

**EXXON** COMPANY, U.S.A.

P.O. BOX 4032 • CONCORD, CA 94524-4032  
MARKETING DEPARTMENT • ENVIRONMENTAL ENGINEERING

DARIN L. ROUSE  
SENIOR ENGINEER

(925) 246-8768  
(925) 246-8798 FAX

January 7, 2000

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

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

Dear Mr. Seery:

Attached for your review and comment is a document entitled *Work Plan for Soil and Groundwater Investigation*, dated January 4, 2000 for the above referenced site. The work plan was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and details the proposed activities to further evaluate the extent of the petroleum hydrocarbon release at the subject site.

If you have any questions or comments, please contact me at (925) 246-8768.

Sincerely,



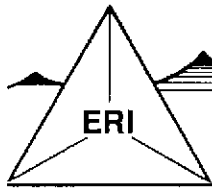
Darin L. Rouse  
Senior Engineer

Attachment ERI's Work Plan for Soil and Groundwater Investigation, dated January 4, 2000.

cc: w/ attachment  
Mr. Stephen Hill - California Regional Water Quality Control Board-San Francisco Bay Region  
  
w/o attachment  
Mr. James F. Chappell - Environmental Resolutions, Inc.

ENVIRONMENTAL  
PROTECTION  
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**ENVIRONMENTAL RESOLUTIONS, INC.**

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January 4, 2000  
ERI 222903.W01

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

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

Mr. Rouse:

At the request of Exxon Company, U.S.A. (Exxon), Environmental Resolutions, Inc. (ERI) performs environmental assessment activities at the subject site. ERI has prepared this Work Plan in response to a letter from the Alameda County Health Care Services Agency (the County), dated November 9, 1999 (Attachment A). In this letter, the County requested that Exxon provide a Work Plan to further evaluate the extent of the petroleum hydrocarbon release from the subject site.

## **BACKGROUND**

The site is located on the southwestern corner of Telegraph Avenue and West Grand Avenue in Oakland, California, as shown on the Site Vicinity Map (Plate 1). The locations of underground storage tanks (USTs), dispenser islands, and other selected site features, are shown on the Generalized Site Plan (Plate 2). Properties in the vicinity of the site are occupied primarily by commercial developments.

Based on quarterly groundwater monitoring data, depth to water (DTW) across the site has fluctuated from approximately 11 to 14 feet bgs, and the groundwater appears to flow towards the southeast at a magnitude ranging from 0.012 to 0.030. A Rose Diagram depicting groundwater flow directions since Fourth Quarter 1997 is shown on Plate 3.

## **SCOPE OF WORK**

The purpose of this investigation is to delineate the vertical and lateral extent of petroleum hydrocarbons in soil and groundwater. ERI will perform fieldwork in accordance with ERI's standard protocol (Attachment B), and a site-specific Health and Safety Plan. ERI proposes to perform the work summarized below:

### **Task 1: Pre-Drilling Activities**

- Locate and contact owners of adjacent property in order to obtain appropriate access agreements to perform investigation.

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

#### **Task 2: Soil and Groundwater Investigation**

- Obtain the services of a licensed well driller, and observe the driller advance a Geoprobe or similar device to a depth of approximately 10 feet below first-encountered groundwater. ERI anticipates groundwater to be encountered between 10 and 15 feet below ground surface (bgs). Soil samples will be collected from each Geoprobe location at 5-foot intervals and at significant changes in lithology, to the total depth of the boring. **Groundwater samples will be collected from each location at first-encountered groundwater, and at approximately 10 to 15 feet below the first-encountered groundwater-bearing zone using a Geoprobe (or similar) sampling device.** The proposed Geoprobe locations (GP1 and GP2) are shown on Plate 2.

The Geoprobe locations were selected in an effort to delineate the hydrocarbon plume in the downgradient direction. The dominant groundwater flow direction is shown on Plate 2. GP1 is located approximately 140 feet from the site in the downgradient direction. GP2 is located approximately 95 feet from the site in the cross gradient direction. The Geoprobe locations are constrained by the existing subsurface structures such as the BART right-of-way, sewer, and utilities.

- Submit selected soil and groundwater samples to Southern Petroleum Laboratories, Inc. (SPL) for laboratory analysis of total purgeable petroleum hydrocarbons as gasoline (TPPHg) using modified EPA Method 8015, benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020, and methyl tertiary butyl ether (MTBE) using EPA Method 8020, and confirmed with EPA Method 8260.
- Interpret field and laboratory data to evaluate soil and groundwater conditions, **and whether additional assessment work is warranted.**

#### **Task 3: Prepare Report of Findings**

- Prepare a report describing field activities, including subsurface conditions at the site and the vicinity based on Geoprobe data, sampling results, and the activities outlined in the Work Plan. This report will include results of the field investigation, field protocols, analytical results for soil and groundwater samples, and recommendations. If additional assessment work is warranted (including the installation of groundwater monitoring wells), the proposed work will be detailed in the report.

#### **SCHEDULE OF OPERATIONS**

Upon regulatory approval of this Work Plan, ERI is prepared to implement the work in accordance with the following schedule:

- Within 15 calendar days of receiving written approval of this Work Plan, permits included in Task 1 will be submitted to the appropriate agencies.
- Within 30 calendar days of receiving required permits and access agreements, Task 2 will be completed.
- Within 45 calendar days of receiving laboratory analysis results, the report described in Task 3 will be submitted to the County.

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

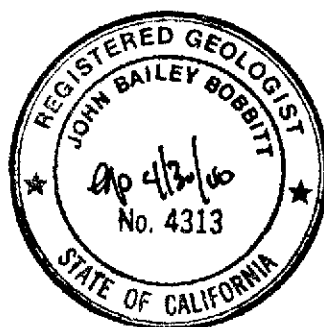
Mr. Scott Seery  
 Alameda County Health Care Services Agency  
 Environmental Health Services Division  
 1131 Harbor Bay Parkway  
 Alameda, California 94502-6577

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

Please call Mr. James F. Chappell at (415) 382-4323 with any questions regarding this project.

Sincerely,  
 Environmental Resolutions, Inc.

*James F. Chappell*  
 James F. Chappell  
 Senior Staff Scientist

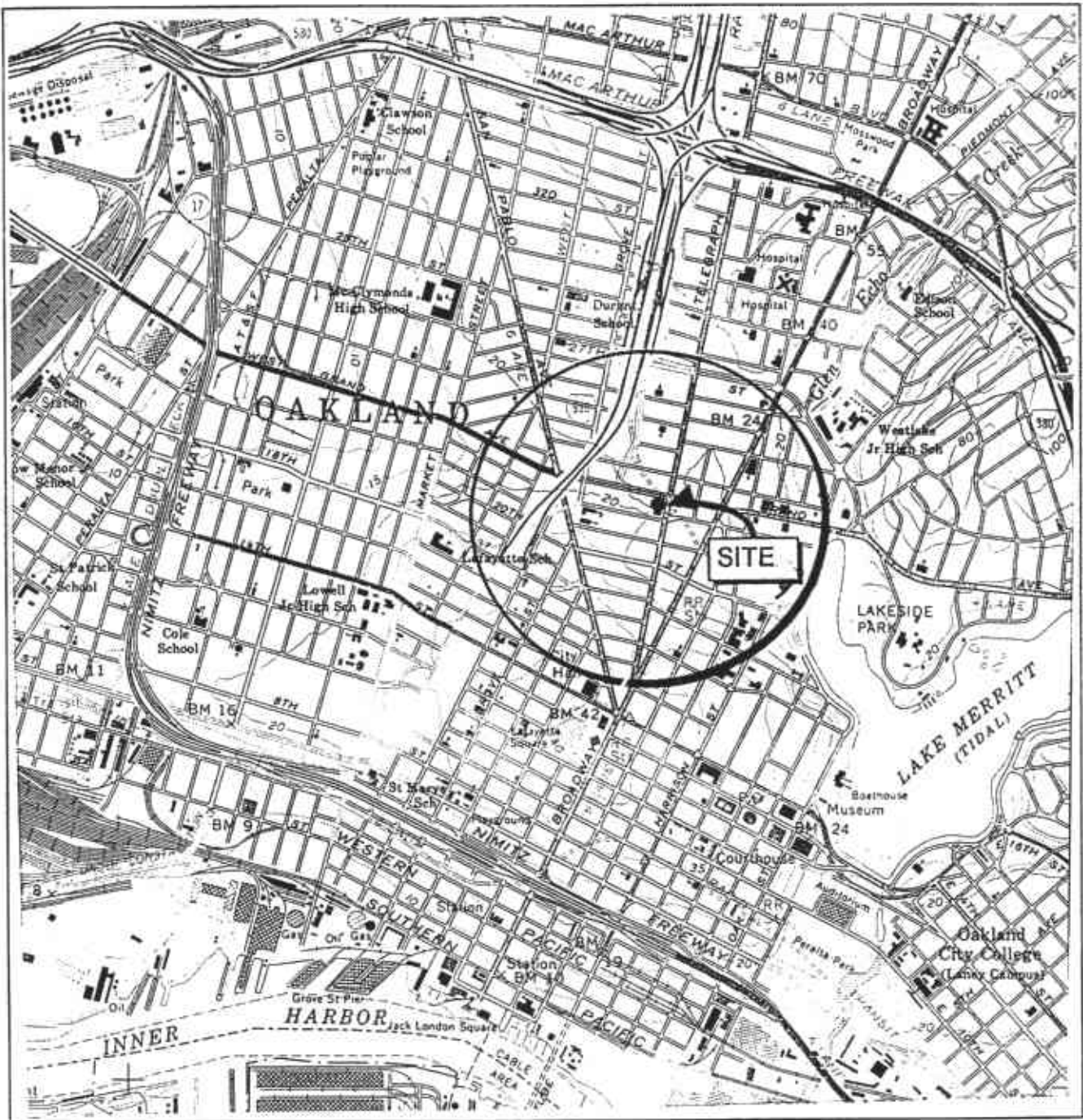


*John Bailey Bobbitt*  
 John B. Bobbitt  
 R.G. 4313

- Attachments: Plate 1: Site Vicinity Map  
 Plate 2: Generalized Site Plan  
 Plate 3: Groundwater Flow Direction Rose Diagram

Attachment A: Alameda County Health Services Agency Letter,  
 Dated November 9, 1999

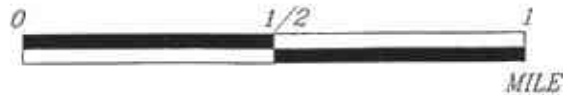
Attachment B: Field Protocol



FN: 22290001



APPROXIMATE SCALE



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



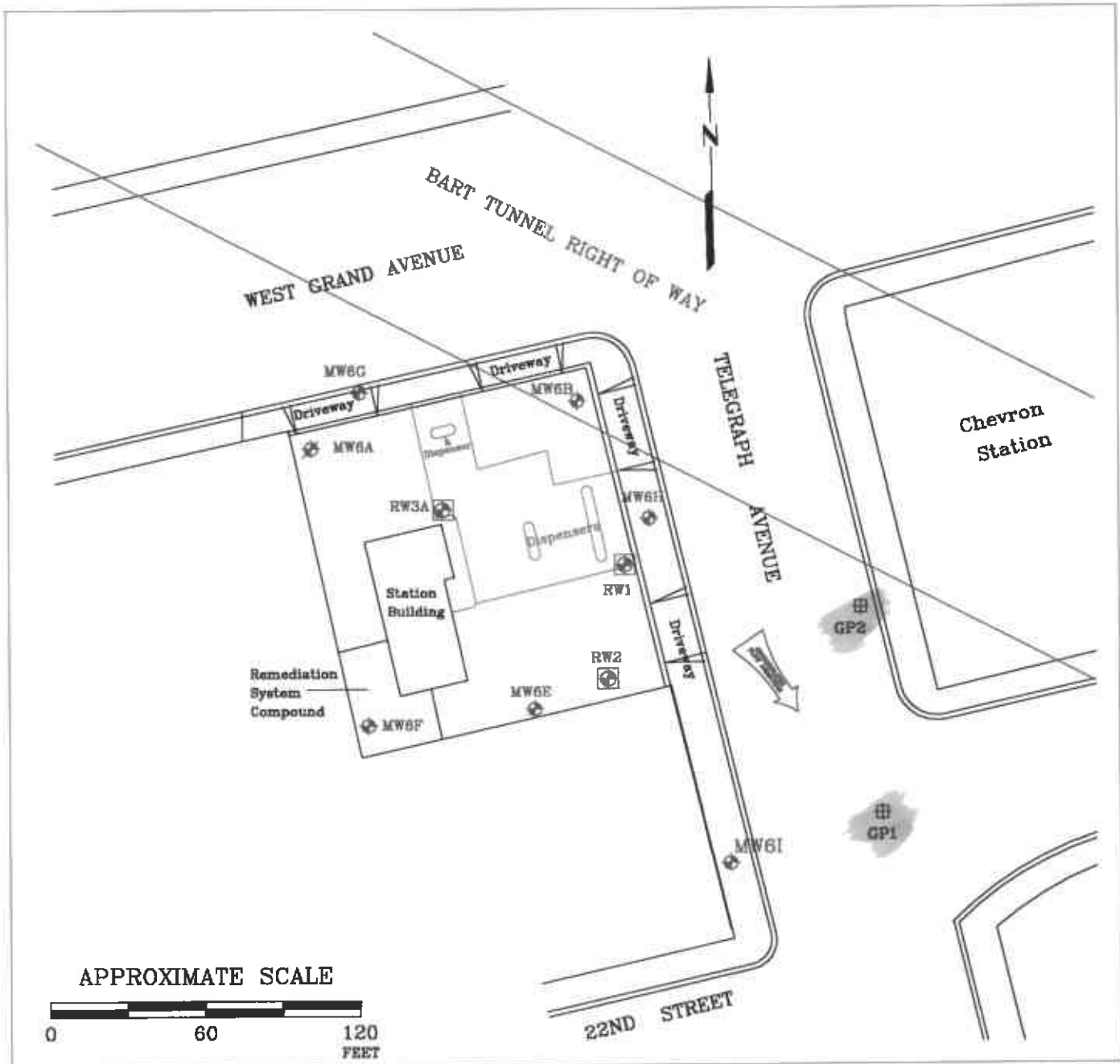
PROJECT ERI 2229

**SITE VICINITY MAP**

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





**PLATE**

1



FN 22290003

**EXPLANATION**

- MW6I  Groundwater Monitoring Well
- RW3A  Groundwater Recovery Well
- GP1  Proposed Geoprobe Location
-  Dominant Groundwater Flow Direction Based on Rose Diagram.

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



**GENERALIZED SITE PLAN**

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

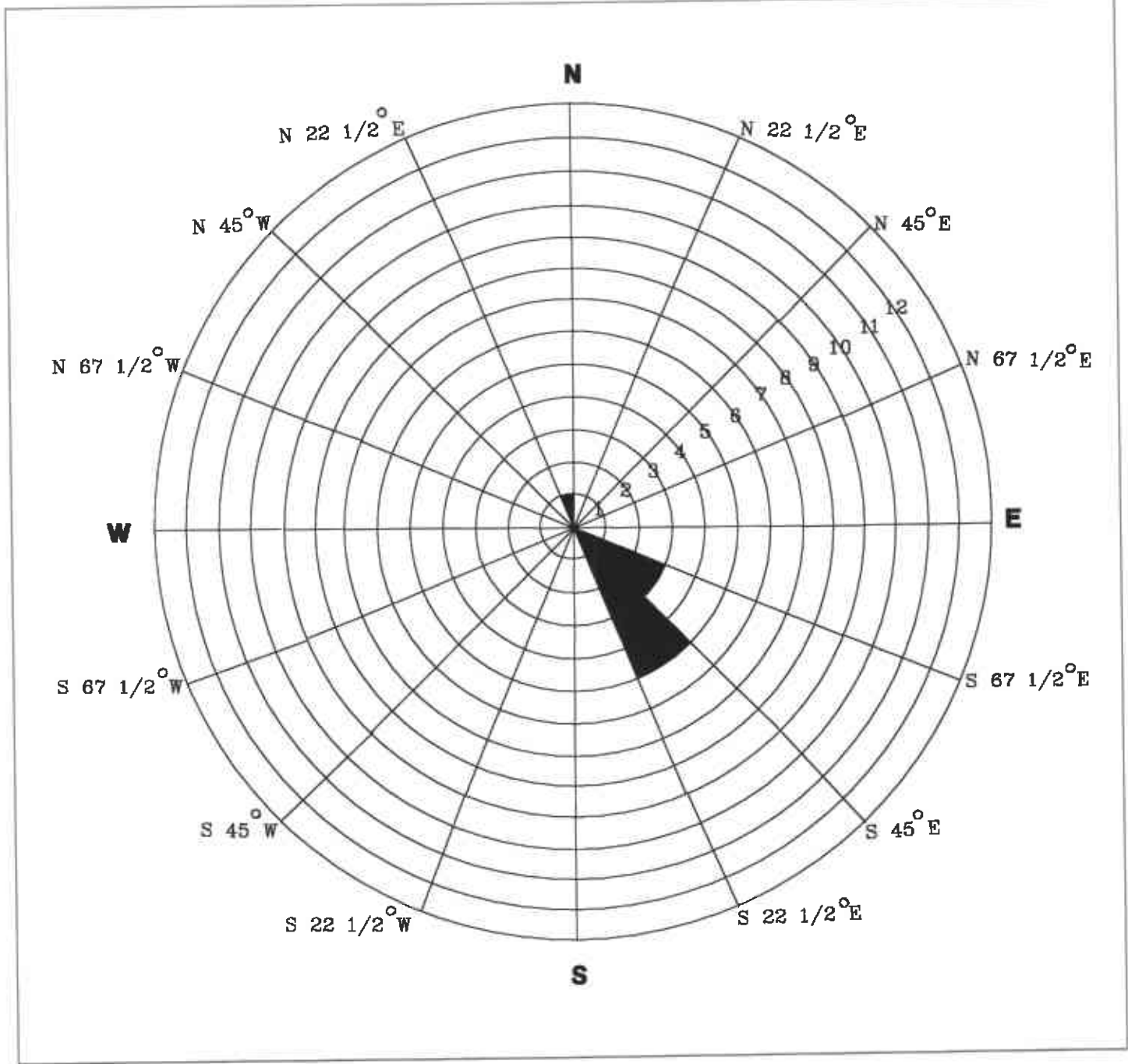
**PROJECT NO.**

2229

**PLATE**

2

Nov. 23, 1998



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 plotted between due south and south 22 1/2 degrees west. Therefore, the dominant groundwater gradient direction as depicted by the rose diagram is between 22.5 degrees and 67.5 degrees southeast.



**GROUNDWATER FLOW DIRECTION ROSE DIAGRAM**

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

**PROJECT NO.**

2009

**PLATE**

3

December 7, 1998

**ATTACHMENT A**

**ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY LETTER,  
DATED NOVEMBER 9, 1999**



ALAMEDA COUNTY  
HEALTH CARE SERVICES



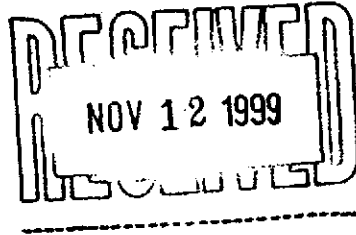
AGENCY

DAVID J. KEARS, Agency Director

November 9, 1999

STID 1039

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



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577  
(510) 567-6700  
(510) 337-9432

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

Dear Mr. Rouse:

This letter follows my review of the October 5, 1999 Environmental Solutions, Inc. (ESI) and follow-up review of the case file for the subject site. As you may be aware, sampling data generated since ~1997 appear to demonstrate that a "recent" release has occurred at this site. This interpretation is bolstered by review of analytical data from well MW-6H for the period between August 1997 and the present, particularly with respect to concentrations of methyl tert-butyl ether (MtBE). A letter addressed to Leroy Griffin of the Oakland Fire Department (OFD) on July 8, 1999 (attached) articulates this concern.

Consistent with current California law and regulations, and guidance policy from the Regional Water Quality Control Board (RWQCB), the extent of the release from this site must be determined. The current well network does not provide the coverage necessary to satisfy this fundamental requirement.

At this time, please have your consultant evaluate appropriate well locations and submit a soil and water investigation (SWI) work plan for the continued assessment of this release. **The SWI work plan is due within 60 days of the date of this letter.**

Please call me at (510) 567-6783 should you have any questions about the content of this letter.

Sincerely,

Scott O. Seery, CHMM  
Hazardous Materials Specialist

Attachment

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

**ATTACHMENT B**  
**FIELD PROTOCOL**

## FIELD PROTOCOL

### Site Safety Plan

Field work will be performed by ERI personnel in accordance with a Site Safety Plan 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 Site Safety Plan is applicable to personnel and subcontractors of ERI. Personnel at the site are informed of the contents of the Site Safety Plan before work begins. A copy of the Site Safety Plan is kept at the work site and is available for reference by appropriate parties during the work. The ERI geologist will act as the Site Safety Officer.

### Soil Boring Procedures

Prior to drilling, ERI will acquire necessary permits from the appropriate agency (ies). ERI will also contact Underground Service Alert (USA) and a private underground utility locator before drilling to help locate public utility lines at the site. ERI will clear the boring locations to a depth of approximately 4 feet before drilling to reduce the risk of damaging underground structures.

Drilling will be performed under the observation of a field geologist using a dual-tube Geoprobe (Geoprobe) drilling rig. Soil borings will be drilled to approximately 10 feet below first-encountered groundwater. The earth materials in the borings will be identified using visual and manual methods, and classified as drilling progresses using the Unified Soil Classification System. Soil samples will be collected by driving the sampler into the soil utilizing direct push technology.

Soil samples will be monitored with a photo ionization 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<sup>®</sup> 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.

### Hydropunch Sampling Technology

The Hydropunch<sup>®</sup> sampler provides a method for collecting 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<sup>®</sup> 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, and subsequently examined for air bubbles to avoid headspace, which would allow volatilization to occur. The samples are promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory.

### Quality Assurance/Quality Control

The sampling and analysis procedures employed by ERI for groundwater monitoring and 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. QC samples may include any combination of the following. 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.

**Equipment Blank** - Periodic QC samples are collected from field equipment rinsate to verify adequate cleaning procedures.

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**EXXON COMPANY, U.S.A.**

ENVIRONMENTAL  
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MARKETING DEPARTMENT • ENVIRONMENTAL ENGINEERING

MARLA D. GUENSLER  
SENIOR ENGINEER  
(925) 246-8776  
(925) 246-8798 FAX

**FEB 24 1999**

Ms. Pamela Evans  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

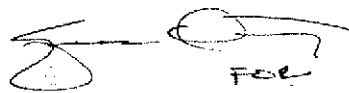
**RE: Exxon RAS 7-0235/2225 Telegraph Avenue, Oakland, California.**

Dear Ms. Evans:

Attached for your review and comment is a letter report entitled *Quarterly Groundwater Monitoring, First Quarter 1999*, dated February 4, 1999, for the above referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and details the results of the quarterly groundwater monitoring and sampling activities at the subject site.

If you have any questions or comments, please contact me at (925) 246-8776.

Sincerely,



Marla D. Guensler  
Senior Engineer

MDG/tjm

Attachment ERI's Quarterly Groundwater Monitoring Report, First Quarter 1999, dated February 4, 1999.

cc: w/ attachment  
Mr. Stephen Hill - California Regional Water Quality Control Board - San Francisco Bay Region

w/o attachment  
Mr. Mark S. Dockum - Environmental Resolutions, Inc.

