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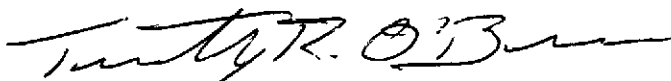
Mr. Rod Freitag, P.E.
Environmental Program Manager
County of Alameda
Engineering & Environmental Management Department
1401 Lakeside Drive, 11th Floor
Oakland, CA 94612

RE: Final Report, Soil and Groundwater Investigation
Former Alcopark Fueling Facility, Oakland, California

Dear Mr. Freitag:

As requested, Professional Service Industries is transmitting one unbound copy of the Final Report for the Soil and Groundwater Investigation for the Former Alcopark Fueling Facility at 12th Street and Jackson Street, Oakland, California. In accordance with your instructions, PSI is also transmitting a copy of the report to the Alameda County Health Care Services Agency. Please call me with any comments or questions on this report at (510) 785-1111.

Sincerely,



Timothy R. O'Brien, RG/CEG/CHG
Senior Geologist

Enclosure

cc: Eva Chu, Alameda County Health Care Services Agency

Tim O'Brien

**FINAL REPORT
SOIL AND GROUNDWATER INVESTIGATION
FORMER ALCOPARK FUELING FACILITY
12TH STREET AND JACKSON STREET
OAKLAND, CALIFORNIA**

Feb 1999

prepared for

**COUNTY OF ALAMEDA
GENERAL SERVICES AGENCY**
1401 Lakeside Drive
Oakland, California

prepared by

Professional Service Industries, Inc.
1320 West Winton Avenue
Hayward, California 94545
(510) 785-1111

February 25, 1999
575-9G004

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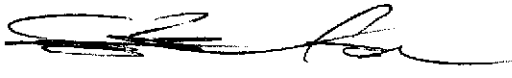
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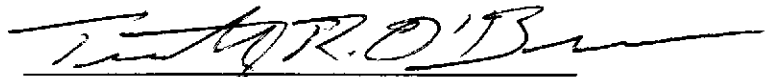
STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

Information provided in this report, prepared by Professional Service Industries, Inc. (PSI), is intended exclusively for the use of County of Alameda, General Services Agency, for the evaluation of subsurface conditions as it pertains to the subject site. The professional services provided have been performed in accordance with practices generally accepted by other geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. As with all subsurface investigations, there is no guarantee that the work conducted will identify any or all sources or locations of contamination.

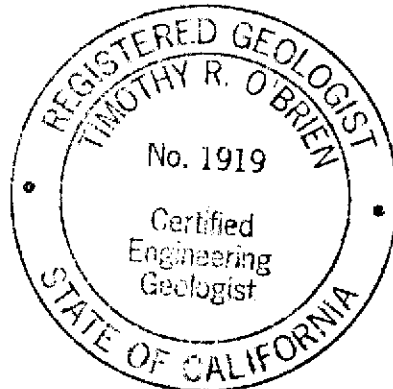
This report is issued with the understanding that Alameda GSA is responsible for ensuring that the information contained herein is brought to the attention of the appropriate regulatory agency. This Workplan has been reviewed by a geologist who is registered in the State of California and whose signature and license number appear below.



Frank R. Poss
Senior Hydrogeologist



Timothy R. O'Brien, RG/CEG/CHG
Senior Geologist



1. INTRODUCTION

Professional Service Industries, Inc. (PSI) has been retained by the County of Alameda General Services Agency (Alameda GSA) to investigate soil and groundwater conditions at the Former Alcopark Fueling Facility located at the northeast corner of 12th and Jackson Streets in Oakland, California. The site location is presented on Figure 1.

Ms. Eva Chu of the Alameda County Health Care Services Agency (ACHCSA) requested additional delineation of soil and groundwater contamination identified in a previous study (ESE, 1993). PSI prepared a workplan to perform the investigation (PSI, 1999). The workplan was approved by ACHCSA with the provision additional analysis of a soil sample be performed to provide data for a Tier 2 Risk Based Corrective Action study, if needed (ACHCSA, 1999a).

1.1 PROJECT GOALS

The project goals consist of the following:

- Estimate the groundwater flow direction and depth.
- Delineate the extent of impacted soil and groundwater at the site.
- Determine the site conditions relative to evaluation of the site as a "Low Risk" site as determined by RWQCB guidance documents (RWQCB, 1996).

1.2 SCOPE OF WORK

The scope of work consisted of the following tasks:

- Prepare a site specific site health and safety plan and this workplan.
- Mark the drilling locations and notify Underground Service Alert 72 hours prior to initiating drilling activities.
- Drill three Geoprobe direct push soil borings to obtain soil and groundwater samples. Use a PID to screen the soil samples collected in the borings.

- Transport soil and groundwater samples to McCampbell Analytical Services of Pacheco, California, a California State certified laboratory.
- Analyze soil and groundwater samples for Total Petroleum Hydrocarbons as Gasoline (TPH-G) by EPA Method 8015M; Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX); and Methyl Tertiary Butyl Ether (MTBE) by EPA Method 8020. EPA Method 8260 was used to confirm the existence of MTBE in the samples collected in Boring SB-6.
- ACHCSA requested one soil sample be analyzed for bulk density, total organic carbon, porosity, and water content (ACHCSA, 1999a).
- Evaluate the site conditions with respect to site closure concerns.
- Prepare a report summarizing the findings of the investigation and an evaluation of the suitability of the site for administrative closure.

1.3 SITE BACKGROUND

Alameda GSA closed two 10,000 gallon USTs in-place at the site in 1994. The USTs previously stored gasoline. The tanks had not been used since the early 1980s (GSA, 1999). Soil and groundwater samples collected in support of in-place closure indicated low concentrations of petroleum hydrocarbons in soil and measurable concentrations of petroleum hydrocarbons in groundwater (ESE, 1993). The analytical data collected in the soil and groundwater sample event is presented in Table 1-1. The previously drilled boring locations are presented on Figure 2.

2. PRE-FIELD IMPLEMENTATION ACTIVITIES

2.1 SOIL BORINGS

The rationale for selection of the soil boring locations is presented in Section 3.1. Prior to drilling the soil borings, the following tasks were performed:

- A Drilling Permit from the Alameda County Public Works Agency, and a Street Use Permit from the City of Oakland Public Works Agency were obtained.
- A site specific health and safety plan was prepared.
- The Alameda GSA, ACHCSA, and Alameda Public Works representatives were notified of the site activity schedule.
- The borehole locations were marked and Underground Service Alert was informed of the planned drilling activities. A private utility locating company was also contracted to clear the soil boring locations.

2.1.1 Soil Boring Permit Application

In accordance with drilling requirements in Alameda County, a drilling permit was submitted to the Alameda County Public Works Department. Alameda County Public Works was informed of the drilling schedule to allow grout inspection. A copy of the drilling permit is included in Appendix A.

A street use permit was obtained from the City of Oakland Public Works Department to allow drilling a soil boring in the public street. A copy of the street use permit is included in Appendix A.

2.1.2 Site Specific Health and Safety Plan

A site-specific health and safety plan was prepared in compliance with 29 CFR 1910.120. The plan addressed hazardous materials and physical hazards that might be encountered during field activities at the site.

2.1.3 Utility Clearance

PSI marked the drilling locations with white paint and contacted Underground Service Alert (USA) to identify subsurface utilities in the areas of investigation. In addition, the boring locations were cleared by a private underground utility locating service.

2.1.4 Groundwater Flow Direction

Groundwater flow direction has been estimated through interpretation of nearby groundwater conditions, a topographic map, and contaminant distribution patterns. A north-northeast groundwater flow direction was calculated at the Alcopark UST facility located at 13th and Jackson Streets approximately 300 feet from the subject site (PSI, 1998).

Interpretation of the groundwater flow direction from the United States Geological Survey map titled, *Oakland West*, is consistent with the measurement. Review of the previously detected contaminant's aerial location with respect to the probable source areas is also consistent with the calculated measurement.

3. SUBSURFACE INVESTIGATION

The soil and groundwater investigation was performed on February 10, 1999. Three soil borings were drilled to collect soil and groundwater samples.

3.1 SOIL BORINGS

The soil borings were drilled to investigate the soil and groundwater conditions at the site. The information collected in this investigation builds on the information collected previously (ESE, 1994). The borings were advanced far enough to allow collection of grab groundwater samples. The soil borings were advanced to a depth of approximately 25 feet below ground surface (bgs).

Boring SB-5 was drilled upgradient of the USTs and remote fill lines. Borings SB-6 and SB-7 were drilled downgradient of the USTs. The boring locations are presented on Figure 2.

Fisch Environmental Services of Valley Springs, California provided drilling services. The borings were drilled by the direct push GeoProbe drilling technique. Soil borings were logged by a PSI geologist using the Unified Soil Classification System (USCS). The work was performed under the supervision of a State of California Registered Geologist.

Samples were collected in two-foot long plastic sample liners. A portion of each soil sample was placed in a plastic bag, labeled, and the soil gas concentration of volatile compounds allowed to equilibrate. PID measurements were collected by piercing the bag with the PID's steel probe. The PID measurements were recorded on the boring logs. Soil boring logs are presented in Appendix A.

3.1.1 Soil Sample Collection

One soil sample was collected from each soil boring for the chemical analyses described in Section 4.0. Samples for chemical analysis were selected based on field measured PID readings; the soil sample interval containing the highest concentration of total VOCs were selected for submittal to the analytical laboratory. In this investigation, no measurable soil gas concentration was observed so samples from the capillary fringe were collected for chemical analysis.

Soil samples submitted to the analytical laboratory were collected by cutting the interval for chemical analysis out of the plastic liners they were collected in and capping the ends with Teflon sheeting, plastic end caps, and duct tape. Samples were labeled using a permanent marking pen identifying the sampler, boring name, sample collection depth, time, and date. Collected samples were placed in a cooler containing ice and maintained under chain of custody protocol.

3.1.1.1 Chemical Analysis of Soil Samples

Soil samples were chemically analyzed for the contaminants suspected of existing at that location. Because the USTs stored gasoline, samples were analyzed for TPH-G, BTEX, and MTBE. As requested by ACHCSA, the soil sample collected from Boring SB-6 was analyzed by EPA Method 8260 and total lead (ACHCSA, 1999b).

3.1.2 Grab Groundwater Sampling

Upon encountering groundwater in the borings, grab groundwater samples were collected. The grab groundwater samples were collected using disposable polyethylene tubing equipped with a check valve lowered through the drill stem to collect groundwater samples. Samples were stored in a cooler containing ice and maintained under chain of custody protocol.

3.1.2.1 Chemical Analysis of Groundwater Samples

Groundwater samples were chemically analyzed for the contaminants suspected of existing at that location. Because the USTs stored gasoline, samples were analyzed for TPH-G, BTEX, and MTBE. As requested by ACHCSA, the groundwater sample collected from Boring SB-6 was analyzed by EPA Method 8260 (ACHCSA, 1999b).

3.1.3 Groundwater Elevation Measurements

Depth to groundwater was measured from the ground surface in each soil boring. The depth to water is recorded on the boring logs. Groundwater at the site exists in a confined condition. Groundwater was not encountered in the soil borings until a depth of 25 feet was reached. Groundwater rose to a depth of 18 feet bgs when allowed to equilibrate.

Upon collection of the groundwater samples, the borings were grouted with neat cement. Grout inspection was scheduled with the ACHCSA and Alameda County Public Works Agency. Ms. Eva Chu of ACHCSA was on-site during drilling and sampling activities.

3.1.4 Decontamination Procedures

To minimize the possibility of contaminant cross-contamination between sampling locations most of the sampling equipment used was disposable. To further minimize the possibility of cross-contamination, all re-usable sampling equipment was cleaned with a non-phosphate detergent and rinsed twice with deionized water prior to use at a new sampling location. Sampling equipment included:

- Stainless-steel sample barrel and tubes
- Drilling equipment
- Groundwater sampling equipment and sounders

4. LABORATORY ANALYSIS PROGRAM

The soil and groundwater samples collected in this investigation were submitted to McCampbell Analytical Services of Pacheco, California. McCampbell Analytical is a State of California, Department of Health Services certified hazardous waste laboratory. A summary of the analytical methods is presented below. Soil and groundwater samples were analyzed for the following constituents by the indicated methods:

- Total Petroleum Hydrocarbons as Gasoline (TPH-G) in accordance with Environmental Protection Agency (EPA) Method 8015-m.
- BTEX and MTBE by EPA Method 8020.
- MTBE and other fuel oxygenates by EPA Method 8260 (for soil and groundwater samples from Boring SB-6).
- Total Lead by EPA Method 6010 (for soil sample from Boring SB-6)

Rationale for selection of chemical analyses for specific samples is presented in Sections 3.1.1.1 and 3.1.2.1. Groundwater sample containers were supplied by the laboratory; new soil sample containers were supplied by the drilling contractor. In addition to the chemical analyses listed above, one soil sample from the unsaturated zone was selected from Boring SB-5 for the following parameters by the indicated methods;

- Moisture (Water) Content by American Society for Testing and Material (ASTM) Method E3173.
- Fractional Organic Content by ASTM 2974c and Total Organic Carbon by EPA 415.1.
- Bulk Density by laboratory calculation method.
- Porosity by laboratory calculation method.
- Unsaturated Porosity (Air Filled Void Space) by laboratory calculation method.

4.1 ANALYTICAL RESULTS DISCUSSION

Soil and groundwater samples were collected and chemically analyzed in accordance with the approved work plan for the investigation. The data are summarized in Table 1-1. Laboratory reports are presented in Appendix B.

4.1.1 Soil Analysis Discussion

No detectable concentration of TPH-G was detected in any of the soil samples collected in this investigation. No BTEX or MTBE was detected in the soil samples collected from Borings SB-5 or SB-7. Low concentrations of BTEX were detected in the soil sample from Boring SB-6. No detectable concentration of total lead was reported in the sample analyzed for lead from Boring SB-6. Six oxygenates were analyzed by EPA Method 8260; no detectable concentration of the oxygenates was reported.

Contaminants were detected only in the soil sample collected from Boring SB-6, which was the closest boring to the former USTs' location. The lack of MTBE is consistent with the information on the date of the USTs' closure. In the sample analyzed by EPA Method 8260, only petroleum related hydrocarbons were reported.

4.1.2 Groundwater Analysis Discussion

A low concentration of TPH-G was detected in the groundwater sample collected from Boring SB-6. Trace or low concentrations of BTEX compounds were detected from all three grab groundwater samples. No MTBE was detected in any of the groundwater samples. Six oxygenates were analyzed by EPA Method 8260. No detectable concentration of the oxygenates was reported.

It is noted that MTBE was reported in the EPA Method 8020 analysis of the sample collected from Boring SB-6, however, the EPA Method 8260 analysis of the sample did not report measurable MTBE. EPA Method 8260 is considered a more reliable analytical method to quantify MTBE and other oxygenates when the presence of TPH-G exists in the sample matrix (LLNL, 1998). The detection of MTBE by the EPA Method 8020 is considered a false-positive misidentification.

Significant concentrations of contaminants were detected only in the groundwater sample collected from Boring SB-6, which was the closest boring to the former USTs' location. As stated in Section 4.1.1, the lack of MTBE is consistent with the information on the date of the USTs' closure. In the sample analyzed by EPA Method 8260, only petroleum related hydrocarbons were reported.

4.2 FATE AND TRANSPORT OF DETECTED SITE CONTAMINANTS

The primary transport mechanisms for petroleum hydrocarbons in the subsurface is advection, dispersion, and diffusion. Because the contaminants detected at the site are reactive, the concentration of a plume will be reduced by adsorption, chemical reactions, and biological transformation (EPA, 1991).

Historical case analyses of petroleum hydrocarbon plumes show the practical limits to groundwater plume migration. In general, average TPH plume lengths rarely exceed about 250 feet and benzene concentrations in plumes decrease more rapidly than other fuel hydrocarbons (LLNL, 1995b).

5. CONCLUSIONS

Based on the information presented in this report, the following conclusions have been reached:

- Site soils consists of silt and sand mixtures. Groundwater exists in a confined condition approximately 25 feet bgs.
- Groundwater flow direction measured at a nearby site is to the north-northeast under a hydraulic gradient of approximately 0.007 foot per foot.
- Petroleum hydrocarbon contamination exists in a localized area at the site. The contamination exists in the area of Boring SB-6. The downgradient extent of the petroleum has not been defined but is not likely to extend past the Alcopark parking structure based on review of published literature (LLNL, 1995b).
- No MTBE was detected in this investigation. This finding is consistent with the information on the closure date of the USTs.

Based on the results of PSI's soil and groundwater investigation presented in this report, PSI does not recommend additional investigation of the former Alcopark USTs. This recommendation is based on the lack of MTBE in site soil or groundwater, and published guidance which recommends natural bioremediation of low concentration spills (RWQCB, 1996).

REFERENCES

ACHCSA, 1999a, Workplan Approval for Former Alcopark Fueling Facility, prepared by Ms. Eva Chu, January 27.

ACHCSA, 1999b, Personnel Communication between Ms. Eva Chu of ACHCSA and Mr. Timothy O'Brien of PSI concerning additional laboratory analysis request, February 10.

ESE, 1993, Subsurface Investigation for USTs at Jackson and 12th Streets, 165 13th Street, Oakland, California, prepared for Alameda County General Services Agency, April 19.

EPA, 1989, Seminar Publication, Transport and Fate of Contaminants in the Subsurface, prepared for Technology Transfer, September.

EPA, 1991, Seminar Publication, Site Characterization for Subsurface Remediation, prepared for Technology Transfer, November.

GSA, 1999, Request For Proposal (RFP) for Groundwater Services, January 8.

LLNL, 1995a, Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks, October 16.

LLNL, 1995b, California Leaking Underground Fuel Tank Historical Case Analyses, November 16.

LLNL, 1998, An Evaluation of MTBE Impacts to California Groundwater Resources, prepared for California State Water Resources Control Board, June 11.

PSI 1998, Groundwater Monitoring Report, Third Quarter, 1998, Alcopark Fueling Facility, prepared for Alameda GSA, August 12.

RWQCB, 1996, Supplemental Instruction to State Water Board December 8, 1995 Interim Guidance on Required Cleanup at Low Risk Fuel Sites, January 5.

USGS, 1980, Oakland West, California, topographic map.

**TABLE 1-1
SUMMARY OF ANALYTICAL DATA
FORMER ALCOPARK FUELING FACILITY
12TH and JACKSON STREETS, OAKLAND, CA**

<i>All concentrations in mg/kg (PPM).</i>										
Soil Boring	Sample Depth	Date	Matrix	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
SB-1	15	10/27/92	Soil	<1	NA	0.019	0.019	0.011	0.042	NA
SB-1	21.5	10/27/92	Soil	6.3	NA	0.41	0.68	0.1	0.70	NA
SB-2	15	10/27/92	Soil	<1	NA	<0.005	<0.005	<0.005	<0.005	NA
SB-2	22	10/27/92	Soil	1.8	NA	0.21	0.19	0.034	0.20	NA
SB-3	15	10/28/92	Soil	<1	NA	<0.005	<0.005	<0.005	<0.005	NA
SB-3	22	10/28/92	Soil	<1	NA	<0.005	<0.005	<0.005	<0.005	NA
SB-4	15	10/28/92	Soil	<1	NA	<0.005	<0.005	<0.005	<0.005	NA
SB-4	22	10/28/92	Soil	<1	NA	<0.005	<0.005	<0.005	<0.005	NA
SB-5	25	2/10/99	Soil	<1	<0.005	<0.005	<0.005	<0.005	<0.005	NA
SB-6	25	2/10/99	Soil	<1	<0.005	0.047	0.022	0.024	0.026	<3.0
SB-7	25	2/10/99	Soil	<1	<0.005	<0.005	<0.005	<0.005	<0.005	NA
<i>All concentrations in mg/l (PPM).</i>										
Soil Boring	Sample Depth	Date	Matrix	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
SB-1	NA	10/27/92	Groundwater	51	NA	2.4	9.4	1.4	8.4	NA
SB-2	NA	10/27/92	Groundwater	8.2	NA	0.56	0.93	0.36	0.62	NA
SB-3	NA	10/28/92	Groundwater	0.072	NA	0.00071	<0.0005	0.0005	0.0024	NA
SB-4	NA	10/28/92	Groundwater	<0.050	NA	<0.0005	<0.0005	<0.0005	<0.0005	NA
SB-5	25	2/10/99	Groundwater	<0.050	<0.005	0.00063	0.00076	<0.0005	0.00067	NA
SB-6	25	2/10/99	Groundwater	5.0	<0.015	0.58	0.58	0.16	0.87	NA
SB-7	25	2/10/99	Groundwater	<0.050	<0.005	<0.0005	0.0011	<0.0005	0.0020	NA

Notes:

TPH-G denotes Total Petroleum Hydrocarbons as Gasoline.

MTBE denotes Methyl Tert Butyl Ether.

mg/kg denotes milligrams per kilogram (ppm).

< denotes less than detection limit.

NA denotes Not Analyzed.

Sample Depth reported in feet below ground surface.

Data collected in 1992 from ESE Report of Findings dated April 19, 1993 prepared for Alameda GSA.

**TABLE 1-2
SUMMARY OF SOIL PROPERTY DATA
FORMER ALCOPARK FUELING FACILITY
12TH and JACKSON STREETS, OAKLAND, CA**

Soil Boring	Sample Depth (ft. bgs)	Date	Matrix	Moisture Content (weight %)	Bulk Density (Grams/cc)	Porosity (Volume % Porosity)	Air Filled Void Space (% Porosity)	Fractional Organic Content (weight %)	Total Organic Carbon (mg/kg)
SB-5	5	2/10/99	Soil	13	1.8	42	19	2.3	1150

Notes:

ft. bgs denotes feet below ground surface.
 Grams/cc denotes grams per cubic centimeter.
 Moisture Content by ASTM E3173.
 Fractional Organic Content by ASTM 2974c.
 Total Organic Carbon by EPA Method 415.1
 Bulk Density, Porosity, and Air Filled Void Space by laboratory method.

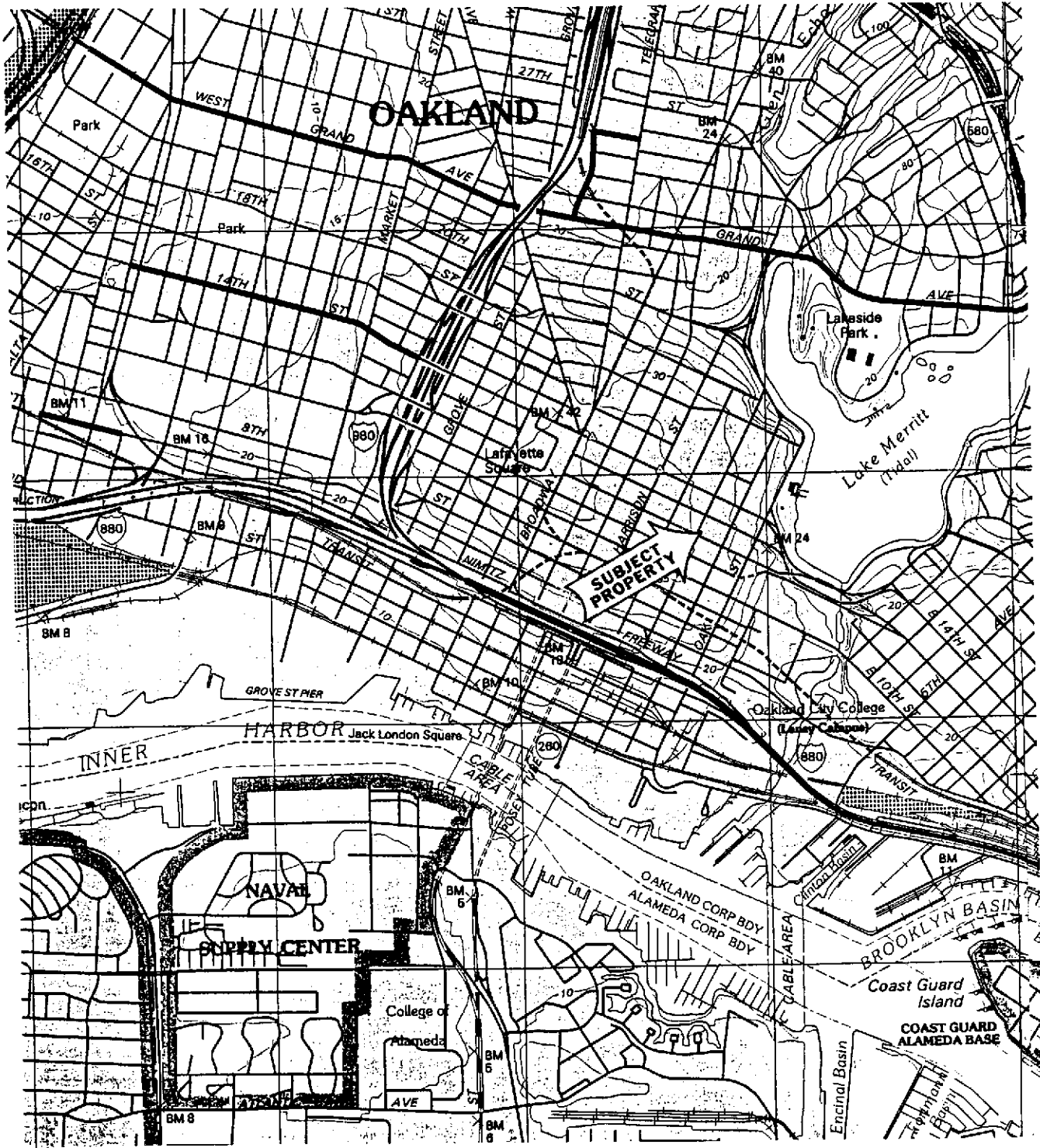


FIGURE 1 - SITE LOCATION MAP
 Former Alcopark Fueling Facility
 Jackson and 12th Streets
 Oakland, California

SOURCE:
 USGS Topographic Maps
 Oakland West, CA
 Oakland East, CA

DATE:
 Photorevised 1993

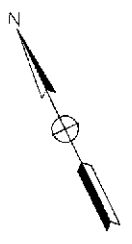


psi Environmental
 Geotechnical
 Construction
 Consulting • Engineering • Testing

1320 West Winton
 Hayward, CA 94545
 510-785-1111
 Fax 510-785-1192

PROJECT NO.:
 9G004

JACKSON STREET



APPROXIMATE
GROUNDWATER
FLOW DIRECTION

ALCOPARK
(ALAMEDA COUNTY
PARKING GARAGE)

SIDEWALK

SB-7

SB-2

REMOTE FILL
FUEL PIPELINES

SB-6

SB-3

SB-1

SB-1A

PLANTER

10,000 GAL. USTs
(CLOSED IN PLACE)

SB-4

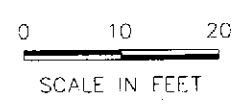
SB-5

SIDEWALK

12TH STREET

LEGEND

- SB-1 ● SOIL BORING
- REMOTE FILL PORTS



NOTE:
SITE MAP FROM ESE REPORT OF FINDINGS, DATED
APRIL, 19, 1993.



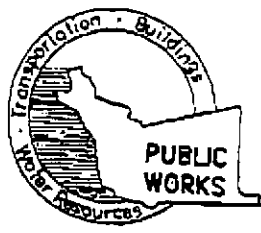
SITE PLAN
FORMER ALCOPARK FUELING FACILITY
12TH AND JACKSON STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9C004

DATE: 1/21/99	CKD BY: <i>[Signature]</i>	FIGURE NO.: 2
FILE NO: 9C004-2		DRAWN BY: S.BOWERS

APPENDIX A

DRILLING PERMIT
SOIL BORING LOGS
CITY OF OAKLAND STREET PERMIT

96004



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Northeast corner of intersection of 12th Street and Jackson Street, Oakland, CA

PERMIT NUMBER 99WR041
WELL NUMBER _____
APN _____

California Coordinates Source _____ Accuracy ± _____ ft.
CCN _____ N OCE _____ ft.
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT
Name Alameda Co. General Services Agency
Address 1401 Lakeside Dr Phone 510 768 9522
City Oakland, CA Zip 94612

- (A) GENERAL
 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
 2. Submit to ACPWA 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.

APPLICANT
Name Professional Service Industries
Address 1370 W. Ukiah Ave Fax 510 785 1192
City Hayward, CA Phone 510 785 1111
Zip _____

- B. WATER SUPPLY WELLS
 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.

TYPE OF PROJECT
 All Construction
 Cathodic Protection
 Water Supply
 Monitoring
 Geotechnical Investigation
 General
 Contamination
 Well Destruction

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

PROPOSED WATER SUPPLY WELL USE
 New Domestic
 Municipal
 Industrial
 Replacement Domestic
 Irrigation
 Other _____

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

DRILLING METHOD:
 Mud Rotary
 Cable
 Air Rotary
 Other * Direct Push (Geoprobe)
 Auger

- E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION
See attached.
- G. SPECIAL CONDITIONS

DRILLER'S LICENSE NO. C57 683865

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum _____
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

GEOTECHNICAL PROJECTS
Number of Borings 3 Maximum _____
Hole Diameter 2 in. Depth 25 ft.

ESTIMATED STARTING DATE 2/5/99
ESTIMATED COMPLETION DATE 2/5/99

APPROVED Andreas Godfrey DATE 2/1/99

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-6E.

APPLICANT'S SIGNATURE [Signature] DATE 1/29/99

SOIL BORING LOG

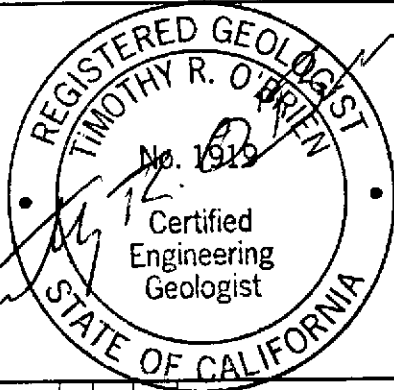
BORING NO: SB-5

SHEET 1 OF 2

PROJECT NAME: Former Alcopark Fueling Str.

PROJECT NO: 575-9G004

DATE: 2/10/99



DRILLING COMPANY: FISCH ENVIRONMENTAL

DRILLING METHOD: DIRECT PUSH - GEOPROBE

BORING DIMENSIONS: 2 INCH DIAMETER DEPTH: 25 FT

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
2/10/99	INITIAL	25 FT
2/10/99	STABILIZED	8 FT

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Sand with some silt, fine to medium grained sand, brown, moist, no odor.		SP	Concrete pavement surface.
2								
3								
4								
5			18			0		
6								
7								
8								
9								
10			20			0		
11								
12								
13								
14								
15			19		Silty sand, fine to medium grained sand, greenish-gray, moist, no odor.	0	SM	
16								
17								
18								moisture increase to very moist.
19			19					
20					Log continues downward	0		

REVIEWED BY: TIM O'BRIEN

LOGGED BY: SCOTT A. BOWERS

SOIL BORING LOG

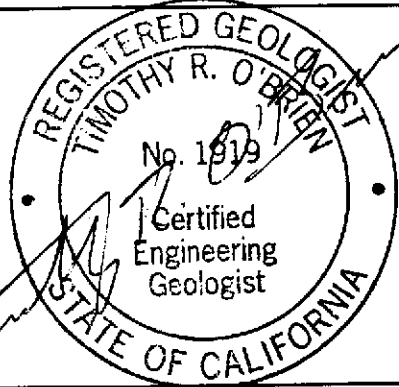
BORING NO:	SB-5
SHEET	2 OF 2
PROJECT NAME:	Former Alcopark Fueling Str.
PROJECT NO:	575-9G004
DATE:	2/10/99
DRILLING COMPANY:	FISCH ENVIRONMENTAL
DRILLING METHOD:	DIRECT PUSH - GEOPROBE
BORING DIMENSIONS:	2 INCH DIAMETER DEPTH: 25 FT
GROUNDWATER LEVELS	
DATE	COMMENTS

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
21					Silty sand as described above.			
22								
23								
24		24				0		
25								Groundwater encountered
26								Total Depth = 25 feet.
27								Boring terminated at depth sufficient for investigation.
28								Groundwater encountered at 25 feet below ground surface.
29								Boring grouted with neat cement.
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

REVIEWED BY: TIM O'BRIEN LOGGED BY: SCOTT A. BOWERS

SOIL BORING LOG

BORING NO: SB-6
 SHEET 1 OF 2
 PROJECT NO: 575-9G004



PROJECT NAME: Former Alcopark Fueling Stn.
 DATE: 2/10/99

DRILLING COMPANY: FISCH ENVIRONMENTAL
 DRILLING METHOD: DIRECT PUSH - GEOPROBE
 BORING DIMENSIONS: 2 INCH DIAMETER DEPTH: 25 FT

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
2/10/99	INITIAL	25 FT
2/10/99	STABILIZED	18 FT

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Sand with some silt, fine to medium grained sand, brown, moist, no odor.		SP	Soil surface.
2								
3								
4								
5		20				0		
6								
7								
8								
9								
10		24				0		
11								
12								
13								
14								
15		21			Silty sand, fine to medium grained sand, greenish-gray, moist, no odor.	0	SM	
16								
17								
18								moisture increase to very moist.
19								
20		20			Log continues downward	0		

REVIEWED BY: TIM O'BRIEN

LOGGED BY: SCOTT A. BOWERS

SOIL BORING LOG

BORING NO:	SB-6
SHEET	2 OF 2
PROJECT NAME:	Former Alcopark Fueling Stn.
PROJECT NO:	575-9G004
DATE:	2/10/99
DRILLING COMPANY:	FISCH ENVIRONMENTAL
DRILLING METHOD:	DIRECT PUSH - GEOPROBE
BORING DIMENSIONS:	2 INCH DIAMETER
DEPTH:	25 FT
GROUNDWATER LEVELS	
DATE	COMMENTS

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
21					Silty sand as described above.			
22								
23								
24		24				0		
25								Groundwater encountered
26								Total Depth = 25 feet.
27								Boring terminated at depth sufficient for investigation.
28								Groundwater encountered at 25 feet below ground surface.
29								Boring grouted with neat cement.
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

REVIEWED BY: TIM O'BRIEN

LOGGED BY: SCOTT A. BOWERS

SOIL BORING LOG

BORING NO: SB-7

SHEET 1 OF 2

PROJECT NAME: Former Alcopark Fueling Stn.

PROJECT NO: 575-9G004

DATE 2/10/99

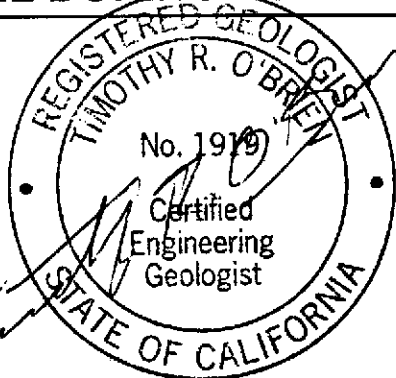
DRILLING COMPANY: FISCH ENVIRONMENTAL

DRILLING METHOD: DIRECT PUSH - GEOPROBE

BORING DIMENSIONS: 2 INCH DIAMETER DEPTH: 25 FT

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
2/10/99	INITIAL	25 FT
2/10/99	STABILIZED	17 FT



DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Sand with some silt, fine to medium grained sand, brown, moist, no odor.		SP	Soil surface.
2								
3								
4								
5		18				0		
6								
7								
8								
9								
10		20				0		
11								
12								
13								
14								
15		19			Silty sand, fine to medium grained sand, greenish-gray, moist, no odor.	0	SM	moisture increase to very moist.
16								
17								
18								
19		19						
20					Log continues downward	0		

REVIEWED BY: TIM O'BRIEN

LOGGED BY: SCOTT A. BOWERS

SOIL BORING LOG

BORING NO: SB-7		
SHEET 2 OF 2		
PROJECT NAME: Former Alcopark Fueling Stn. PROJECT NO: 575-9G004		
DATE 2/10/99		
DRILLING COMPANY: FISCH ENVIRONMENTAL		
DRILLING METHOD: DIRECT PUSH - GEOPROBE		
BORING DIMENSIONS: 2 INCH DIAMETER DEPTH: 25 FT		
GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
21					Silty sand as described above.			
22								
23								
24		24				0		
25								Groundwater encountered
26								Total Depth = 25 feet.
27								Boring terminated at depth sufficient for investigation.
28								Groundwater encountered at 25 feet below ground surface.
29								Boring grouted with neat cement.
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

REVIEWED BY: TIM O'BRIEN LOGGED BY: SCOTT A. BOWERS



EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL
ENGINEERING

PAGE 2 of 2

96004
1200 JACKSON ST.

PERMIT NUMBER X 9900087		SITE ADDRESS/LOCATION <i>West side of Jackson Street approx. 40 ft. north of 12th Street</i>	
APPROX. START DATE 2/5/99	APPROX. END DATE 2/5/99	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) 510 785 1111	
CONTRACTOR'S LICENSE # AND CLASS 716703 A, C57, Haz		CITY BUSINESS TAX # 283185	

ATTENTION:

- State law requires that the contractor/owner call *Underground Service Alert (USA)* two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1 (800) 642-2444. **UNDERGROUND SERVICE ALERT (USA) #:** _____
- 48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.**

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than \$500):

- I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).
- I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).
- I, as owner of the property, am exclusively contracting with licensed contractors to construct the project. (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).
- I am exempt under Sec. _____ B&PC for this reason _____

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name *see attached*

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars (\$100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Tom [Signature] **2/1/99**

Signature of Permittee Agent for Contractor Owner Date

DATE STREET LAST 92	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	HOLIDAY RESTRICTION (NOV. 1 - JAN. 1) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-5PM) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
RESURFACED <i>m. Miller</i>	DATE ISSUED 2/1/99		

APPENDIX B

LABORATORY REPORT



McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Professional Service Industries 1320 West Winton Avenue Hayward, CA 94545	Client Project ID: #575-9G004; Former Alcopark Fueling Station	Date Sampled: 02/10/99
	Client Contact: Tim O'Brien	Date Received: 02/10/99
	Client P.O:	Date Extracted: 02/10/99
		Date Analyzed: 02/10/99

02/17/99

Dear Tim:

Enclosed are:

- 1). the results of 7 samples from your #575-9G004; Former Alcopark Fueling Station 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



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Professional Service Industries 1320 West Winton Avenue Hayward, CA 94545	Client Project ID: #575-9G004; Former Alcopark Fueling Station	Date Sampled: 02/10/99
	Client Contact: Tim O'Brien	Date Received: 02/10/99
	Client P.O:	Date Extracted: 02/11/99
		Date Analyzed: 02/11-02/12/99

Volatile Organics By GC/MS

EPA method 8260

Lab ID	03222		
Client ID	SB-6-25		
Matrix	S		
Compound	Concentration*	Compound	Concentration*
Acetone ^(b)	ND<30	Ethylbenzene	13
Benzene	28	Hexachlorobutadiene	ND
Bromobenzene	ND	Iodomethane	ND
Bromochloromethane	ND	Isopropylbenzene	ND
Bromodichloromethane	ND	p-Isopropyl toluene	ND
Bromoform	ND	Methyl butyl ketone ^(d)	ND
Bromomethane	ND	Methylene Chloride ^(e)	ND<10
n-Butyl benzene	ND	Methyl ethyl ketone ^(f)	ND
sec-Butyl benzene	ND	Methyl isobutyl ketone ^(g)	ND
tert-Butyl benzene	ND	Methyl tert-Butyl Ether (MTBE)	---
Carbon Disulfide	ND	Napthalene	ND
Carbon Tetrachloride	ND	n-Propyl benzene	ND
Chlorobenzene	ND	Styrene ^(k)	ND
Chloroethane	ND	1,1,1,2-Tetrachloroethane	ND
2-Chloroethyl Vinyl Ether ^(c)	ND	1,1,2,2-Tetrachloroethane	ND
Chloroform	ND	Tetrachloroethene	ND
Chloromethane	ND	Toluene ^(h)	10
2-Chlorotoluene	ND	1,2,3-Trichlorobenzene	ND
4-Chlorotoluene	ND	1,2,4-Trichlorobenzene	ND
Dibromochloromethane	ND	1,1,1-Trichloroethane	ND
1,2-Dibromo-3-chloropropane	ND	1,1,2-Trichloroethane	ND
Dibromomethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	1,2,3-Trichloropropane	ND
1,4-Dichlorobenzene	ND	1,2,4-Trimethylbenzene	ND
Dichlorodifluoromethane	ND	1,3,5-Trimethylbenzene	ND
1,1-Dichloroethane	ND	Vinyl Acetate ^(m)	ND
1,2-Dichloroethane	ND	Vinyl Chloride ⁽ⁿ⁾	ND
1,1-Dichloroethene	ND	Xylenes, total ⁽ⁱ⁾	15
cis-1,2-Dichloroethene	ND		
trans-1,2-Dichloroethene	ND		
1,2-Dichloropropane	ND		
1,3-Dichloropropane	ND		
2,2-Dichloropropane	ND	Comments:	
1,1-Dichloropropene	ND	Surrogate Recoveries (%)	
cis-1,3-Dichloropropene	ND	Dibromofluoromethane	101
trans-1,3-Dichloropropene	ND	Toluene-d8	97
Ethylene dibromide	ND	4-Bromofluorobenzene	88

*water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / SPLP extracts in ug/L
 Reporting limits unless otherwise stated: water samples 1.0 ug/L; vapor samples 0.5 ug/L; solid and sludge samples 5 ug/kg; wipes 0.2ug/wipe ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis
 (b) 2-propanone or dimethyl ketone; (c) (2-chloroethoxy) ethene; (d) 2-hexanone; (e) dichloromethane; (f) 2-butanone; (g) 4-methyl-2-pentanone or isopropylacetone; (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than -5 vol. % sediment; (j) sample diluted due to high organic content; (k) peaks present in this carbon range do not match the pattern of our standard for this analyte; (l) methylbenzene; (m) acetic acid ethenyl ester; (n) chloroethene; (o) dimethylbenzenes.



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Professional Service Industries 1320 West Winton Avenue Hayward, CA 94545	Client Project ID: #575-9G004; Former Alcopark Fueling Station	Date Sampled: 02/10/99
	Client Contact: Tim O'Brien	Date Received: 02/10/99
	Client P.O.:	Date Extracted: 02/16-02/17/99
		Date Analyzed: 02/16-02/17/99

Volatile Organics By GC/MS

EPA method 8260

Compound	Concentration*	Compound	Concentration*
Acetone ^(b)	ND<30	Ethylbenzene	140
Benzene	570	Hexachlorobutadiene	ND<15
Bromobenzene	ND<15	Iodomethane	ND<15
Bromochloromethane	ND<15	Isopropylbenzene	ND<15
Bromodichloromethane	ND<15	p-Isopropyl toluene	ND<15
Bromoform	ND<15	Methyl butyl ketone ^(d)	ND<15
Bromomethane	ND<15	Methylene Chloride ^(e)	ND<55
n-Butyl benzene	ND<15	Methyl ethyl ketone ^(f)	ND<15
sec-Butyl benzene	ND<15	Methyl isobutyl ketone ^(g)	ND<15
tert-Butyl benzene	ND<15	Methyl tert-Butyl Ether (MTBE)	---
Carbon Disulfide	ND<15	Naphthalene	ND<15
Carbon Tetrachloride	ND<15	n-Propyl benzene	ND<15
Chlorobenzene	ND<15	Styrene ^(h)	ND<15
Chloroethane	ND<15	1,1,1,2-Tetrachloroethane	ND<15
2-Chloroethyl Vinyl Ether ^(e)	ND<15	1,1,2,2-Tetrachloroethane	ND<15
Chloroform	ND<15	Tetrachloroethene	ND<40
Chloromethane	ND<15	Toluene ⁽ⁱ⁾	520
2-Chlorotoluene	ND<15	1,2,3-Trichlorobenzene	ND<15
4-Chlorotoluene	ND<15	1,2,4-Trichlorobenzene	ND<15
Dibromochloromethane	ND<15	1,1,1-Trichloroethane	ND<15
1,2-Dibromo-3-chloropropane	ND<15	1,1,2-Trichloroethane	ND<15
Dibromomethane	ND<15	Trichloroethene	ND<15
1,2-Dichlorobenzene	ND<15	Trichlorofluoromethane	ND<15
1,3-Dichlorobenzene	ND<15	1,2,3-Trichloropropane	ND<15
1,4-Dichlorobenzene	ND<15	1,2,4-Trimethylbenzene	130
Dichlorodifluoromethane	ND<15	1,3,5-Trimethylbenzene	27
1,1-Dichloroethane	ND<15	Vinyl Acetate ^(m)	ND<15
1,2-Dichloroethane	ND<15	Vinyl Chloride ⁽ⁿ⁾	ND<15
1,1-Dichloroethene	ND<15	Xylenes, total ^(o)	790
cis-1,2-Dichloroethene	ND<15		
trans-1,2-Dichloroethene	ND<15		
1,2-Dichloropropane	ND<15		
1,3-Dichloropropane	ND<15		
2,2-Dichloropropane	ND<15		
1,1-Dichloropropene	ND<15		
cis-1,3-Dichloropropene	ND<15		
trans-1,3-Dichloropropene	ND<15		
Ethylene dibromide	ND<15		

* water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / SPLP extracts in ug/L
 Reporting limits unless otherwise stated: water samples 1.0 ug/L; vapor samples 0.5 ug/L; solid and sludge samples 5 ug/kg; wipes 0.2ug/wipe ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis
 (b) 2-propanone or dimethyl ketone; (c) (2-chloroethoxy) ethene; (d) 2-hexanone; (e) dichloromethane; (f) 2-butanone; (g) 4-methyl-2-pentanone or isopropylacetone; (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content; (k) peaks present in this carbon range do not match the pattern of our standard for this analyte; (l) methylbenzene; (m) acetic acid ethenyl ester; (n) chloroethene; (o) dimethylbenzenes.



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Professional Service Industries 1320 West Winton Avenue Hayward, CA 94545	Client Project ID: #575-9G004; Former Alcopark Fueling Station	Date Sampled: 02/10/99
	Client Contact: Tim O'Brien	Date Received: 02/10/99
	Client P.O:	Date Extracted: 02/11-02/17/99
		Date Analyzed: 02/11-02/17/99

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	03222	03225	Reporting Limit		
			S	W	
Client ID	SB-6-25	WSB-6			
Matrix	S	W			
Compound	Concentration*			ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND	ND<15		5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	ND<15		5.0	1.0
Methyl-tert Butyl Ether (MTBE)	ND	ND<15		5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND	ND<15		5.0	1.0
Ethanol	ND	---		5000	---
tert-Butanol	ND	ND<75		25	5.0

Surrogate Recoveries (%)

Dibromofluoromethane	101	119		
Comments:		j,j		

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis
 (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content



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Professional Service Industries 1320 West Winton Avenue Hayward, CA 94545	Client Project ID: #575-9G004; Former Alcopark Fueling Station	Date Sampled: 02/10/99
	Client Contact: Tim O'Brien	Date Received: 02/10/99
	Client P.O:	Date Extracted: 02/10/99
		Date Analyzed: 02/11/99

Lead*

EPA analytical methods 6010/200.7, 239.2*

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
03222	SB-6-25	S	TTLC	ND	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	S	TTLC	3.0 mg/kg		
	W	TTLC	0.005 mg/L		
	---	STLC,TCLP	0.2 mg/L		

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L
 ° Lead is analysed using EPA method 6010 (ICP) for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples
 ° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22
 * surrogate diluted out of range; N/A means surrogate not applicable to this analysis
 ^ reporting limit raised due matrix interference
 i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.



McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Professional Service Industries 1320 West Winton Avenue Hayward, CA 94545			Client Project ID: #575-9G004; Former Alcopark Fueling Station			Date Sampled: 02/10/99	
			Client Contact: Tim O'Brien			Date Received: 02/10/99	
			Client P.O:			Date Extracted: 02/10/99	
						Date Analyzed: 02/10-02/12/99	
Analytical methods			Moisture	Bulk Density	Porosity	Air Filled Void Space	Fractional Organic Content
			ASTM E3173	*	&	&	ASTM 2974c
Lab ID	Client ID	Matrix	Weight %	Grams / cc	Vol % Porosity	Vol % Porosity	Weight %
03220	SB5-5	S	13	1.8	42	19	2.3
Reporting Limit or Method Accuracy unless otherwise stated; ND means not detected above the reporting limit		S	± 2%	± 0.1g/cc	± 2%	± 2%	± 0.3%
* calculated							
^ calculated volume percentage assuming that the specific gravity of soil is 2.65 grams/cc.							

DHS Certification No. 1644

14 Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/12/99-02/13/99

Matrix: WATER

Analyte	Concentration (mg/L)			Amount Spiked	% Recovery		RPD
	Sample (#02760)	MS	MSD		MS	MSD	
TPH (gas)	0.0	103.4	102.2	100.0	103.4	102.2	1.1
Benzene	0.0	10.1	9.8	10.0	101.0	98.0	3.0
Toluene	0.0	10.4	10.1	10.0	104.0	101.0	2.9
Ethyl Benzene	0.0	10.6	10.5	10.0	106.0	105.0	0.9
Xylenes	0.0	32.0	31.0	30.0	106.7	103.3	3.2
TPH (diesel)	0.0	154	168	150	103	112	9.0
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

McCAMPBELL ANALYTICAL INC.

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/12/99-02/13/99

Matrix: SOIL

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample (#98802)	MS	MSD		MS	MSD	
TPH (gas)	0.000	2.396	2.446	2.03	118	120	2.1
Benzene	0.000	0.216	0.216	0.2	108	108	0.0
Toluene	0.000	0.232	0.232	0.2	116	116	0.0
Ethylbenzene	0.000	0.218	0.222	0.2	109	111	-1.8
Xylenes	0.000	0.648	0.656	0.6	108	109	1.2
TPH(diesel)	0	269	270	300	90	90	0.4
TRPH (oil and grease)	0.0	20.0	23.7	20.8	96	114	16.9

* 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: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR VOCs (EPA 8240/8260)

Date: 02/11/99-02/12/99

Matrix: WATER

Analyte	Concentration (ug/kg, u Sample			Amount Spiked	% Recovery		RPD
	MS	MSD			MS	MSD	
1,1-Dichloroethe	0	123	128	100	123	128	4.0
Trichloroethene	0	86	84	100	86	84	2.4
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0	99	95	100	99	95	4.1
Benzene	0	118	114	100	118	114	3.4
Toluene	0	110	103	100	110	103	6.6

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

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

McCAMPBELL ANALYTICAL INC.

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

QC REPORT FOR VOCs (EPA 8240/8260)

Date: 02/16/99-02/17/99

Matrix: WATER

Analyte	Concentration (ug/kg,u Sample			Amount Spiked	% Recovery		RPD
	MS	MSD			MS	MSD	
1,1-Dichloroethe	0	121	123	100	121	123	1.6
Trichloroethene	0	83	86	100	83	86	3.6
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0	93	95	100	93	95	2.1
Benzene	0	113	113	100	113	113	0.0
Toluene	0	101	102	100	101	102	1.0

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

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

McCAMPBELL ANALYTICAL INC.

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

QC REPORT FOR VOCs (EPA 8240/8260)

Date: 02/11/99-02/12/99

Matrix: SOIL

Analyte	Concentration (ug/kg, u Sample (#98802)			Amount Spiked	% Recovery		RPD
	MS	MSD			MS	MSD	
1,1-Dichloroethe	0	85	100	100	85	100	16.2
Trichloroethene	0	82	93	100	82	93	12.6
EDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0	94	102	100	94	102	8.2
Benzene	0	98	109	100	98	109	10.6
Toluene	0	96	112	100	96	112	15.4

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

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

McCAMPBELL ANALYTICAL INC.

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

QC REPORT FOR ICP and/or AA METALS

Date: 02/11/99-02/12/99

Matrix: SOIL

Extraction:

TTLC

Analyte	Concentration (mg/kg, mg/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
Total Lead	0.0	4.87	4.81	5.0	97	96	1.1
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	0.00	4.87	4.83	5.0	97	97	0.9
DISTLC Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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



Alpha Analytical Laboratories Inc. • 860 Waugh Lane, H-1, Ukiah, California 95482
CHEMICAL EXAMINATION REPORT (707) 468-0401

McC Campbell Analytical, Inc.
110 2nd Avenue South #D7
Pacheco, CA 94553-5560
Attn: Ed Hamilton

Date Printed 2/23/99 Page 1

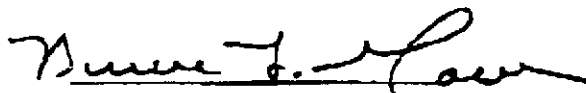
Batch Number 99-0212-021 Receipt Date 02/12/99 10:45 Client MCCLAB Client P.O. 13968 Send Via Mail

	METHOD	EXTRACTED	TEST DATE	RESULT	UNITS	POL	DILUTION
Batch 99-0212-021 consisted of 1 Sample and 1 Test							
Sample 1	605-S, # 03220 P.S.I.						
Sample Type: Soil	Sampled by:		Sampled: 2/10/99				
Total Organic Carbon	415.1		2/22/99	1150	mg/kg	5	

POL - Practical Quantitation Limit ND - None Detected
* - Indicates Detection Limit altered due to Sample Dilution

NOTES:

Bruce L. Bove
Laboratory Director


Date Printed: 2/23/99



Centrum Analytical Laboratories, Inc.

13968xPSI 16

Centrum Job #

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Page _____ of _____

Project No.: 575-96004		Project Name: Former Alcopark Fueling Station					Analyses Requested										Turn-around time				
Project Manager: Tim O'Brien		Phone: (510) 785-1111		Fax: (510) 785-1192			GCMS# 8240 8010 524.2	8080: Pesticides PCBs Pest/PCB	8015M: Diesel Fuel Screen	8015M: Gasoline 8020 Gas/STEX + MTBC	418.1 (TRPH)	Semi-volatiles: 8270 625	Metals: TLIC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	T.O.C. <i>only</i>	Bike dumping, TDC, possibly, H2O content	<input type="checkbox"/> 24 Hr. RUSH* <input type="checkbox"/> 48 Hr. RUSH* <input checked="" type="checkbox"/> Normal TAT <small>* Requires prior approval, additional charges apply</small>		
Client Name: (Company) P.S.I.		Address: 1320 W. Winton Ave, Hayward, 94542																		Remarks/ Special Instructions	
Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type															
	SB5-5	2/10/99	845	S		1 sleeve															
	SB5-10		910																		
	SB-5-25		1010																		
	SB-6-25		1205																		
	SB-7-25		1350	✓																	
	WSB-5		1030	W		6 VOAS															
	WSB-6		1220																		
	WSB-7		1410	✓																	
Relinquished by: (Sampler's Signature) <i>[Signature]</i>		Date 2/10/99	Time 1615	Relinquished by:		Date	Time	To be completed by laboratory personnel:										Sample Disposal			
Received by:		Date	Time	Received by: <i>[Signature]</i>		Date	Time	<input type="checkbox"/> Samples chilled? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seals? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> All sample containers intact? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Courier <input type="checkbox"/> UPS/Fed Ex <input type="checkbox"/> Hand carried										<input type="checkbox"/> Client will pick up <input type="checkbox"/> Return to client <input type="checkbox"/> Lab disposal fee \$5			
The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.						Relinquished by: <i>[Signature]</i>		Date	Time												
						Received for Laboratory by: Jima A Butler		Date 2/10	Time 6pm												
Laboratory Notes: Include 7 oxygenates in 8260 scan on sample SB-6-25																		Sample Locator No.			

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