



# HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment, Remedial Testing, Design and Operation

ENVIRONMENTAL  
PROTECTION  
NOV 14 PM 2:21

November 11, 1996

Ms. Eva Chu  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502

Subject: Transmittal of PSA Report  
Winner Ford, 1650 Park Street, Alameda, California.

Ms. Chu:

At the request of Ms. Michelle Nokes of Winner Ford, Horizon Environmental Inc. (Horizon) is transmitting to you this Preliminary Subsurface Assessment Report dated November 11, 1996 for the above-referenced site.

Please call us at 916-939-2170 should you have any questions regarding this site.

Sincerely,  
**Horizon Environmental Inc.**

Gary D. Barker  
Senior Project Manager

enclosure: Monitoring Well Completion and Preliminary Subsurface Assessment Report

cc: Ms. Michelle Nokes, Winner Ford



# HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment, Remedial Testing, Design and Operation

## MONITORING WELL COMPLETION AND PRELIMINARY SUBSURFACE ASSESSMENT REPORT

at

Winner Ford  
1650 Park Street  
Alameda, California

for

Winner Ford  
1650 Park Street  
Alameda, California

by

Horizon Environmental Inc.

Report No. 3002.11

Gary D. Barker  
Senior Project Manager  
REA-00868

Dayne L. Frary  
Registered Geologist No. 4456  
Registered Environmental Assessor No. 02980

November 11, 1996

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# HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment, Remedial Testing, Design and Operation

## MONITORING WELL COMPLETION AND SUBSURFACE ASSESSMENT REPORT

at

Winner Ford  
1650 Park Street  
Alameda, California

### INTRODUCTION

At the request of Winner Ford, Horizon Environmental Inc. (Horizon) conducted a subsurface investigation at Winner Ford, located at the southeast corner of Park Street and Buena Vista Avenue in Alameda, California (see Figure 1). This field investigation included the drilling and sampling of two exploratory soil borings (B-1 and B-2); the completions of groundwater monitoring wells MW-1 and MW-2 in borings B-1 and B-2; and collecting soil samples by hand-auger from beneath the former dispenser island. The monitoring wells were drilled in order to assess the extent of petroleum hydrocarbon impaction on the north side of the former location of a 500-gallon capacity, gasoline, underground storage tank (UST), and on the northeast side of the former location of a 100-gallon capacity, waste-oil UST. The work was performed in accordance with the Work Plan dated March 8, 1996, prepared by Horizon Environmental Inc. (Horizon). The Work Plan was approved by the Alameda County Health Care Services Agency, Department of Environmental Health (ACHCSA-DEH) in a letter dated March 21, 1996.

## **SITE DESCRIPTION AND BACKGROUND**

Winner Ford is an automobile dealership and showroom located on the southeast corner of the intersection of Park Street and Buena Vista Avenue in Alameda, California, as depicted on the Site Vicinity Map (Figure 1). The site is approximately 0.4 miles south of the Oakland Inner Harbor and approximately 1 mile north of San Leandro Bay; it is located within a primarily commercial area of Alameda. Site facilities include a building with enclosed offices, an automobile showroom, and an automobile storage warehouse. The remaining portion of the property is used to store automobiles. The site is primarily asphalt-paved with some areas of concrete. The former gasoline UST was located beneath the sidewalk between the main building and Buena Vista Avenue, and the former waste-oil UST was located beneath the sidewalk between the main building and Park Street. The locations of these facilities and other pertinent site features are shown on the Site Plan (Figure 2). The waste-oil UST had not been used since the commencement of Winner Ford's lease in 1986. The gasoline UST was last used by Winner Ford in 1993 and was precision-tested in January 1994, at which time it was certified "tight".

In August 1995, Blymyer Engineers, Inc. (Blymyer) was present on-site to observe the removal of a 500-gallon capacity, single-walled, steel, unleaded gasoline storage tank, and a 100-gallon capacity, single-walled, steel, waste-oil tank, and soil sampling related to removal the USTs, gasoline dispenser, and the associated product lines (Blymyer, November 22, 1995). Piping connecting a former sump drain to the waste-oil tank was removed during the waste-oil tank removal. The approximate locations of the former USTs are depicted on Figure 2. The gasoline product lines were rinsed, grouted, and left in place. The pipeway to the concrete dispenser island was filled with concrete and the dispenser island was left in place. The soil samples collected and analyzed from the gasoline UST, gasoline dispenser, and product line removal indicated that soil containing gasoline hydrocarbons at a

concentration of 7100 parts per million (ppm) remained after excavation of the gasoline UST basin to a depth of approximately 8 feet below surface grade (bsg), and Total Petroleum Hydrocarbons as gasoline (TPHg) concentrations of 46,000 ppm remained beneath the dispenser island at a depth of approximately 3 inches bsg. The soil samples collected and analyzed from beneath the former waste-oil UST revealed that the soil containing Total Recoverable Petroleum Hydrocarbons (TRPH) at a concentration of 3100 ppm remained after the excavation of the waste-oil UST basin to a depth of approximately 6.5 feet bsg. No Total Petroleum Hydrocarbons as diesel (TPHd), volatile organic compounds (VOCs), or California Assessment Manual (CAM)-17 metals exceeding 10 times their respective STLC or TCLP values were detected above the laboratory detection limits in any of the soil samples analyzed. The semivolatile organic compounds (SVOCs) benzo (a) anthracene, chrysene, and pyrene, were detected in the soil sample collected at a depth of approximately 6.5 feet bsg from the waste-oil basin and contained reported concentrations of 330 parts per billion (ppb), 400 ppb, and 520 ppb, respectively. No other SVOCs were detected at the laboratory detection limits.

Blymyer reported the soil type observed in both UST basins to be clayey sand. Blymyer also reported that initial groundwater was encountered in the gasoline UST basin at a depth of approximately 9 feet beneath the site. The groundwater flow direction beneath the site was estimated north-northeasterly based on surficial topographic contours and concurring data obtained from adjacent sites.

## **DRILLING AND SOIL SAMPLING**

Field work was conducted on July 11 and 12, 1996, in accordance with the Work Plan for a Subsurface Investigation, dated March 21, 1996. Prior to drilling, Underground Service Alert was notified. Groundwater Protection Ordinance Permit No. 96391 was obtained from the Alameda County Flood Control and Water Conservation District, and Encroachment Permit No. EN96-054 was obtained from the City of Alameda Engineering Office. Copies of the permits are included as Appendix A. Horizon Field Methods and Procedures are included as Appendix B.

On July 11, 1996, a Horizon geologist observed the drilling of two exploratory soil borings completed as monitoring wells MW-1 and MW-2. An additional soil boring, B-1, was hand-augered in the building. The boring locations were previously selected in order to assess gasoline and waste-oil which had apparently leaked from the former steel USTs; the unauthorized releases were discovered during UST removal operations.

Drilling was performed by Mitchell Drilling Environmental, Inc. of Rancho Cordova, California. The monitoring wells were drilled using a truck-mounted, CME-75 drill rig equipped with 8-inch diameter, hollow-stem augers.

The borings for MW-1 and MW-2 were both advanced to a total depth (T.D.) of 25 feet bsg. The soils encountered consisted primarily of dense, grey-brown, silty clays with some orange mottling and blue-green staining. Boring B-1 was hand-augered to the soil-water interface at 7 feet bsg where a soil sample was collected from the auger. Groundwater was encountered in the boring for MW-1 at 6.25 feet bsg. In the boring for MW-2, groundwater was encountered at 14.2 feet bsg. The locations of the soil boring and monitoring wells are depicted on Figure 2.

During drilling, soil samples were collected from each boring at 5-foot intervals from the surface to T.D.. Soil samples and cuttings were evaluated for the presence of petroleum hydrocarbon vapors with an organic vapor meter (OVM). Boring Logs for MW-1 and MW-2 are included as Appendix C and were prepared in accordance with the descriptive Unified Soil Classification System (USCS). A copy of the USCS is shown on the Boring Log Symbol Key, also included within Appendix C.

### **SOIL ANALYTICAL RESULTS**

Soil samples collected from each boring and the stockpiled soil were submitted under chain-of-custody (CoC) to Excelchem Environmental Labs in Roseville, California. Soil samples submitted for laboratory analysis were selected based on the field-screening evaluation for the presence of petroleum hydrocarbons in the soil samples. The selected soil samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg) by U.S. Environmental Protection Agency (EPA) Modified Method 8015; for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020; for methyl tertiary butyl ether (MTBE) by EPA Method 5030 followed by EPA Method 8020; and for Total Oil and Grease by Standard Method 5520-B. Additionally, four soil samples collected from the stockpile of soil cuttings were composited in the laboratory and analyzed for TPHg, BTEX, and Total Oil and Grease using the aforementioned laboratory methods. Following receipt of the laboratory results, the soil will be transported from the site. Soil analytical results are compiled in Table 1, and the laboratory reports including the CoC are included as Appendix D.



## COMPLETIONS OF MONITORING WELLS

Monitoring wells MW-1 and MW-2 were completed with 2-inch diameter, Schedule 40 PVC slotted casing in the interval from 5 to 25 feet. No. 3 Monterey sand was packed around the screen from 25 to 4.5 feet bsg in each well. The hydrated bentonite seal was placed from 4.5 to 3.5 feet bsg in each well, and each was cemented from approximately 3.5 feet to inches below surface grade. Well boxes for each wellhead were set in concrete. Completion details are diagrammed on the boring logs of MW-1 and MW-2, included as Appendix B. On July 12, the water level was sounded at 6.04 feet in MW-1; it was sounded at 7.55 feet in MW-2.

## GROUNDWATER ANALYTICAL RESULTS

Monitoring wells MW-1 and MW-2 were developed and sampled on July 16, 1996. Samples from each well were submitted to Excelchem for TPHg by EPA Modified Method 8015, and for BTEX and MTBE constituents by EPA Method 602. The laboratory reported 222 µg/L of TPHg, 62.8 µg/L of benzene, and 267 µg/L of MTBE in the sample collected from MW-1. The sample collected from MW-2 exhibited 1.1 µg/L of benzene. The State of California Maximum Contaminant Limit (MCL) for benzene is 1 µg/L. The State of California interim action level established in 1991 for MTBE is 35 µg/L.

MW-2 was sampled again on July 29, 1996. The sample was submitted to the laboratory for Total Petroleum and Grease analysis by Standard Method 5520-B. It was not detected at or greater than the laboratory reporting limit of 10 mg/L. All groundwater analytical results are compiled in Table 2. The laboratory reports and chains-of-custody for groundwater analyses are included as Appendix E.

## **CONCLUSIONS**

Based on the data collected during this investigation, Horizon concludes the following:

- The soil in the immediate area of MW-2 contains a low-to-moderate concentration of Total Oil and Grease.
- Gasoline hydrocarbons have impacted the groundwater underlying the former gasoline UST location.
- Hydrocarbon impacted soil discovered beneath the former dispenser during removal was superficial and does not extend below 5 feet bsg.
- Total Oil and Grease impaction discovered in the soil around the former waste-oil tank does not appear to have impacted the groundwater.

## **RECOMMENDATIONS**

Based on the data collected during this investigation, we believe that groundwater monitoring of MW-1 and MW-2 be conducted. If possible, monitoring activities should include surrounding properties with existing monitoring wells. These data should then be evaluated to determine if additional assessment or remediation is warranted.

## **DISTRIBUTION**

Copies of this report should be forwarded to:

Mr. Wyman Hong  
Alameda County Flood Control  
and Water Conservation District  
5997 Parkside Drive  
Pleasanton, California 94588-5127

Ms. Eva Chu  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

Mr. Kevin Graves  
California Regional Water Quality Control Board  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, California 94612

## **LIMITATIONS**

This report was prepared in accordance with the methods and procedures described in the attached field methods, and generally accepted standards for the practice of the environmental and geological sciences in California at the time of the investigation. The investigation was conducted solely for the purpose of evaluating environmental conditions of the soil and groundwater with respect to gasoline- and diesel-related hydrocarbons at the site.

No soil engineering or geotechnical references are implied, nor should any be inferred. Evaluation of the geological conditions at the site for the purpose of this investigation is made from a limited number of observation points. Subsurface conditions may vary away from the available data points. This report is the property of Horizon Environmental and Winner Ford for their use and distribution.

### **REFERENCES CITED**

Horizon Environmental Inc., March 8, 1996. Workplan for a Subsurface Investigation at Winner Ford, 1650 Park Street, Alameda, California.

Blymyer Engineers Inc., November 22, 1995. Letter Report: Underground Storage Tank Closure at Winner Ford, 1650 Park Street, Alameda, California.

**TABLE 1**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**

**Winner Ford**  
**1650 Park Street**  
**Alameda, California**

Sample Number & Depth	Date	Total Oil & Grease mg/Kg	TPHg mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl-benzene mg/Kg	Total Xylenes mg/Kg	MTBE mg/Kg
S-MW1-5	07/11/96	NA	22.2	0.05	0.217	0.152	0.903	0.64
S-MW2-5	07/11/96	114	ND	ND	ND	ND	ND	NA
S-MW2-10	07/11/96	92	ND	ND	ND	ND	ND	NA
S-B1-5	07/11/96	NA	ND	ND	ND	ND	ND	ND
S-B1-7	07/11/96	NA	ND	ND	ND	ND	ND	ND
Composite Sample S-SP-A, B, C, D	07/11/96	790	ND	ND	ND	ND	ND	ND

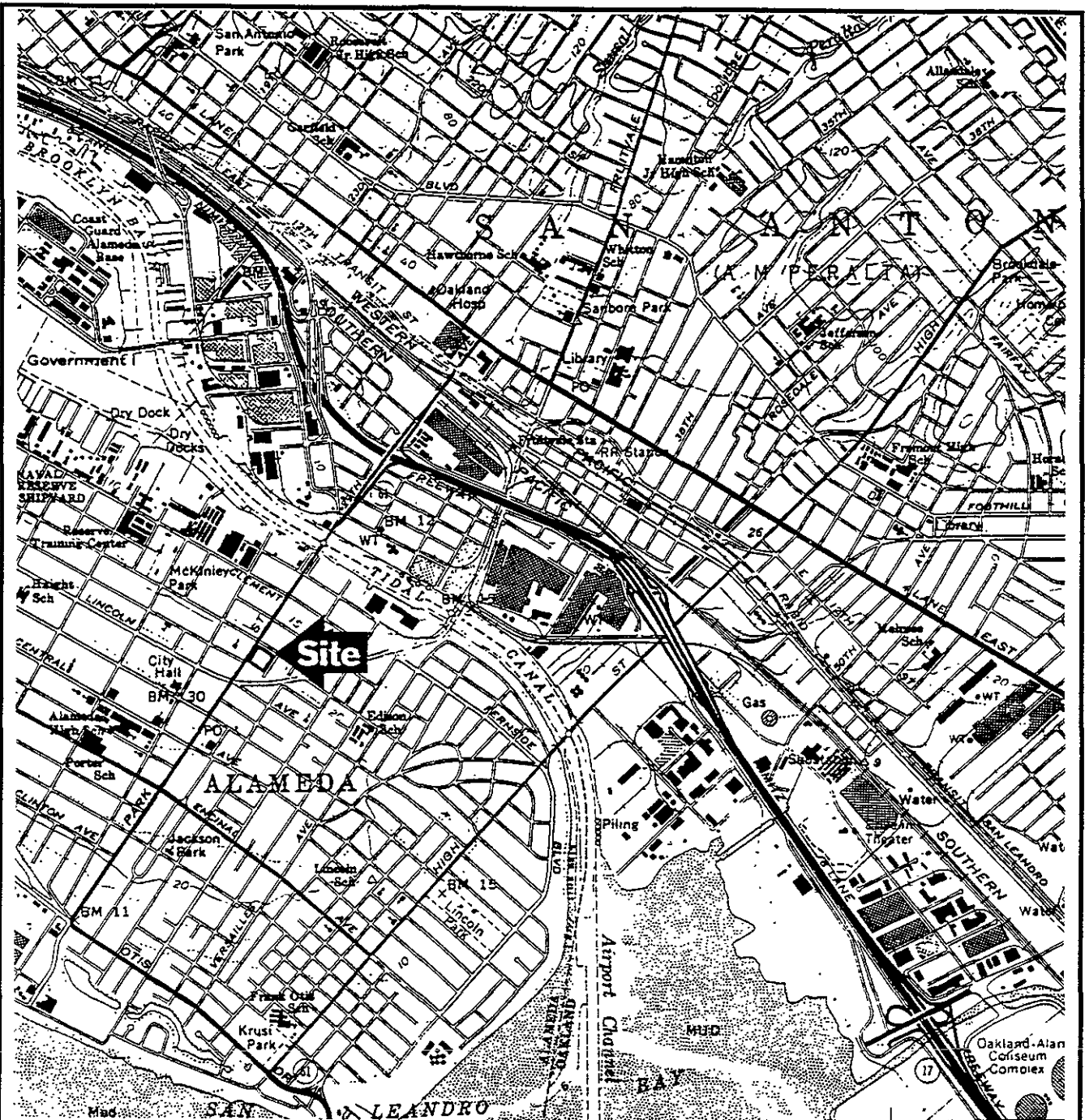
Notes: TPHg = Total Petroleum Hydrocarbons as gasoline  
 MTBE = methyl tertiary butyl ether  
 mg/Kg = milligrams per kilogram or parts per million  
 NA = not analyzed for  
 ND = not detected at or greater than the indicated laboratory reporting limit

**TABLE 2**  
**ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**

**Winner Ford**  
**1650 Park Street**  
**Alameda, California**

Well Sample Number	Date	Total Oil & Grease mg/L	TPHg $\mu\text{g/L}$	Benzene $\mu\text{g/L}$	Toluene $\mu\text{g/L}$	Ethylbenzene $\mu\text{g/L}$	Total Xylenes $\mu\text{g/L}$	MTBE $\mu\text{g/L}$
W-0716-MW1	07/16/96	NA	222	62.8	34.3	5.75	32.1	267
W-0716-MW2	07/16/96	NA	ND	1.1	ND	ND	1.05	NA
W-0729-MW2	07/29/96	ND	NA	NA	NA	NA	NA	NA

Notes: TPHg = Total Petroleum Hydrocarbons as gasoline  
 MTBE = methyl tertiary butyl ether  
 $\mu\text{g/L}$  = micrograms per liter or parts per billion  
 $\text{mg/L}$  = milligrams per liter or parts per million  
 NA = not analyzed for  
 ND = not detected at or greater than the indicated laboratory reporting limit



QUADRANGLE LOCATION

Source. U.S.G.S. 7-1/2 Minute Topographic Map  
 Oakland East, California  
 Photorevised 1980



0 2,000 4,000



Approximate Scale In Feet



HORIZON ENVIRONMENTAL INC.

Project Number: 300211  
 Prepared By: G. Barker  
 Reviewed By:

Drawn By: D. Alston  
 Date: 2/96  
 Revised Date:

SITE VICINITY MAP

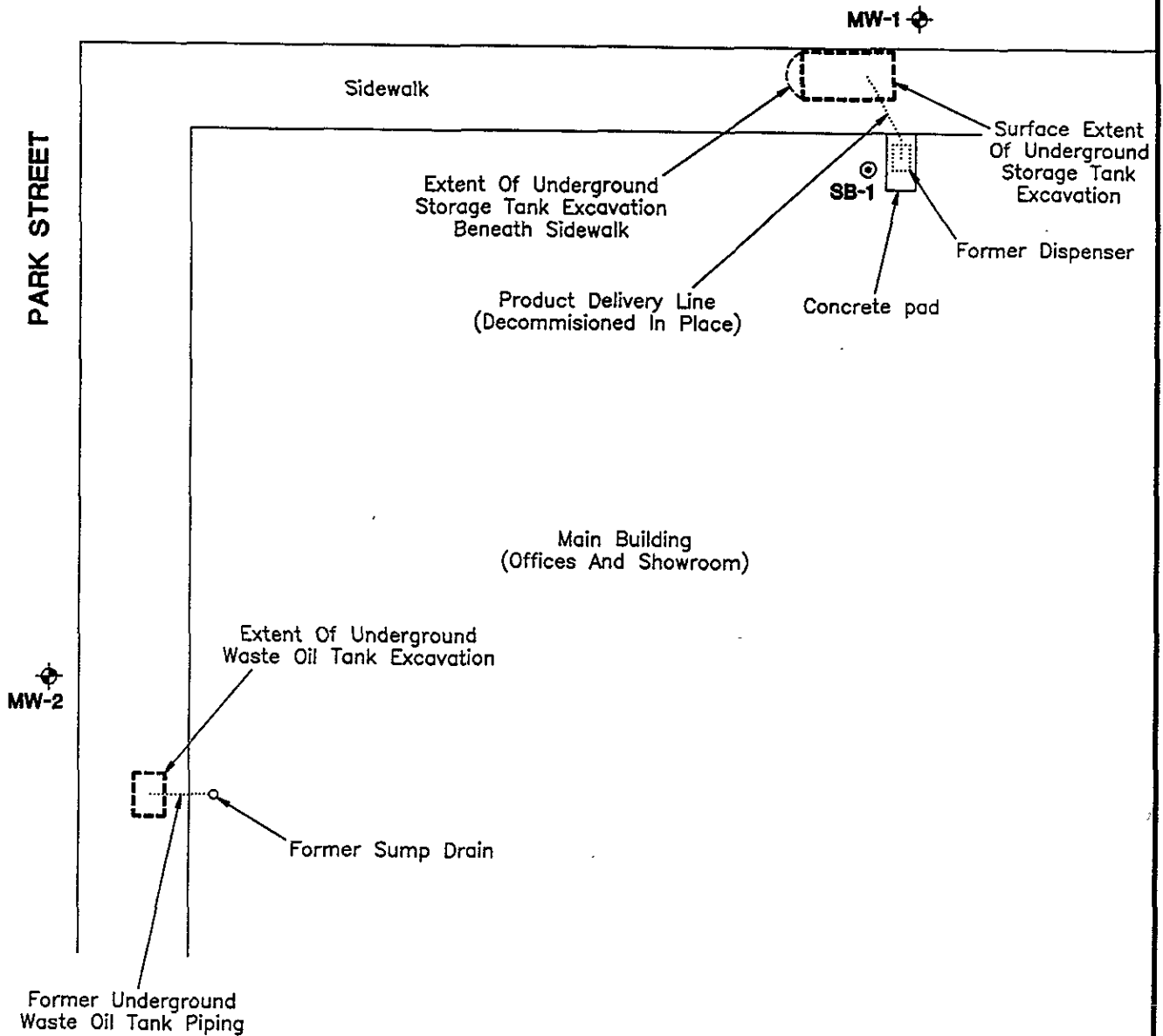
WINNER FORD  
 1650 PARK STREET  
 ALAMEDA, CALIFORNIA

FIGURE

1

**BUENA VISTA AVENUE**

**PARK STREET**



EXPLANATION:

**MW-2**  Groundwater Monitoring Well

**SB-1**  Hand-Augered Soil Boring



Approximate Scale In Feet

Source: Figure Modified From Drawing Provided By Blymer Engineers, Inc.



**HORIZON ENVIRONMENTAL INC.**

Project Number: 3002.11  
Prepared By: G. Barker  
Reviewed By:

Drawn By: D. Alston  
Date: 8/96  
Revised Date:

**SITE PLAN**  
WINNER FORD  
1650 PARK STREET  
ALAMEDA, CALIFORNIA

FIGURE

**2**



## **APPENDIX A**



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

Fax (510) 462-3914

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

(1) LOCATION OF PROJECT WINNER FORD
1650 PARK STREET
ALAMEDA, CA 94502

PERMIT NUMBER 96391
LOCATION NUMBER

(2) CLIENT
Name WINNER FORD
Address 1650 PARK STREET Phone
City ALAMEDA Zip 94502

Approved Wyman Hong Date 3 Jun 96
Wyman Hong

(3) APPLICANT
Name HURLEON ENVIRONMENTAL INC
Address 5011 GOLDEN FOOT HILL PARK SUITE 7 Phone (916) 939-2170
City EVANRAVO HILLS Zip

PERMIT CONDITIONS

Circled Permit Requirements Apply

(4) DESCRIPTION OF PROJECT
Water Well Construction X Geotechnical
Cathodic Protection Well Destruction

(5) PROPOSED WATER WELL USE
Domestic Industrial Irrigation
Municipal Monitoring X Other

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary Air Rotary Auger X
Cable Other

WELL PROJECTS

Drill Hole Diameter 8 in. Depth(s) 20 ft.
Casing Diameter 2 in. Number of Wells 2
Surface Seal Depth 7 ft.
Driller's License No.

GEOTECHNICAL PROJECTS

Number Diameter In. Maximum Depth ft.

(7) ESTIMATED STARTING DATE 5/23/96
ESTIMATED COMPLETION DATE 5/24/96

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

APPLICANT'S SIGNATURE [Signature] Date 5/3/96

A. GENERAL

- 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Notify this office (484-2600) at least one day prior to starting work on permitted work or before placing well seals.
3. 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 bore hole log and location sketch for geotechnical project. Permitted work is completed when the last surface seal is placed or the last boring is completed.
4. Permit is void if project not begun within days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS

- 1. Minimum surface seal thickness is two inches cement grout placed by tremie, or equivalent.
2. Minimum seal depth is 50 feet for municipal or industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.
C. GEOTECHNICAL. Backfill bore hole with compacted clays or heavy bentonite and upper two feet with compacted material.
D. CATHODIC. Fill hole above anode zone with concrete placed by tremie, or equivalent.
E. WELL DESTRUCTION. See attached.

3002.11

CITY OF ALAMEDA  
CENTRAL PERMIT OFFICE

415-522-4100

2263 SANTA CLARA AVE., ROOM 204  
ALAMEDA, CA 94501

APPLICATION FOR PERMIT TO EXCAVATE IN THE RIGHT-OF-WAY OF THE CITY OF ALAMEDA

SERVICE NUMBER \_\_\_\_\_ DATE APRIL 17 1996

Application is hereby made for a permit to excavate on the SOUTH AND EAST side of  
the intersection of Buena Vista Ave. & Park St. Ave. approximately 85 feet SOUTH EAST of

TIN INTERSECTION - DRILLING WILL BE IN PERFORMED IN PARKING AREAS + NO TRAFFIC FLOW WILL BE INTERRUPTED WITH.

House No. 1650 Park St. Owner WINNER FORD

For the purpose of INSTALLATION OF GROUNDWATER MONITORING WELLS  
AW-1 & MW-2 (SEE ATTACHED DIAGRAM) ON MAY 15<sup>TH</sup>, 1996

Name of Applicant HORIZON ENVIRONMENTAL INC Address 5011 GOLDEN FUTURE PARKWAY, SUITE 7  
EL DORADO HILLS, CA 95762  
Phone (916) 939-2170

VERBAL APPROVAL  
Date \_\_\_\_\_  
By \_\_\_\_\_  
Reasons: \_\_\_\_\_

*see attached site plan*

Diagram of Proposed Work

FOR OFFICE USE ONLY

- This permit to be Inspected by  ENGINEERING DIVISION  MAINTENANCE DIVISION
- ALL STRIPING, PAINTED GRAPHICS AND PAVEMENT MARKERS DAMAGED OR DESTROYED BY STREET EXCAVATION WORK ARE TO BE RESTORED BY THE PERMITEE.
- ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY MUST HAVE BARRICADES WITH FLASHERS FOR NIGHT TIME PROTECTION.
- ALL WORK INVOLVED IS TO BE DONE IN ACCORDANCE WITH STANDARD CITY OF ALAMEDA SPECIFICATIONS AND CITY OF ALAMEDA PRACTICES ALL TO THE SATISFACTION OF THE CITY ENGINEER. INSPECTION CHARGES SHALL BE PAID TO THE CITY MONTHLY. ACCEPTANCE OF THIS PERMIT CONSTITUTES ACCEPTANCE OF THE CONDITIONS INCLUDED.

CONCRETE PERMIT REQUIRED \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE 5-9-96

NO OPEN TRENCH CUTTING

STATE PERMIT REQUIRED \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

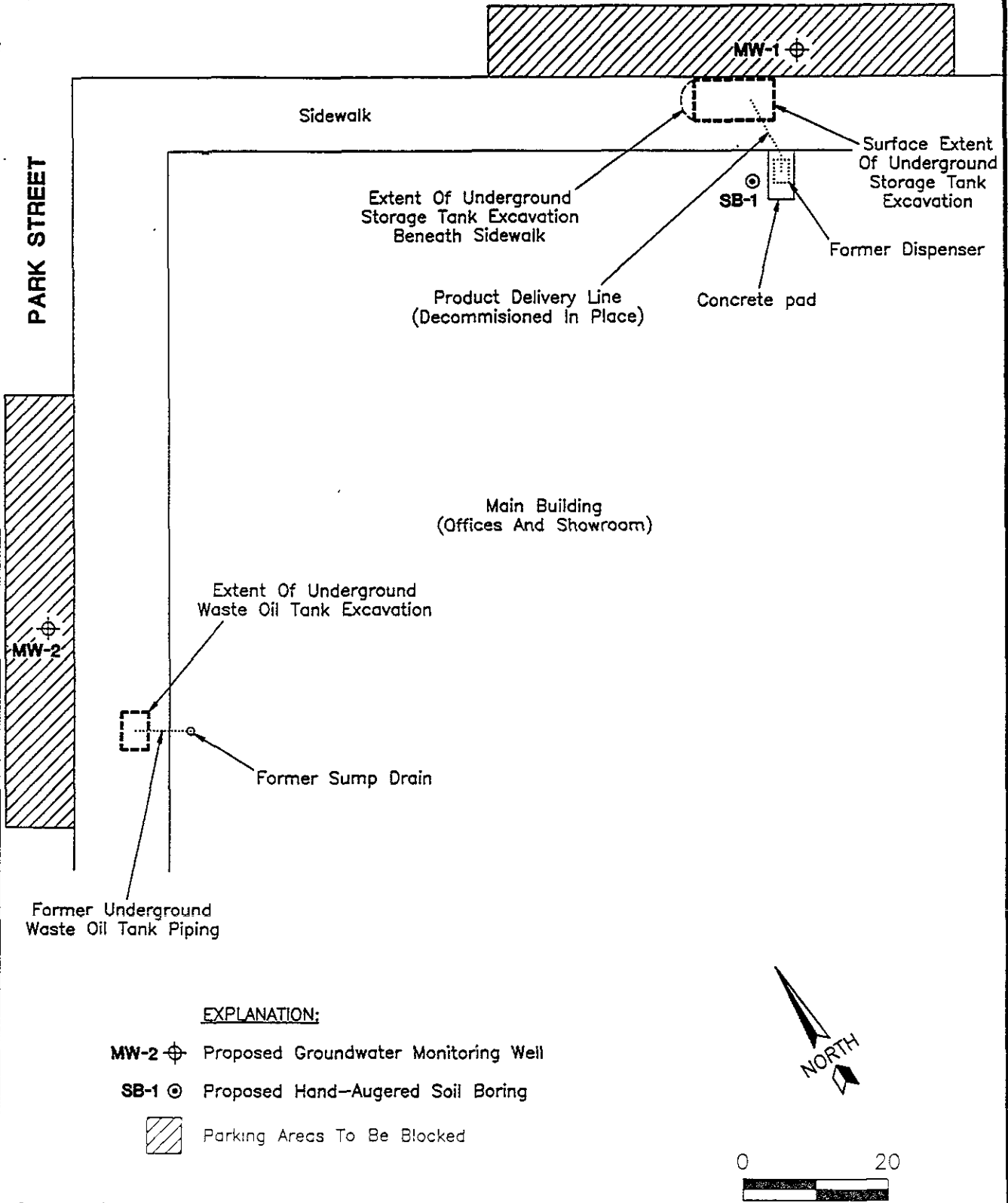
SPECIAL CONDITIONS NOTIFY CARY DAWSON 415 761 1110 \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

RECEIVED DATE 5/6/96 SIGNED Paul Moore PERMIT # EN96-054


APPROVAL DATE 5/17/96 SIGNED \_\_\_\_\_

ISSUED DATE 5/9/96 SIGNED Paul Moore

**BUENA VISTA AVENUE**



Source: Figure Modified From Drawing Provided By Blymer Engineers, Inc.

 <b>HORIZON ENVIRONMENTAL INC.</b>		<p align="center"><b>SITE PLAN</b></p> <p align="center">WINNER FORD 1650 PARK STREET ALAMEDA, CALIFORNIA</p>	<p align="center">FIGURE</p> <p align="center"><b>2</b></p>
Project Number: 3002.11 Prepared By: G. Barker Reviewed By:	Drawn By: D. Alston Date: 2/96 Revised Date:		

CITY OF ALAMEDA  
ENGINEERING OFFICE

ENCROACHMENT PERM

Permit No: 9645-124  
STATUS: APPROVED

300 Central Ave., Room 250  
Alameda, CA 94501

748-4614 or 748-4518

Applied 05/06/96  
Approved 05/06/96

JOB ADDRESS : 1650 PARK ST  
Parcel number : 070 -0191-001-01  
OWNER : BALL JULIE B & BECK PETER R & KL  
2720 BRODERICK ST  
SAN FRANCISCO CA 94123

APPLICANT : HORIZON ENVIRONMENTAL INC. HOURS OF CONSTRUCTION  
5011 GOLDEN FOOTHILL PKWY #7 SATURDAY & SUNDAY 8 A.M. - 5 P.M.  
EL DORADO HILLS, CA 95762  
916-939-2170

Repair Order #: INSTALL MONITORING WELLS Signature  
Project Desc.: INSTALL MONITORING WELLS (WINNER FORD)  
Fee description Units Fee/Unit

Fee description	Units	Fee/Unit	Total Fee
PERMIT FILING FEE	20.50		20.50
ASSEMBLY BILL 941	5.00		5.00
ENCROACHMENT - METERS	27.00		27.00
LPO - OTHER REVENUE	86.00		86.00
"NO PARKING" SIGNS	12.00		12.00
ADDITIONAL MICROFICHE FEE	4.00		4.00
*** Fees Required ***		*** Fees Collected & Credits ***	

Account No.	Receipt No.	Date	Payment
001-300-4240-3745	R9601951	05/06/96	20.50
001-300-4240-3305	R9601951	05/06/96	5.00
224-300-0000-3733	R9601951	05/06/96	27.00
001-300-4240-3790	R9601951	05/06/96	86.00
001-300-4210-3341	R9601951	05/06/96	12.00
001-300-4240-3792	R9601951	05/06/96	4.00
Fees: 154.50			
Adjustments: .00			
Total Fees: 154.50		Total Credits: .00	
		Total Payments: 154.50	
		Balance Due: .00	

FORMS MUST BE INSPECTED PRIOR TO CONCRETE POUR.  
CALL 748-4614 OR 748-4518 FOR INSPECTION.

NOTE: ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY MUST BE SAFELY  
WITH FLASHERS FOR NIGHT TIME PROTECTION.  
Contractor's "NAME AND DATE" to be impressed in all concrete work.

THIS IS TO CERTIFY THAT THE ABOVE WORK HAS BEEN COMPLETED TO MY  
SATISFACTION AND APPROVAL.

INSPECTOR

CALL 748-4614 OR 748-4518 FOR INSPECTION FOR FORMS AND AFTER  
COMPLETION. INSPECTION MUST BE MADE BEFORE DEPOSIT CAN BE  
PROCESSED FOR REFUND. REFUNDS TAKE 3 WEEKS AFTER FINAL  
INSPECTION.

## **APPENDIX B**

**HORIZON ENVIRONMENTAL, INC.**  
**FIELD METHODS AND PROCEDURES**

The following section describes field procedures that will be utilized by Horizon Environmental Inc. (Horizon) personnel in performance of the tasks involved with this project.

**1.0 HEALTH AND SAFETY PLAN**

Field work performed by Horizon and subcontractors at the site will be conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document that describes the hazards that may be encountered in the field and specifies protective equipment, work procedures, and emergency information. A copy of the SHSP will be at the site and available for reference by appropriate parties during work at the site.

**2.0 LOCATING UNDERGROUND UTILITIES**

Prior to commencement of work on site, the location of underground utilities will be researched with the assistance of Underground Service Alert (USA). USA will contact the owners of the various utilities in the vicinity of the site to have the utility owners mark the locations of their underground utilities. Work associated with the boring and monitoring well installation will be preceded by manual hand augering to a minimum depth of 5 feet below grade to avoid contact with underground utilities.

**3.0 SOIL BORING AND SOIL SAMPLING PROTOCOL**

Soil borings and soil sampling will be performed under the supervision of a Horizon geologist. The soil borings will be advanced using a truck-mounted, hollow-stem auger drilling rig.

To reduce the chances of cross-contamination between boreholes, downhole drilling equipment and sampling equipment will be steam-cleaned between borings. To reduce cross-contamination between samples, the split-barrel sampler will be washed in a soap solution and double-rinsed between each sampling event.

Soil sampling will be conducted in accordance with ASTM 1586-84. Using this procedure, a split-barrel sampler (California-type sampler) lined with brass sample tubes is driven into the soil at approximately 5-foot intervals by a 140-pound weight falling 30 inches. The number of blow counts required to advance the sample 18 inches will be recorded at each sample interval.

Upon recovery, a portion of the soil sample will be placed in a plastic bag and sealed for later screening with an hNu type organic vapor meter (OVM). Another portion of the soil

sample will be used for classification and description. One of the samples will be sealed in the brass tube and stored at approximately 4°C for transport to the laboratory. After the soil sample is placed in the plastic bag, it will be allowed to warm, inducing volatilization of petroleum hydrocarbon vapors. The headspace vapors will be screened with the OVM. The highest observed reading will be recorded on the boring logs.

Each sample container submitted for analysis will have a label affixed to identify the job number, sample date, time of sample collection, and a sample number unique to that sample. Samples will be analyzed by a California-certified laboratory

A chain-of-custody form will be used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples will be shipped, the geologist or technician with custody relinquishes the samples by signing the chain-of-custody form and noting the time. The sample control officer at the laboratory will verify sample integrity and confirm that it was collected in the proper container, preserved correctly, and that there is an adequate volume for analysis.



## **APPENDIX C**

# Boring Number: MW-1

Job Number: 3002.11

Site Location: Winner Ford, Alameda, CA

Drilling Company: Mitchell Drilling Environmental

Drilled By: Scott & John

Date Drilled: 07/11/96

Logged By: D. Higgins



**HORIZON ENVIRONMENTAL INC.**

Drilling Method: 8-inch Hollow Stem Auger

Sampling Method: Split-Spoon Sampler

Total Depth: 25 Feet

Depth To Groundwater: 6.25 Feet

Depth In Feet	Sample Number	Blow Count	Inches Driven	Inches Recovered	PID Reading in PPM	Sampling Interval	Soil Description	USCS Classification	Graphic Representation	Well Construction	Comments	
1						1	Asphalt (6") over base coarse (6").				Casing Installation Data: 2-inch PVC 0.020-inch screen	
2						2	SILTY CLAY, orange brown, damp.					
3						3						
4						4						
5	S-5	14	18	18	354	5	SILTY CLAY, gray brown, dense, some blue green staining of soil.	SM				
6		15				6						
7		17				7						
8						8						
9						9						
10	S-10	10	18	18	0.5	10	orange brown, medium dense.					
11		11				11						
12		13				12						
13						13						
14						14						
15	S-15	13	18	18	1.2	15	dense.					
16		14				16						
17		19				17						
18						18						
19						19						
20	S-20	18	11	11	1.8	20	orange mottling with blue green staining, very dense.					
21		50+				21						
22						22						
23						23						
24						24						
25	S-25	22	11	11	0.9	25						
26		50+				26						
27						27						
28						28						
29						29						
30						30						
							Total depth = 25 feet bgs.					

# Boring Number: MW-2

Job Number: 3002.11

Site Location: Winner Ford, Alameda, CA

Drilling Company: Mitchell Drilling Environmental

Drilled By: Scott & John

Date Drilled: 07/11/96

Logged By: D. Higgins



**HORIZON ENVIRONMENTAL INC.**

Drilling Method: 8-inch Hollow Stem Auger

Sampling Method: Split-Spoon Sampler

Total Depth: 25 Feet

Depth To Groundwater: 14.2 Feet

Depth In Feet	Sample Number	Blow Count	Inches Driven	Inches Recovered	PID Reading in PPM	Sampling Interval	Soil Description	USCS Classification	Graphic Representation	Well Construction	Comments
1						1	Asphalt (6") over base coarse (6").				Casing Installation Data: 2-inch PVC 0.020-inch screen
2						2	SILTY SAND, fine-grained.				
3						3					
4						4					
5	S-5	12	18	18	0.5	5	SILTY SAND, fine-grained, gray brown, dense, green gray staining on shoe sample.	SM			
6		12				6					
7						7					
8						8					
9						9					
10	S-10	8	12	12	2.6	10	blue green staining, medium dense.				
11		10				11					
12						12					
13						13					
14						14					
15	S-15	8	12	12	0.2	15					
16		11				16					
17		14				17					
18						18					
19						19					
20	S-20	16	12	12	0	20	very dense.				
21		50				21					
22						22					
23						23					
24						24					
25	S-25	23	12	12	0	25					
		50									
26						26	Total depth = 25 feet bgs.				
27						27					
28						28					
29						29					
30						30					

# UNIFIED SOIL CLASSIFICATION SYSTEM

Major Division		Ltr.	Description	Major Division		Ltr.	Description
Coarse-Grained Soils	Gravel and Gravelly Soils	GW	Well-graded Gravels or Gravel-Sand mixtures, little or no fines.	Fine-Grained Soils	Silts and Clays LL<50	ML	Inorganic Silts and very fine Sands, rock flour, Silty or Clayey fine Sands, or Clayey Silts with slight plasticity.
		GP	Poorly-graded Gravels or Gravel-Sand mixtures, little or no fines.			CL	Inorganic Clays of low to medium plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays.
		GM	Silty Gravels, Gravel-Sand-Silt mixtures.			OL	Organic Silty and Organic Silt-Clays of low plasticity.
		GC	Clayey Gravel, Gravel-Sand-Clay mixtures.			MH	Inorganic Silts, micaceous or diatomaceous fine Sandy or Silty soils, elastic Silts.
	Sand and Sandy Soils	SW	Well-graded Sand or Gravelly Sands, little or no fines.		Silts and Clays LL>50	CH	Inorganic Clays of high plasticity, fat Clays.
		SP	Poorly-graded Sands or Gravelly Sands, little or no fines.			OH	Organic Clays of medium to high plasticity, organic Silts.
		SM	Silty Sands, Sand-Silt mixtures.			Highly Organic Soils	PT
		SC	Clayey Sands, Sand-Clay mixtures.				

## WELL CONSTRUCTION SYMBOLS

<p> Depth through which sampler is driven</p> <p> Relatively undisturbed sample</p> <p> No sample recovered</p> <p> Static water level observed in well/boring</p> <p> Initial water level observed in well/boring</p> <p>S-10 Sample number</p>	<p> Neat cement</p> <p> Sand pack (Monterey Sand #3)</p> <p> Bentonite</p> <p> Blank PVC</p> <p> Machine-slotted PVC</p>
--	--

Note: Blows represent the number of blows of a 140-pound hammer falling 30 inches to drive the sampler through each 6 inches of an 18-inch penetration. Dashed lines separating formations on the log represent approximate boundaries only. Actual boundaries may be gradual. Logs represent subsurface conditions at the boring location at the time of drilling only.



HORIZON ENVIRONMENTAL INC.

BORING LOG SYMBOL KEY

## **APPENDIX D**

# EXCELCHEM ENVIRONMENTAL LABS

500 Giuseppe Court, Suite 9  
Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



## ANALYSIS REPORT

Attention:	Mr. Gary Barker Horizon Environmental 5011 Golden Foothill Expressway, Ste. 7 El Dorado Hills, CA 95762	Date Sampled : Date Received: TPHg Analyzed: BTEX Analyzed:	07-11-96 07-15-96 07-20-96 07-20-96
Project:	3002.11	Matrix:	Soil

	Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg <u>PPM</u>
Reporting Limit:	0.005	0.005	0.005	0.005	1.0

**SAMPLE**

Laboratory Identification:

S-MW2-5 S0796281	ND	ND	ND	ND	ND
S-MW2-10 S0796282	ND	ND	ND	ND	ND
S-B1-7 S0796287	ND	ND	ND	ND	ND
SP a,b,c,d S0796293	ND	ND	ND	ND	ND

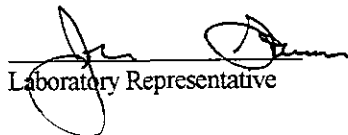
ppm = Parts per million = mg/Kg = milligram per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

### ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID)

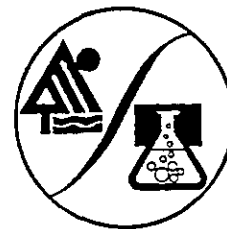
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015, which utilizes a GC equipped with an FID.

  
Laboratory Representative

07-24-96  
Date Reported

**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784



**ANALYSIS REPORT**

Attention: Mr. Gary Barker  
Horizon Environmental  
5011 Golden Foothill Expressway, Ste. 7  
El Dorado Hills, CA 95762  
Project: 3002.11

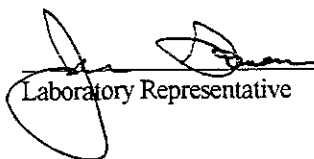
Date Sampled : 07-11-96  
Date Received: 07-15-96  
TPHg Analyzed: 07-20-96  
BTEX Analyzed: 07-20-96  
Matrix: Soil

	<u>Benzene</u> <u>PPM</u>	<u>Toluene</u> <u>PPM</u>	<u>Ethyl-</u> <u>benzene</u> <u>PPM</u>	<u>Total</u> <u>Xylenes</u> <u>PPM</u>	<u>TPHg</u> <u>PPM</u>
Reporting Limit:	0.025	0.025	0.025	0.025	5.0
<b>SAMPLE</b>					
Laboratory Identification:					
S-MW1-5 S0796288	0.050	0.217	0.152	0.903	22.2

ppm = Parts per million = mg/Kg = milligram per Kilogram  
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

**BTEX**-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID)  
**TPHg**--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015, which utilizes a GC equipped with an FID.

  
Laboratory Representative

07-24-96  
Date Reported

**EXCELCHEM  
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9  
Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784

**ANALYSIS REPORT**

Attention:	Mr. Gary Barker	Date Sampled :	07-11-96
	Horizon Environmental	Date Received:	07-15-96
	5011 Golden Foothill Expressway, Ste. 7	TPHg Analyzed:	07-22-96
	El Dorado Hills, CA 95762	BTEX Analyzed:	07-22-96
Project:	3002.11	Matrix:	Soil

	Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg <u>PPM</u>
Reporting Limit:	0.005	0.005	0.005	0.005	1.0

**SAMPLE**

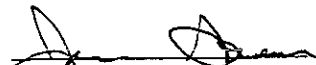
Laboratory Identification:

S-B1-5	ND	ND	ND	ND	ND
S0796286					

ppm = Parts per million = mg/Kg = milligram per Kilogram  
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

**BTEX**— Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID)  
**TPHg**—Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015, which utilizes a GC equipped with an FID.

  
Laboratory Representative

07-24-96  
Date Reported



**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



**ANALYSIS REPORT**

Attention: Mr. Gary Barker  
Horizon Environmental  
5011 Golden Foothill Expressway, Ste. 7  
El Dorado Hills, CA 95762

Date Sampled : 07-11-96  
Date Received: 07-15-96  
MTBE Analyzed: 07-22-96

Project : 3002.11 Matrix: Soil

Reporting Limit: MTBE  
PPM  
0.005

SAMPLE

Laboratory Identification:

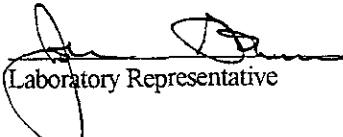
S-B1-5 ND  
S0796286

S-B1-7 ND  
S0796287

ppm= Parts per million = mg/Kg= milligrams per Kilogram  
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

MTBE-- Methyl tert-Butyl Ether is measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

  
Laboratory Representative

07-24-96  
Date Reported

**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784



**ANALYSIS REPORT**

Attention: Mr. Gary Barker Date Sampled : 07-11-96  
Horizon Environmental Date Received: 07-15-96  
5011 Golden Foothill Expressway, Ste. 7 MTBE Analyzed: 07-22-96  
El Dorado Hills, CA 95762

Project : 3002.11 Matrix: Soil

Reporting Limit: MTBE  
PPM  
0.025

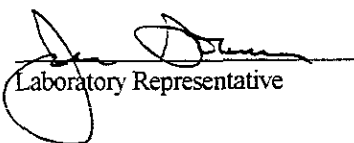
SAMPLE  
Laboratory Identification:

S-MW1-5 0.640  
S0796288

ppm= Parts per million = mg/Kg= milligrams per Kilogram  
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

MTBE– Methyl tert-Butyl Ether is measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

  
Laboratory Representative

07-24-96  
Date Reported

**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784



**ANALYSIS REPORT**

Attention: Mr. Gary Barker  
Horizon Environmental  
5011 Golden Foothill Expressway, Ste. 7  
El Dorado Hills, CA 95762  
Project: 3002.11


Date Sampled : 07-11-96  
Date Received: 07-15-96  
TOG Analyzed: 07-19-96  
Matrix: Soil

	TOG <u>PPM</u>
Reporting Limit:	50
<hr/>	
SAMPLE	
Laboratory Identification:	
S-MW2-5 S0796281	114
S-MW2-10 S0796282	92
SP a.b.c.d S0796293	790

ppm = parts per million = mg/kg = milligrams per kilogram  
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

TOG-- Total oil and grease is measured by Standard Method 5520B. 18th Edition.

  
Laboratory Representative

07-24-96  
Date Reported

**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



**QA/QC REPORT**

Attention: Mr. Gary Barker  
Horizon Environmental  
5011 Golden Foothill Expressway, Ste. 7  
El Dorado Hills, CA 95762

Date Analyzed :  
Matrix:

07-23-96  
Soil

Project: 3002.11

Reporting Limit: MTBE  
PPM  
0.005

**QA/QC PARAMETER**

Matrix Blank ND

**PERCENT RECOVERIES**

Matrix Spike 97%

Matrix Spike  
Duplicate 92%

ppm = parts per million = mg/Kg = milligram per kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

All surrogate recoveries were within 30% of target values.

Spikes & Spike Duplicates were each spiked with 250 ng MTBE standard.

**ANALYTICAL PROCEDURES**

MTBE-- Methyl tert-Butyl Ether is measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID)

  
Laboratory Representative

07-26-96  
Date Reported

**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784



**QA/QC REPORT**

Attention: Mr. Gary Barker  
Horizon Environmental  
5011 Golden Foothill Expressway, Ste. 7  
El Dorado Hills, CA 95762

BTEX Analyzed : 07-20-96  
Matrix: Soil

Project: 3002.11

	Benzene PPM	Toluene PPM	Ethyl- benzene PPM	Total Xylenes PPM
Reporting Limit:	0.005	0.005	0.005	0.005

**QA/QC PARAMETER**

Matrix Blank	ND	ND	ND	ND
--------------	----	----	----	----

**PERCENT RECOVERIES**

Matrix Spike	89%	86%	89%	90%
Matrix Spike Duplicate	93%	91%	94%	95%

ppm = parts per million = mg/Kg = milligram per kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**All surrogate recoveries were within 30% of target values.**

**Spikes & Spike Duplicates were each spiked with 250 ng BTEX standard.**

**ANALYTICAL PROCEDURES**

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

  
Laboratory Representative

07-26-96  
Date Reported



**Excelchem**  
Environmental Labs

4946 Watt Avenue, #38  
North Highlands, CA 95660  
(916) 334-8661

**CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST**

Project Manager: GARY BARKER Phone #: (916) 939-2170

**ANALYSIS REQUEST**

796052

**TAT**

Company/Address: HORIZON ENVIRONMENTAL FAX #: (916) 939-2172  
5011 GOLDEN FORT HILL EXPRESSWAY, SUITE 4  
EL CERRILLO HILLS, CA 95762

Project Number: 3002.11 P O # \_\_\_\_\_ Project Name: LIWINNER FORD

Project Location: 1650 PARK STREET Sampler Signature: [Signature]  
ALAMOGON, CA

Sample ID	Sampling		Container				Method Preserved				Matrix		BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015)	TPH as Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96-Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD (7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	W.E.T. (✓)	TOTAL (✓)	
	DATE	TIME	VOA	SLEEVE	1L GLASS	1L PLASTIC	HCl	HNO3	ICE	NONE	WATER	SOIL																							
S-MW2-5	7/11/96	3:50am	1											✓																					
S-MW2-10		7:00am	1											✓																					
S-MW2-15		7:10am	1																																
S-MW2-20		9:15am	1																																
S-MW2-25	✓	9:40am	1																																

HOLD

RUSH SERVICE (12 hr) or (24 hr)  
EXPEDITED SERVICE (48 hr) or (1 wk)  
STANDARD SERVICE (2WK)

Relinquished by: [Signature] Date Time: 7/13/96 12:12am Received by: F. Bashaw

Remarks:

Relinquished by: \_\_\_\_\_ Date Time: \_\_\_\_\_ Received by: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date Time: 7/15/96 Received by Laboratory: [Signature]

Bill To: \_\_\_\_\_





## **APPENDIX E**

**Excelchem**  
Environmental Labs

4946 Watt Avenue, #38  
North Highlands, CA 95660  
(916) 334-0657  
773-3664

**CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST**

Project Manager: *Gary Barker* Phone #: *916-939-2170*

**ANALYSIS REQUEST**

*796044*

**TAT**

Company/Address: *5011 Golden Foothill* FAX #: *916-939-2172*  
*Horizon #7, El Dorado Hills 95962*

Project Number: *3002.11* PO# Project Name: *Winner Ford*

Project Location: *Park St. Alameda, CA* Sampler Signature: *Nathan Grober*

Sample ID	Sampling		Container		Method Preserved				Matrix	
	DATE	TIME	VOA	SLEEVE	HCl	HNO <sub>3</sub>	ICE	NONE	WATER	SOIL
<i>W-0716-MW1</i>	<i>7-16-96</i>	<i>7:30A</i>	<i>2</i>						<input checked="" type="checkbox"/>	
<i>W-0716-MW2</i>	<i>7-16-96</i>	<i>9:25A</i>	<i>2</i>						<input checked="" type="checkbox"/>	

BTEX (602/8020)	<input checked="" type="checkbox"/>
BTEX/TPH as Gasoline (602/8020/8015)	<input checked="" type="checkbox"/>
TPH as Diesel (8015)	
TPH as Oil (8015)	
Total Oil & Grease (5520 B/E/F)	<input checked="" type="checkbox"/>
Total Oil & Grease IR (5520 B/E/F, C)	
96 - Hour Fish Bioassay	
EPA 601/8010	
EPA 602/8020	
EPA 615/8150	
EPA 608/8080 - Pesticides	<i>W0796440</i>
EPA 608/8080-PCBs	<i>W0796441</i>
EPA 624/8240	
EPA 625/8270	
ORGANIC LEAD	
Reactivity, Corrosivity, Ignitibility	
CAM - 17 Metals	
EPA - Priority Pollutant Metals	
LEAD(7420/7421/239-2)	
Cd, Cr, Pb, Zn, Ni	
<i>MTBE 8030</i>	
RUSH SERVICE (12 hr) or (24 hr)	
EXPEDITED SERVICE (48 hr) or (1 wk)	
STANDARD SERVICE (2wk)	<input checked="" type="checkbox"/>

Relinquished by: *Nathan Grober* Date Time: *7-17-96* Received by: *Gary Barker*

Relinquished by: *Gary Barker* Date Time: *7-19-96* Received by: *Nandy Renee*

Relinquished by: \_\_\_\_\_ Date Time: \_\_\_\_\_ Received by Laboratory: \_\_\_\_\_

Remarks: *TOG canceled NOT enough sample was provided.*

Bill To: *Horizon Environmental  
5011 Golden Foothill #7  
El Dorado Hills, CA 95962*

**EXCELCHEM  
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784

**ANALYSIS REPORT**

Attention: Mr. Gary Barker Date Sampled : 07-16-96  
Horizon Environmental Date Received: 07-19-96  
5011 Golden Foothill Expressway, Ste. 7 MTBE Analyzed: 07-24,25-96  
El Dorado Hills, CA 95762 BTEX Analyzed: 07-24,25-96  
TPHg Analyzed: 07-24,25-96  
Project: 3002.11 Matrix: Water

	<u>MTBE</u> <u>PPB</u>	<u>Benzene</u> <u>PPB</u>	<u>Toluene</u> <u>PPB</u>	<u>Ethyl-</u> <u>benzene</u> <u>PPB</u>	<u>Total</u> <u>Xylenes</u> <u>PPB</u>	<u>TPHg</u> <u>PPB</u>
Reporting Limit:	10.0	10.0	0.5	0.5	50	50

**SAMPLE**

**Laboratory Identification:**

W-0716-MW1	267	62.8	34.3	5.75	32.1	222
W0796440						

PPB= Parts per billion = ug/L = micrograms per liter

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

**BTEX--** Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using EPA Method 602 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

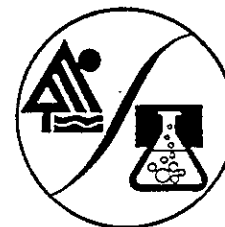
**TPHg--**Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**MTBE (Methyl Tert-Butyl Ether)--**MTBE is analyzed by EPA Method 602 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

  
Laboratory Representative

07-29-96  
Date Reported

**EXCELICHEM  
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784

**ANALYSIS REPORT**

Attention:	Mr. Gary Barker	Date Sampled :	07-16-96
	Horizon Environmental	Date Received:	07-19-96
	5011 Golden Foothill Expressway, Ste. 7	MTBE Analyzed:	07-24-96
	El Dorado Hills, CA 95762	BTEX Analyzed:	07-24-96
		TPHg Analyzed:	07-24-96
Project:	3002.11	Matrix:	Water

	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg
	<u>PPB</u>	<u>PPB</u>	<u>PPB</u>	<u>PPB</u>	<u>PPB</u>	<u>PPB</u>
Reporting Limit:	0.5	0.5	0.5	0.5	50	50

**SAMPLE**

Laboratory Identification:

W-0716-MW2	NR	1.10	ND	ND	1.05	ND
W0796441						

PPB= Parts per billion = ug/L = micrograms per liter

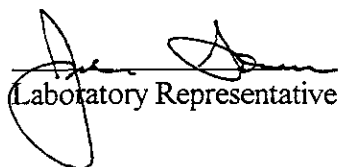
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

**BTEX**-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using EPA Method 602 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

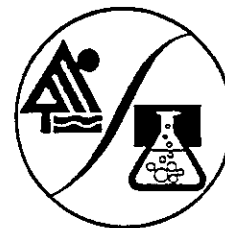
**TPHg**--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**MTBE (Methyl Tert-Butyl Ether)**--MTBE is analyzed by EPA Method 602 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

  
Laboratory Representative

07-29-96  
Date Reported

**EXCEL CHEM  
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784

**QA/QC REPORT**

Attention: Mr. Gary Barker Date Analyzed : 07-25-96  
Horizon Environmental Matrix: Water  
5011 Golden Foothill Expressway, Ste. 7  
El Dorado Hills, CA 95762

Project: 3002.11

	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes
	<u>PPB</u>	<u>PPB</u>	<u>PPB</u>	<u>PPB</u>	<u>PPB</u>
Reporting Limit:	0.5	0.5	0.5	0.5	0.5

**QA/QC PARAMETER**

Matrix Blank	ND	ND	ND	ND	ND
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**PERCENT RECOVERIES**

Matrix Spike	102%	98%	99%	100%	101%
Matrix Spike Duplicate	107%	98%	100%	101%	102%

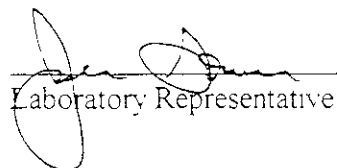
ppb = parts per billion = ug/L = microgram per liter  
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**All surrogate recoveries were within 30% of target values.  
Spikes & Spike Duplicates were each spiked with 250 ng BTEX standard.  
Spikes & Spike Duplicates were each spiked with 250 ng MTBE standard.**

**ANALYTICAL PROCEDURES**

**BTEX--** Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 602 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

**MTBE (Methyl Tert-Butyl Ether)--**MTBE is analyzed by EPA Method 602 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

  
Laboratory Representative

07-29-96  
Date Reported



**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784



**ANALYSIS REPORT**

Attention:	Mr. Gary Barker	Date Sampled:	07-29-96
	Horizon Environmental	Date Received:	07-31-96
	5011 Golden Foothill Expressway, Ste. 7	Date Analyzed :	08-13-96
	El Dorado Hills, CA 95762	Matrix:	Water

Project: 3002.11

TOG

PPM

Reporting Limit:

10

SAMPLE

Laboratory Identification:

W-0729-MW-2

ND

W0796734

ppm = parts per million = mg/L = milligrams per Liter.

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**ANALYTICAL PROCEDURES**

TOG-- Total oil and grease is measured by Standard Method 5520B, 18th Edition.

  
Laboratory Representative

08-13-96  
Date Reported

**EXCELCHEM  
ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9  
Roseville, CA 95678  
Phone#: (916) 773-3664 Fax#: (916) 773-4784



**QA/QC REPORT**

Attention: Mr. Gary Barker TOG Analyzed : 08-13-96  
Horizon Environmental Matrix: Water  
5011 Golden Foothill Expressway, Ste. 7  
El Dorado Hills, CA 95762

Project: 3002.11

Reporting Limit: TOG  
PPM  
10

**QA/QC PARAMETER**

Matrix Blank ND

**PERCENT RECOVERIES**

Laboratory Control Spike 90%

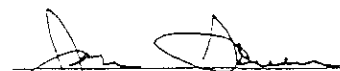
Laboratory Control Spike 114%  
Duplicate

ppm = parts per million = mg/Kg = milligram per kilogram  
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

**Spikes & Spike Duplicates were each spiked with 50mg of motor oil.**

**ANALYTICAL PROCEDURES**

TOG-- Total oil and grease is measured gravimetrically by Standard Method 5520B 18th Edition

  
Laboratory Representative

08-13-96  
Date Reported