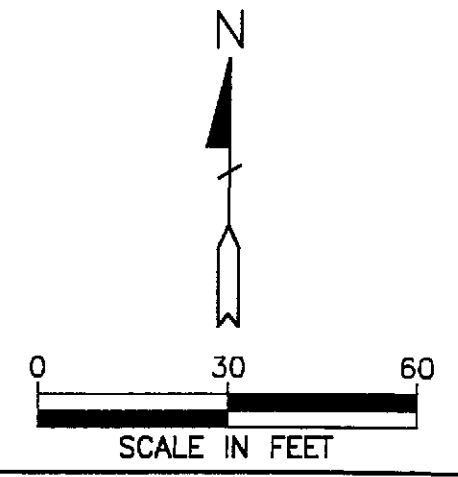
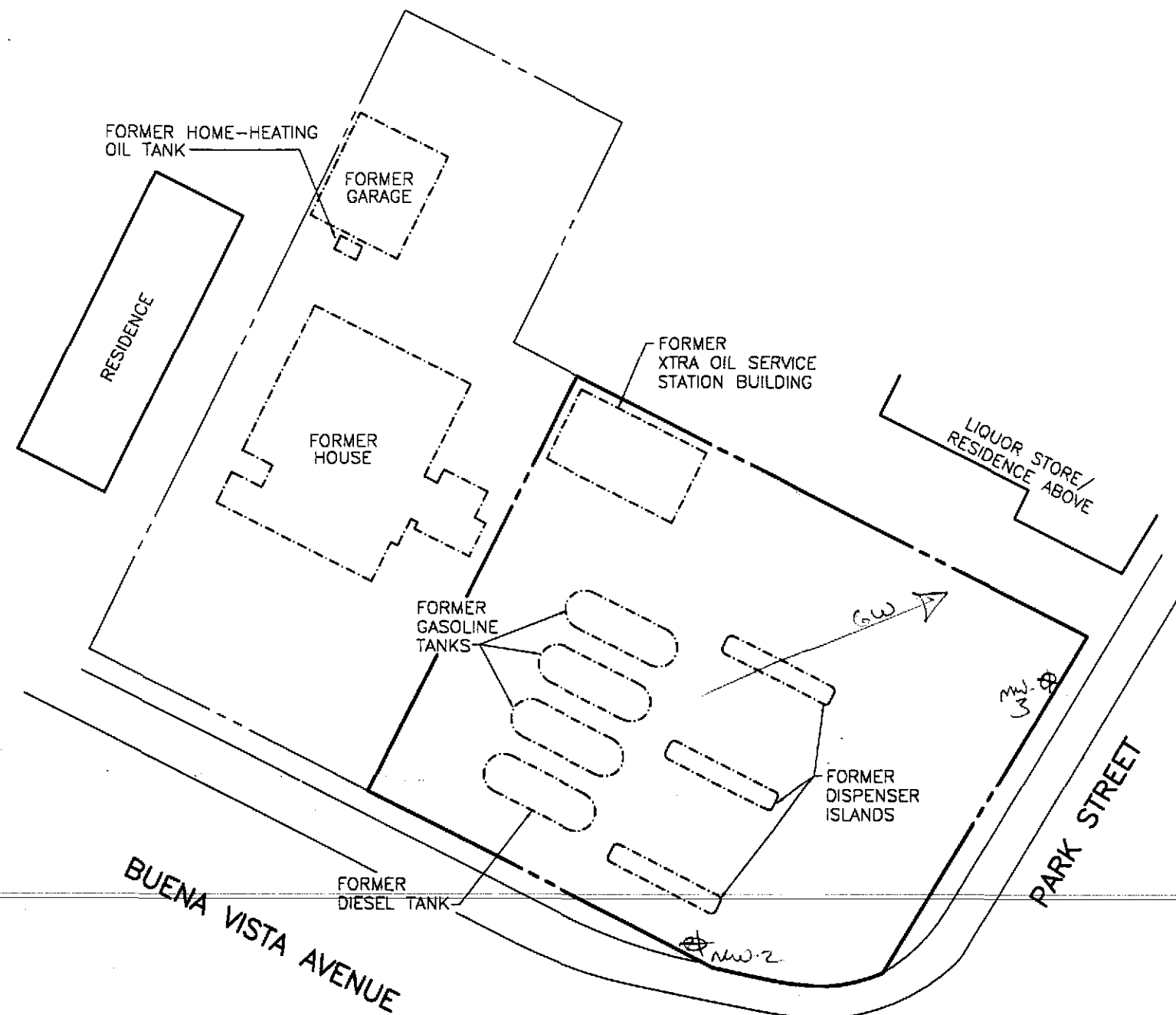
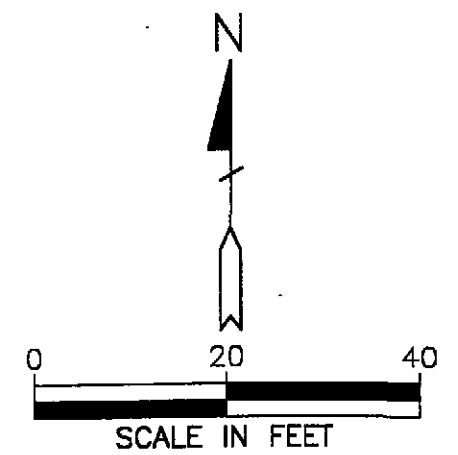
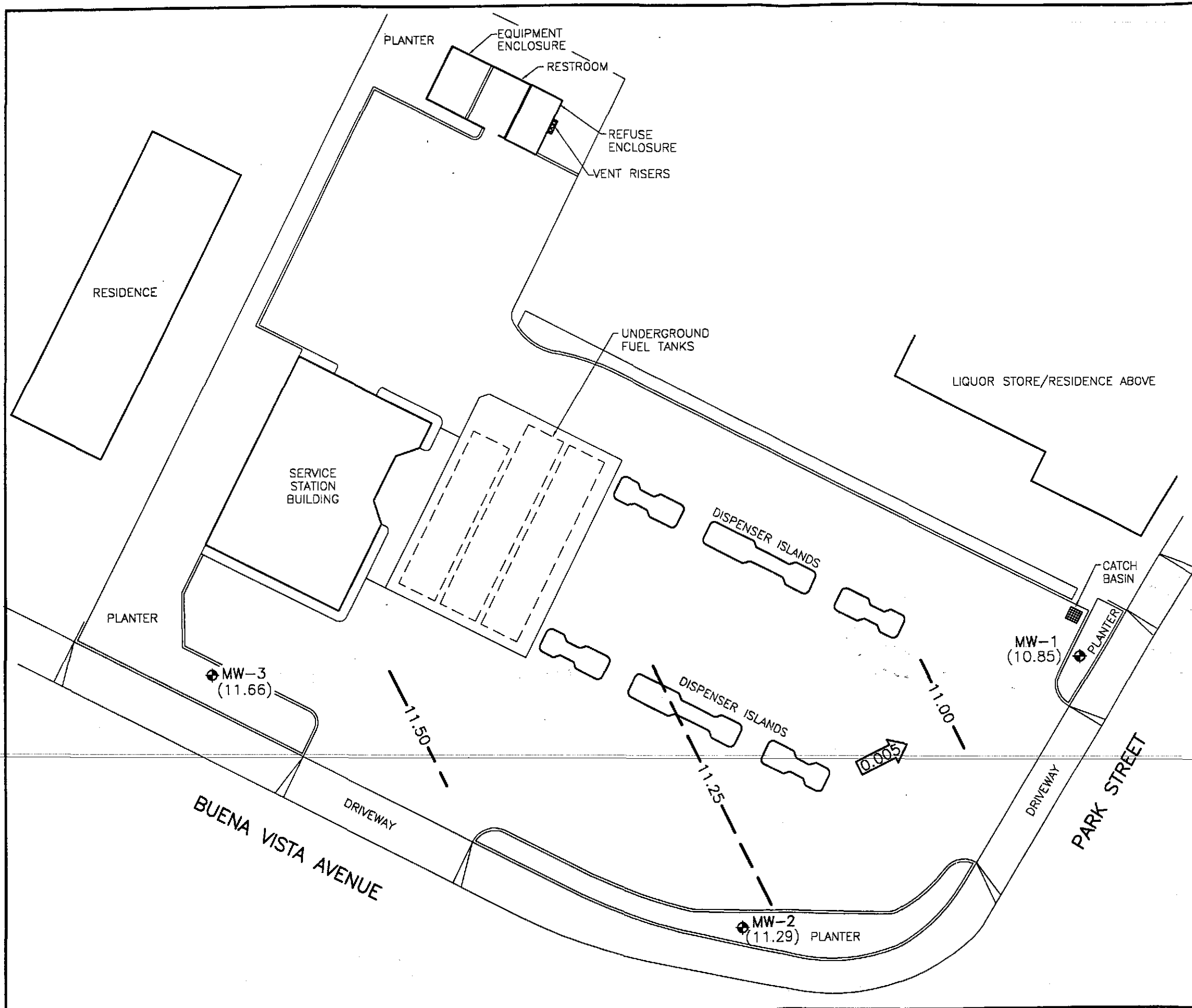


FIGURE 3
 FORMER SITE CONFIGURATION
 XTRA OIL COMPANY SERVICE STATION
 1701 PARK STREET
 ALAMEDA, CALIFORNIA
 PROJECT NO. 10-210

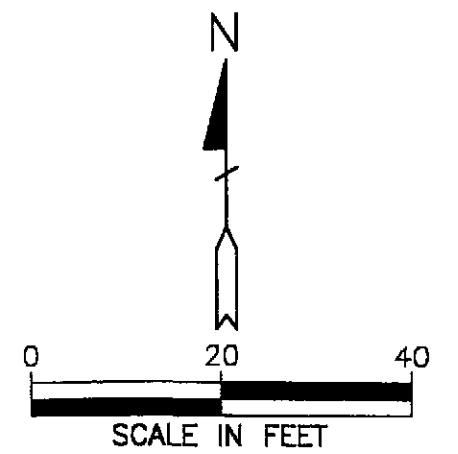
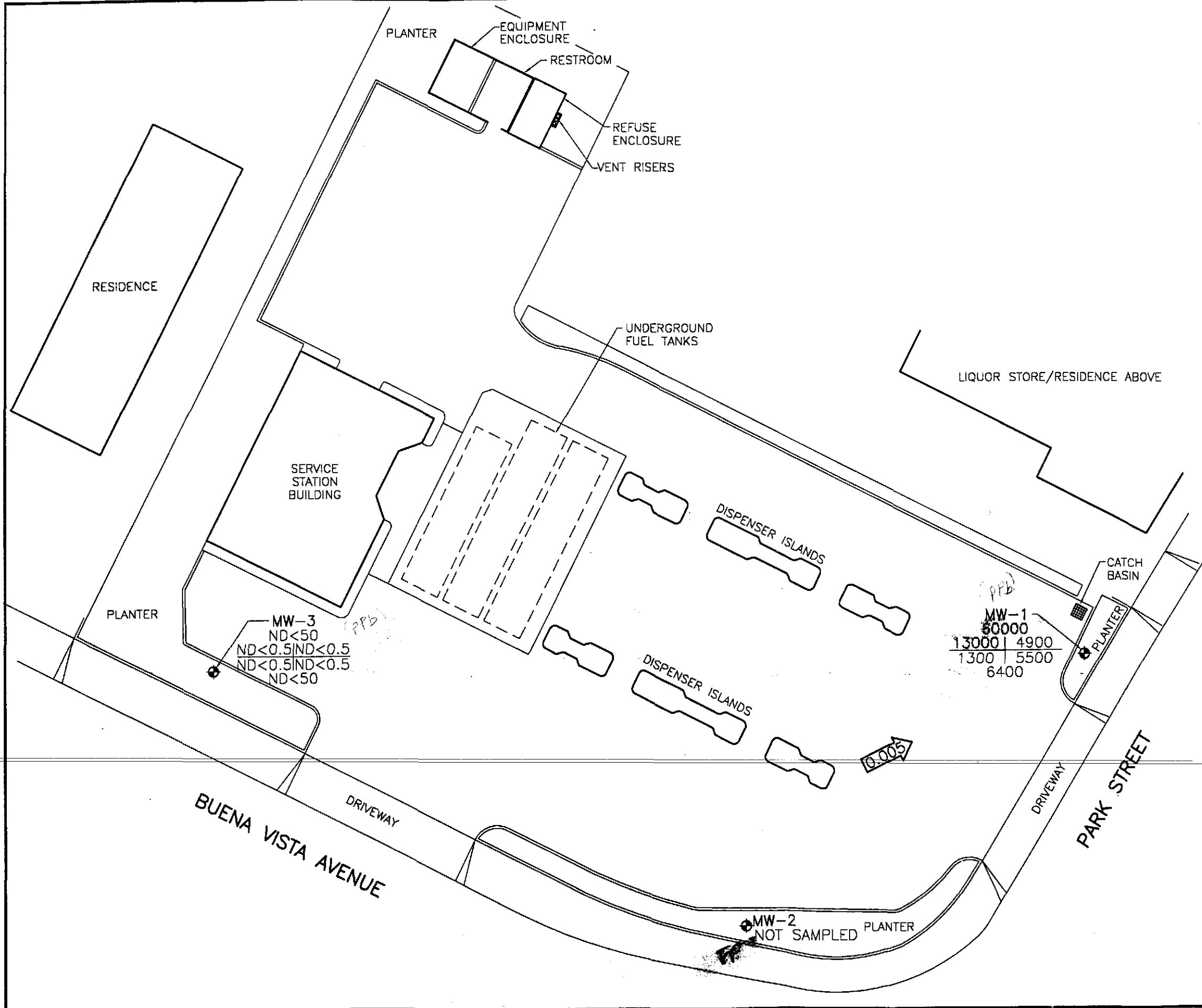
*.005
 gw flow direction*



- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
 - (10.85) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
 - 11.00 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL - 0.25 FOOT)
 - ← 0.005 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 4
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP
 NOVEMBER 4, 1994
 XTRA OIL COMPANY SERVICE STATION
 1701 PARK STREET
 ALAMEDA, CALIFORNIA
 PROJECT NO. 10-210

102100-1.DWG 12-13-94 RWG 1-20



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- TPH-G
B | T
E | X
TPH-D
CONCENTRATION OF CONSTITUENTS
IN PARTS PER BILLION
- 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
- ←0.005 CALCULATED GROUNDWATER
GRADIENT DIRECTION AND
MAGNITUDE IN FOOT PER FOOT

MW-3
ND<50
ND<0.5ND<0.5
ND<0.5ND<0.5
ND<50

PPB
MW-1
50000
13000 | 4900
1300 | 5500
6400

MW-2
NOT SAMPLED

FIGURE 5
CONCENTRATIONS OF PETROLEUM
HYDROCARBONS IN GROUNDWATER
NOVEMBER 4, 1994
XTRA OIL COMPANY SERVICE STATION
1701 PARK STREET
ALAMEDA, CALIFORNIA
PROJECT NO. 10-210

APPENDIX A
WELL CONSTRUCTION PERMIT



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 1701 Park Street
Alameda, CA

PERMIT NUMBER 94665

LOCATION NUMBER _____

CLIENT

Name Edward Simus - Xtra Oil Company
Address 2307 Pacific Ave Voice 510-295-9503
City Alameda, CA Zip _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT

Name John DeGeorge - Alisto Engineering **GENERAL**
Address 1777 Oakland Blvd Voice 510-295-1650
City Walnut Creek, CA Zip 94596
Fax 510-295-7823

TYPE OF PROJECT

Well Construction <input checked="" type="checkbox"/>	Geotechnical Investigation _____
Cathodic Protection _____	General _____
Water Supply _____	Contamination <input checked="" type="checkbox"/>
Monitoring _____	Well Destruction _____

PROPOSED WATER SUPPLY WELL USE

Domestic _____	Industrial _____	Other <u>Monitoring</u>
Municipal _____	Irrigation _____	

DRILLING METHOD:

Mud Rotary _____	Air Rotary _____	Auger <input checked="" type="checkbox"/>
Cable _____	Other _____	

DRILLER'S LICENSE NO. 582696

WELL PROJECTS

Drill Hole Diameter <u>8</u> in.	Maximum _____
Casing Diameter <u>2</u> in.	Depth <u>2.5</u> ft.
Surface Seal Depth <u>3</u> ft.	Number <u>3</u>

GEOTECHNICAL PROJECTS

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

ESTIMATED STARTING DATE 10-20-94
ESTIMATED COMPLETION DATE 10-20-94

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
 3. Permit is void if project not begun within 90 days of approval date.
- 9. WATER WELLS, INCLUDING PIEZOMETERS**
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
- C. GEOTECHNICAL.** Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.
- D. CATHODIC.** Fill hole above anode zone with concrete placed by tremie.
- E. WELL DESTRUCTION.** See attached.

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

Approved

Wyman Hong
Wyman Hong

Date 19 Oct 94

APPENDIX B

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

FIELD PROCEDURES
FOR
DRILLING, SOIL SAMPLING
AND MONITORING WELL INSTALLATION

Drilling Procedures

The soil borings were drilled using 8-inch-diameter, continuous-flight, hollow-stem augers. To avoid cross-contamination, drilling equipment in contact with potentially contaminated material was decontaminated by steam cleaning before and after each use. Decontamination fluids were placed into properly-labeled DOT approved drums for disposal.

Soil Sampling Procedures

During drilling, samples were collected beginning at 5 feet below grade and terminating at the total depth of each boring. Before and after each use, the sampler was washed using a phosphate-free detergent followed by tap water and deionized water rinses. Soil sampling was accomplished using a California-modified split-spoon sampler lined with brass tubes. A 140-pound slide hammer falling 30 inches was used to advance the sampler 18 inches ahead of the hollow-stem augers into undisturbed soil, and blow counts were recorded for every 6 inches of penetration to evaluate the consistency of the soil.

After retrieval from the augers, 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 and drill cuttings, when appropriate, were described by Alisto Engineering personnel using the Unified Soils 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 wells was based on the stratigraphy 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 1 foot above grade. The casings, fittings, screens, and other well construction components well construction were steam cleaned before installation.

The annular space surrounding the screened portion was backfilled with No. 3 Lonestar sand (filter pack) to approximately 1 foot above the top of the screened section. The monitoring well was then developed. After well development, an additional filter pack was added to the annulus to approximately 1 foot above the top of the screened well casing. An approximately 1-foot-thick interval of bentonite pellets was added to the annulus above the filter pack and hydrated with approximately 5 gallons of deionized water to minimize intrusion of well seal into the filter pack. The remaining annulus was sealed with a neat cement grout to the surface. A traffic-rated stovepipe well monument was installed around the top of the well casing and set in concrete. An expanding, watertight well cap and lock were installed on 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
		LITTLE OR NO FINES		GP Poorly-graded gravels, gravel-sand mixtures
		APPRECIABLE NO FINES		GM Silty gravels, gravel-sand-silt mixtures
		APPRECIABLE NO FINES		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
		LITTLE OR NO FINES		SP Poorly-graded sands, gravelly sands, little or no fines
		APPRECIABLE NO FINES		SM Silty sands, sand-silt mixtures
		APPRECIABLE NO FINES		SC Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS	SILTS AND CLAYS Liquid limit < 50	LITTLE OR NO FINES		ML Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		APPRECIABLE NO FINES		CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays

SYMBOL LEGEND:

- | | |
|---|--|
| <ul style="list-style-type: none"> Cement Sand Bentonite Pellets Driven Interval of Soil Sample | <ul style="list-style-type: none"> Sample preserved for possible analysis Stabilized water level 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



SEE SITE PLAN

ALISTO PROJECT NO: 10-210-03 DATE DRILLED: 10/20/94
 CLIENT: Xtra Oil Company
 LOCATION: 1701 Park Street, Alameda, California
 DRILLING METHOD: Hollow Stem Auger (8")
 DRILLING COMPANY: Soils Exploration Services CASING ELEVATION: 19.49 'MSL
 LOGGED BY: John DeGeorge APPROVED BY: Al Sevilla

BLOWS/6 IN.	PTD VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
9,12,15	18	<p>2" Sch. 40 PVC 2" 0.010" slotted PVC screen #2/12 Lanestar sand Bentonite seal Neat Cement</p>	5	■		SP	Planter-Topsoil
7,7,9	884		7	■			Same: dark green, very moist.
21,27,30	245		10	■			Same: wet to saturated, very dense.



SEE SITE PLAN

ALISTO PROJECT NO: 10-210-03 DATE DRILLED: 10/20/94
 CLIENT: Xtra Oil Company
 LOCATION: 1701 Park Street, Alameda, California
 DRILLING METHOD: Hollow Stem Auger (8")
 DRILLING COMPANY: Soils Exploration Services CASING ELEVATION: 20.29 MSL
 LOGGED BY: John DeGeorge APPROVED BY: Al Sevilla

BLOWS/6 IN.	PTD VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
10,14,18	87	<p>2" Sch. 40 PVC 2" 0.010" slotted PVC screen #2/12 Lonestar sand Bentonite seal Neat Cement</p>	5	■		SP	Planter-Topsail
13,20,19	559		10	■			Same: dense.
20,24,28	153		15	■			Same: light brown, wet to saturated.



SEE SITE PLAN

ALISTO PROJECT NO: 10-210-03 DATE DRILLED: 10/20/94
 CLIENT: Xtra Oil Company
 LOCATION: 1701 Park Street, Alameda, California
 DRILLING METHOD: Hollow Stem Auger (8")
 DRILLING COMPANY: Soils Exploration Services CASING ELEVATION: 20.58 'MSL
 LOGGED BY: John DeGeorge APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	
14,10,9	0		5	■		SP	Planter-Topsol SAND: brown, moist, medium dense; very fine- to fine- grained sand; tree roots present. Same: moist to wet; silt to 10-15%. Same: light brown, wet to saturated, little or no fines.	
10,15,18	0		10	■				
10,14,29	0		15	■				
			20					
			25					
			30					

APPENDIX D

FIELD PROCEDURES FOR MONITORING WELL DEVELOPMENT
AND SAMPLING AND ELEVATION SURVEY MAP

**FIELD PROCEDURES
FOR
MONITORING WELL DEVELOPMENT AND SAMPLING**

Groundwater Monitoring Well Development

The groundwater monitoring wells were developed to consolidate and stabilize the filter pack to optimize well production and reduce the turbidity of subsequent groundwater samples. The well was developed during drilling before installation of the bentonite spacer and neat cement seal. Additionally, monitoring well development was accomplished by alternately using a surge block and pump to evacuate the water and sediments a minimum of 72 hours after installation of the cement seal. Development continued until the groundwater was relatively free of sediment and/or stabilization of pH, electrical conductivity, and temperature was achieved. Well development fluids were placed into DOT-approved drums for disposal.

Groundwater Level Measurement

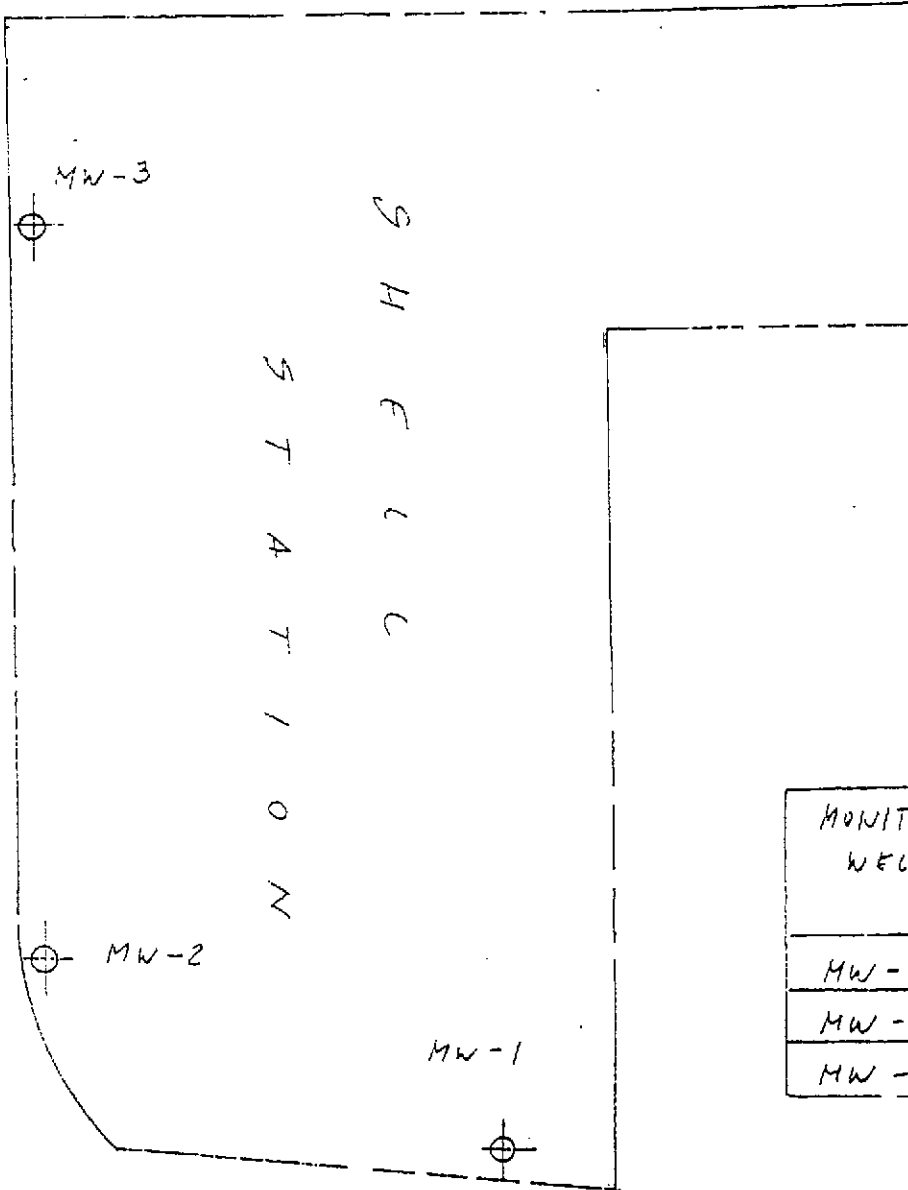
Before groundwater sampling, the groundwater level in each well was measured from the permanent survey reference point at the top of the well casing. Groundwater in each well was monitored for free-floating product or sheen. The depth to groundwater was measured to an accuracy of 0.01 foot from the top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

Groundwater Monitoring Well Sampling

The wells were purged of 3 casing volumes and the above parameters stabilized before sample collection. This purging was accomplished using a pump.

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

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MONITORING WELL	ELEVATION OVER MEAN SEA LEVEL
MW-3	20.578
MW-2	20.289
MW-1	19.493

P
A
R
K
S
T
R



ELEVATION OF HIGHEST POINT OF TOP OF PLASTIC PIPE OF MONITORING WELLS.	DATE 10-25-1979
	SCALE NONE
CLIENT: XTRA OIL CO.	SURVEY DEAK
ANDREAS DEAK LICENSED LAND SURVEYOR 2816 BUENA VISTA AVENUE ALAMEDA CA 94501	PLAT DEAK

APPENDIX E

**GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING
FIELD SURVEY FORMS**

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: Xtra Oil Company
 Alisto Project No: 10-210-03-03
 Service Station No: Alameda

Date: 11-1-94
 Field Personnel: John O
 Address: Park & Buena Vista

Well ID: MW-1 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

- 2 Inch (0.16 Gal/foot)
- 3 Inch (0.37 Gal/foot)
- 4 Inch (0.65 Gal/foot)
- 4.5 Inch (0.83 Gal/foot)
- 6 Inch (1.47 Gal/foot)

Purge Method:

- Pump (dispos. Poly Tubing)
- Disposable Bailers
- Other
- 1.66 PVC Standard Bailer
- 3.50 PVC Standard Bailer

Well Data:

Depth to Product
 Product Thickness
8.60 Depth to Water

Sampling Method:

- Disposable Bailer
- Pump

Decontamination Method:

- Triple Rinse (Liquinox)
- Steam Cleaned

Calculated Purge Volume

$$\frac{20}{\text{Total Depth of Well}} \cdot \frac{8.60}{\text{Depth to Water}} = \frac{11.4 \text{ ft} \times 0.16 \text{ Gal/Ft}}{\text{Water Column Factor}} = \frac{1.8 \text{ Gal}}{\text{Casing Vol}} \times \frac{10}{\text{Vols to Purge}} = \frac{18}{\text{Total Volume}}$$

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
0958				5	turbid, brown, v. fine-grained sand	TPH-G/BTEX	VOA	HCL
1009				10	"	TPH-Diesel	Amber Liter	Solvent Rinsed
1021				15	"	EPA 601	VOA	
1026				18	"	TOG 5520BF	Amber Liter	H ₂ SO ₄

good recharge

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: Xtra Oil Company
 Alisto Project No: 10-210-03403
 Service Station No: Alameda

Date: 11-1-94
 Field Personnel: John D.
 Address: Park & Buena Vista

Well ID: MW-2 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

Purge Method:

Well Data:

2 Inch (0.16 Gal/foot) Pump (dispos. Poly Tubing)
 3 Inch (0.37 Gal/foot) Disposable Bailers
 4 Inch (0.65 Gal/foot) Other
 4.5 Inch (0.83 Gal/foot) 1.66 PVC Standard Bailer
 6 Inch (1.47 Gal/foot) 3.50 PVC Standard Bailer

Depth to Product
 Product Thickness
9.18 Depth to Water

Sampling Method:

Decontamination Method:

Disposable Bailer
 Pump

Triple Rinse (Liquinox)
 Steam Cleaned

Calculated Purge Volume

$$\frac{20}{20} - \frac{9.18}{20} = \frac{10.82 \text{ ft} \times 0.16 \text{ Gal/Ft}}{20} = \frac{1.7 \text{ Gal} \times 10}{20} = \frac{17}{20}$$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity ~0.25" FF	Analysis Required	Container Type	Preserv
1050				5	turbid, brown, v. fine grained sand	TPH-G/BTEX	VOA	HCL
1058				10	same turb. / color FP gone, sheen only	TPH-Diesel	Amber Liter	Solvent Rinsed
1105				15	"	EPA 601	VOA	
1110				17	"	TOG 5520BF	Amber Liter	H ₂ SO ₄

good recharge, ~0.25 inch free product in well

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: Xtra Oil Company
 Alisto Project No: 10-210-03-03
 Service Station No: Alameda

Date: 11-1-94
 Field Personnel: John D.
 Address: Park & Buena Vista

Well ID: MW-3 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

- 2 Inch (0.16 Gal/foot)
 3 Inch (0.37 Gal/foot)
 4 Inch (0.65 Gal/foot)
 4.5 Inch (0.83 Gal/foot)
 6 Inch (1.47 Gal/foot)

Purge Method:

- Pump (dispos. Poly Tubing)
 Disposable Bailers
 Other
 1.66 PVC Standard Bailer
 3.50 PVC Standard Bailer

Well Data:

- Depth to Product
 Product Thickness
8.89 Depth to Water

Sampling Method:

- Disposable Bailer
 Pump

Decontamination Method:

- Triple Rinse (Liquinox)
 Steam Cleaned

Calculated Purge Volume

$$\frac{19.5}{10} - \frac{8.89}{10} = 10.61 \text{ ft} \times 0.16 \text{ Gal/Ft} = 1.7 \text{ Gal} \times \frac{10}{1} = 17 \text{ gal}$$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/Turbidity	Analysis Required	Container Type	Preserv.
0812				5	turbid, brown, v. fine-grained sand	TPH-G/BTEX	VOA	HCL
0840				10	"	TPH-Diesel	Amber Liter	Soivent Rinsed
0905				15	"	EPA 601	VOA	
0912				17	"	TOG 5520BF	Amber Liter	H ₂ SO ₄

slow to moderate recharge

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING GROUP

Groundwater Sampling

Date: 11-4-94 Project No. 10-210-03-03

Day: M T W Th F Facility No. 1701 Park Street

1777 OAKLAND BLVD, STE 200 Barometric pres. _____

Temp. 65 Address Alameda, CA

WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

SAMPLER: John D.

Well ID	SAMPLE #	WATER	time	Well ID	SAMPLE #	WATER/	time	Well ID	SAMPLE	WATER / time
mw-3	S-1	8.92	0834							
mw-1	S-2	8.64	0839							
mw-2		9.12	0850							
mw-10	S-3									
TB	S-4									

FIELD INSTRUMENT CALIBRATION DATA

Ph METER _____ 4.00 7.00 10.00 _____ TIME 0825 TEMPERATURE COMPENSATED Y N

TURBIDI METER _____ 5.0 NTU STANDARD _____ OTHER _____

CONDUCTIVITY METER _____ 10,000 OTHER _____

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Mw-3	8.92	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Y (N)	1	0929	63.3	6.93	1240		<input type="checkbox"/> EPA 601
Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.						2	0936	63.8	7.11	1180		<input checked="" type="checkbox"/> TPH-G/BTEX
$19.5 - 8.92 = 10.58 \times 0.16 = 1.7 \times 3 = 5.1 \text{ gal}$						3	0939	65.0	7.18	1110		<input checked="" type="checkbox"/> TPH Diesel
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input checked="" type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port						4	0942	66.1	7.16	1110		<input type="checkbox"/> TOG 5520
Comments:						5.1	0946	65.7	7.17	970		Time/Sample 0955

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Mw-1	8.64	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Y (N)	1	1032	69.3	7.00	1260		<input type="checkbox"/> EPA 601
Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.						2	1037	71.7	7.00	1240		<input checked="" type="checkbox"/> TPH-G/BTEX
$20.0 - 8.64 = 11.36 \times 0.16 = 1.8 \times 3 = 5.5 \text{ gal}$						3	1041	72.0	7.03	1230		<input type="checkbox"/> TPH Diesel
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input checked="" type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port						4.5	1045	73.0	6.94	1210		<input type="checkbox"/> TOG 5520
Comments:						5.5	1050	73.0	7.00	1200		Time / Sample 1100 + Duplicate 110

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Mw-2	9.12	2	<input checked="" type="checkbox"/>	8.96	Y N							<input type="checkbox"/> EPA 601
Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.												<input type="checkbox"/> TPH-G/BTEX
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TPH Diesel
Comments:												<input type="checkbox"/> TOG 5520
												Time / Sample

Measured 2" of FP in MW-2.
Bailed out approx 4oz of FP.

ALISTO ENGINEERING GROUP GROUNDWATER MONITORING

Client: Xtra Oil Company
 Alisto Project No: 10-210-03
 Service Station No: _____

Date: 1-11-95
 Field Personnel: John Q & Brady N
 Site Address: 1701 Park St. Alameda

FIELD ACTIVITY:

- Groundwater Monitoring
- Groundwater Sampling
- Well Development

QUALITY CONTROL SAMPLES:

- QC-1 Sample Duplicate (Well ID)
- QC-2 Trip Blank
- QC-3 Rinsate Blank

Well ID	Well Diam	Order Measured/ Sampled	Total Depth	Depth to Water	Depth to Product	Product Thick-ness	Comments
mw-1	2"	2	~20	6.10	Ø	—	
mw-2	2"	3	~20	6.75	Ø	—	No FP or sheen
mw-3	2"	1	~20	5.67	Ø	—	

Notes:

Barrels: Soil Water Dbl Contained Empty Soil Pile (Cu Yds)

APPENDIX F

**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 or dry 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 and time of sample 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.

Alisto Engineering Group 1777 Oakland Blvd., # 200 Walnut Creek, Ca 94596	Client Project ID: # 10-210-03; 1701 Park St., Alameda	Date Sampled: 10/20/94
	Client Contact: Brady Nagle	Date Received: 10/21/94
	Client P.O:	Date Extracted: 10/21/94
		Date Analyzed: 10/21/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
41766	B-3 8-8.5'	S	ND,f	ND	ND	ND	ND	108
41768	B-2 7-7.5'	S	12,000,b,d	70	59	220	870	117 [#]
41770	B-1 7.5-8'	S	4800,b	63	330	120	580	103
Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes 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 are significant; no recognizable pattern; 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 phase is present.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 10/21-10/22/94

Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	2.052	2.081	2.03	101	103	1.4
Benzene	0.000	0.196	0.194	0.2	98	97	1.0
Toluene	0.000	0.200	0.202	0.2	100	101	1.0
Ethylbenzene	0.000	0.194	0.194	0.2	97	97	0.0
Xylenes	0.000	0.612	0.616	0.6	102	103	0.7
TPH (diesel)	0	300	290	300	100	97	3.6
TRPH (oil & grease)	0.0	44.1	44.3	44.6	99	99	0.4

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

McCampbell Analytical
 110 2nd Ave South #7
 Pacheco, CA 94553

ALISTO ENGINEERING GROUP
 CHAIN OF CUSTODY

3113AAEG11

Consultant's Name: Alisto Engineering Group
 Address: 1777 Oakland Blvd Ste 200 Walnut Creek, CA 94596

Project Contact: Brady Nagle / John De George
 Consultant Project #: 10-210-03
 Phone: 510-295-1650 Fax #: 510-295-1823

Sampled by (print): John De George
 Sampler's Signature: *John De George*
 Site Location #: 1701 Park Street
 Site Location: Alameda, CA

Shipment Method: Carrier
 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	Prev	# of Cont	Sample #	TPH/GAS/STEX EPA 8015/8020	TPH/Diesel EPA 8015	Oil & Grease SM 5520	HYOC 8010									
B-3 8-8.5	10-20/0930	S		1		X	X											41766
B-2 4.5-5	10-20/1105	S		1														41767
B-2 7-7.5	10-20/1115	S		1		X	X											41768
B-1 5-5.5	10-20/1330	S		1														41769
B-1 7.5-8	10-20/1350	S		1		X	X											41770

COMMENTS

Hold

Hold

ICM/T ✓
 GOOD CONDITION ✓
 HEAD SPACE ABSENT ✓
 PRESERVATIVE APPROPRIATE ✓
 CONTAINERS ✓
 VOL ✓
 D&G ✓
 METALS ✓
 OTHER ✓

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time	Additional Comments:
<i>John De George / Alisto</i>	10/21		<i>Patricia Yellon</i>	10/21		
<i>Patricia Yellon / Alisto</i>	10/21	1:15	<i>Don</i>	10/21	1:15	

McCAMPBELL ANALYTICAL INC.

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

Alisto Engineering Group 1777 Oakland Blvd., # 200 Walnut Creek, Ca 94596	Client Project ID: # 10-210-03; 1701 Park St., Alameda	Date Sampled: 11/04/94
		Date Received: 11/04/94
	Client Contact: Brady Nagle / Keith Simas	Date Extracted: 11/04/94
	Client P.O:	Date Analyzed: 11/04-11/05/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*
 EPA methods 3030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) [†]	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
42107	S-1	W	ND	ND	ND	ND	ND	104
42108	S-2	W	60,000,a	13,000	4900	1300	5500	93
42109	S-3	W	54,000,a	12,000	4500	1200	5200	94
42110	S-4	W	ND	ND	ND	ND	ND	103
42111	SP-1 to 4	S	41,b,d	0.014	0.062	ND	1.5	91
Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L
 # cluttered chromatogram; sample peak co-elutes 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 are significant; no recognizable pattern; 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 phase is present.

McCAMPBELL ANALYTICAL INC.

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

Alisto Engineering Group 1777 Oakland Blvd., # 200 Walnut Creek, Ca 94596	Client Project ID: # 10-210-03; 1701 Park St., Alameda	Date Sampled: 11/04/94
		Date Received: 11/04/94
	Client Contact: Brady Nagle / Keith Simas	Date Extracted: 11/04-11/10/94
	Client P.O:	Date Analyzed: 11/04-11/10/94

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
42107	S-1	W	ND	108
42108	S-2	W	6400,d,a	105
42111	SP-1 to 4	S	140,a,d	95
Detection Limit unless otherwise stated; ND means Not Detected	W		50 ug/L	
	S		10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L
 # cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline
 + 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) modified diesel?; light(CL) or heavy(CH) diesel compounds are 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.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/03-11/04/94

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	95.4	90.7	100	95.4	90.7	5.1
Benzene	0	10.3	11.2	10	103.0	112.0	8.4
Toluene	0	10	10.9	10	100.0	109.0	8.6
Ethyl Benzene	0	9.9	10.7	10	99.0	107.0	7.8
Xylenes	0	31.1	34.3	30	103.7	114.3	9.8
TPH (diesel)	0	160	160	150	107	107	0.0
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/04-11/05/94

Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	1.980	1.900	2.03	98	94	4.1
Benzene	0.000	0.204	0.212	0.2	102	106	3.8
Toluene	0.000	0.236	0.240	0.2	118	120	1.7
Ethylbenzene	0.000	0.202	0.210	0.2	101	105	3.9
Xylenes	0.000	0.650	0.674	0.6	108	112	3.6
TPH (diesel)	0	307	309	300	102	103	0.6
TRPH (oil & grease)	0.0	20.3	20.2	20.8	98	97	0.5

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

ALISTO ENGINEERING GROUP

CHAIN OF CUSTODY

3143AAEG12

Consultant's Name: Alisto Engineering Group
 Address: 1777 Oakland Blvd Ste 200 Walnut Creek CA 94596
 Project Contact: John De George
 Sampled by (print): John De George
 Shipment Method: Hand Deliver
 TAT: 24 hr 48 hr 72 hr Standard (10 day)

Consultant Project #: 10-210-03 Phone #: 5102951650 Fax #: 5102951823
 Sampler's Signature: [Signature]
 Site Location #: 1701 Park Street Site Location: Alameda, CA

Sample Description	Collection Date/Time	Matrix Soil/Water	Prsv	# of Cont	Sample #	ANALYSIS REQUIRED								
						TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	Oil & Grease SM 5520	HVOC 8010	RCI				
S-1	11-4/0955	W	HCL VOA	4		X	X							
S-2	11-4/1100	W	HCL VOA	4		X	X							
S-3	11-4/1105	W	HCL VOA	4		X								
S-4	11-4/0820	W	HCL VOA	2		X								
SP-1	11-4/1230	S		1		X	X			X				
SP-2	11-4/1235	S		1		X	X			X				
SP-3	11-4/1240	S		1		X	X			X				
SP-4	11-4/1245	S		1		X	X			X				

Sample Condition as Received
 Temperature * C: _____
 Cooler #: _____
 Inbound Seal Yes No
 Outbound Seal Yes No

COMMENTS

Composite SP-1, SP-2, SP-3, SP-4

42107
42108
42109
42110
42111

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time	Additional Comments:
<u>John De George</u> Alisto	11-4-94	1520	<u>[Signature]</u> Alisto	11-4-94	1520	Bill Xtra Oil Company Direct

CERT. ✓
 GOOD CONDITION ✓
 HEAD SPACE ADJUST ✓
 TIGHTEN TIME ✓
 ALL BOLTS ✓
 CONTAINERS ✓

APPENDIX G

**SOIL DISPOSAL MANIFEST AND
WEIGHMASTER CERTIFICATE**

WASTE MANIFEST

Page 1 of 1

01576

1. Generator's name and mailing address:
 Xtra Oil Co.
 1701 Park St
 Alameda, Ca 94501

2. Generator's Phone: 570 18659203

3. Transporter 1 Company Name: Xtra Oil Co. a. US EPA ID Number

4. Transporter 2 Company Name: b. US EPA ID Number

5. Designated Facility Name and Site Address:
 B+S Landfill
 6426 Hwy Rd.
 Vacaville, Ca 94576

A. Transporter 1 Phone: 570-865-9203

B. Transporter 2 Phone:

C. Facility's Phone: 707-451-3276

6. Waste Shipping Name and Description

Non-Hazardous Soil

12. Container No.	12. Type	12. Total Quantity	12. Unit Weight
1	Truck	1.5	yds.

7. Additional Descriptions for Materials Listed Above

8. Handling Code for Wastes Used Above

9. Special Handling Instructions and Additional Information

10. GENERATOR'S CERTIFICATION: I certify the materials described above are my own and are not subject to Federal regulations for reporting unless directed otherwise. Month Day Year

Printed/Typed Name: Keith Simas Signature: [Signature] Month Day Year: 12/09/94

11. Transporter 1 Acknowledgement of Receipt of Materials: Printed/Typed Name: Keith Simas Signature: [Signature] Month Day Year: 12/10/94

12. Transporter 2 Acknowledgement of Receipt of Materials: Printed/Typed Name: Signature: Month Day Year:

13. Discrepancy Indication Space

14. Facility Owner or Operator Certification of receipt of waste materials covered by this manifest except as noted in Item 13.

Printed/Typed Name: Sandra Hall Signature: [Signature] Month Day Year: 12/31/94

ORIGINAL RETURN TO GENERATOR

12-BLS-C5 Rev. 9/92

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Shipper:
County Development Co.
6426 Hay Rd. Vacaville, Ca.
95687-0000
1537
NON-HAZARDOUS/NON-NORMATIVE
LAWRENCE STREET

TICKET NO.: 15040
DATE: DEC 23, 1994 12:05:00
Commodity: C-SOIL
Price/Unit:

Handwritten: CUC # 2579 \$1997

Total Charge: \$0.00
Tendered: \$0.00
Change: \$0.00

Vehicle No. 1076

95687-0000

14920 (M) Gross Weight Lbs.
12400 Tare Weight Lbs.
2520 Net Weight Lbs. SANDY HALL

Signature
DRIVER'S SIGNATURE

Truck No. 577

DEPUTY WEIGHMASTER

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Shipper:
County Development Co.
6426 Hay Rd. Vacaville, Ca. 95687

INBOUND NO. 16048
TRUCK NUMBER 577
DATE: DEC 23, 1994 12:20:00

Commodity:
NON-HAZARDOUS/NON-NORMATIVE
LAWRENCE STREET

Commodity: C-SOIL
Charge/Unit:
Total Charge: \$0.00
Tendered: \$0.00
Change: \$0.00
No. of Units:

Vehicle No. 95687

Inbound Weight: 14920 Lbs. SOIL

SANDY HALL

DRIVER'S SIGNATURE

DEPUTY WEIGHMASTER