ENVIRONMENTAL RESOLUTIONS, INC.

TRANSMITTAL

TO: Mr. Don Hwang
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

DATE: May 23, 2003
PROJECT NUMBER: 222903X
SUBJECT: Former Exxon Service Station 7-0235, 2225 Telegraph Avenue, Oakland, California.

FROM: Ms. Paula Sime
TITLE: Senior Staff Geologist

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	May 22, 2003	Response to Agency Comments and Request for Information

THESE ARE TRANSMITTED as checked below:

[ ] For review and comment [ ] Approved as submitted [ ] Resubmit __ copies for approval

[X] As requested [ ] Approved as noted [ ] Submit__ copies for distribution

[ ] For approval [ ] Return for corrections [ ] Return ___ signed documents

[ ] For your files [ ] For distribution to regulatory agencies

REMARKS: At the request of ExxonMobil Oil Corporation (ExxonMobil), and pursuant to a letter from the Alameda County Health Care Services Agency (County) dated March 25, 2003, Environmental Resolutions, Inc. (ERI) is submitting the above-referenced document. Please call me at (415) 382-4324 with any questions.

Paula Sime, Senior Staff Geologist

cc: Mr. Gene N. Ortega, ExxonMobil Oil Corporation
1 to ERI project file 222903X

ENVIRONMENTAL RESOLUTIONS, INC.

May 22, 2003
ERI 222903GO.L09

Mr. Gene N. Ortega
ExxonMobil Oil Corporation
2300 Clayton Road, Suite 1250
Concord, California 94520

Subject: Response to Agency Comments and Request for Information, Former Exxon Service Station 7-0235, 2225 Telegraph Avenue, Oakland, California.

Mr. Ortega:

At the request of ExxonMobil Oil Corporation (ExxonMobil), Environmental Resolutions, Inc. (ERI) has prepared this response to the Alameda County Health Care Services Agency (the County) technical comments and request for information provided in a letter dated March 25, 2003 (Attachment A).

RESPONSE TO AGENCY COMMENTS

In the March 25, 2003 letter, the County requested the following specific information. The County's requests are paraphrased in bold text, and ERI's responses follow.

Preferential Pathway Study – We received a map showing the locations of utilities on Telegraph Ave. between West Grand Ave. and 22nd St. However, the depths of gas, electric, water, and storm drain trenches were not provided. The depth of the sewer trench was provided and it was indicated that at its depth groundwater could be intercepted. Determine if any of the other utilities are of sufficient depth to intercept the contaminant plume. If so, propose a sampling plan for the trenches. Include in the Work Plan Addendum requested below.

As stated in ERI's *Preferential Pathway Study and Work Plan for Off-Site Delineation*, dated November 26, 2002 (Work Plan), certain utility companies were unable to provide information regarding the depths of their trenches. Details of ERI's communications with utility companies and agencies are outlined in the following sections.

Gas and Electric

Pacific Gas and Electric (PG&E) manages the gas and electric utilities in the vicinity of the site. In telephone conversations with PG&E, ERI was informed that it is PG&E's policy not to provide depths of their trenches for the following reasons:

1) Although the current standard depth for new installations is 24 to 36 inches of cover, that standard has not always been in place, and varies due to site-specific conditions.

2) Trench depths are altered when roads are re-graded and re-paved. PG&E does not keep track of road work projects, and therefore is unable to say whether trenches are lying at their original depths.

In recent telephone conversations with PG&E, ERI was informed that the only way to determine the specific depth of gas and electric trenches in the vicinity of the site is for PG&E to subcontract a vacuum truck to dig a pothole in the street to the depth at which their trench is encountered. This work would be contracted through PG&E for a fee.

Water

East Bay Municipal Utilities District (EBMUD) manages water utilities in the vicinity of the site. ERI contacted EBMUD by telephone. Although EBMUD provided mapped locations, they were unable to provide ERI with information regarding the depths of water supply lines.

Sewer

The City of Oakland (City) manages sewer utilities in the vicinity of the site. The City provided a map of the sewer locations in the vicinity of the site. The maps included surveyed flow line elevations along the sewer trenches. This information was provided by the City with a disclaimer that it is not guaranteed by the City to be accurate.

Storm Drain

The City also manages storm drain utilities in the vicinity of the site. The City provided a map of the storm drain locations in the vicinity of the site. The maps included surveyed flow line elevations along the storm drain trenches. This information was provided by the City with a disclaimer that it is not guaranteed by the City to be accurate.

ERI obtained the available information regarding subsurface utility lines adjacent to the site, and ExxonMobil reported the information to the County in ERI's *Preferential Pathway Study and Work Plan for Off-Site Delineation* (Work Plan). The depths of the storm drain and sanitary sewer lines, although not guaranteed to be accurate by the City, are known to a high degree of certainty from City maps to be approximately 9 feet bgs. In general, these utilities are the largest in diameter, and therefore are installed in the largest trenches. Furthermore, because the flow within these utility lines is gravity-driven, the trenches are also usually the deepest. The other utility lines identified adjacent to the site are gas, electric, and water lines. Although PG&E was not able to provide specific depths of the gas and electric lines, they indicated that typical burial depths for these utilities are 2 to 3 feet bgs. Although EBMUD was unable to provide the specific depth of water supply lines, these lines are pressurized and do not require maintenance of a negative slope, and therefore, do not generally require a deep burial. Water supply lines are rarely buried in excess of 4 to 5 feet bgs.

As stated in ERI's Work Plan, underground utilities exist throughout the entire width of Telegraph Avenue, running parallel to Telegraph Avenue and branching off east onto 22nd Street. Although only PG&E offered to perform the pothole service, it is anticipated that this same pothole process would be necessary for each utility whose depth is unknown. Multiple holes would be proposed, all throughout Telegraph Avenue, which would require obtaining permission and permits from the City to close off Telegraph Avenue and 22nd Street for the duration of field activities. This work would include subcontracting professional traffic safety, concrete cutting, vacuum digging, asphalting, and waste removal, as well as coordinating these activities with all utility agencies involved and obtaining permits for soil borings and major street encroachment. This is a major undertaking to simply determine depths of utility trenches that may or may not be in the vicinity of groundwater.

According to records from the California Department of Water Resources, no production wells are located within 2,000 feet of the site. The nearest monitoring well is located approximately 900 feet south of the site. Considering the absence of pumping wells in the vicinity of the site, and the distance to the nearest monitoring well, it is unlikely that receptors will be affected by dissolved hydrocarbons at the site.

In summary, the only remaining option for obtaining utility depth information for this site is to perform exploratory excavation to locate the utility lines. This work could only be performed at a huge cost, and would greatly impact local traffic flow and street conditions. With a maximum groundwater level of 9 feet bgs since 1996, a reasonable amount of subsurface utility details, no conclusive evidence of preferential groundwater flow through utility lines, no identified potential receptors to impacted groundwater within 2,000 feet of the site, and the reported hydrocarbon levels in groundwater at the site, exploratory excavation cannot be justified and is not warranted.

Proposed Groundwater Monitoring Well – The proposal for the groundwater monitoring well is disapproved because the preferential pathway study hasn't determined if the contaminant plume would be intercepted by utilities and we feel that it would be premature to install more monitoring wells without additional grab groundwater sampling to determine the location of the plume for optimal well locations. We request that depth discrete grab groundwater sampling be used. Include your proposal in the Work Plan Addendum requested below.

ERI performed grab groundwater sampling at the proposed well location in March 2000. ExxonMobil submitted the results of the sampling to your office in a report entitled *Soil and Groundwater Investigation Report*, dated May 11, 2000. The report is included again for your reference as Attachment B.

After performing the March 2000 grab groundwater sampling, ERI installed monitoring well MW6J to delineate the southern extent of dissolved hydrocarbons in groundwater downgradient of the site. ERI also performed grab groundwater sampling at the location of proposed well MW6K, intended to further delineate dissolved hydrocarbons in groundwater east of the site. Concentrations of dissolved hydrocarbons in both grab groundwater sampling points were below laboratory method reporting limits. Please review the report for results of the sampling.

DPE Interim Remediation – "Dual-Phase Extraction (DPE) Pilot Test" dated October 19, 2001, determined that DPE was effective at this site. We have not received your recommendations and specifications for DPE on a full scale as previously requested. Submit.

ERI addressed this comment in a letter entitled *Response to Agency Comments*, dated October 29, 2002. ERI has submitted this document again for your reference as Attachment C. In the letter, ERI proposed preparing a Corrective Action Plan (CAP) to evaluate remedial alternatives, including DPE, at this site. Please review the *Response to Comments* for the requested information.

Groundwater Monitoring – The following analyses have not been included as previously requested: Tertiary Amyl Methyl Ether (TAME), Ethyl Tertiary Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tertiary Butyl Alcohol (TBA), Ethanol, Ethylene Dibromide (EDB), Ethylene Dichloride (EDC). Include in your next round of quarterly groundwater monitoring. In your discussion of the results, provide recommendation as to whether these analyses should be continued.

ERI addressed this comment in the *Response to Agency Comments*. In the letter, ERI stated that sampling of the requested fuel oxygenates and lead scavengers would be initiated during the first quarter 2003

sampling event. Refer to ERI's *Quarterly Groundwater Monitoring and Sampling, First Quarter 2003*, dated March 26, 2003, submitted to your office on the same date, for these sampling results.

Soil Sample Analyses for MW6A, MW6B, MW6C, and MW6D (drilled June & July 1988) – Missing. Previously requested, have not been submitted. Submit.

ERI addressed this comment in the *Response to Agency Comments*. In the letter, ERI stated that Harding Lawson Associated (HLA) analyzed soil samples from the above-referenced borings in the field using a photo-ionization detector (PID), but did not retain soil samples for laboratory analyses. Refer to HLA's report for this investigation, submitted again to your office in ERI's *Response to Agency Comments*, for details regarding this investigation.

You were also requested to submit a "list of landowners". We still have not received the "list of landowners" from you. You must inform all current record owners of fee title to the site of proposed actions and certify to us that they have been informed. Submit.

ERI provided this information in the *Response to Agency Comments*.

CONCLUSIONS AND RECOMMENDATIONS

While it is important to delineate the extent of dissolved hydrocarbons at the site, the benefits of performing exploratory borings to determine the locations of underground utilities are outweighed by the considerable cost and effort involved in the undertaking. Sufficient groundwater monitoring and sampling has been performed at the site to indicate that the location of proposed well MW6K is appropriate, and further exploration of subsurface utilities is not warranted. ERI recommends installation of well MW6K as proposed.

DOCUMENT DISTRIBUTION

ERI recommends forwarding copies of this report to:

Mr. Don Hwang
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Chuck Headlee
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Mr. Joseph A. Aldridge
Valero Energy Corporation
685 West Third Street
Hanford, California 93230

Please call Ms. Paula Sime, ERI's senior staff geologist for this site, at (415) 382-4324 with any questions regarding this site.

Sincerely,
Environmental Resolutions, Inc.

Paula Sime
Senior Staff Geologist

Paul D. Blank
Project Manager

Attachment A: Alameda County Health Care Services Agency Letter, Dated March 25, 2003
Attachment B: ERI's *Soil and Groundwater Investigation Report*, Dated May 11, 2000
Attachment C: ERI's *Response to Agency Comments*, Dated October 29, 2002

ATTACHMENT A

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY LETTER, DATED MARCH 25, 2003

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 25, 2003

Gene Ortega, Territory Manager Global Remediation – US Retail
ExxonMobil
Refining & Supply Co.
Global Remediation
2300 Clayton Rd., Suite 1250
Concord, CA 94520

Dear Mr. Ortega:

Subject: Fuel Leak Case No. RO0000358, Exxon #7-0235,
2225 Telegraph Ave., Oakland, CA

Alameda County Environmental Health staff reviewed "Quarterly Groundwater Monitoring Report, 3rd Quarter 2002" dated October 8, 2002, "Preferential Pathway Study and Work Plan" dated November 25, 2002, and "Quarterly Groundwater Monitoring Report, 4th Quarter 2002" dated December 12, 2002, all prepared by Environmental Resolutions, Inc. Monitoring wells MW6B, MW6E, MW6F, MW6G, MW6J, RW2, and RW3A, historically and again had contaminant concentrations which were low or less than detection limits. MW6H's contaminant concentrations have decreased quarterly over the past year. RW1's contaminant concentrations were within historical ranges. The work plan is disapproved for the reasons stated. We request that you address the following technical comments and send us the technical reports requested below.

TECHNICAL COMMENTS

1) Preferential Pathway Study – We received a map showing the locations of utilities on Telegraph Ave. between West Grand Ave. and 22nd St. However, the depths of gas, electric, water, and storm drain trenches were not provided. The depth of the sewer trench was provided and it was indicated that at its depth groundwater could be intercepted. Determine if any of the other utilities are of sufficient depth to intercept the contaminant plume. If so, propose a sampling plan for the trenches. Include in the Work Plan Addendum requested below.
2) Proposed Groundwater Monitoring Well - The proposal for the groundwater monitoring well is disapproved because the preferential pathway study hasn't determined if the contaminant plume would be intercepted by utilities and we feel that it would be premature to install more monitoring wells without additional grab groundwater sampling to determine the location of the plume for optimal well locations. We request that depth discrete grab groundwater sampling be used. Include your proposal in the Work Plan Addendum requested below.

3) DPE Interim Remediation - "Dual-Phase Extraction (DPE) Pilot Test" dated October 19, 2001 determined that DPE was effective at this site. We have not received your recommendations and specifications for DPE on a full scale as previously requested. Submit.
4) Groundwater Monitoring - The following analyses have not been included as previously requested: Tertiary Amyl Methyl Ether (TAME), Ethyl Tertiary Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tertiary Butyl Alcohol (TBA), Ethanol, Ethylene Dibromide (EDB), Ethylene Dichloride (EDC). Include in your next round of quarterly groundwater monitoring. In your discussion of the results, provide recommendation as to whether these analyses should be continued.
5) Soil Sample Analyses for MW6A, MW6B, MW6C, MW6D (drilled June & July 1988) – Missing. Previously requested, have not been submitted. Submit.

REQUEST FOR INFORMATION

You were also requested to submit a "list of landowners". We still have not received the "list of landowners" from you. You must inform all current record owners of fee title to the site of proposed actions and certify to us that they have been informed. Submit.

TECHNICAL REPORT REQUEST

Please submit the following technical reports to the Alameda County Environmental Health (Attention: Don Hwang), according to the following schedule:

April 30, 2003 - List of Landowners
April 30, 2003 - Soil Sample Report for MW6A, MW6B, MW6C, MW6D
April 30, 2003 - Quarterly Groundwater Monitoring Report, 1st Quarter 2003
May 25, 2003 - Work Plan Addendum
July 31, 2003 - Quarterly Groundwater Monitoring Report, 2nd Quarter 2003
October 31, 2003 - Quarterly Groundwater Monitoring Report, 3rd Quarter 2003
January 31, 2004 - Quarterly Groundwater Monitoring Report, 4th Quarter 2003

If you have any questions, you may call me at 510/567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist
Local Oversight Program

c: Paula Sime, Environmental Resolutions, Inc., 73 Digital Dr., Novato, CA 94949-5791
Donna Drogos
File

ATTACHMENT B

SOIL AND GROUNDWATER INVESTIGATION REPORT
(ERI, MAY 11, 2000)

ENVIRONMENTAL RESOLUTIONS, INC.

May 11, 2000
ERI 222903.R01

Mr. Darin L. Rouse
ExxonMobil Refining and Supply
P.O. Box 4032
Concord, California 94524-4032

Subject: Soil and Groundwater Investigation Report for Exxon Service Station 7-0235, 2225 Telegraph Avenue, Oakland, California.

Mr. Rouse:

At the request of ExxonMobil Refining and Supply (formerly known as Exxon Company, U.S.A) (ExxonMobil), Environmental Resolutions, Inc. (ERI) conducts environmental activities at the subject site. This report documents the drilling of two off-site soil borings in the vicinity of the subject site. Field activities were performed on March 29, 2000, in general accordance with ERI's *Work Plan for Soil and Groundwater* (Work Plan), dated January 4, 2000. The purpose of this work was to evaluate the lateral and vertical extent of dissolved hydrocarbons and methyl tertiary butyl ether (MTBE) in the downgradient direction from the subject site.

BACKGROUND

The site is located on the southwest corner of Telegraph Avenue and West Grand Avenue in Oakland, California, as shown on the Site Vicinity Map (Plate 1). The locations of existing underground storage tanks (USTs), dispenser islands, and other selected site features are shown on the Generalized Site Plan (Plate 2). Based on quarterly groundwater monitoring data, depth to water (DTW) measurements across the site have fluctuated from approximately 11 to 14 feet below ground surface (bgs), and the groundwater appears to flow towards the southeast with a hydraulic gradient from 0.012 to 0.030. A Rose Diagram depicting groundwater flow directions since Fourth Quarter 1997 is shown on Plate 3.

FIELD INVESTIGATION

ERI observed the drilling of soil borings GP1 and GP2, and collected soil and groundwater samples from each of the borings using dual-tube Geoprobe® technology.

ERI performed the work in accordance with a site safety plan and ERI's standard field protocol (Attachment A). Approval of this investigation was provided by the Alameda County Health Care Services Agency in a letter dated February 24, 2000 (Attachment B). Prior to drilling, ERI obtained an excavation permit from the City of Oakland, Public Works Department (Attachment C), and a drilling permit from the Alameda County Public Works Department (Attachment D).

On March 29, 2000, an ERI geologist observed Vironex Environmental Field Services (Vironex) of Hayward, California, install two soil borings (GP1 and GP2) using direct-push equipment. The locations of the borings are shown on Plate 2. Soil borings GP1 and GP2 were driven to a total depth of approximately 24 feet bgs. Each boring was continuously cored, allowing more complete logging of the stratigraphy and the water-bearing zones. Soil generated during the clearing of the soil boring locations was stored on site in a 55-gallon drum pending characterization and disposal. Drill cuttings were not generated during this investigation.

ERI collected soil samples for laboratory analysis at 2-foot and 4-foot intervals. ERI collected discrete groundwater samples from each boring at first-encountered groundwater (approximately 12-13 feet bgs) and at approximately 10 feet below first-encountered groundwater. Select soil and groundwater samples were submitted for laboratory analysis. Upon completion of sample collection, the casings were removed, and the borings were then backfilled with a cement grout and topped with asphalt patch.

HYDROGEOLOGY

The results of this and previous investigations indicate that sediment underlying the site consists of silty clay, sandy clay, and sand. During this investigation, groundwater was initially encountered approximately 12 feet bgs, in sandy clay with thin beds of sand. Boring logs are provided in Attachment E.

RESULTS OF INVESTIGATION

Groundwater

Water samples collected from borings GP1 and GP2 were submitted under Chain of Custody protocol to Southern Pacific Laboratories, Inc. (SPL) in Houston, Texas. The Chain of Custody records and analytical laboratory reports are included in Attachment F. Selected water samples were analyzed for total purgeable petroleum hydrocarbons as gasoline (TPPHg), MTBE, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using the laboratory methods listed in Table 1. Laboratory analysis results are presented in Table 1.

Laboratory analyses of groundwater samples collected from borings GP1 and GP2 indicate that MTBE and BTEX were not detected at or above the laboratory method detection limits in the samples. TPPHg was detected at 100 micrograms per liter (ug/L) in GP2. TPPHg was not detected at or above the laboratory detection limit in GP1.

Soil

Select soil samples were submitted under Chain of Custody protocol to SPL. The Chain of Custody record and analytical laboratory report are included in Attachment F. Soil samples were analyzed for MTBE, TPPHg, and BTEX using the laboratory methods listed in Table 2. Additionally, to meet disposal requirements, one soil stockpile sample was analyzed for total lead and halogenated volatile organic compounds (HVOCs).

Laboratory analysis results of soil samples collected from the borings indicate that the analytes were not detected at or above the laboratory method detection limits. The laboratory analysis results of the composite soil sample collected from the soil stockpile show that TPPHg, MTBE, and HVOCs were not detected at or above the laboratory method detection limits. The analytical laboratory results are presented in Table 2.

At the request of ExxonMobil, Dillard Trucking Company (Dillard) of Byron, California, (under direct contract to ExxonMobil) will transport soil generated during borehole clearing operations to the Browning-Ferris Industries (BFI) landfill in Livermore, California after receipt of characterization analyses. Soil disposal documentation will be forwarded under separate cover.

CONCLUSIONS

Based on the results of this investigation, ERI concludes that the MTBE plume has been delineated downgradient from the site by GeoProbe borings GP1 and GP2.

PROPOSED WORK

ERI recommends the installation of one downgradient groundwater monitoring well (MW6J) in the vicinity of GP1. The purpose of this well is to provide a permanent downgradient monitoring point for plume delineation. The location of the proposed groundwater monitoring well is shown on Plate 2. The scope of the well installation includes the following work:

Task 1: Pre-Drilling Activities

- Obtain a drilling permit from the Alameda County Public Works Department.
- Obtain excavation and encroachment permits from the City of Oakland.
- Contact Underground Service Alert (USA) to coordinate utility locating activities.

Task 2: Preliminary Investigation

- Obtain the services of a licensed well driller, and observe the drilling of one off-site soil boring utilizing a hollow-stem auger drilling rig and the construction of groundwater monitoring well MW6J in the boring. The boring will be advanced to a minimum depth of 10 feet below first-encountered groundwater. ERI expects groundwater to be encountered between 10 and 15 feet bgs. Soil samples will be collected from each boring at 5-foot intervals and at significant changes in lithology, to the total depth of the boring.
- Develop the newly installed well and collect groundwater samples from the well.
- Submit selected soil and groundwater samples to SPL for laboratory analysis of TPPHg using modified EPA Method 8015, total extractable petroleum hydrocarbons as diesel (TEPHd) using modified EPA Method 8015, and BTEX using EPA Method 8020.

- Drill cuttings will be stored on site and covered with visqueen pending disposal. ERI will collect one composite soil sample from the soil stockpile for laboratory analysis. Upon receipt of analytical results for the stockpiled soil, ERI will coordinate the disposal of the soil at an appropriate disposal facility.

- Contract with a licensed land surveyor to survey the location (known survey grid) and casing elevation (mean sea level) of the newly installed wells.

- Interpret field and laboratory data to evaluate soil and groundwater conditions.

Task 3: Report Preparation

- ERI will prepare a report for the well installation. The report will detail field activities, sample collection, field observations, results of the field investigations, and analytical results for soil and groundwater samples. If additional assessment work is warranted, the proposed work will be described in the report.

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental practice in California at the time this investigation was performed. This report has been prepared for ExxonMobil, and any reliance on this report by third parties shall be at such party's sole risk.

ERI recommends signed copies of this report be forwarded to the following:

Mr. Scott Seery
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Stephen Hill
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Please call ERI's project manager, Mr. James F. Chappell at (415) 382-4323, with any questions or comments regarding this report.

Sincerely,
Environmental Resolutions, Inc.

COPY

Thomas Culig
Staff Geologist

REGISTERED GEOLOGIST
JOHN BAILEY BOBBITT
OP 4/30/00
No. 4313
STATE OF CALIFORNIA

COPY

John B. Bobbitt
R.G. 4313

Attachments:

Table 1:	Analytical Laboratory Results of Groundwater Samples
Table 2:	Analytical Laboratory Results of Soil Samples
Plate 1:	Site Vicinity Map
Plate 2:	Generalized Site Plan
Plate 3:	Groundwater Flow Direction Rose Diagram
Attachment A:	Field Protocol
Attachment B:	Alameda County Health Care Services Agency Letter, Dated February 24, 2000
Attachment C:	Excavation Permit
Attachment D:	Drilling Permit
Attachment E:	Unified Soil Classification System and Symbol Key and Soil Boring Logs
Attachment F:	Analytical Laboratory Report and Chain of Custody Record

TABLE 1
ANALYTICAL LABORATORY RESULTS OF GROUNDWATER SAMPLES
Exxon Service Station 7-0235
2225 Telegraph Avenue
Oakland, California

Sample ID	Date Sampled	TPPHg	MTBE	B	T	E	X
		<.....ug/L.....>					
W-13-GP1	3/29/00	<50	<2	<0.5	<0.5	<0.5	<0.5
W-23-GP1	3/29/00	<50	<2	<0.5	<0.5	<0.5	<0.5
W-12-GP2	3/29/00	100	<2	<0.5	<0.5	<0.5	<0.5
W-23-GP2	3/29/00	<50	<2	<0.5	<0.5	<0.5	<0.5

Notes:

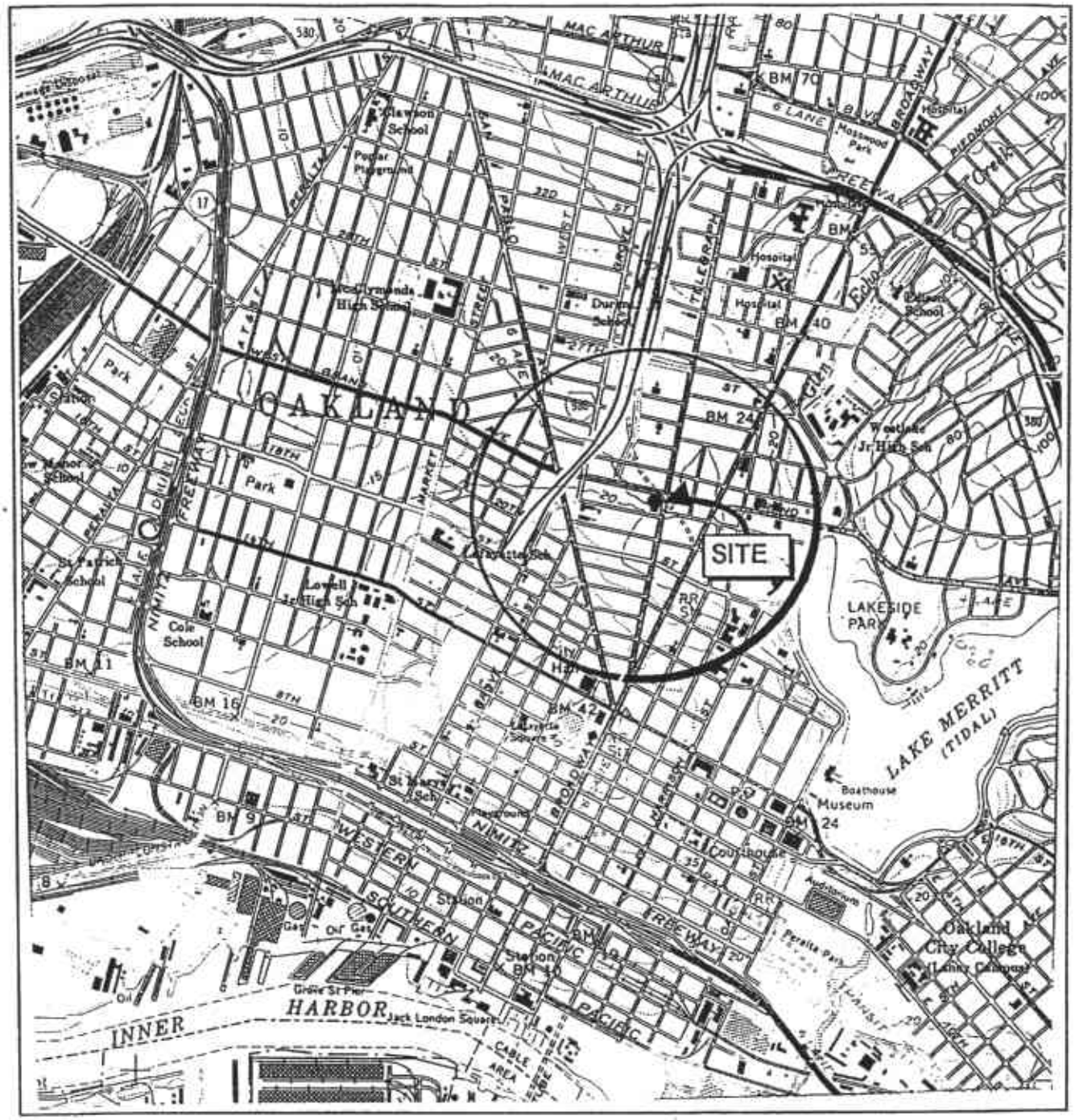
W-13-GP1	=	Water sample-depth in feet below ground surface-boring number.
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using modified EPA Method 8015M.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8021B.
ug/L	=	Micrograms per liter.

TABLE 2
ANALYTICAL LABORATORY RESULTS OF SOIL SAMPLES
Exxon Service Station 7-0235
2225 Telegraph Avenue
Oakland, California
Page 1 of 1)

Sample ID	Date Sampled	TPPHg	MTBE	B	T	E	X	Total Lead	HVOCs
		<.....mg/kg.....>							
S-9-GP1	3/29/00	<1	<0.001	<0.001	<0.001	<0.001	<0.001	---	---
S-11-GP1	3/29/00	<1	<0.001	<0.001	<0.001	<0.001	<0.001	---	---
			<0.001	<0.001					
S-9-GP2	3/29/00	<1	<0.001	<0.001	<0.001	<0.001	<0.001	---	---
S-11-GP2	3/29/00	<1	<0.001	<0.001	<0.001	<0.001	<0.001	---	---
SP-1-1	3/29/00	<1	<0.001	<0.001	<0.001	<0.001	<0.001	4.35	ND

Notes:

S-9-GP1	=	Soil sample-depth in feet below ground surface-boring number.
SP-1-1	=	Stockpile soil sample-depth in feet below ground surface
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using modified EPA Method 8015M.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8021B.
Lead	=	Total lead analyzed using EPA Method 6010B.
ND	=	Analytes not detected at or above the laboratory method detection limit.
mg/kg	=	Milligrams per Kilogram.
---	=	Not Analyzed/Not Applicable.



FN: 22290001

N

APPROXIMATE SCALE

0 1/2 1

MILE

Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland West, California (Photorevised 1980)

ERI ENVIRONMENTAL RESOLUTIONS, INC.

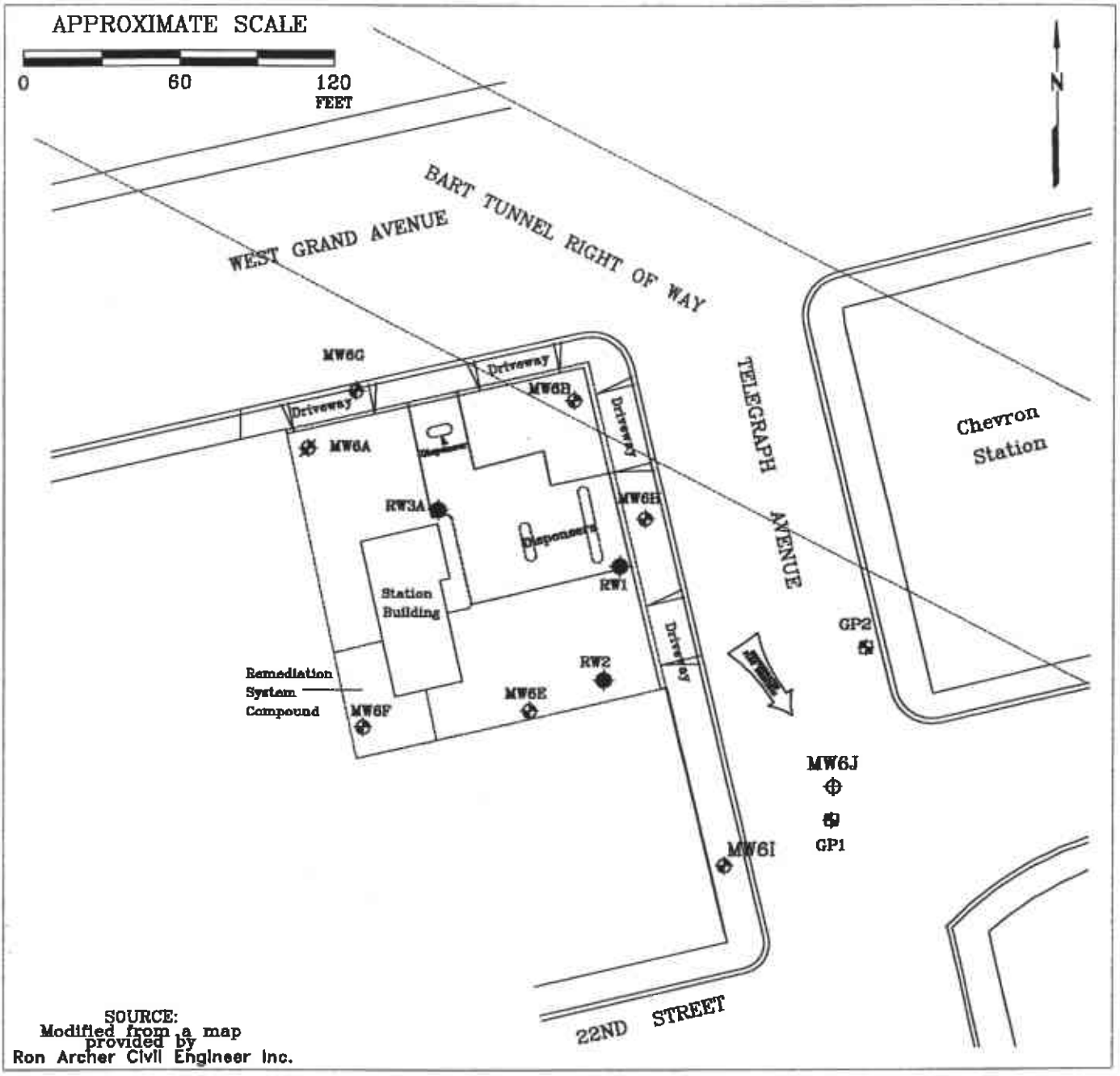
PROJECT ERI 2229

SITE VICINITY MAP

EXXON SERVICE STATION 7-0235
2225 Telegraph Avenue
Oakland, California

PLATE

1



SOURCE:
Modified from a map provided by
Ron Archer Civil Engineer Inc.

FN 22290003

EXPLANATION

MW6I — Groundwater Monitoring Well

MW6J — Proposed Groundwater Monitoring Well

.00 — Groundwater elevation in feet above mean sea level

i = — Interpreted Groundwater Gradient

RW3A — Groundwater Recovery Well

GP1 — Geoprobe Location

Dominant Groundwater Flow Direction Based on Rose Diagram.

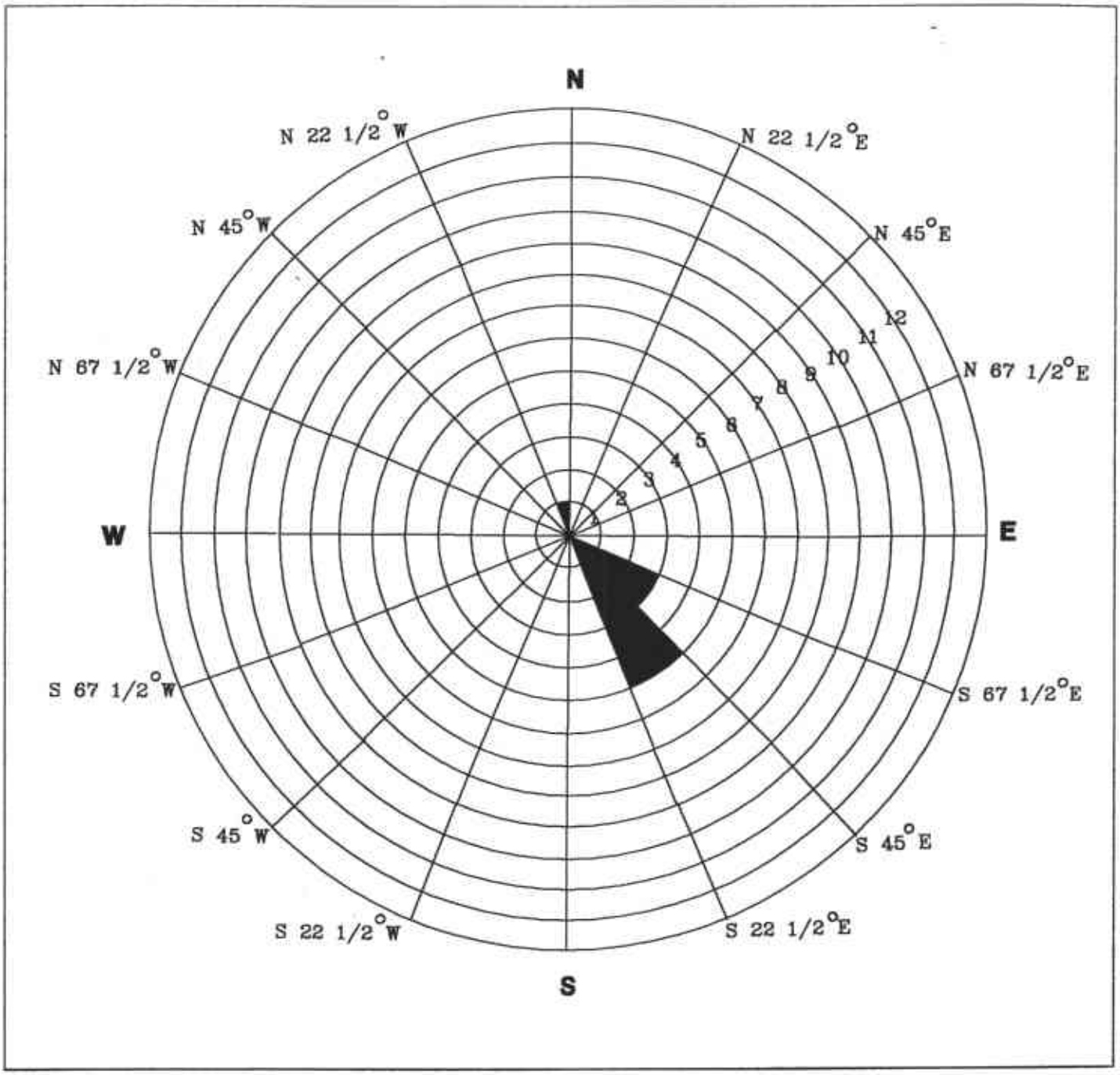
ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

EXXON SERVICE STATION 7-0235
2225 Telegraph Avenue
Oakland, California

PROJECT NO. 2229

PLATE 2



FN 22290004

EXPLANATION

N Compass Direction

Nine Data Points Shown

Rose diagram developed by evaluating the groundwater gradient direction from the quarterly monitoring data. Each circle on the rose diagram represents the number of monitoring events that the gradient plotted in that 22 1/2 degree sector. For example, five quarterly groundwater gradient directions are plotted between south 45 degrees east and south 22 1/2 degrees east. Therefore, the dominant groundwater gradient direction as depicted by the rose diagram is between south 67 1/2 degrees east and south 22 1/2 degrees east.

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

EXXON SERVICE STATION 7-0235
2225 Telegraph Avenue
Oakland, California

PROJECT NO. 2229

PLATE 3

December 7, 1999

ATTACHMENT A

FIELD PROTOCOL

FIELD PROTOCOL

Site Safety Plan

Fieldwork is performed by ERI personnel in accordance with a site safety plan (SSP) developed for the site. This plan describes the basic safety requirements for the subsurface investigation and the drilling of soil borings at the work site. The SSP is applicable to personnel and subcontractors of ERI. Personnel at the site are informed of the contents of the SSP before work begins. A copy of the SSP is kept at the work site and is available for reference by appropriate parties during the work. The ERI geologist acts as the Site Safety Officer.

Pre-Drilling Protocol

Prior to the drilling of soil borings, ERI will acquire necessary permits from the appropriate agency(ies). ERI will also contact Underground Service Alert (USA) and a private underground utility locator (per ExxonMobil protocol) before drilling to help locate public utility lines at the site. ERI will clear the proposed locations to a depth of approximately 4 or 8 feet (depending on the location) before drilling to reduce the risk of damaging underground structures

Direct Drive Push-Technology Drilling

Soil borings are drilled using a portable, truck-mounted pneumatic sampling device capable of pushing and/or driving a 2-inch core barrel into the subsurface. When groundwater is encountered in the borings, a bailer or Hydropunch® (or similar) sample device is used to collect a reconnaissance groundwater sample. After drilling and sampling is completed, the boring is abandoned using cement grout to fill the boring to the original surface.

Hydropunch® Sampling Technology (or similar)

The Hydropunch® (or similar) sampling device provides a method for collection of groundwater samples using a specially designed sample tool to provide a hydraulic connection with the water table. Both groundwater and separate-phase hydrocarbons may be sampled using a Hydropunch® sampler. To sample groundwater, the sample tool is pushed to the selected depth beneath the water table, then withdrawn to expose an inlet screen. The screened interval of the sampler is approximately 3 to 5 feet. Groundwater flows through the inlet screen and fills the body of the sampler. A water sample is then collected from the body of the sampler.

The water is transferred slowly from the bailer to laboratory-cleaned, 1-liter amber bottles and 40-milliliter glass vials for analyses by the laboratory. The glass vials contain hydrochloric acid as a preservative. ERI's geologist checks to see if headspace is present. If headspace is present, additional water is collected until none is present. Chain of Custody Records are initiated in the field by the geologist, updated throughout handling of the samples, and sent along with the samples to the laboratory. Copies of Chain of Custody Records are included in ERI's report.

Auger Drilling

The soil borings will be drilled with a B57 (or similar) drill rig with hollow-stem auger. Auger flights and sampling equipment will be steam-cleaned before use to minimize the possibility of crosshole contamination. The rinseate will be containerized and stored on site. ERI will coordinate with ExxonMobil for appropriate disposal of the rinsate.

Drilling will be performed under the observation of a field geologist, and the earth materials in the boring will be identified using visual and manual methods, and classified as drilling progresses using the Unified Soil Classification System. Soil borings B1 will be drilled to approximately 10 feet below first-encountered groundwater or 5 feet into any competent clay layer (aquitard) encountered beneath the water-bearing zone. If an aquitard is encountered, the boring will be terminated and backfilled with bentonite before installing a groundwater monitoring well.

During drilling, soil samples will be continuously collected. Samples will be collected with a California-modified, split-spoon sampler equipped with laboratory-cleaned brass sleeves. Samples will be collected by advancing the auger to a point just above the sampling depth and driving the sampler into the soil. The sampler will be driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval will be counted and recorded to give an indication of soil consistency.

Soil samples will be monitored with a photoionization detector (PID), which measures hydrocarbon concentrations in the ambient air or headspace above the soil sample. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect concentrations of hydrocarbons with the same precision as laboratory analyses. Soil samples selected for possible chemical analysis will be sealed promptly with Teflon® tape and plastic caps. The samples will be labeled and placed in iced storage for transport to the laboratory. Chain of Custody Records will be initiated by the geologist in the field, updated throughout handling of the samples, and sent with the samples to the laboratory. Copies of these records will be in the final report. Cuttings generated during drilling will be placed on plastic sheeting and covered and left at the site. ERI will coordinate with ExxonMobil for the soil to be removed to an appropriate disposal facility.

Well Construction

The monitoring well will be constructed in the boring using thread-jointed, 2-inch inner diameter, Schedule 40 polyvinyl chloride (PVC) casing. No chemical cements, glues, or solvents will be used in well construction. The screened portion of the well will consist of factory-perforated casing with 0.020-inch wide slots. If unconfined aquifer conditions exist, the well screen will be installed from the total depth of each well to approximately 5 feet above the uppermost water-bearing unit. If confined conditions exist, the uppermost water-bearing unit will be screened exclusively. Unperforated casing will be installed from the top of each screen to the ground surface. The annular space in the well will be packed with number 2/12 sand to approximately one foot above the slotted interval and a surged and refilled bentonite plug will be added above the sand pack to prevent cement from entering the well pack. The remaining annulus will be backfilled to grade with a slurry of cement and bentonite powder.

The well will be protected with a locking cap and a traffic-rated, cast-steel utility box equipped with a steel skirt. The box has a watertight seal to protect against surface-water infiltration.

Well Development and Sampling

ERI will wait a minimum of 24 hours before development of the wells to allow the grout to set. The wells will be developed with a surge block and pump. Well development will continue until the discharge water is clear of silt and sand. Clay-size sediments derived from the screened portion of the formation cannot be eliminated by well development. After the wells have been allowed to stabilize, the wells will be checked for separate phase hydrocarbons using an interface probe. The thickness of any free phase hydrocarbons detected in the wells will be recorded. If free phase hydrocarbons are encountered in a well, the well will not be purged, and the water will not be sampled for chemical analysis.

If no free phase hydrocarbons are detected after development, the groundwater monitoring wells will be purged of stagnant water and a sample will be collected for laboratory analysis. The wells will be purged of approximately 3 to 5 well volumes of water with a submersible pump, or until pH, conductivity, and temperature of the purged water have stabilized. Water purged from the wells will be transported by ERI for disposal at Romic, Inc., of East Palo Alto, California.

The wells will be allowed to recover to at least 80 percent of static conditions, and a sample of the formation water will be collected with a Teflon® bailer cleaned with a laboratory-grade detergent and deionized water. The water will be transferred slowly from the bailer to laboratory-cleaned, 1 liter amber bottles and 40-milliliter glass vials for analyses by the laboratory. The glass vials will contain hydrochloric acid as a preservative. The sampler will check to see if headspace is present. If headspace is present, the sampler will collect more samples until none is present. Chain of Custody Records will be initiated in the field by the sampler, updated throughout handling of the samples, and sent along with the samples to the laboratory. Copies of Chain of Custody Records will be included in our final report.

Quality Assurance/Quality Control

The sampling and analysis procedures employed by ERI for soil sampling follow regulatory guidance documents for quality assurance/quality control (QA/QC). Quality control is maintained by site-specific field protocols and quality control checks performed by the laboratory. Laboratory and field handling of samples may be monitored by including QC samples for analysis. The number and types of QC samples are selected and analyzed on a project-specific basis.

Trip Blanks - Trip blanks are sent to the project site, and travel with samples collected from the project site to the laboratory. They are not opened, and are returned from the project site with the samples for analysis.

ATTACHMENT B

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY LETTER DATED FEBRUARY 24, 2000

LAMEDA COUNTY
EALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

February 24, 2000

STID 1039

Mr. Darin Rouse
Exxon Company, U.S.A.
P.O. Box 4032
Concord, CA 94524-4032

RE: Exxon Service Station 7-0235, 2225 Telegraph Avenue, Oakland

Dear Mr. Rouse:

This letter follows my review of the January 4, 2000 Environmental Resolutions, Inc. (ERI) work plan for a soil and water investigation (SWI) in locations downgradient of the subject site. This work plan was submitted in response to a November 5, 1999 request from this office for such work, prompted by the significant increase in methyl tert-butyl ether (MtBE) concentrations identified in water samples collected from well MW6H in the last two years.

ERI proposes the use of Geoprobe® or other "push-tool" sampling equipment to advance two borings into Telegraph Avenue from which both soil and groundwater samples will be collected. Although the proposed scope of work is acceptable as a preliminary step in the assessment, it is not a replacement for the monitoring wells requested previously.

The cited ERI workplan is accepted as submitted for this preliminary stage of the SWI.

Please call me at (510) 567-6783 should you have any questions and to advise me when permits have been secured and field work scheduled.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

cc: Chuck Headlee, RWQCB
Leroy Griffin, Oakland Fire Department
Jim Chappell, Env. Resolutions, Inc., 73 Digital Dr., Ste. 100, Novato, CA 94949

ATTACHMENT C

EXCAVATION PERMIT

EXCAVATION PERMIT

Job Site 2225 TELEGRAPH AV   Parcel# 008 -0659-002-01   Appl# X0000259

Descr boring for soil & ground water investigation   Permit Issued 03/17/00

Work Type EXCAVATION-PRIVATE P

USA #   Util Co. Job #:   Util Acctg#:
Util Fund #:

Applicant   Phone#   Lic#   --License Classes--

Owner EXXON CORPORATION
Contractor ENVIRONMENTAL RESOLUTIONS INC   X   (415)382-9105 611383 A   C10 C36
Arch/Engr
Agent DYLAN CROUSE
Applic Addr 73 DIGITAL DRIVE 100, CA, 94949

$246.00 TOTAL FEES PAID AT ISSUANCE
$41.00 Applic $205.00 Permit
$.00 Process $.00 Rec Mgmt
$.00 Gen Plan $.00 Invstg
$.00 Other

CITY OF OAKLAND

ATTACHMENT D

DRILLING PERMIT

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST., HAYWARD, CA 94544
PHONE (510) 670-5554
FAX (510) 782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2225 Telegraph Avenue Oakland, California offsite

CLIENT
Name EXXON Company, USA
Address P.O. Box 9022 Phone (925) 246-8790
City Concord Zip 94524-4037

APPLICANT
Name Environmental Resolutions, Inc
Address 75 Digital, Suite 100 Fax 415 382-1856
City Novato, CA Phone 415 382-9105
Zip 94949

TYPE OF PROJECT

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

PROPOSED WATER SUPPLY WELL USE

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

DRILLING METHOD:

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

DRILLER'S LICENSE NO. 705927

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

GEOTECHNICAL PROJECTS
Number of Borings 2 Maximum
Hole Diameter 2 in. Depth 35 ft.

ESTIMATED STARTING DATE 3-29-00
ESTIMATED COMPLETION DATE 3-29-00

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

APPLICANT'S SIGNATURE [signature] DATE 3/16/00
Rev. 3-16-00

FOR OFFICE USE

PERMIT NUMBER W00-118
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

(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 Well Completion Report.
(3.) Permit is void if project not begun within 90 days of approval date.

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.

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.

(D.) GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two feet shall be compacted cuttings.

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

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED Frank L Coll DATE 3-20-00

ATTACHMENT E

UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY AND SOIL BORING LOGS

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2229 Boring: GP1 Plate: APPENDIX

Site: Exxon Service Station 7-0235 Date: 3/29/00

Drill Contractor: Vironex

Sample Method: Split Spoon Geologist: JOHN B. BOBBITT

Drill Rig: 5400 Bore Hole Diameter: 2" Signature: John Bobbitt

Location: In the Middle of Telegraph Avenue and 22nd Street Intersection Registration: R.G. 4313

Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						14" asphalt, 12" road base	
						Clay with some silt and trace of sand, greenish gray, damp, (70% clay, 20% silt, 10% fine-grained sand), high plasticity	
5		3.3			CH	clay with some silt, light brown, (80% clay, 20% silt)	
						same, mottled black	
10		0					
		0				same	
		▼			SP	(90% sand, 10% clay), moist, very fine-grained sand	
		0			CH	Clay with some sand, brown, mottled gray (80% clay, 20% fine-grained sand, moist, high plasticity	
15		0			SP	Sand with a trace of clay, brown, (90% sand, 10% clay), fine-grained sand	
		0			CH	Clay with a trace of silt, brown, moist, (85% clay, 15% silt), poorly graded, wet, high plasticity	
20		0			CL	Sandy clay with a trace of gravel, light brown, (60% clay, 35% sand, 5% gravel), fine-grained sand, poorly graded, fine gravel up to 1/2", medium plasticity, wet	
						22'-24' no sample	
25						Total depth at 24 feet. Groundwater encountered at 12.7 feet.	

Backfilled with Grout

Casing Diameter: NA Slot Size: NA, Sand Size: NA, Grout: Portland I,II

FN: 2229GP1

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2229 Boring: GP2 Plate: APPENDIX

Site: Exxon Service Station 7-0235 Date: 3/29/00

Drill Contractor: Vfironex

Sample Method: Split Spoon Geologist: JOHN B. BORRETT

Drill Rig: 5400 Bore Hole Diameter: 2" Signature:

Location: Approximately 15' North of the Northeastern Corner of Telegraph Avenue and 22nd Street Registration: R.G. 4313

Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						14" asphalt	
						Clay with some silt and a trace of sand, light brown, (70% clay, 20% silt, 10% fine-grained sand), moist, high plasticity	
5	0				CH		
10	0					same, mottled black	
	▼ 8				SC	Sand with some clay, light brown, (75% sand, 25% clay), wet, slight plasticity	
	6				SP	Sand with a trace of silt, greenish gray, (90% sand, 10% silt), fine-grained sand, poorly graded sand, wet	
15	4					Sandy clay, greenish gray, mottled orange, (60% clay, 40% sand), fine-grained sand, poorly graded sand, wet, high plasticity	
					CH		
	7					same, sand with a trace of clay, light brown (90% sand, 10% clay), very fine-grained sand, poorly graded sand, wet	
20	0				SP		
	5					same	
						Total depth at 23 feet. Groundwater encountered at 12 feet.	
25							

Backfilled with Grout

Casing Diameter: NA Slot Size: NA , Sand Size: NA , Grout: Portland I,II

FN: 2229GP2

ATTACHMENT F

ANALYTICAL LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

EXXON Company U.S.A.

Certificate of Analysis Number:

00040279

Report To:	Environmental Resolution, Inc. Jim Chappell 73 Digital Drive Suite 100 Novato California 94949- ph: (415) 382-9105 fax: (415) 382-1856	Project Name:	222903x
		Site:	7-0235,19802887
		Site Address:	
		PO Number:	
		State:	California
		State Cert. No.:	
Fax To:	*Environmental Resolution, Inc.* *Jim Chappell* *fax: (415) 382-1856*	Date Reported:	

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
P-1-1	00040279-01	Soil	3/29/00 5:05:00 PM	4/11/00		☐

Sonia West

4/17/00

West, Sonia
Senior Project Manager

Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: SP-1-1 | Collected: 3/29/00 5:05:00 | SPL Sample ID: 00040279-01

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
HALOGENATED VOLATILES ORGANIC COMPOUNDS			**MCL**	**SW8010B**		**Units: mg/Kg**		
1,1,1-Trichloroethane	ND		0.001	1		04/13/00 0:47	JN	249688
1,1,2,2-Tetrachloroethane	ND		0.002	1		04/13/00 0:47	JN	249688
1,1,2-Trichloroethane	ND		0.001	1		04/13/00 0:47	JN	249688
1,1-Dichloroethane	ND		0.001	1		04/13/00 0:47	JN	249688
1,1-Dichloroethene	ND		0.001	1		04/13/00 0:47	JN	249688
1,2-Dichlorobenzene	ND		0.001	1		04/13/00 0:47	JN	249688
1,2-Dichloroethane	ND		0.001	1		04/13/00 0:47	JN	249688
1,2-Dichloropropane	ND		0.001	1		04/13/00 0:47	JN	249688
1,3-Dichlorobenzene	ND		0.002	1		04/13/00 0:47	JN	249688
1,4-Dichlorobenzene	ND		0.002	1		04/13/00 0:47	JN	249688
Bromodichloromethane	ND		0.001	1		04/13/00 0:47	JN	249688
Bromoform	ND		0.001	1		04/13/00 0:47	JN	249688
Bromomethane	ND		0.001	1		04/13/00 0:47	JN	249688
Carbon tetrachloride	ND		0.001	1		04/13/00 0:47	JN	249688
Chlorobenzene	ND		0.001	1		04/13/00 0:47	JN	249688
Chloroethane	ND		0.001	1		04/13/00 0:47	JN	249688
Chloroform	ND		0.001	1		04/13/00 0:47	JN	249688
Chloromethane	ND		0.001	1		04/13/00 0:47	JN	249688
cis-1,2-Dichloroethene	ND		0.001	1		04/13/00 0:47	JN	249688
cis-1,3-Dichloropropene	ND		0.001	1		04/13/00 0:47	JN	249688
Dibromochloromethane	ND		0.001	1		04/13/00 0:47	JN	249688
Dichlorodifluoromethane	ND		0.001	1		04/13/00 0:47	JN	249688
Methylene chloride	ND		0.002	1		04/13/00 0:47	JN	249688
Tetrachloroethene	ND		0.001	1		04/13/00 0:47	JN	249688
trans-1,2-Dichloroethene	ND		0.001	1		04/13/00 0:47	JN	249688
trans-1,3-Dichloropropene	ND		0.001	1		04/13/00 0:47	JN	249688
Trichloroethene	ND		0.001	1		04/13/00 0:47	JN	249688
Trichlorofluoromethane	ND		0.001	1		04/13/00 0:47	JN	249688
Surr: 3-Bromochlorobenzene	131	%	50-150	1		04/13/00 0:47	JN	249688
Surr: Fluorobenzene	93.3	%	70-130	1		04/13/00 0:47	JN	249688
METALS BY METHOD 6010B, TOTAL			**MCL**	**SW6010B**		**Units: mg/Kg**		
Lead	4.35		0.5	1		04/12/00 15:28	EG	247878

Run ID/Seq #: TJAT_000412A-247878

Prep Method	Prep Date	Prep Initials
SW3050B	04/11/2000 18:40	AA

Sonia West

West, Sonia
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Case Narrative for:
EXXON Company U.S.A.

Certificate of Analysis Number:
00030881

Report To:		Project Name:	222903X
Environmental Resolution, Inc.		Site:	7-0235,19802887
Jim Chappell		Site Address:	
73 Digital Drive Suite 100			
Novato		PO Number:	
California		State:	California
94949-		State Cert. No.:	
ph: (415) 382-9105	fax: (415) 382-1856	Date Reported:	4/5/00

Any data flags or quality control exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Sonia West

West, Sonia
Senior Project Manager

4/6/00
Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

EXXON Company U.S.A.

Certificate of Analysis Number:

00030881

Report To: Environmental Resolution, Inc.
Jim Chappell
73 Digital Drive Suite 100

Novato
California
94949-
ph: (415) 382-9105 fax: (415) 382-1856

Attn To: *Environmental Resolution, Inc.*
Jim Chappell *fax: (415) 382-1856*

Project Name: 222903X
Site: 7-0235,19802887
Site Address:

PO Number:
State: California
State Cert. No.:
Date Reported: 4/5/00

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
-GP1	00030881-01	Soil	3/29/00 10:00:00 AM	3/31/00 10:00:00 AM		☑
-GP1	00030881-02	Soil	3/29/00 10:05:00 AM	3/31/00 10:00:00 AM		☐
GP1	00030881-03	Soil	3/29/00 10:10:00 AM	3/31/00 10:00:00 AM		☐
GP1	00030881-04	Soil	3/29/00 10:15:00 AM	3/31/00 10:00:00 AM		☑
5-GP1	00030881-05	Soil	3/29/00 10:20:00 AM	3/31/00 10:00:00 AM		☑
GP1	00030881-06	Soil	3/29/00 10:40:00 AM	3/31/00 10:00:00 AM		☑
GP1	00030881-07	Soil	3/29/00 11:00:00 AM	3/31/00 10:00:00 AM		☑
-GP2	00030881-08	Soil	3/29/00 2:45:00 PM	3/31/00 10:00:00 AM		☑
-GP2	00030881-09	Soil	3/29/00 2:50:00 PM	3/31/00 10:00:00 AM		☐
GP2	00030881-10	Soil	3/29/00 2:55:00 PM	3/31/00 10:00:00 AM		☐
-GP2	00030881-11	Soil	3/29/00 3:00:00 PM	3/31/00 10:00:00 AM		☑
5-GP2	00030881-12	Soil	3/29/00 3:20:00 PM	3/31/00 10:00:00 AM		☑
GP2	00030881-13	Soil	3/29/00 3:25:00 PM	3/31/00 10:00:00 AM		☑
P2	00030881-14	Soil	3/29/00 3:30:00 PM	3/31/00 10:00:00 AM		☑
1-GP2	00030881-15	Soil	3/29/00 3:35:00 PM	3/31/00 10:00:00 AM		☑
-GP1	00030881-16	Water	3/29/00 10:30:00 AM	3/31/00 10:00:00 AM		☐
GP1	00030881-16	Water	3/29/00 10:30:00 AM	3/31/00 10:00:00 AM		☑
3-GP1	00030881-17	Water	3/29/00 11:30:00 AM	3/31/00 10:00:00 AM		☐
2-GP2	00030881-18	Water	3/29/00 3:10:00 PM	3/31/00 10:00:00 AM		☐
GP2	00030881-18	Water	3/29/00 3:10:00 PM	3/31/00 10:00:00 AM		☑
-GP2	00030881-19	Water	3/29/00 4:25:00 PM	3/31/00 10:00:00 AM		☐
3-GP2	00030881-19	Water	3/29/00 4:25:00 PM	3/31/00 10:00:00 AM		☑
	00030881-20	Soil	3/29/00 5:05:00 PM	3/31/00 10:00:00 AM		☐

Sonia West 4/6/00

st, Sonia Date

r Project Manager

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

4/6/00 6:50:09 AM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: S-9-GP1 **Collected:** 3/29/00 10:05:00 **SPL Sample ID:** 00030881-02

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				**MCL**	**CA_GRO**		**Units: mg/Kg**		
Gasoline Range Organics	ND		1		1		04/03/00 22:34	CJ	235275
Surr: 1,4-Difluorobenzene	88.4	%	72-153		1		04/03/00 22:34	CJ	235275
Surr: 4-Bromofluorobenzene	80.9	%	51-149		1		04/03/00 22:34	CJ	235275
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: mg/Kg**		
Benzene	ND		0.001		1		04/03/00 22:34	CJ	235208
Ethylbenzene	ND		0.001		1		04/03/00 22:34	CJ	235208
Methyl tert-butyl ether	ND		0.001		1		04/03/00 22:34	CJ	235208
Toluene	ND		0.001		1		04/03/00 22:34	CJ	235208
m,p-Xylene	ND		0.001		1		04/03/00 22:34	CJ	235208
o-Xylene	ND		0.001		1		04/03/00 22:34	CJ	235208
Xylenes,Total	ND		0.001		1		04/03/00 22:34	CJ	235208
Surr: 1,4-Difluorobenzene	94.9	%	59-127		1		04/03/00 22:34	CJ	235208
Surr: 4-Bromofluorobenzene	101	%	48-156		1		04/03/00 22:34	CJ	235208

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: S-11-GP1 **Collected:** 3/29/00 10:10:00 **SPL Sample ID:** 00030881-03

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				**MCL**	**CA_GRO**		**Units: mg/Kg**		
Gasoline Range Organics	ND		1		1		04/03/00 23:07	CJ	235276
Surr: 1,4-Difluorobenzene	88.6	%	72-153		1		04/03/00 23:07	CJ	235276
Surr: 4-Bromofluorobenzene	81.8	%	51-149		1		04/03/00 23:07	CJ	235276
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: mg/Kg**		
Benzene	ND		0.001		1		04/03/00 23:07	CJ	235211
Ethylbenzene	ND		0.001		1		04/03/00 23:07	CJ	235211
Methyl tert-butyl ether	ND		0.001		1		04/03/00 23:07	CJ	235211
Toluene	ND		0.001		1		04/03/00 23:07	CJ	235211
m,p-Xylene	ND		0.001		1		04/03/00 23:07	CJ	235211
o-Xylene	ND		0.001		1		04/03/00 23:07	CJ	235211
Xylenes,Total	ND		0.001		1		04/03/00 23:07	CJ	235211
Surr: 1,4-Difluorobenzene	93.2	%	59-127		1		04/03/00 23:07	CJ	235211
Surr: 4-Bromofluorobenzene	99.3	%	48-156		1		04/03/00 23:07	CJ	235211

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: S-9-GP2 | Collected: 3/29/00 2:50:00 | SPL Sample ID: 00030881-09

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			MCL	CA_GRO		Units: mg/Kg		
Gasoline Range Organics	ND		1	1		04/04/00 1:47	CJ	235281
Surr: 1,4-Difluorobenzene	89.2	%	72-153	1		04/04/00 1:47	CJ	235281
Surr: 4-Bromofluorobenzene	82.5	%	51-149	1		04/04/00 1:47	CJ	235281
PURGEABLE AROMATICS			MCL	SW8021B		Units: mg/Kg		
Benzene	ND		0.001	1		04/04/00 1:47	CJ	235225
Ethylbenzene	ND		0.001	1		04/04/00 1:47	CJ	235225
Methyl tert-butyl ether	ND		0.001	1		04/04/00 1:47	CJ	235225
Toluene	ND		0.001	1		04/04/00 1:47	CJ	235225
m,p-Xylene	ND		0.001	1		04/04/00 1:47	CJ	235225
o-Xylene	ND		0.001	1		04/04/00 1:47	CJ	235225
Xylenes,Total	ND		0.001	1		04/04/00 1:47	CJ	235225
Surr: 1,4-Difluorobenzene	91.7	%	59-127	1		04/04/00 1:47	CJ	235225
Surr: 4-Bromofluorobenzene	100	%	48-156	1		04/04/00 1:47	CJ	235225

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: S-11-GP2 **Collected:** 3/29/00 2:55:00 **SPL Sample ID:** 00030881-10

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			**MCL**	**CA_GRO**		**Units: mg/Kg**		
Gasoline Range Organics	ND		1	1		04/04/00 2:20	CJ	235282
Surr: 1,4-Difluorobenzene	88.2	%	72-153	1		04/04/00 2:20	CJ	235282
Surr: 4-Bromofluorobenzene	82.5	%	51-149	1		04/04/00 2:20	CJ	235282
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: mg/Kg**		
Benzene	ND		0.001	1		04/04/00 2:20	CJ	235228
Ethylbenzene	ND		0.001	1		04/04/00 2:20	CJ	235228
Methyl tert-butyl ether	ND		0.001	1		04/04/00 2:20	CJ	235228
Toluene	ND		0.001	1		04/04/00 2:20	CJ	235228
m,p-Xylene	ND		0.001	1		04/04/00 2:20	CJ	235228
o-Xylene	ND		0.001	1		04/04/00 2:20	CJ	235228
Xylenes,Total	ND		0.001	1		04/04/00 2:20	CJ	235228
Surr: 1,4-Difluorobenzene	93.5	%	59-127	1		04/04/00 2:20	CJ	235228
Surr: 4-Bromofluorobenzene	99.4	%	48-156	1		04/04/00 2:20	CJ	235228

Qualifiers:

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Client Sample ID: W-13-GP1 Collected: 3/29/00 10:30:00 SPL Sample ID: 00030881-16

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			MCL	CA_GRO		Units: ug/L		
Gasoline Range Organics	ND		50	1		04/03/00 19:43	WR	235180
Surr: 1,4-Difluorobenzene	101	%	62-144	1		04/03/00 19:43	WR	235180
Surr: 4-Bromofluorobenzene	100	%	44-153	1		04/03/00 19:43	WR	235180
PURGEABLE AROMATICS			MCL	SW8021B		Units: ug/L		
Benzene	ND		0.5	1		04/03/00 19:43	WR	235157
Ethylbenzene	ND		0.5	1		04/03/00 19:43	WR	235157
Methyl tert-butyl ether	ND		2	1		04/03/00 19:43	WR	235157
Toluene	ND		0.5	1		04/03/00 19:43	WR	235157
m,p-Xylene	ND		0.5	1		04/03/00 19:43	WR	235157
o-Xylene	ND		0.5	1		04/03/00 19:43	WR	235157
Xylenes,Total	ND		0.5	1		04/03/00 19:43	WR	235157
Surr: 1,4-Difluorobenzene	103	%	72-137	1		04/03/00 19:43	WR	235157
Surr: 4-Bromofluorobenzene	104	%	48-156	1		04/03/00 19:43	WR	235157

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Client Sample ID: W-23-GP1 Collected: 3/29/00 11:30:00 SPL Sample ID: 00030881-17

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			MCL	CA_GRO		Units: ug/L		
Gasoline Range Organics	ND		50	1		04/03/00 20:07	WR	235181
Surr: 1,4-Difluorobenzene	87.6	%	62-144	1		04/03/00 20:07	WR	235181
Surr: 4-Bromofluorobenzene	103	%	44-153	1		04/03/00 20:07	WR	235181
PURGEABLE AROMATICS			MCL	SW8021B		Units: ug/L		
Benzene	ND		0.5	1		04/03/00 20:07	WR	235158
Ethylbenzene	ND		0.5	1		04/03/00 20:07	WR	235158
Methyl tert-butyl ether	ND		2	1		04/03/00 20:07	WR	235158
Toluene	ND		0.5	1		04/03/00 20:07	WR	235158
m,p-Xylene	ND		0.5	1		04/03/00 20:07	WR	235158
o-Xylene	ND		0.5	1		04/03/00 20:07	WR	235158
Xylenes,Total	ND		0.5	1		04/03/00 20:07	WR	235158
Surr: 1,4-Difluorobenzene	102	%	72-137	1		04/03/00 20:07	WR	235158
Surr: 4-Bromofluorobenzene	107	%	48-156	1		04/03/00 20:07	WR	235158

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Client Sample ID: W-12-GP2 **Collected:** 3/29/00 3:10:00 **SPL Sample ID:** 00030881-18

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed.	Analyst	Seq. #
GASOLINE RANGE ORGANICS			MCL	CA_GRO		Units: ug/L		
Gasoline Range Organics	100		50	1		04/03/00 20:31	WR	235182
Surr: 1,4-Difluorobenzene	93.9	%	62-144	1		04/03/00 20:31	WR	235182
Surr: 4-Bromofluorobenzene	103	%	44-153	1		04/03/00 20:31	WR	235182
PURGEABLE AROMATICS			MCL	SW8021B		Units: ug/L		
Benzene	ND		0.5	1		04/03/00 20:31	WR	235159
Ethylbenzene	ND		0.5	1		04/03/00 20:31	WR	235159
Methyl tert-butyl ether	ND		2	1		04/03/00 20:31	WR	235159
Toluene	ND		0.5	1		04/03/00 20:31	WR	235159
m,p-Xylene	ND		0.5	1		04/03/00 20:31	WR	235159
o-Xylene	ND		0.5	1		04/03/00 20:31	WR	235159
Xylenes,Total	ND		0.5	1		04/03/00 20:31	WR	235159
Surr: 1,4-Difluorobenzene	104	%	72-137	1		04/03/00 20:31	WR	235159
Surr: 4-Bromofluorobenzene	105	%	48-156	1		04/03/00 20:31	WR	235159

Qualifiers:

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
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Client Sample ID: W-23-GP2 **Collected:** 3/29/00 4:25:00 **SPL Sample ID:** 00030881-19

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq.#
GASOLINE RANGE ORGANICS				**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50		1		04/03/00 20:56	WR	235183
Surr: 1,4-Difluorobenzene	88.1	%	62-144		1		04/03/00 20:56	WR	235183
Surr: 4-Bromofluorobenzene	104	%	44-153		1		04/03/00 20:56	WR	235183
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5		1		04/03/00 20:56	WR	235160
Ethylbenzene	ND		0.5		1		04/03/00 20:56	WR	235160
Methyl tert-butyl ether	ND		2		1		04/03/00 20:56	WR	235160
Toluene	ND		0.5		1		04/03/00 20:56	WR	235160
m,p-Xylene	ND		0.5		1		04/03/00 20:56	WR	235160
o-Xylene	ND		0.5		1		04/03/00 20:56	WR	235160
Xylenes,Total	ND		0.5		1		04/03/00 20:56	WR	235160
Surr: 1,4-Difluorobenzene	102	%	72-137		1		04/03/00 20:56	WR	235160
Surr: 4-Bromofluorobenzene	108	%	48-156		1		04/03/00 20:56	WR	235160

Qualifiers:

ND/U - Not Detected at the Reporting Limit
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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: SP-1-1 Collected: 3/29/00 5:05:00 SPL Sample ID: 00030881-20

Site: 7-0235,19802887

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			MCL	CA_GRO		Units: mg/Kg		
Gasoline Range Organics	ND		1	1		04/04/00 7:42	CJ	235289
Surr: 1,4-Difluorobenzene	89.4	%	72-153	1		04/04/00 7:42	CJ	235289
Surr: 4-Bromofluorobenzene	84.0	%	51-149	1		04/04/00 7:42	CJ	235289
PURGEABLE AROMATICS			MCL	SW8021B		Units: mg/Kg		
Benzene	ND		0.001	1		04/04/00 7:42	CJ	235241
Ethylbenzene	ND		0.001	1		04/04/00 7:42	CJ	235241
Methyl tert-butyl ether	ND		0.001	1		04/04/00 7:42	CJ	235241
Toluene	ND		0.001	1		04/04/00 7:42	CJ	235241
m,p-Xylene	ND		0.001	1		04/04/00 7:42	CJ	235241
o-Xylene	ND		0.001	1		04/04/00 7:42	CJ	235241
Xylenes,Total	ND		0.001	1		04/04/00 7:42	CJ	235241
Surr: 1,4-Difluorobenzene	91.3	%	59-127	1		04/04/00 7:42	CJ	235241
Surr: 4-Bromofluorobenzene	103	%	48-156	1		04/04/00 7:42	CJ	235241

Qualifiers:

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Quality Control Documentation

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

222903X

sis: Purgeable Aromatics
od: SW8021B

WorkOrder: 00030881
Lab Batch ID: R11678

Method Blank

D: HP_U_000403A-235150 **Units:** ug/L
sis Date: 04/03/2000 15:39 **Analyst:** WR

Analyte	Result	Rep Limit
Benzene	ND	0.50
Ethylbenzene	ND	0.50
Methyl tert-butyl ether	ND	2.0
Toluene	ND	0.50
m,p-Xylene	ND	0.50
o-Xylene	ND	0.50
Xylenes,Total	ND	0.50
Surr: 1,4-Difluorobenzene	103.0	72-137
Surr: 4-Bromofluorobenzene	105.1	48-156

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
00030881-16A	W-13-GP1
00030881-17A	W-23-GP1
00030881-18A	W-12-GP2
00030881-19A	W-23-GP2

Laboratory Control Sample (LCS)

RunID: HP_U_000403A-235149 **Units:** ug/L
Analysis Date: 04/03/2000 14:35 **Analyst:** WR

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	45	90	61	119
Ethylbenzene	50	45	91	70	118
Methyl tert-butyl ether	50	46	92	72	128
Toluene	50	45	91	65	125
m,p-Xylene	100	90	90	72	116
o-Xylene	50	46	91	72	117
Xylenes,Total	150	136	91	72	117

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00030854-05
RunID: HP_U_000403A-235151 **Units:** ug/L
Analysis Date: 04/03/2000 16:03 **Analyst:** WR

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
ne	ND	20	20	97.8	20	20	100	2.15	21	32	164
enzene	ND	20	20	98.2	20	20	100	1.90	19	52	142
hyl tert-butyl ether	ND	20	21	104	20	21	105	0.415	20	39	150
ene	ND	20	20	97.6	20	20	99.9	2.40	20	38	159

ifiers:
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J - Estimated value between MDL and PQL
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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

222903X

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 00030881
Lab Batch ID: R11678

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00030854-05
RunID: HP_U_000403A-235151 Units: ug/L
Analysis Date: 04/03/2000 16:03 Analyst: WR

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
-Xylene	ND	40	38	96.1	40	38	96.0	.0664	17	53	144
lene	ND	20	19	96.6	20	20	97.7	1.21	18	53	143
lenes,Total	ND	60	57	95.0	60	58	96.7	1.74	18	53	144

Qualifiers:
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B - Analyte detected in the associated Method Blank
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* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

222903X

ysis: Gasoline Range Organics
thod: CA_GRO

WorkOrder: 00030881
Lab Batch ID: R11680

Method Blank

D: HP_U_000403B-235175 Units: mg/L
alysis Date: 04/03/2000 17:41 Analyst: WR

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.050
Surr: 1,4-Difluorobenzene	92.7	62-144
Surr: 4-Bromofluorobenzene	100.5	44-153

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
00030881-16A	W-13-GP1
00030881-17A	W-23-GP1
00030881-18A	W-12-GP2
00030881-19A	W-23-GP2

Laboratory Control Sample (LCS)

RunID: HP_U_000403B-235172 Units: mg/L
Analysis Date: 04/03/2000 14:59 Analyst: WR

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	1	100	64	131

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00030854-06
RunID: HP_U_000403B-235173 Units: mg/L
Analysis Date: 04/03/2000 16:52 Analyst: WR

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
ne Range Organics	ND	0.9	0.92	102	0.9	0.97	108	5.62	36	36	160

ualifiers:
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8880 INTERCHANGE DRIVE
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Quality Control Report

EXXON Company U.S.A.

222903X

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 00030881
Lab Batch ID: R11682

Method Blank

RunID: HP_R_000403A-235199 Units: ug/Kg
Analysis Date: 04/03/2000 20:59 Analyst: CJ

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Methyl tert-butyl ether	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	94.1	59-127
Surr: 4-Bromofluorobenzene	98.1	48-156

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
00030881-02A	S-9-GP1
00030881-03A	S-11-GP1
00030881-09A	S-9-GP2
00030881-10A	S-11-GP2
00030881-20A	SP-1-1

Laboratory Control Sample (LCS)

RunID: HP_R_000403A-235487 Units: ug/Kg
Analysis Date: 04/04/2000 8:19 Analyst: CJ

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	48	95	60	116
Ethylbenzene	50	48	95	68	127
Methyl tert-butyl ether	50	42	84	64	126
Toluene	50	47	94	64	122
m,p-Xylene	100	94	94	68	129
o-Xylene	50	47	94	68	127
Xylenes,Total	150	141	94	68	129

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00030881-07
RunID: HP_R_000403A-235195 Units: ug/Kg
Analysis Date: 04/03/2000 18:49 Analyst: CJ

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
enzene	ND	20	15	77.1	20	14	70.8	8.58	34	35	139
thylbenzene	ND	20	15	76.0	20	14	71.0	6.78	35	31	137
hyl tert-butyl ether	ND	20	14	68.0	20	12	61.0	10.9	22	27	196
ene	ND	20	16	78.0	20	14	71.5	8.72	28	31	137

Qualifiers:
ND/U - Not Detected at the Reporting Limit
* - Recovery Outside Advisable QC Limits
B - Analyte detected in the associated Method Blank
D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

222903X

ysis: Purgeable Aromatics
thod: SW8021B

WorkOrder: 00030881
Lab Batch ID: R11682

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00030881-07
RunID: HP_R_000403A-235195 Units: ug/Kg
Analysis Date: 04/03/2000 18:49 Analyst: CJ

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Xylene	ND	40	30	75.4	40	28	70.7	6.41	38	19	144
ene	ND	20	15	74.8	20	14	70.0	6.63	57	25	139
enes,Total	ND	60	45	75.0	60	42	70.0	6.90	38	19	144

ualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

222903X

alysis: Gasoline Range Organics
ethod: CA_GRO

WorkOrder: 00030881
Lab Batch ID: R11684

Method Blank

nID: HP_R_000403B-235272 **Units:** mg/Kg
alysis Date: 04/03/2000 20:59 **Analyst:** CJ

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	1.0
Surr: 1,4-Difluorobenzene	91.1	72-153
Surr: 4-Bromofluorobenzene	81.1	51-149

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
00030681-02A	S-9-GP1
00030681-03A	S-11-GP1
00030681-09A	S-9-GP2
00030681-10A	S-11-GP2
00030681-20A	SP-1-1

Laboratory Control Sample (LCS)

RunID: HP_R_000403B-235269 Units: mg/Kg
Analysis Date: 04/03/2000 18:22 Analyst: CJ

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.58	58	53	137

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 00030681-07
RunID: HP_R_000403B-235270 Units: mg/Kg
Analysis Date: 04/03/2000 19:54 Analyst: CJ

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
oline Range Organics	ND	0.9	0.84	93.8	0.9	0.8	88.6	5.67	50	36	163

ualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

Chain of Custody

And

Sample Receipt Checklist

EXXONMOBIL, USA (West Coast)

Exxon Engineer: Darin L. Rouse — Phone: (925) 246-8768
Consultant Co. Name: ERI — Contact: JAMES CHAMBERS
Address: 73 Digital Drive, Suite 100, NOVATO CA 94949 — Fax: 415 382-1856
RAS #: 7-0235 — Facility/State ID # (TN Only):
AFE # (Terminal Only): — Consultant Project #: 22903X
Location: 2225 Telegraph Ave (City) OAKLAND (State) CA
☒ EE ☐ C&M ☐ SDT
Consultant Work Release #: 19802887
Sampled By: D. Crouse

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX H_2O	MATRIX SOIL	MATRIX AIR	OTHER	PRESERVATIVE	NO. OF CONTAINERS	CONTAINER SIZE	TPH/GC 8015 GRO ☒	TPH/GC 8015 DRO ☐	BTEX 8020 ☒	BTEX 602 ☐	MTBE 8020 ☒	MTBE 8260 ☐	OXYGENATES (7) 8260 ☐	O&G IR 413.1 ☐	O&G GRAV. 413.2 ☐	VOL 8260 ☐	VOL 624 ☐	SEMI-VOL 8270 ☐	SEMI-VOL 625 ☐	PNA/PAH 8100 ☐	PNA/PAH 8310 ☐	PNA/PAH 8270 ☐	PCB/PEST 8081/8082 ☐	PCB ONLY ☐	TCLP FULL ☐ VOAs ☐ SEMIVOAs ☐ PESTs ☐ HERBS ☐	METALS, TOTAL ☐	METALS, TCLP ☐	LEAD, TOTAL 239.1 ☐	LEAD, TCLP 7421 ☐	LEAD, DISSOLVED ☐	LEAD TOTAL ☐	REACTIVITY ☐	CORROSIVITY ☐	FLASH POINT ☐	PURGEABLE HYDROCARBON 8010 ☐	601 ☐	TPH/IR 418.1 ☐
S-5-GP1	3/29	1000				X			ICE	1	2x6	Hold																										
S-9-GP1		1005				X				1			X	X	X																							
S-11-GP1		1010				X				1			X	X	X																							
S-13-GP1		1015				X				1			Hold																									
S-15-GP1		1020				X				1			Hold																									
S-17-GP1		1040				X				1			Hold																									
S-20-GP1		1100				X				1			Hold																									
S-5-GP2		1445				X				1			Hold																									
S-9-GP2		1450				X				1			X	X	X																							
S-11-GP2	↓	1455				X			↓	1	↓		X	X	X																							

RUSH

ANALYSIS REQUEST: (CHECK APPROPRIATE BOX)

TAT
24 HR. ___* 72 HR. ___*
48 HR. ___* 96 HR. ___*
8 Business X *Contact US Prior to Sending Sample
Other ___

EXXON UST CONTRACT NO. C41483

QA/QC Level
Standard X CLP ☐ Other ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)
PDF ☐ ☐ EDD
FAX X ☐ FAX C-O-C W/REPORT

REMARKS:

LAB USE ONLY Lot # 550 (600) Storage Location
WORK ORDER #: 00030881 LAB WORK RELEASE #:

CUSTODY RECORD

Relinquished By Sampler: Darin K. Crouse	3/30/00	Time	Received By:
Relinquished:	Date	Time	Received By:
Relinquished:	Date	Time	Received By: (1000) 3/31/00

Way Bill #: Cooler Temp: 4

Triplicate: Original • White Lab's Copy • Green Client Copy • Yellow

[redacted]

Exxon Engineer: Darin L. Rouse Phone: (925) 246-8768
Consultant Co. Name: EKI Contact: James Chappell
Address: 73 Digital Ave Fax: 415-382-1856
Suite 100, Novato CA 94949
RAS #: 7-0235 Facility/State ID # (TN Only):
AFE # (Terminal Only): Consultant Project #: 229903X
Location: 2225 Telegraph Ave (City) Oakland (State) CA
☒ EE ☐ C&M ☐ SDT
Consultant Work Release #: 19802887
Sampled By: D. Crase

ANALYSIS REQUEST: (CHECK APPROPRIATE BOX) — OTHE

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX H2O	MATRIX SOIL	MATRIX AIR	OTHER	PRESERVATIVE	NO. OF CONTAINERS	CONTAINER SIZE	TPH/GC 8015 GRO ☒ 8015 DRO ☐	BTEX 8020 ☒ 602 ☐	MTBE 8020 ☒ 8260 ☒ confirmation	OXYGENATES (7) 8260 ☐	O&G IR 413.1 ☐ GRAV. 413.2 ☐	VOL. 8260 ☐ 624 ☐	SEMI-VOL 8270 ☐ 625 ☐	PNA/PAH 8100 ☐ 8310 ☐ 8270 ☐	PCB/PEST 8081/8082 ☐ PCB ONLY ☐	TCLP FULL ☐ VOA ☐ SEMIVOA ☐ PEST ☐ HERB ☐	METALS, TOTAL ☐ METALS, TCLP ☐	LEAD, TOTAL 239.1 ☐ 7421 ☐ LEAD, TCLP ☐	LEAD, DISSOLVED ☐ LEAD TOTAL ☒	REACTIVITY ☐ CORROSIVITY ☐ FLASH POINT ☐	PURGEABLE HYDROCARBON 8010 ☒ 601 ☐	TPH/IR 418.1 ☐
S-13-GP2	3/29	1500				X			Ice	1	2x6"	H	o	ld													
S-15-GP2	↓	1520				X			↓	1	↓	H	o	ld													
S-17-GP2	↓	1525				X			↓	1	↓	H	o	ld													
S-19-GP2	↓	1530				X			↓	1	↓	H	o	ld													
S-21-GP2	↓	1535				X			↓	1	↓	H	o	ld													
W-13-GP1	↓	1030		X	X				HCL	6	40ml	X	X	X													
W-23-GP1	↓	1130		X	X				HCL	6	↓	X	X	X													
W-12-GP2	↓	1510		X	X				HCL	6	↓	X	X	X													
W-23-GP2	↓	1625		X	X				HCL	3	↓	X	X	X													
SP-1-1	↓	1705				X				1	2x6"	X	X	X										X		X	

TAT
24 HR. ___* 72 HR. ___*
48 HR. ___* 96 HR. ___*
8 Business ☒ *Contact US Prior to Sending Sample
Other ___

EXXON UST CONTRACT NO. C41483

QA/QC Level: Standard ☒ CLP ☐ Other ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)
PDF ☐ ☐ EDD
FAX ☐ ☐ FAX C-O-C W/REPORT

REMARKS: MTBE confirmation using 8260

LAB USE ONLY Lot # Storage Location

WORK ORDER #: LAB WORK RELEASE #:

CUSTODY RECORD

	Date	Time	
Relinquished By Sampler: Dylan R. Crase	3/30/00	11:45	Received By:
Relinquished:	Date	Time	Received By:
Relinquished:	Date	Time	Received By: [signature] 3/31/00 1000 Way Bill #: Cooler Temp:

Triplicate: Original • White Lab's Copy • Green Client Copy • Yellow

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	00030881	Received by:	Stelly, D'Anna
Date and Time Received:	3/31/00 10:00:00 AM	Carrier name:	FedEx
Temperature:	4		

Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes	☐	No	☐	Not Present ☑
Custody seals intact on sample bottles?	Yes	☐	No	☐	Not Present ☑
Chain of custody present?	Yes	☑	No	☐	
Chain of custody signed when relinquished and received?	Yes	☑	No	☐	
Chain of custody agrees with sample labels?	Yes	☑	No	☐	
Samples in proper container/bottle?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample volume for indicated test?	Yes	☑	No	☐	
All samples received within holding time?	Yes	☑	No	☐	
Container/Temp Blank temperature in compliance?	Yes	☑	No	☐	
Water - VOA vials have zero headspace?	Yes	☑	No	☐	Not Present ☐
Water - pH acceptable upon receipt?	Yes	☑	No	☐	

ATTACHMENT C

RESPONSE TO AGENCY COMMENTS
(ERI, OCTOBER 29, 2002)

ExxonMobil
Refining & Supply Company
Global Remediation

2300 Clayton Road, Suite 1250
Concord, CA 94520
(925) 246-8747 Telephone
(925) 246-8798 Facsimile
gene.n.ortega@exxonmobil.com

Gene N. Ortega
Territory Manager
Global Remediation – US Retail

ExxonMobil
Refining & Supply

October 29, 2002

Mr. Don Hwang
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RE: Former Exxon RAS #7-0235/2225 Telegraph Avenue, Oakland, California.

Dear Mr. Hwang:

Attached for your review and comment is a letter report entitled ***Response to Agency Comments,*** dated October 29, 2002, for the above-referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and presents a response to agency comments regarding the subject site.

If you have any questions or comments, please contact me at (925) 246-8747.

Sincerely,

Gene N. Ortega
Territory Manager

Attachment: ERI's Response to Agency Comments, dated October 29, 2002.

cc: w/ attachment
Mr. Chuck Headlee, California Regional Water Quality Control Board, San Francisco Bay Region
Mr. Jospeh A. Aldridge, Valero Energy Corporation

w/o attachment
Ms. Paula Sime, Environmental Resolutions, Inc.

ENVIRONMENTAL RESOLUTIONS, INC.

October 29, 2002
ERI 222903GO.L08

Mr. Gene N. Ortega
ExxonMobil Oil Corporation
2300 Clayton Road, Suite 1250
Concord, California 94520

Subject: Response to Agency Comments, Former Exxon Service Station 7-0235, 2225 Telegraph Avenue, Oakland, California.

Mr. Ortega:

At the request of ExxonMobil Oil Corporation (ExxonMobil), Environmental Resolutions, Inc. (ERI) has prepared this response to the Alameda County Health Care Services Agency (the County) technical comments and requests for information provided in a letter dated September 11, 2002 (Attachment A).

RESPONSE TO AGENCY COMMENTS

In the September 11, 2002 letter, the County requested the following specific information. The County's requests are paraphrased in bold text, and ERI's responses follow.

Conduit Study – The groundwater monitoring wells downgradient and closer to the former tank location and dispensers, MW6H, RW1, and RW2, found concentrations as high as 47,100 ug/l TPHG, 7,880 ug/l benzene, and 7,760 ug/l MTBE, since 2001. Further downgradient groundwater monitoring wells, MW6I and MW6J, have almost always been Non-Detectable (ND) for all contaminants of concern. A conduit study is needed to determine if preferential pathways exist.

ERI is currently performing a preferential pathway study in the vicinity of the site. The results of the study will be incorporated into a Work Plan for Off-Site Delineation (see below) under separate cover.

Site Characterization – The groundwater plume appears to be migrating off the east side of the property. Submit a proposal for additional groundwater sampling to delineate the plume.

ERI has prepared a Work Plan for Off-Site Delineation, which will be submitted under separate cover. Upon authorization from ExxonMobil, ERI intends to submit the Work Plan by November 27, 2002.

DPE Interim Remediation – "Dual-Phase Extraction (DPE) Pilot Test" dated October 19, 2001, determined that DPE was effective at this site. Submit your recommendation and specifications for DPE on a full scale.

ERI will prepare a Corrective Action Plan (CAP), which will evaluate remedial alternatives, including DPE, at this site. Upon authorization from ExxonMobil, ERI intends to submit the CAP by June 30, 2002.

Groundwater Monitoring – Include fuel oxygenates, Tertiary Amyl Methyl Ether (TAME), Ethyl Tertiary Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tertiary Butyl Alcohol (TBA), and Ethanol. Also, include lead scavengers, Ethylene Dibromide (EDB), and Ethylene Dichloride (EDC). In your discussion of the results, provide recommendation as to whether these analyses should be continued.

Fuel oxygenates and lead scavengers will be analyzed on a quarterly basis beginning first quarter 2003. After receiving laboratory analytical results of groundwater samples taken during the first quarter 2003 sampling event, ERI will evaluate whether these analyses should continue.

Soil Sample Analyses for MW6A, MW6B, MW6C, and MW6D (drilled June & July 1988) are missing. Submit.

The well installation report for MW6A through MW6D, entitled *Subsurface Investigation*, submitted by Harding Lawson Associates (HLA) on July 20, 1988, is included in Attachment B. According to this report, HLA analyzed soil samples in the field using a photo-ionization detector (PID), but did not retain soil samples for laboratory analyses.

You were previously requested to submit a "list of landowners" in a letter dated May 4, 1999. No response was found in our files. Enclosed is a copy of our letter. You must inform all current record owners of fee title to the site of proposed actions and certify to us that they have been informed. Please submit a list of landowners.

The name and mailing address for the current site property owner is as follows:

Fee Title Holder: Mr. Lam H. Truong
Mailing Address: 2225 Telegraph Avenue
Oakland, California 94612-2315

The *Metroscan Property Profile*, provided by First American Title Company of Alameda, California, is included in Attachment C.

Based on the above, ERI formally requests an extension for submittal of the Work Plan to November 27, 2002 to allow inclusion of the conduit study and review of the data to evaluate potential off site drilling locations.

DOCUMENT DISTRIBUTION

ERI recommends forwarding copies of this report to:

Mr. Don Hwang
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Chuck Headlee
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Mr. Joseph A. Aldridge
Valero Energy Corporation
685 West Third Street
Hanford, California 93230

Please call Ms. Paula Sime, ERI's senior staff geologist for this site, at (415) 382-4324 with any questions regarding this site.

Sincerely,
Environmental Resolutions, Inc.

COPY

Paula Sime
Senior Staff Geologist

COPY

James F. Chappell
Program Manager

Attachment A: Alameda County Health Care Services Agency Letter, Dated September 11, 2002
Attachment B: Subsurface Investigation (Harding Lawson Associates, July 20, 1988)
Attachment C: Metroscan Property Profile from First American Title Company, Alameda, California

ATTACHMENT A

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY LETTER, DATED SEPTEMBER 11, 2002

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 11, 2002

Gene Ortega, Territory Manager Global Remediation – US Retail
ExxonMobil
Refining & Supply Co.
Global Remediation
2300 Clayton Rd., Suite 1250
Concord, CA 94520

Dear Mr. Ortega:

Subject: Fuel Leak Case No. RO0000358, Exxon #7-0235,
2225 Telegraph Ave., Oakland, CA

Alameda County Environmental Health staff reviewed "Well Installation Report ..." dated September 7, 2001; "Dual-Phase Extraction Pilot Test" dated October 19, 2001, and quarterly groundwater monitoring reports including "...2nd Quarter 2002", all prepared by Environmental Resolutions, Inc.

TECHNICAL COMMENTS

1) Conduit Study – The groundwater monitoring wells downgradient and closer to the former tank location and dispensers, MW6H, RW1, and RW2, found concentrations as high as 47,100 ug/l TPHG, 7,880 ug/l benzene and 7,760 ug/l MTBE, since 2001. Further downgradient groundwater monitoring wells, MW6I and MW6J, have almost always been NonDectable (ND) for all contaminants of concern. A conduit study is needed to determine if preferential pathways exist.
2) Site Characterization - The groundwater plume appears to be migrating off the eastside of the property. Submit a proposal for additional groundwater sampling to delineate the plume.

3) DPE Interim Remediation - "Dual-Phase Extraction (DPE) Pilot Test" dated October 19, 2001 determined that DPE was effective at this site. Submit your recommendation and specifications for DPE on a full scale.
4) Groundwater Monitoring - Include fuel oxygenates, Tertiary Amyl Methyl Ether (TAME), Ethyl Tertiary Butyl Ether (ETBE), Di-Isopropyl Ether (DIPE), Tertiary Butyl Alcohol (TBA), and Ethanol. Also, include lead scavengers, Ethylene Dibromide (EDB), Ethylene Dichloride (EDC). In your discussion of the results, provide recommendation as to whether these analyses should be continued.
5) Soil Sample Analyses for MW6A, MW6B, MW6C, MW6D (drilled June & July 1988) – Missing. Submit.

REQUEST FOR INFORMATION

You were previously requested to submit a "list of landowners" in a letter dated May 4, 1999. No response was found in our files. Enclosed is a copy of our letter. You must inform all current record owners of fee title to the site of proposed actions and certify to us that they have been informed. Please submit a "list of landowners".

TECHNICAL REPORT REQUEST

Please submit the following technical reports to the Alameda County Environmental Health (Attention: Don Hwang), according to the following schedule:

October 31, 2002 - Work Plan
October 31, 2002 - Quarterly Groundwater Monitoring Report, 3rd Quarter 2002
October 31, 2002 - Soil Sample Report for MW6A, MW6B, MW6C, MW6D
January 31, 2003 - Quarterly Groundwater Monitoring Report, 4th Quarter 2002
April 30, 2003 - Quarterly Groundwater Monitoring Report, 1st Quarter 2003
July 31, 2003 - Quarterly Groundwater Monitoring Report, 2nd Quarter 2003

If you have any questions, you may call me at 510/567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist
Local Oversight Program

c: Paula Sime, Environmental Resolutions, Inc., 73 Digital Dr., Novato, CA 94949-5791

File

ATTACHMENT B

SUBSURFACE INVESTIGATION
(HARDING LAWSON ASSOCIATES, JULY 20, 1988)

7-0235

Harding Lawson Associates

A Report Prepared for

Texaco Refining and Marketing, Inc.
10 Universal City Plaza
Universal City, California 91608

SUBSURFACE INVESTIGATION
TEXACO STATION NO. 62488000195
2225 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

HLA Job No. 2251,052.04

by

James Ordons
Project Geologist

Stephen J. Osborne
Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
STEPHEN J. OSBORNE
No. 656
Exp. 03/31/91
GEOTECHNICAL
STATE OF CALIFORNIA

Harding Lawson Associates
666 Howard Street
San Francisco, California 94105
415/543-8422

July 20, 1988

ETX000172384

INTRODUCTION

This report presents the results of the subsurface investigation performed by Harding Lawson Associates (HLA) at Texaco Service Station No. 62488000195, located at 2225 Telegraph Avenue, Oakland, California (see Plate 1). The work was verbally authorized by Mr. Robert Robles, Environmental Conservation Coordinator for Texaco Refining and Marketing, Inc. Our scope of services was provided by Texaco Refining and Marketing, Inc., and it included the following tasks:

1. Obtain utility clearances and well permits
2. Install, develop, and sample three monitoring wells
3. Survey wells and measure water levels
4. Calculate the direction of ground-water flow; if required, install a fourth well at the downgradient property corner
5. Analyze one ground-water sample from each monitoring well for benzene, ethylbenzene, toluene, and xylenes (BETX)
6. Document the results of our investigation in a report.

FIELD INVESTIGATION

Drilling and Sampling

HLA explored subsurface conditions at the site by drilling and sampling four soil borings on June 15 and July 6, 1988. Their locations are shown on Plate 2. The borings were advanced using truck-mounted, 6- and 8-inch-diameter flight auger drilling equipment. They were sampled using a Standard Penetration Test split-barrel sampler. An HLA field geologist directed the drilling and logged the borings. The boring logs are presented on Plates 3 through 6, and the soils have been described in accordance with the Unified Soil Classification System shown on Plate 7. The logs include the blow

counts obtained during sampling; the blow counts have been converted to standard penetration blow counts (N-values).*

The soil samples were screened in the field with a photoionization detector (PID). The PID readings were used to indicate relative concentrations of volatile organic compounds in the soil; they are presented on the logs. No soil samples were retained for chemical testing.

All drill cuttings were placed in Department of Transportation (DOT)-approved drums for subsequent disposal by Texaco Refining and Marketing, Inc. Sampling equipment was washed with a trisodium phosphate (TSP) solution and rinsed with clean water between samples. All drilling equipment was steam-cleaned before and after each boring.

Monitoring Well Installation

We installed a monitoring well in each boring under a permit issued by the Alameda County Flood Control District. The wells were constructed of steam-cleaned, 2-inch-diameter, Schedule 40 PVC casing, as shown on the well construction details, Plates 3 through 6. The annular space between the casing and the borehole wall was filled with No. 3 Monterey sand to approximately 2 feet above the top of the screened casing. A 1- to 2.5-foot-thick bentonite seal was placed above the sand pack, and the remainder of the annulus was filled with a cement/bentonite grout to just below the ground surface. The top of each well was placed slightly below the ground surface. The wells were equipped with locking watertight caps to prevent the inflow of surface water, and a watertight locking traffic box, set slightly above the surrounding grade, was

* Standard penetration N-values are defined as the number of blows of a 140-pound hammer falling 30 inches required to advance a standard sampler (2 inches O.D. and 1.5 inches I.D.) the final 12 inches of an 18-inch drive. The standard hammer driving mechanism utilizes a cathead-drum and rope and pulley system.

installed over each well. Monitoring Wells MW-6A, MW-6B, MW-6C, and MW-6D were completed to depths of 19.5, 19, 19.5, and 19.5 feet below grade, respectively. MW-6D was placed immediately downgradient of the underground tanks; the ground-water gradient was based on the ground-water elevations taken on June 24, 1988.

Well Development and Sampling

On June 24, 1988, Monitoring Wells MW-6A, MW-6B, and MW-6C were developed, sampled, and surveyed by an HLA technician. The sample container from MW-6A was broken during transport to the laboratory; another sample was collected on June 28, 1988. MW-6D was developed, sampled, and surveyed on July 11, 1988. Prior to and after development, a clear lucite bailer was lowered into the well to check for free product. Each well was developed by bailing 10 to 14 well casing volumes with a stainless-steel bailer. The temperature, pH, and conductivity of the purged water were monitored during the development of the well. Purged water was placed in DOT-approved drums for subsequent disposal by Texaco Refining and Marketing, Inc.

Ground-water samples were collected from each well using a clean stainless-steel bailer. The ground-water samples were decanted from the bailer into laboratory-prepared, 40-milliliter volatile organic analysis (VOA) vials. The sample vials were immediately sealed, labeled, and placed in a cooler with ice until delivery to ChemWest Analytical Laboratories, Inc., in Sacramento, California, for chemical testing. All sampling equipment was washed with a TSP solution and rinsed in clean water and distilled water between sampling of each well.

Appropriate quality assurance and quality control (QA/QC) measures were employed during the field investigation. HLA maintains an internal QA/QC program that includes provisions for avoiding cross-contamination during site investigation and

procedures for decontamination, sample handling and preservation, and chain-of-custody.

Well Surveying

The top of each well casing was surveyed to a temporary datum located at the western end of the dispenser island nearest West Grand Avenue with an assumed elevation of 100 feet (HLA datum, Plate 2). Well monitoring and survey data are presented in Table 1.

Table 1. Well Monitoring and Survey Data

Well No.	Top of Casing Elevation* (feet)	Depth to** Ground Water (feet)	Ground-Water Surface Elevation (feet)	Comments
MW-6A	98.99	13.25	85.74	No petroleum odors were noticed in the ground-water samples from Wells 6A, 6B, or 6C.
MW-6B	98.81	12.86	85.95	
MW-6C	99.89	14.21	85.68	
MW-6D	98.72	13.48	85.24	1/40 inch of floating product was noticed in MW-6D.

* HLA datum.
** On July 11, 1988.

RESULTS AND CONCLUSIONS

Surface and Subsurface Conditions

The site is relatively flat and paved with 4 inches of asphaltic concrete and 4 inches of aggregate baserock. Discontinuous layers of sand and clay of both estuarine and continental origins, with an aggregate thickness of as much as 21.5 feet, were encountered. Petroleum odors were noticed in the soil samples from MW-6C and MW-6D. The strongest odors were noticed in the samples from MW-6D taken between depths of 12.5 and 15.5 feet below the ground surface.

Ground Water

The depth to ground water across the site ranges from 13 to 14.5 feet below the ground surface. The calculated ground-water flow is to the southwest, as shown on Plate 2. The ground-water gradient of the upper aquifer is 0.002 feet per foot, based on the information in Table 1.

Chemical Analysis

Ground-water samples from each well were analyzed for BETX using EPA Method 602, and the reportable concentrations are summarized in Table 2. The laboratory reports are presented in the Appendix. The drinking water action levels* (DWAL) for benzene, ethylbenzene, toluene, and xylenes are 0.7, 680, 100, and 620 parts per billion (ppb), respectively. As indicated, the concentrations measured in the samples from MW-6A and MW-6B are below the DWALs. The concentrations measured in the sample from MW-6C exceed the DWAL for benzene and xylenes. The sample from MW-6D exceeds the DWAL for benzene.

---

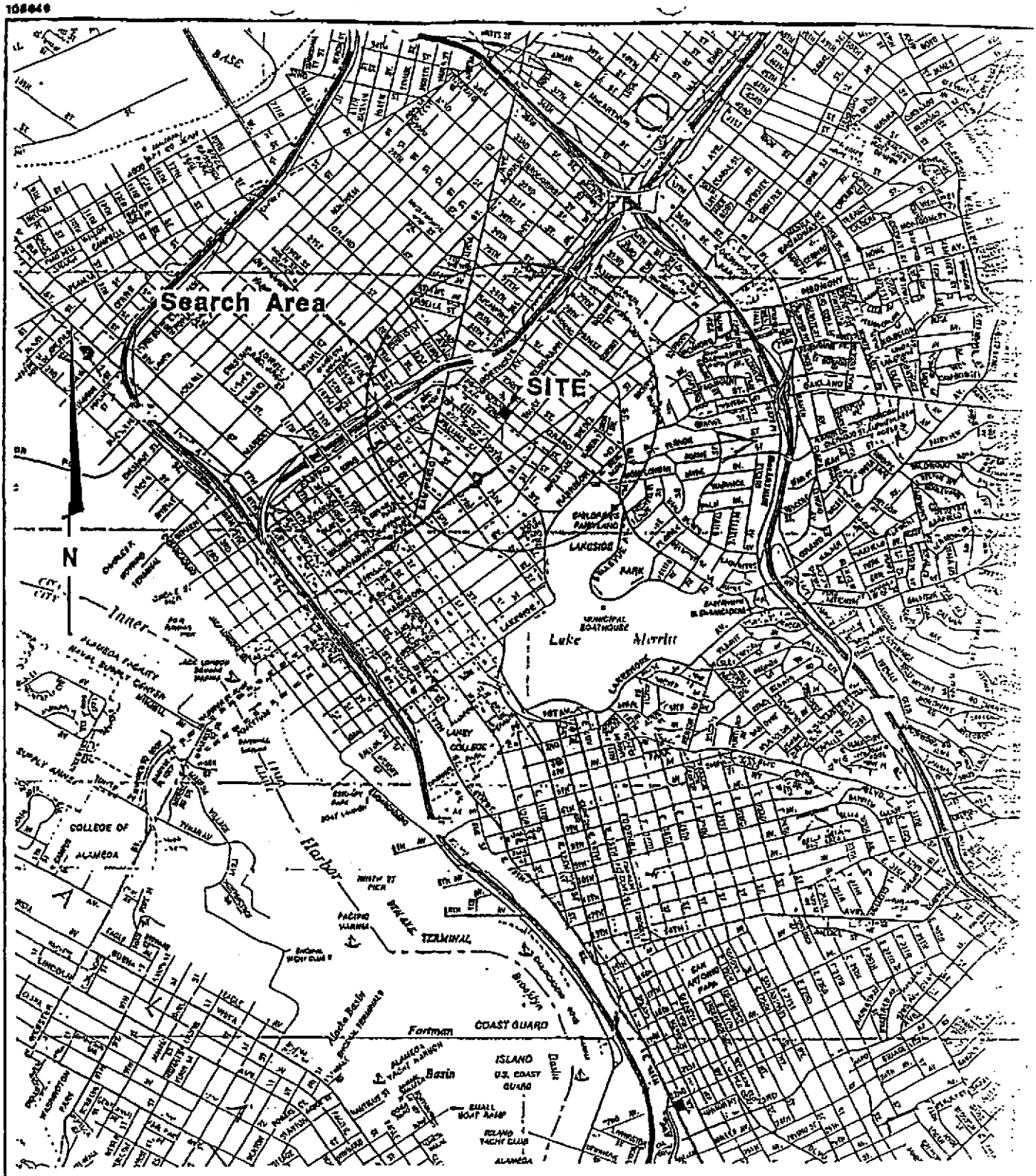
* Drinking water action levels were recommended by the State Department of Health Services in their letter dated October 1987.

Table 2. Results of Ground-Water Analyses (concentrations in micrograms per liter [μg/l])

Well No.	Benzene	Ethyl-benzene	Toluene	Xylenes
MW-6A	ND (0.5)	ND (2)	ND (1)	ND (1)
MW-6B	ND (0.5)	ND (2)	ND (1)	5.0
MW-6C	7400	170	7.1	2300
MW-6D	220	ND (20)	27	ND (10)
DWAL	0.7	680	100	620

ND = Nondetectable.
Detection limits are given in parentheses.

105649

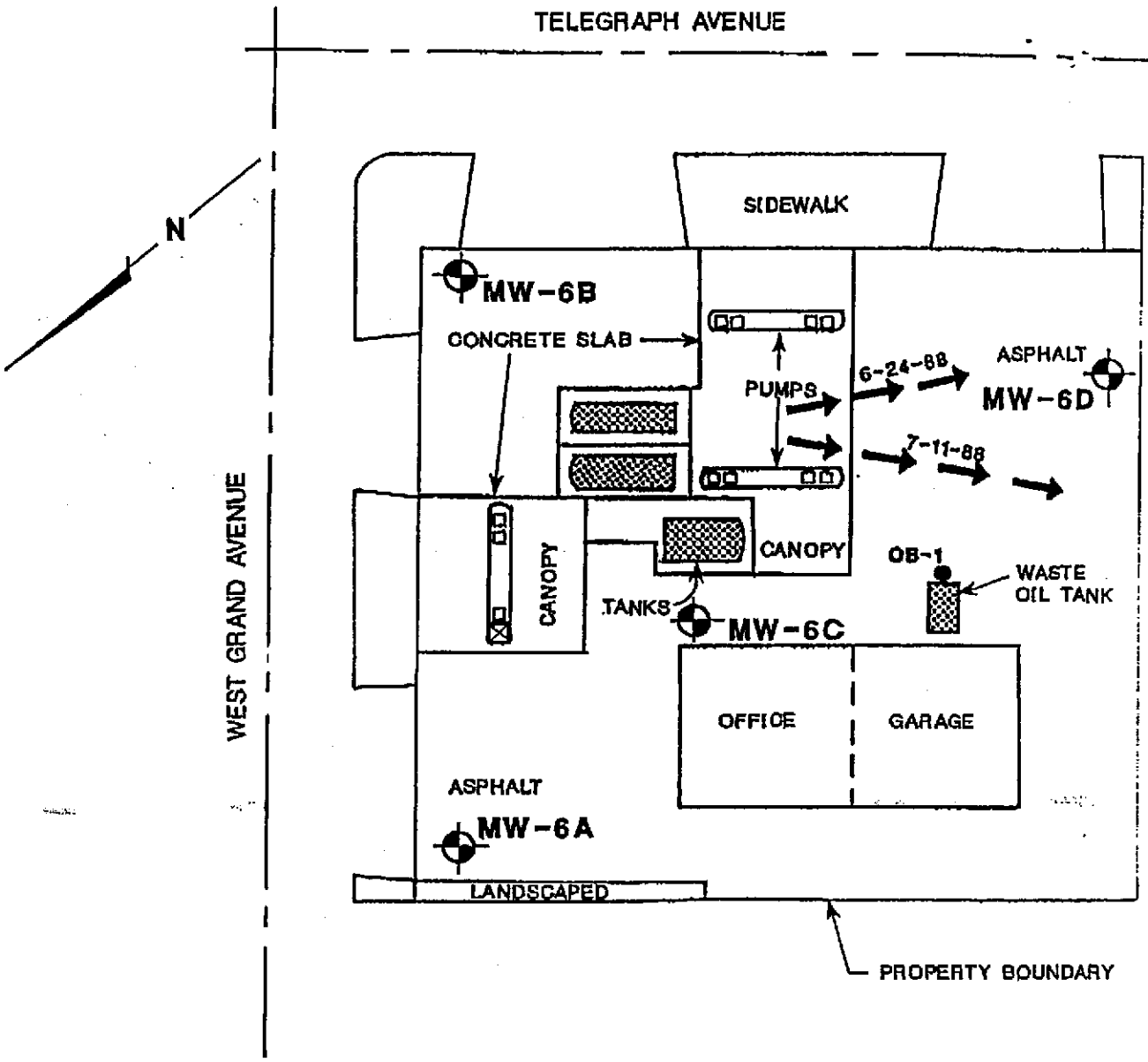


ETX0001723911

Harding Lawson Associates
Engineers and Geoscientists

Vicinity Map
Texaco Station -62488000195
2225 Telegraph Avenue
Oakland, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	2251.052.04	AO	5/88		



EXPLANATION

MW-6A — Monitoring Well Location and Number

OB-1 — Observation Well Location and Number

Ground-water Flow Direction

Bench Mark (HLA Datum El. = 100 feet)

0 30
Scale in feet

ETX000172392

HLA
Harding Lawson Associates
Engineers and Geoscientists

Site Plan
Texaco Station-62486000195
2225 Telegraph Avenue
Oakland, California

2

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AG	2251,052.04	JO	5/88		

Equipment 8-inch Hollow Stem Auger

Elevation 99.4 feet*** Date 6/15/88

Laboratory Tests	Blows/foot **	PID * Reading (ppm)	Depth (ft)	Sample	
		1	0		asphaltic concrete pavement aggregate baserock GRAY SILTY CLAY WITH SAND (CH) stiff, moist
					GRAY SILTY SAND TRACE CLAY (SM) dense, moist
	21	1	5		
					BROWN SILTY CLAY (CL) stif, moist
	14	<1	10		
				▽	BROWN SAND (SP) very dense, saturated
	20/5"	<1	15		
					GRAYISH BROWN CLAYEY SAND (SC) medium dense, saturated
					BLUISH GRAY SILTY CLAY (CH) very stiff, moist
	11	<1	20		
					bottom of boring 21.5 feet
					boring cleaned out to 20 feet
			25		stabilized water level at 13.5 feet on 7/11/88
			30		
			35		
			40		

*PID = photo ionization detector,
HNU PI 101
ppm = parts per million

**S&H Sampler blow counts converted to SPT blow counts

***Reference Elevation (arbitrary datum)

HLA Harding Lawson Associates
Engineers, Geologists & Geophysicists

Log of Boring MW-6A
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

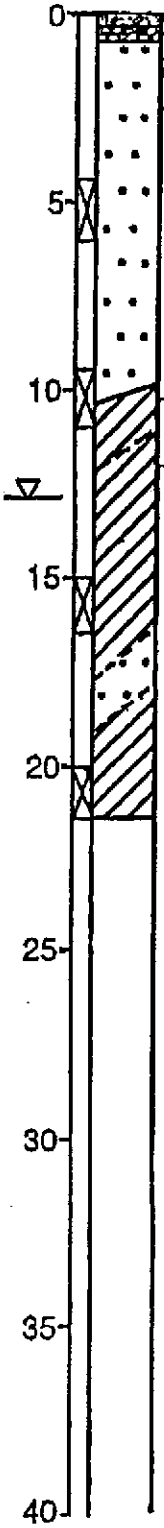
PLATE 3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
RS	2251,052.04	[illegible]	7/88		

Equipment 8-inch Hollow Stem Auger

Elevation 99.2 feet*** Date 6/15/88

Laboratory Tests	Blows/foot	PID* Reading (ppm)	Depth (ft)	Sample
			0	
	12	<1	5	
	4	1	10	
	8	<1	15	
	9	<1	20	
			25	
			30	
			35	
			40	



asphaltic concrete pavement
aggregate baserock
BROWN SAND (SP)
medium dense, moist

becomes wet
BROWNISH GRAY SILTY CLAY WITH SAND (CL)
soft, very moist, very slight petroleum odor
BROWN SILTY CLAY (CL)
medium stiff, moist, with lenses of clayey sand

sand (SP) layer

bottom of boring 21.5 feet

boring cleaned out to 20 feet

stabilized water level at 13 feet on 7/11/88

*PID = photo ionization detector, HNU PI 101
ppm = parts per million

**Reference Elevation (arbitrary datum)

HLA Harding Lawson Associates
Engineers, Geologists & Geophysicists

Log of Boring MW-6B
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

PLATE 4

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
RS	2251,052.04	JD	7/88		

Equipment 8-inch Hollow Stem Auger

Elevation 100.2 feet*** Date 6/15/88

Laboratory Tests	Blows/foot	PID * Reading (ppm)	Depth (ft)	Sample
			0	
		2		
		<1		
	35	1	5	
	28	25	10	
	48	60	15	
	30	10	20	
			25	
			30	
			35	
			40	

asphaltic concrete pavement
aggregate baserock
GRAYISH BROWN SILTY CLAY WITH SAND (CL)
very moist, with slight petroleum odor
stained gray between 2 and 2-1/2 feet, with petroleum odor
becomes brown
GRAY MOTTLED BROWN SANDY CLAY (CL)
very stiff, moist, very slight petroleum odor
BROWN SILTY CLAY TRACE SAND (CL)
very stiff, moist, very slight petroleum odor
GRAY CLAYEY SAND (SC)
dense,
GRAY SILTY SAND (SM)
dense, moist

GRAYISH BROWN SILTY CLAY (CL)
hard, moist

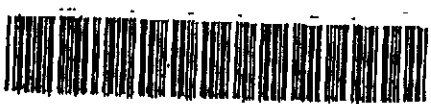
bottom of boring 21.5 feet

boring cleaned out to 20 feet

stabilized water level at 14.5 feet on 7/11/88

*PID = photo ionization detector, HNU PI 101
ppm = parts per million

**Reference Elevation (arbitrary datum)



HLA Harding Lawson Associates
Engineers, Geologists & Geophysicists

Log of Boring MW-6C
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

PLATE 5

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
RS	2251,052.04		7/88		

Equipment 6-inch Flight Auger

Elevation 99 feet** Date 7/6/88

Laboratory Tests	Blows/foot	PID * Reading (ppm)	Depth (ft)	Sample	
			0		asphaltic concrete pavement aggregate baserock YELLOW BROWN CLAY (CL) stiff, moist
	22	<1	5		LIGHT BROWN CLAY TRACE SAND (CL) very stiff, moist
	14	5	10		GRAYISH BROWN CLAY TRACE SAND (CL) very stiff, moist strong petroleum odors between 12.5 and 15.5 feet
			▽		SAND (SP) dense, saturated
	--	70	15		GRAYISH BROWN SILTY CLAY (CL) WITH SAND very stiff, moist no petroleum odors
	12	3	20		bottom of boring 20 feet
			25		stabilized water level at 13.5 feet on 7/11/88
			30		
			35		
			40		

*PID = photo ionization detector, HNU PI 101

**Reference Elevation (arbitrary datum)

HLA Harding Lawson Associates
Engineers, Geologists & Geophysicists

Log of Boring MW-6D
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

6

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
RS	2251,052.04		7/88		

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN No. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP		POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC		CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP		POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			OL		ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION - ASTM D2487-85

Perm — Permeability
Consol — Consolidation
LL — Liquid Limit (%)
PI — Plastic Index (%)
G_s — Specific Gravity
MA — Particle Size Analysis
■ — "Undisturbed" Sample
☒ — Bulk or Classification Sample

Shear Strength (psf)	Confining Pressure		
TxUU (FM) or (S)	3200	(2600)	— Unconsolidated Undrained Triaxial Shear (field moisture or saturated)
TxCU (P)	3200	(2600)	— Consolidated Undrained Triaxial Shear (with or without pore pressure measurement)
TxCD	3200	(2600)	— Consolidated Drained Triaxial Shear
SSCU (P)	3200	(2600)	— Simple Shear Consolidated Undrained (with or without pore pressure measurement)
SSCD	3200	(2600)	— Simple Shear Consolidated Drained
DSCD	2700	(2000)	— Consolidated Drained Direct Shear
UC	470		— Unconfined Compression
LVS	700		— Laboratory Vane Shear

KEY TO TEST DATA

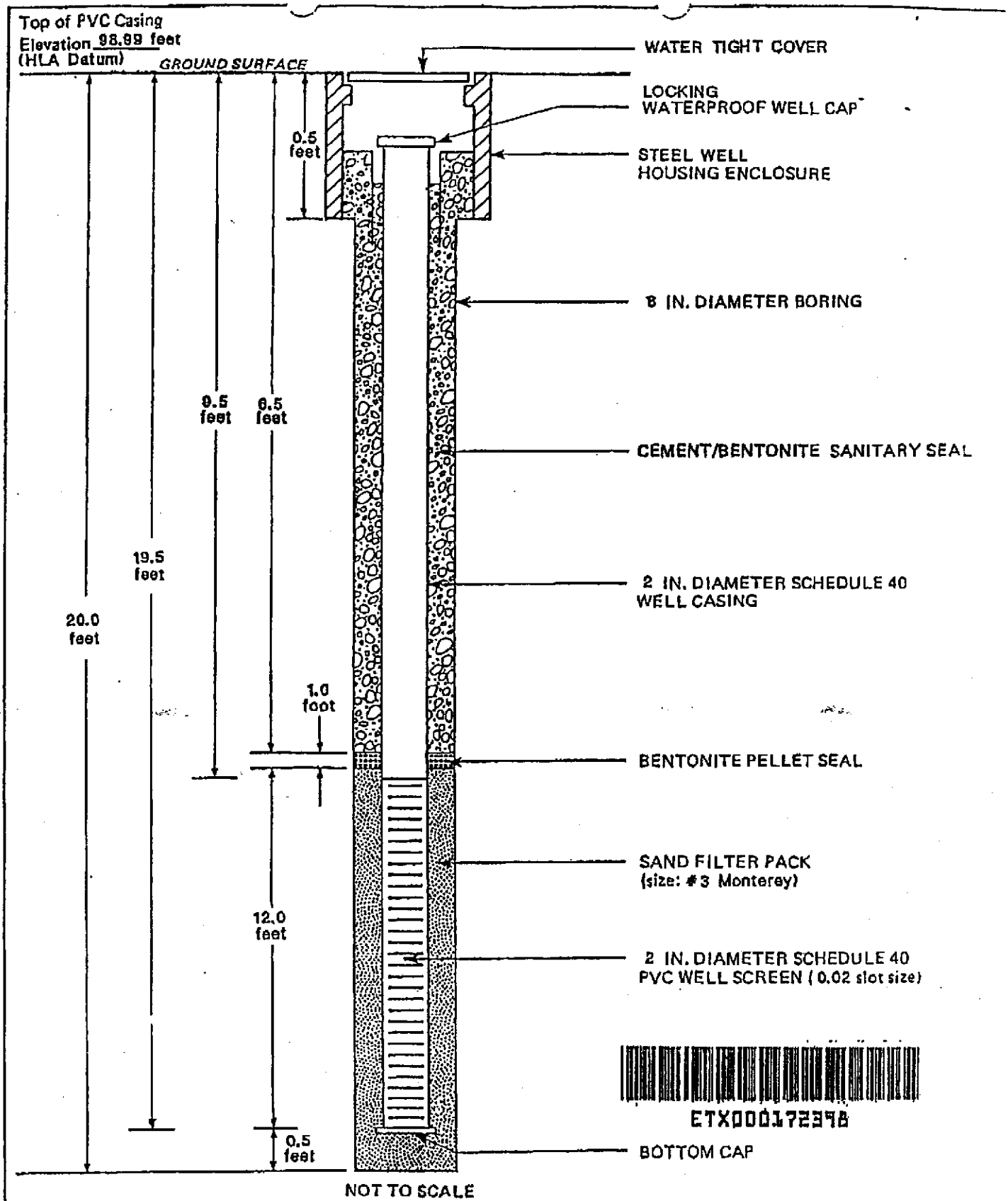
ETX000172397

Harding Lawson Associates
Engineers and Geoscientists

Soil Classification Chart and Key to Test Data
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

PLATE 7

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	2251,052.04		7/88		



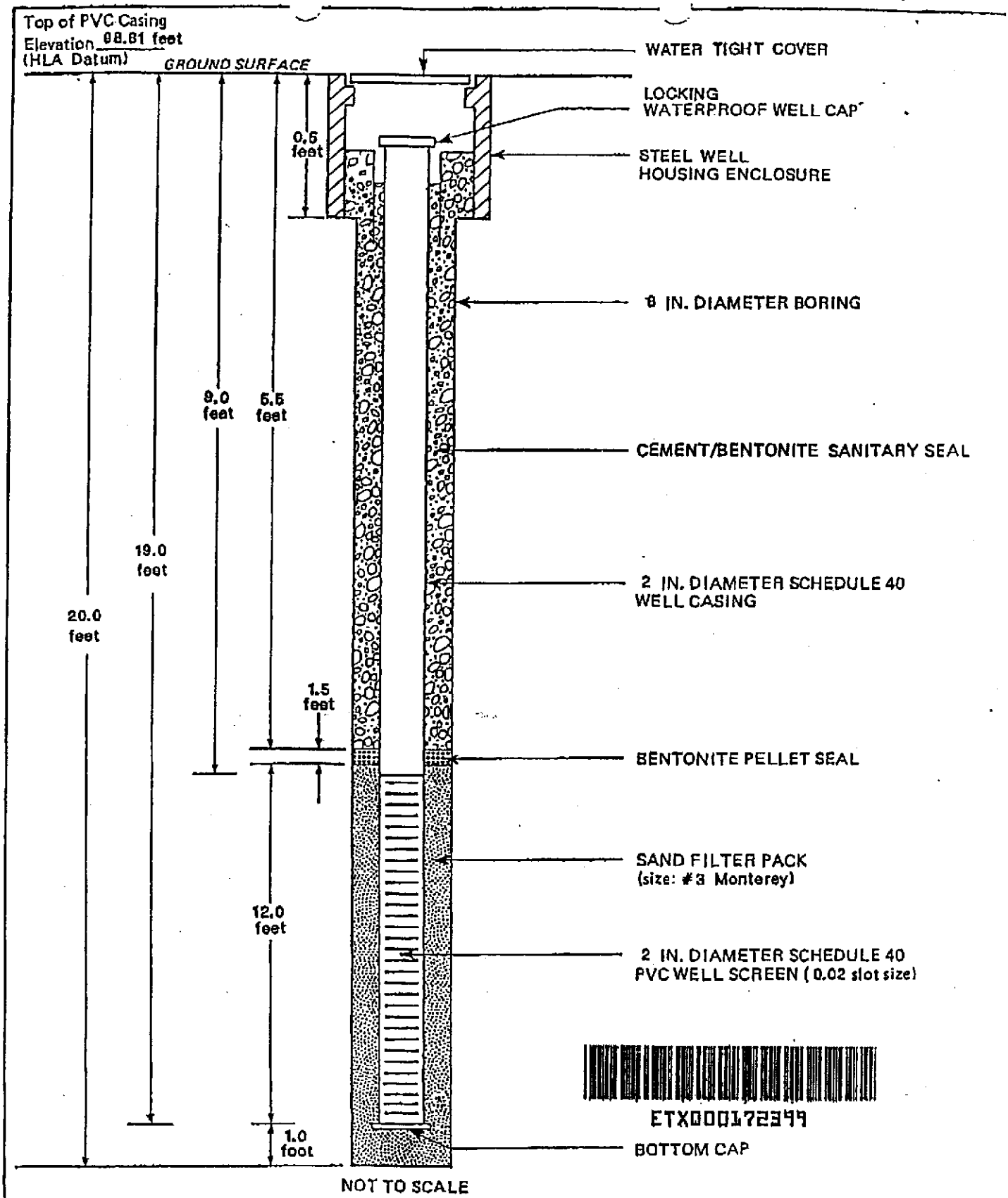
HLA **Harding Lawson Associates**
Engineers, Geologists
& Geophysicists

Monitoring Well MW-6A
Completion Detail
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

8

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	2251,052.04	JO	7/88		

FORM CW2

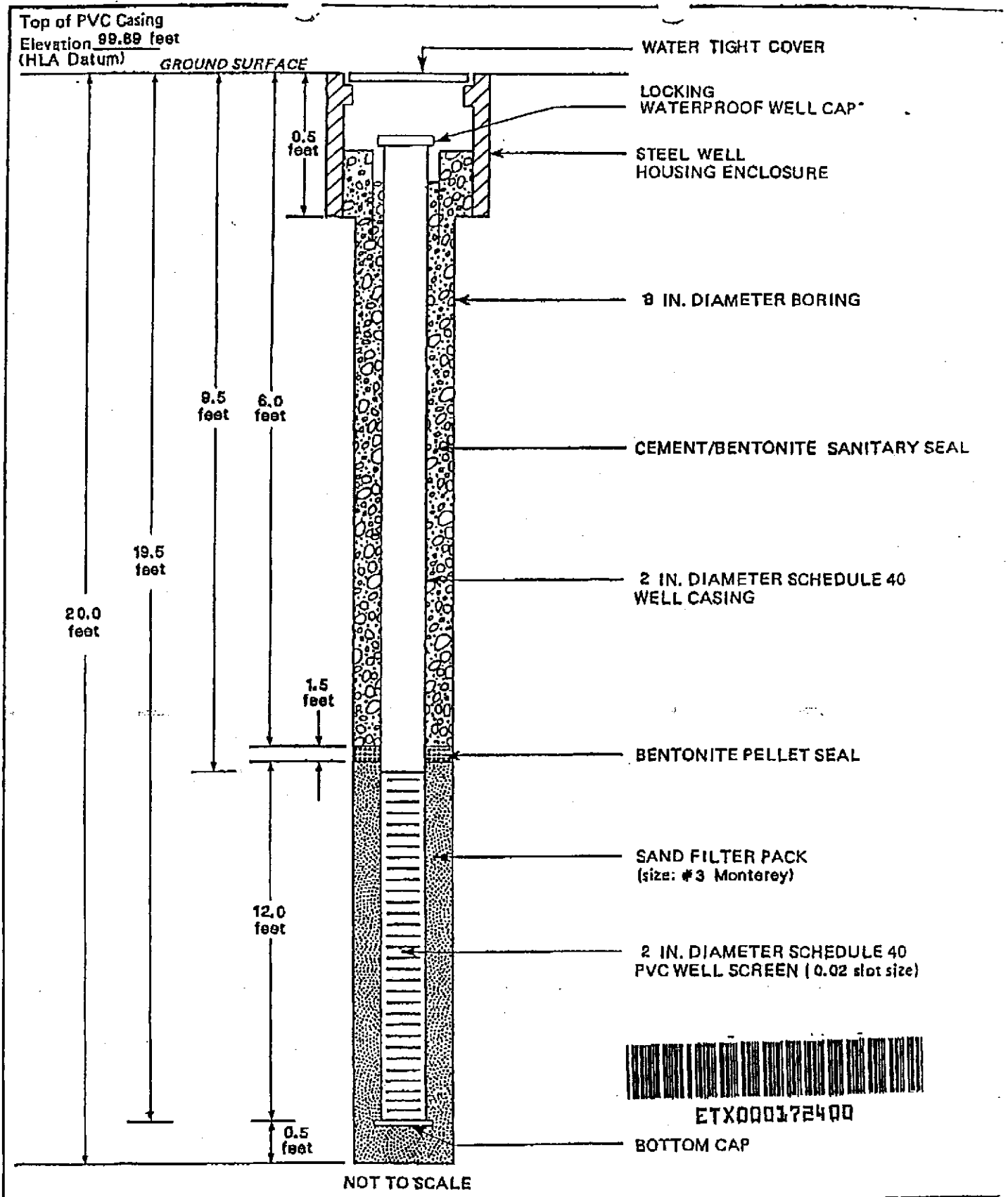


HLA
Harding Lawson Associates
Engineers, Geologists
& Geophysicists

Monitoring Well MW-6B
Completion Detail
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	2251.052.04		7/88		

FORM GW3



ETX000172400

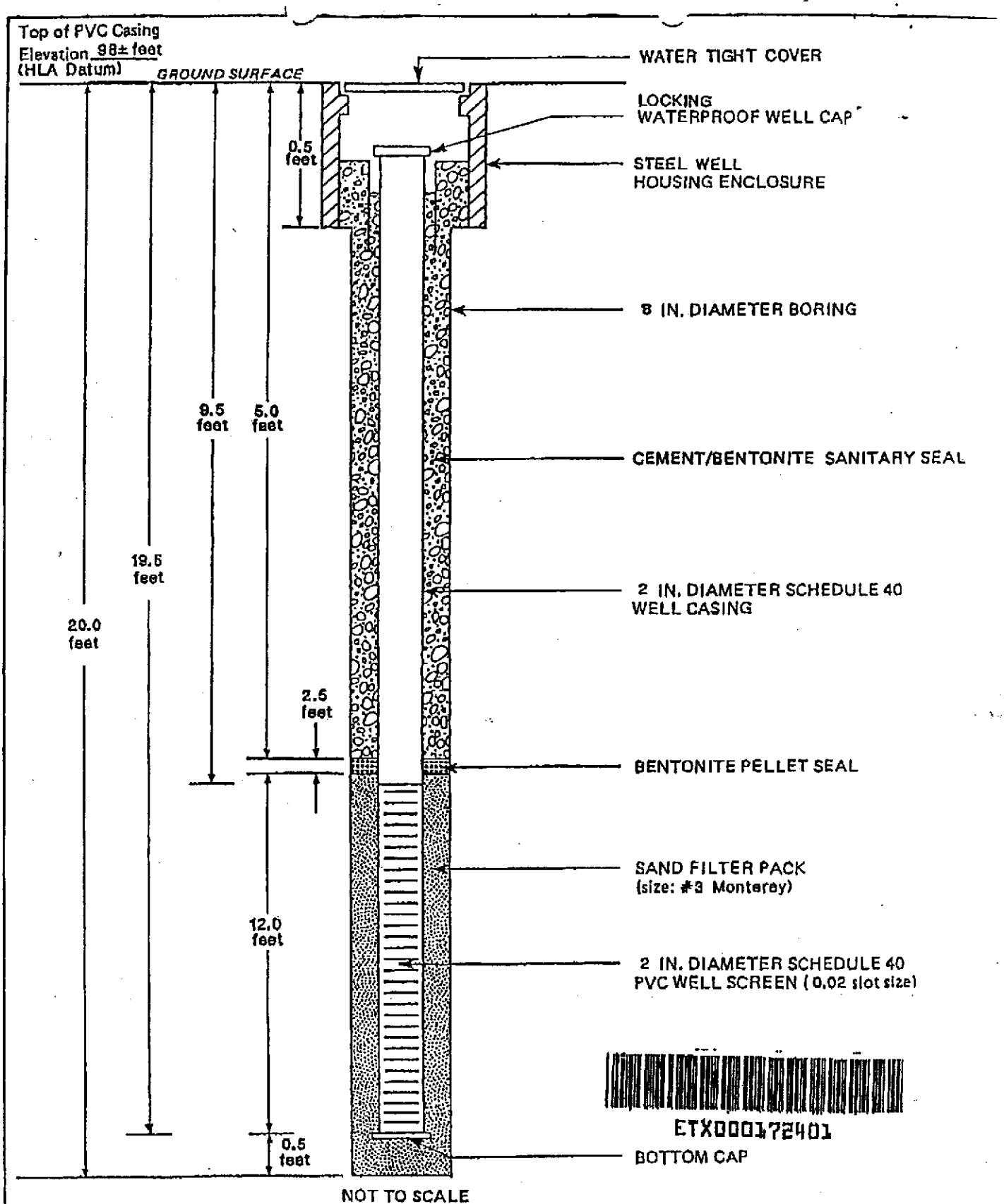
Harding Lawson Associates
Engineers, Geologists
& Geophysicists

Monitoring Well MW-6C
Completion Detail
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

10

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	2251,052.04	JO	7/88		

FORM GW3



Harding Lawson Associates
Engineers, Geologists
& Geophysicists

Monitoring Well MW-6D
Completion Detail
Texaco Station - 62488000195
2225 Telegraph Avenue
Oakland, California

11

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	2251,052.04	40	7/88		

FORM GW3

Appendix

LABORATORY ANALYSIS REPORTS

CHEMWEST
ANALYTICAL LABORATORIES, INC.

July 6, 1988

Harding Lawson
1355 Willow Way, Suite 109
Concord, CA 94520

Attention: Mr. Greg Fasiano

Subject: Report of Data - Case Number 1802

Dear Mr. Fasiano:

The technical staff at CHEMWEST is pleased to provide our report for the analysis you requested: BTEX - EPA Method 602.

Two water samples for Project number 2251-052-03 were received June 27, 1988 in good condition. Results of the analysis along with the analytical methodology and appropriate reporting limits are presented on the following page(s).

Thank you for choosing CHEMWEST Laboratories. Should you have questions concerning this data report or the analytical methods employed, please do not hesitate to contact Margie Namba, our sales representative or your project manager. We hope that you will consider CHEMWEST Laboratories for your future analytical support and service requirements.

Sincerely,

Jill B. Henes, Ph.D.
Vice President of Technical Services

and

Joel Bird
Project Manager

JB:ds

cc: Joel Bird, President

File

ETX0001724D3

600W North Market Boulevard • Sacramento, CA 95834 • Phone (916) 923-0840 • FAX (916) 923-1938

ANALYTICAL METHODOLOGY

BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes) by Purge & Trap and GC-PID

WATER - Method 602 or 8020

A 5 ml sample volume, or 5 ml of a suitable dilution, is purged on a suitable purge and trap system with helium. The purged sample is analyzed on a Gas Chromatograph equipped with a Photoionization Detector (PID). A packed column is used to separate the compounds.

SOIL - Method 8020

A 10 gram, or other appropriate aliquot of soil, is weighed into a clean VOA vial. Soils received in brass core tubes are sampled by discarding 2-5 centimeters of soil from each end of the tubes (this is done to reduce the possibility of analyzing a portion of soil that has been exposed to sampling technique contamination). Equal aliquots of soil are then removed from each end of the tube and combined in the VOA vial. Soil in jars or bags is aliquoted using a similar technique, which discards exposed sample surfaces. A 10 ml, or other appropriate volume of methanol, is added to the soil and the soil is shaken with the solvent. 100 ul of the extract, or a reduced aliquot or volume of a suitable dilution, is injected into 5 ml of laboratory blank water and analyzed by the same technique used for water samples.

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES

Client I.D.: 6B
Date(s) Analyzed: 07/05/88
thru : 07/05/88

CHEMWEST I.D.: 1802 -1
Matrix : Water

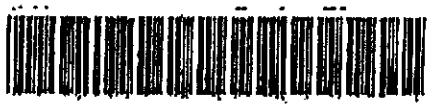
Compound	Amount Detected (ug/L)	RL (ug/L)
Benzene	BRL	0.5
Toluene	BRL	1
Ethyl Benzene	BRL	2
Total-Xylenes (1)	5.0	1

Surrogate	% Recovery	Acceptance Window
ortho-Chlorotoluene	106%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: KP



ETX000172405
CHEMWEST ANALYTICAL LABORATORIES, INC.

REV2:1.88

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES

Client I.D.: 6C
Date(s) Analyzed: 07/05/88
thru : 07/05/88

CHEMWEST I.D.: 1802-2
Matrix : Water

Compound	Amount Detected (ug/L)	RL (ug/L)
Benzene	7400	0.5
Toluene	170	1
Ethyl Benzene	7.1	2
Total-Xylenes (1)	2300	1

Surrogate	% Recovery	Acceptance Window
ortho-Chlorotoluene	91%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: KC

ETX0001724O6

REV2:1.88

CHEM WEST ANALYTICAL LABORATORIES,INC.
600 West North Market Blvd.
Sacramento, California 95834
(916) 923-0840 FAX (916) 923-1938

Order No. 1802
Date Rec'd. 6/27/88@1645
Compl. Date
Section Joel Bird

CLIENT: HARDING LAWSON ASSOCIATES
1333 WILLOW WAY
SUITE 109
CONCORD, CA 94520

Project Name: TEXACO SL6
Project No. 225105203
P.O. NO.
Contact GREG FERRARO
Phone (415) 687-9660

ANALYSIS:
Two (2) water samples received under chain of custody in duplicate in 40ml VOA vials (4) to be analyzed for BTEX.

*NOTE: Sample I.D: 6B (1) VOA vial broken upon received and chain of custody does not note analysis.

Sample I.D	Loc.	Time	Date	Analysis	Matrix	Containe
1802-1	6B	MW-2 Site6	1610	6/24/88	BTEX	Water	1-40ml VOA vial
-2	6C	MW-3 Site6	1600	6/24/88	BTEX	Water	2-40ml VOA vial

*NOTE: SEVEN (7) DAY TURN AROUND

GC
MJ - Martina Jeris

ETX000172407

CHEMWEST COURIER

SAMPLE WILL BE HELD 30 DAYS UNLESS LONGER TIME IS ARRANGED

[redacted]
1355 Willow Way, Suite 109
Concord, California 94520
415/687-9660
Telecopy: 415/687-9673

CHAIN OF CUSTODY FORM

Lab: Chem West

Job Number: 2251 05207

Name/Location: Texaco SL 6

Project Manager: Greg [illegible]

Samplers: [illegible]

Recorder: [signature] (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil		#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl/VOA		SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
23	~~x~~								2		6A			88	06	24	1620	7 Day Turnaround
23	X								2	✓	6B				↓		1610	
23	X								2	✓	6C						1600	

ANALYSIS REQUESTED: EPA 601/8010 | EPA 602/8020 | EPA 624/8240 | EPA 625/8270 | Priority Pllnt. Metals | Benzene/Toluene/Xylene | Total Petrol. Hydrocarb.

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	[signature]	4/27/88 1430
[signature]		4/27/88 1645

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	4/27/88 1645

METHOD OF SHIPMENT

ETX0001724408

CHEMWEST
ANALYTICAL LABORATORIES, INC.

July 11, 1988

Harding & Lawson Associates
1355 Willow Way, Suite 109
Concord, CA 94520

Attention: Greg Fasiano

Subject: Report of Data - Case Number 1838

Dear Mr. Fasiano:

The technical staff at CHEMWEST is pleased to provide our report for the analysis you requested: BTEX - EPA Method 602.

One water samples for Project Texaco SL 6, Project Number 225105204, was received July 1, 1988 in good condition. Results of the analysis, along with the analytical methodology and appropriate reporting limits, are presented on the following pages.

Thank you for choosing CHEMWEST Laboratories. Should you have questions concerning this data report or the analytical methods employed, please do not hesitate to contact either Margie Namba, our Sales Representative or your Project Manager. We hope that you will consider CHEMWEST Laboratories for your future analytical support and service requirements.

Sincerely,

Kirk Boan for

Jill B. Henes, Ph. D.
Vice President of Technical Services

and

Joel Bird
Project Manager

JB:mc

cc: File

ETX000172409
600W North Market Boulevard • Sacramento, CA 95834 • Phone (916) 923-0840 • FAX (916) 923-1938
A Subsidiary of CompuChem Corporation

ANALYTICAL METHODOLOGY

BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes) by Purge & Trap and GC-PID

WATER - Method 602 or 8020

A 5 ml sample volume, or 5 ml of a suitable dilution, is purged on a suitable purge and trap system with helium. The purged sample is analyzed on a Gas Chromatograph equipped with a Photoionization Detector (PID). A packed column is used to separate the compounds.

SOIL - Method 8020

A 10 gram, or other appropriate aliquot of soil, is weighed into a clean VOA vial. Soils received in brass core tubes are sampled by discarding 2-5 centimeters of soil from each end of the tubes (this is done to reduce the possibility of analyzing a portion of soil that has been exposed to sampling technique contamination). Equal aliquots of soil are then removed from each end of the tube and combined in the VOA vial. Soil in jars or bags is aliquoted using a similar technique, which discards exposed sample surfaces. A 10 ml, or other appropriate volume of methanol, is added to the soil and the soil is shaken with the solvent. 100 ul of the extract, or a reduced aliquot or volume of a suitable dilution, is injected into 5 ml of laboratory blank water and analyzed by the same technique used for water samples.

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES

Client I.D.: 6-A
Date(s) Analyzed: 7/07/88
thru : 7/08/88

CHEMWEST I.D.: 1838
Matrix : Water

Compound	Amount Detected (ug/L)	RL (ug/L)
Benzene	BRL	0.5
Toluene	BRL	1
Ethyl Benzene	BRL	2
Total-Xylenes (1)	BRL	1

Surrogate	% Recovery	Acceptance Window
ortho-Chlorotoluene	150%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: _____

ETX000172411

CHEMWEST ANALYTICAL LABORATORIES, INC.

REV2:1.88

CHEM WEST ANALYTICAL LABORATORIES,INC.
600 West North Market Blvd.
Sacramento, California 95834
(916) 923-0840 FAX (916) 923-1938

CLIENT

Order No. 1838
Date Rec'd 7/1/88 @ 1740
Compl. Date
Section Joel Bird

CLIENT: Harding Lawson Associates
1355 Willow Way
Suite 109
Concord, CA 94520

Project Name: Texaco SL 6
Project No. 22510520.04
P.O. NO.
Contact Greta Fasiano / Steve Osborne
Phone (415) 687-9600

ANALYSIS:

One (1) water sample received under Chain of custody in 40ml voa vials (2), duplicated, to be analyzed for BTEX

Sample ID	Time	Loc	Date	Analysis	Matrix	Container
1838-6-A	1030	MW-1	SL6	6/29/88	BTEX	Water	2-40ml VOA vials

*NOTE: SEVEN (7) DAY TURN AROUND TIME

GC
MT - Martina Travis

ETX000172412

CHEMIST COPY

SAMPLE WILL BE HELD 30 DAYS UNLESS LONGER TIME IS ARRANGED

[redacted]
1355 Willow Way, Suite 109
Concord, California 94520
415/687-9660
Telecopy: 415/687-9673

CHAIN OF CUSTODY FORM

Lab: Chem West

Samplers: Pamela Lassiter

Job Number: 2251 052 04

Name/Location: Travis AFB 6

Project Manager: Greg Romano

Recorder: [signature] (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCL/ICE	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.
23	X						2		6	A		88	06	28	1030	7 Day Turn-around							

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) [signature]	RECEIVED BY: (Signature) [signature]	DATE/TIME 7/01/88 1510
RELINQUISHED BY: (Signature) [signature]	RECEIVED BY: (Signature) [signature]	DATE/TIME 7/01/88 1740
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature) [signature]	DATE/TIME 7/1 1740

METHOD OF SHIPMENT CHEMNET COURIER

ETX0012743

NO. 898 P. 30/35

CHEMWEST
ANALYTICAL LABORATORIES, INC.

July 19, 1988

Harding & Lawson
1355 Willow Way, Suite 109
Concord, CA 94520

Attention: Mr. Steve Osborne

Subject: Report of Data - Case Number 1899

Dear Mr. Osborne:

The technical staff at CHEMWEST is pleased to provide our report for the analysis you requested: BTEX - EPA Method 602.

One water sample for Project Texaco - Station #6, Project Name 2251,052.04 was received June 12, 1988 in good condition. Results of the analysis, along with the analytical methodology and appropriate reporting limits, are presented on the following page(s).

Thank you for choosing CHEMWEST Laboratories. Should you have questions concerning this data report or the analytical methods employed, please do not hesitate to contact Margie Namba, our sales representative or your project manager. We hope that you will consider CHEMWEST Laboratories for your future analytical support and service requirements.

Sincerely,

Jill B. Henes, Ph.D.
Vice President of Technical Services

and

Joel Bird
Project Manager

JB:rth

cc: File

ETX000172414

600W North Market Boulevard • Sacramento, CA 95834 • Phone (916) 923-0840 • FAX (916) 923-1938

ANALYTICAL METHODOLOGY

BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes) by Purge & Trap and GC-PID

WATER - Method 602 or 8020

A 5 ml sample volume, or 5 ml of a suitable dilution, is purged on a suitable purge and trap system with helium. The purged sample is analyzed on a Gas Chromatograph equipped with a Photoionization Detector (PID). A packed column is used to separate the compounds.

SOIL - Method 8020

A 10 gram, or other appropriate aliquot of soil, is weighed into a clean VOA vial. Soils received in brass core tubes are sampled by discarding 2-5 centimeters of soil from each end of the tubes (this is done to reduce the possibility of analyzing a portion of soil that has been exposed to sampling technique contamination). Equal aliquots of soil are then removed from each end of the tube and combined in the VOA vial. Soil in jars or bags is aliquoted using a similar technique, which discards exposed sample surfaces. A 10 ml, or other appropriate volume of methanol, is added to the soil and the soil is shaken with the solvent. 100 ul of the extract, or a reduced aliquot or volume of a suitable dilution, is injected into 5 ml of laboratory blank water and analyzed by the same technique used for water samples.

ETX000172415

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES

Client I.D.:TEX-006-D-1 & 2 — CHEMWEST I.D.: 1899-1
Date(s) Analyzed: 07/13/88 — Matrix : Water

Compound	Amount Detected (ug/L)	RL (ug/L)
Benzene	220	5.0
Toluene	27	10
Ethyl Benzene	BRL	20
Total-Xylenes (1)	BRL	10

Surrogate	% Recovery	Acceptance Window
ortho-Chlorotoluene	*	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.
*: Matrix interference.

Approved by:

CHEMWEST ANALYTICAL LABORATORIES, INC.

REV2:1.88

CHEM WEST ANALYTICAL LABORATORIES, INC.
600 West North Market Blvd.
Sacramento, California 95834
(916) 923-0840 FAX (916) 923-1938

CLIENT

Order No. 1899
Date Rec'd. 7/12/88 1744
Compl. Date
Section Joel Bird

CLIENT: Harding Lawson Assoc.
1355 Willow Way Suite 109
Concord, CA 94520

Project Name: Texaco - Station #6
Project No. 7251,052 04
P.O. NO.
Contact Steve Osborne
Phone (415) 687-9100

ANALYSIS: One water sample rec'd. under chain of custody in 40ml VOA vials (2) to be analyzed for BTEX (7 day Turnaround)

Sample Id	Date	Time	Matrix	container
1899 Tex-006-D-1x2	7/11/88	1300	water	2-40ml VOAs

GC
M.T. MICHELLE TOLIVER

ETX0001724J7

Chem West Courier

SAMPLE WILL BE HELD 30 DAYS UNLESS LONGER TIME IS ARRANGED

Harding Lawson Associates
1355 Willow Way, Suite 109
Concord, California 94520
415/687-9660
Telecopy: 415/687-9673

CHAIN OF CUSTODY FORM

Lab: Chemwest

Job Number: 2251, 052.04

Name/Location: Texaco - Station #6

Project Manager:

Samplers: David R. Hose

Recorder: David R. Hose
(Signature Required)

Source Code	Matrix: Water	Sediment	Soil	Oil	#Containers & Preserv.: Unpres.	H_2SO_4	HNO_3	VOA	HCL	Sample Number or Lab Number: Yr	Wk	Seq	Date: Yr	Mo	Dy	Time	Station Description/Notes	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene + E	Total Petrol. Hydrocarb.
23	X							X	X	TE	X0	0601	88	07	11	1300	7 day Turnaround						X	
23	X							X	X	TE	X0	0602	88	07	11	1300							X	

ETX0017241A

Lab Number: Yr	Wk	Seq	Depth in Feet	Col Mtd Cd	QA Code	Miscellaneous

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
David R. Hose	Thomas S. White	7/12/88 1430
Thomas S. White		7/12/88 1745

Dispatched by: (Signature)	Date/Time	Received for Lab by: (Signature)	Date/Time
		Michelle Tolivar	7/12 1745

Method of Shipment:

Laboratory Copy White · Project Office Copy Yellow · Field or Office Copy Pink

6533

ATTACHMENT C

METROSCAN PROPERTY PROFILE FROM FIRST AMERICAN TITLE COMPANY, ALAMEDA, CALIFORNIA

=METROSCAN PROPERTY PROFILE=

Alameda (CA)

OWNERSHIP INFORMATION

Parcel Number : 008 0659 002 01
Owner : Truong Lam H
CoOwner :
Site Address : 2225 Telegraph Ave Oakland 94612
Mail Address : 2225 Telegraph Ave Oakland Ca 94612
Owner Phone : 510-835-1232
Tenant Phone :

SALES AND LOAN INFORMATION

Transferred : 06/01/2001
Document # : 186312
Sale Price :
Deed Type : Intersponsal
% Owned : 100
Loan Amount : $705,500
Lender : General Electric Cap Busn Asse
Loan Type : Conventional
Interest Rate : Fixed
Vesting Type : Sole And Separ

ASSESSMENT AND TAX INFORMATION

Land : $519,180
Structure : $76,500
Other :
Total : $595,680
% Improved : 13
Exempt Type :
Exempt Amount :
Incorporated : Yes
Tax Rate Area : 17022
01-02 Taxes : $12,388.42

PROPERTY DESCRIPTION

Map Grid : 649 G3
Census : *Tract* : 4028.00 *Block* : 1
Land Use : 850 Com,Service Stations

PROPERTY CHARACTERISTICS

TotalRms	:	*Pool*	:	*Lot Acres*	: .36	*Bldg Matl*	: Other
Bedrooms	:	*Units*	: 1	*Lot SqFt*	: 15,893	*Bldg Shape*	:
Bathrooms	:	*Bldg Num*	: 1	*Bldg SqFt*	: 1,731	*Bldg Class*	: 7.0
Stories	: 1	*Elevator*	:	*Year Blt*	:	*View Qual*	:
Unit Flr	:	*Garage*	:	*Eff YrBlt*	: 1964	*Topography*	: