URS

June 11, 2003

Mr. Don Hwang
Hazardous Services Specialist
Alameda County Environmental Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: Work Plan for Additional Investigation
Active Arco Service Station #2107
3310 Park Boulevard
Oakland, California
Fuel Leak Case No. RO0002526
URS Project No. 38486013

Dear Mr. Hwang:

At the request of Atlantic Richfield Company (ARCO), URS Corporation (URS) is pleased to submit this Work Plan to investigate the lateral and vertical extent of soil and groundwater contamination at ARCO Service Station #2107, located at 3310 Park Boulevard in Oakland, California (Site) (see Figure 1). This Work Plan has been prepared in response to a directive letter from the Alameda County Environmental Health Agency, dated April 15, 2003 (Attachment A) pursuant to the Regional Water Quality Control Board's authority under Section 13267 of the California Water Code. The letter requested that ARCO submit a work plan to determine the extent of soil and groundwater contamination from a release identified during the removal and replacement of gasoline product lines and dispensers on January 7, 2003. An Unauthorized Release Report was issued on January 21, 2003 (Attachment B).

1.0 SITE BACKGROUND

The background information and previous work conducted on and off site was furnished to URS by BP. URS has relied on the information provided to prepare this document and is neither responsible for, nor has confirmed the accuracy of the information contained in the documents reviewed.

URS Corporation
500 12th Street, Suite 200
Oakland, CA 94607-4014
Tel: 510.893.3600
Fax: 510.874.3268

1.1 SITE DESCRIPTION

The site is located at 3310 Park Boulevard in Oakland, California (Figures 1 and 2). Currently, the site is operated as an ARCO gasoline service station. The site is bound by East 34th Street to the north, Park Boulevard to the west, and commercial buildings to the south and east. The majority of the property is concrete and asphalt paved.

Current site structures include three double-walled fiberglass gasoline storage tanks (USTs), two pump islands with eight dispensers, and a convenience store.

1.2 PREVIOUS WORK

In January of 1987, underground storage tanks were removed from the site. Soil samples revealed elevated levels of BTEX and free product was reported in the groundwater seeping in the excavation. In May 1989, Applied GeoSystems performed a site reconnaissance to evaluate the condition of the two existing site wells (Applied GeoSytems, Inc., 1989). Free product was found in both wells (MW-1 and MW-2). An additional investigation was performed by GeoSystems in April 1990 and another in July 1990 (Applied Geosystems, Inc., 1990). RESNA performed a subsurface investigation in June and October 1992 to further delineate the plume (RESNA, 1992).

Operation of a groundwater extraction system began on January 25, 1993. The system utilized an aeration tank and activated carbon to treat the groundwater stream prior to being discharged to the sanitary sewer. The system was shut down on May 9, 1995 due to low concentration/removal rates. Pacific Environmental Group, Inc. presented the site for closure in June 1996 based on:

- Amount of soil removed during tank and piping removals,
- Total gallons of groundwater removed verses amount of contaminant removed, and
- Analytical results reaching stability.

Alameda County Health Care Services confirmed no further action was required at the site in the Remedial Action Completion Certification letter dated July 11, 1997. All remedial and monitoring equipment was removed from the site. No additional environmental work was completed at the site until product line removal and upgrade construction activities in October and November of 2002. Environmental soil samples collected along the product lines during the construction activities indicated a potential release and an Unauthorized Release Report was issued for the site on January 21, 2003. Field activities are summarized in the URS Product Line Removal and Upgrade Soil Sampling Report dated January 31, 2003.

1.4 GENERAL SITE HYDROGEOLOGY

The site is underlain by gravely clay fill and silt and gravelly fill from 0 to 5 feet bgs and interbedded silty clay, clayey silt and silty sand from 3 to 30 feet bgs below ground surface (ft bgs) (RESNA 1992). Groundwater has been encountered at depths of 5.31 to 9.32 ft bgs. Historical groundwater flow direction beneath the site has been consistently northwest. Historical groundwater gradient is approximately 0.09 feet per foot.

1.3 SURFACE WATER BODY

Based on the review of area topographic maps produced by the United States Geological Survey, two water bodies were identified within a two miles radius of the site. Lake Merrit is located approximately 0.9 miles to the west of the site and the San Francisco Bay is located approximately 1.5 miles to the southwest.

2.0 PROPOSED WELL INSTALLATION LOCATIONS

To identify the extent of soil and groundwater contamination at the Site, URS will install four groundwater monitoring wells. The proposed locations are based on information in the Product Line Removal and Upgrade Soil Sampling Report (URS, 2003), groundwater flow direction, subsurface conditions and existing site conditions. Table 1 shows soil analytical data from the soil samples collected during the line upgrade. URS proposes to install four groundwater monitoring wells in the vicinity of the dispensers and the UST complex. The monitoring well locations will include a downgradient well, potential source location well and cross-gradient/perimeter wells. Monitoring Well MW-1 will be located immediately adjacent to the sampling point identified with the highest concentrations of contaminants from the Product Line Removal and Upgrade Soil Sampling Report. Monitoring Well MW-2 will be located downgradient from the source location. Monitoring Wells MW-3 and MW-4 will be placed cross-gradient and at the perimeter of the property. The proposed locations are shown on Figure 2.

2.1 PRELIMINARY FIELD ACTIVITIES

Prior to initiating field activities, URS will obtain necessary well construction permits, prepare a Site Health and Safety Plan (HASP) for the proposed work, clear the site for subsurface utilities, and complete the URS drilling checklist (Attachment C). URS will also obtain the necessary variance to install the monitoring wells with a surface seal of less than 10 ft bgs. The utility clearance will include notifying Underground Service Alert (USA) of the pending work a minimum of 48 hours prior to initiating the field investigation, and securing the services of a private utility locating company to confirm the absence of underground utilities at each boring location.

A HASP will be prepared for use by personnel implementing the Work Plan. A copy of the HASP will be available on-site at all times. The subcontractor(s) performing field activities will be provided with a copy of the HASP prior to initiating work. A safety tailgate meeting will also be conducted daily to review the site hazards and the daily scope of work, including but not limited to drilling, utility clearance and general safety.

2.2 SOIL BORINGS

The borings will be completed under the supervision of a URS field geologist with the use of an air knife and a drill rig equipped with 10-inch diameter hollow stem augers. The air knife will be advanced to approximately 5 ft bgs to clear any utilities that may have been missed by USA or the private utility locator. The borings will then be advanced from approximately 5 to 20 feet bgs using a hollow stem auger drill rig. Soil samples will be collected from the soil borings for lithologic description and potential chemical analysis at five-foot intervals using an 18-inch split-spoon sampling method (approximately 6, 10, 15 and 20 ft bgs). Field screening of hydrocarbons will include visual and olfactory observations and portable photoionization detector (PID) measurements.

2.2.1 Soil Sample Collection and Equipment

Soil samples for chemical analysis will be selected based on field screening. Each soil sample will be covered at each end with Teflon™ sheeting, capped with plastic end caps, labeled, and placed in an ice-filled cooler for preservation. Sample labels will include sample name, sample depth interval, sampling time and date, analytical methods and sampler's initials. All samples will be transported under chain-of-custody protocol to Sequoia, a California State-certified analytical laboratory.

Split spoon soil samples will be collected using the following equipment:

- 2-inch diameter brass or stainless steel tubes
- Teflon™ sheets, plastic end caps, tape and sample labels
- Decontamination station (buckets, Alconox mix, sponges, deionized water)

Soil samples will be analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPH-g) using EPA Method 8015M,
- Benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8260B,

- Fuel oxygenates [methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), ethyl tertiary butyl ether (ETBE), and tertiary butyl alcohol (TBA)] using EPA Method 8260B.

2.3 WELL INSTALLATION

Four soil boring will be converted into a 4-inch diameter monitoring wells. The wells will be constructed of polyvinyl chloride and screened from approximately 5 to 20 ft bgs with 0.010-inch machined slot. The exact depth and screen length of the new well will be determined based on lithology of the boring and by an experienced URS field geologist. A filter pack consisting of No. 2/12 sand will be installed to 1 to 2 feet above the top of the well screen, which will be overlain by 1 to 2 feet of bentonite, and bentonite-cement grout to the surface. A traffic-rated vault-box will be installed to protect the well. A typical monitoring well construction diagram is located in Attachment D. After the completion of the wellhead fitting, the monitoring well installed will be surveyed. A California-licensed land surveyor will be scheduled to survey the wellheads for top of casing elevation with respect to mean sea level, and for lateral position using northings and eastings.

2.3.1 Well Development

Within 48 hours after well installation the new monitoring wells will be developed. The process will consist of surging and bailing the well to remove fine-grained sediments from the well and sand pack. A minimum of three and a maximum of ten casing volumes of groundwater will be removed until water quality parameters have stabilized. Periodic measurements of pH, conductivity, temperature, and turbidity will be recorded during development to establish baseline values for groundwater. All purge water generated during well development will be properly disposed of offsite at a California regulated facility.

2.3.2 Groundwater Sample Collection and Analysis

The wells will be sampled no sooner then 48 hours after well development. The sampling procedure for the well consists first of measuring the water level and depth to bottom, and checking for the presence of free phase petroleum product (free product) using either an electronic oil-water interface probe or a dedicated disposable bailer. If the well does not contain free product, it will be purged approximately three casing volumes of water (or until dewatered) using a centrifugal pump, gas displacement pump, or bailer. During purging, temperature, pH, and electrical conductivity will be monitored to document that these parameters are stable prior to collecting samples. After purging, water levels will be allowed to partially (at least 80%) recover. Groundwater samples will be collected using a dedicated disposable bailer, placed into appropriate Environmental Protection Agency (EPA) approved containers, labeled, logged onto chain-of-custody records, and transported on ice to a California state certified laboratory. Sample labels will include sample name, sampling

time and date, analytical methods and sampler's initials. If the well contains free product, it will not sampled and free product will be removed according to California Code of Regulation, Title 23, Div. 3, Chap. 16, Section 2655, UST Regulations.

Equipment typically used for groundwater sampling includes:

- Electric water level sounder
- Disposable bailers
- pH meter, specific conductance meter, thermometer, turbidity meter
- VOA's preserved with HCl, sample labels and chain-of-custody records
- Cooler with ice to transport samples
- Drum to hold wastewater

Groundwater samples will be analyzed for the following:

- TPH-g using EPA Method 8015M,
- BTEX, MTBE, DIPE, TAME, ETBE, and TBA using EPA Method 8260B

2.4 DECONTAMINATION

Drilling and sampling equipment will be decontaminated to prevent cross-contamination of the soil and groundwater samples. Decontamination will be performed before, between and after each use of the equipment unless disposable or dedicated sampling equipment is used. Decontamination will be conducted in three general phases, as described below.

The first phase of decontamination will consist of a thorough cleaning of the drill rig, downhole drilling and sampling equipment and other associated equipment prior to arrival at the site. The second phase of decontamination will consist of cleaning borehole drilling and sampling equipment during field activities. The third phase of the decontamination will consist of cleaning equipment prior to leaving the site.

Small equipment will be decontaminated using the following procedures:

- Scrub with brush using Alconox soap (or equivalent) and potable water solution
- Rinse with potable water

- Distilled water rinse
- Large equipment will be decontaminated using the procedure outlined below:
  - Move equipment to a decontamination station or vehicle after sampling/field activities are complete.
  - Decontaminate equipment using a high-pressure steam cleaner. Scraping and scrubbing may be necessary to remove encrusted material. Items should be placed on sawhorses, pallets or their equivalent to prevent contact with the ground.
  - Rinse the equipment on polyethylene sheeting, sawhorses or clean pallets and allow them to dry.
  - Keep sampling and field equipment from contacting the ground surface before reaching the next sampling location.

Decontamination activities will be performed at a central decontamination station if the subcontractor does not have a mobile decontamination vehicle. Fluids collected in the decontamination station or the vehicle will be transferred to drums for disposal.

2.5 WASTE DISPOSAL

Investigation-derived wastes will be temporarily stored on-site in 55-gallon, DOT-approved 17H drums, pending characterization and disposal. URS will coordinate the transportation and disposal of the soil and groundwater at a California regulated facility.

2.6 WELL INSTALLATION REPORT

Upon completion of field activities and receipt of all laboratory analytical data, URS will prepare provide the Alameda County Environmental Health with a well installation report. The well installation report will document the results of the well installations including boring logs, well construction diagrams, analytical results and interpretation and recommendations.

2.7 PROPOSED SCHEDULE

Upon receiving written approval of this Work Plan from the Alameda County Environmental Health Agency, URS will proceed with the proposed work. URS will obtain all necessary permits to complete the proposed work. URS anticipates submitting the well installation report to the Alameda

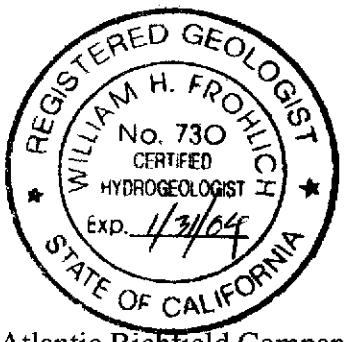
County Environmental Health Agency within 60 days of receipt of all laboratory analytical results from drilling activities.

We appreciate the opportunity to submit this Work Plan to the Alameda County Environmental Health Agency and trust that this document meets with your approval. Please notify us of your approval as soon as practical. If you have any questions or concerns, feel free to contact us at (510) 893-3600.

URS CORPORATION

Scott Robinson
Project Manager

William Frohlich, R.G., C.H.G.
Senior Geologist



Teresa Tamburello
Project Engineer

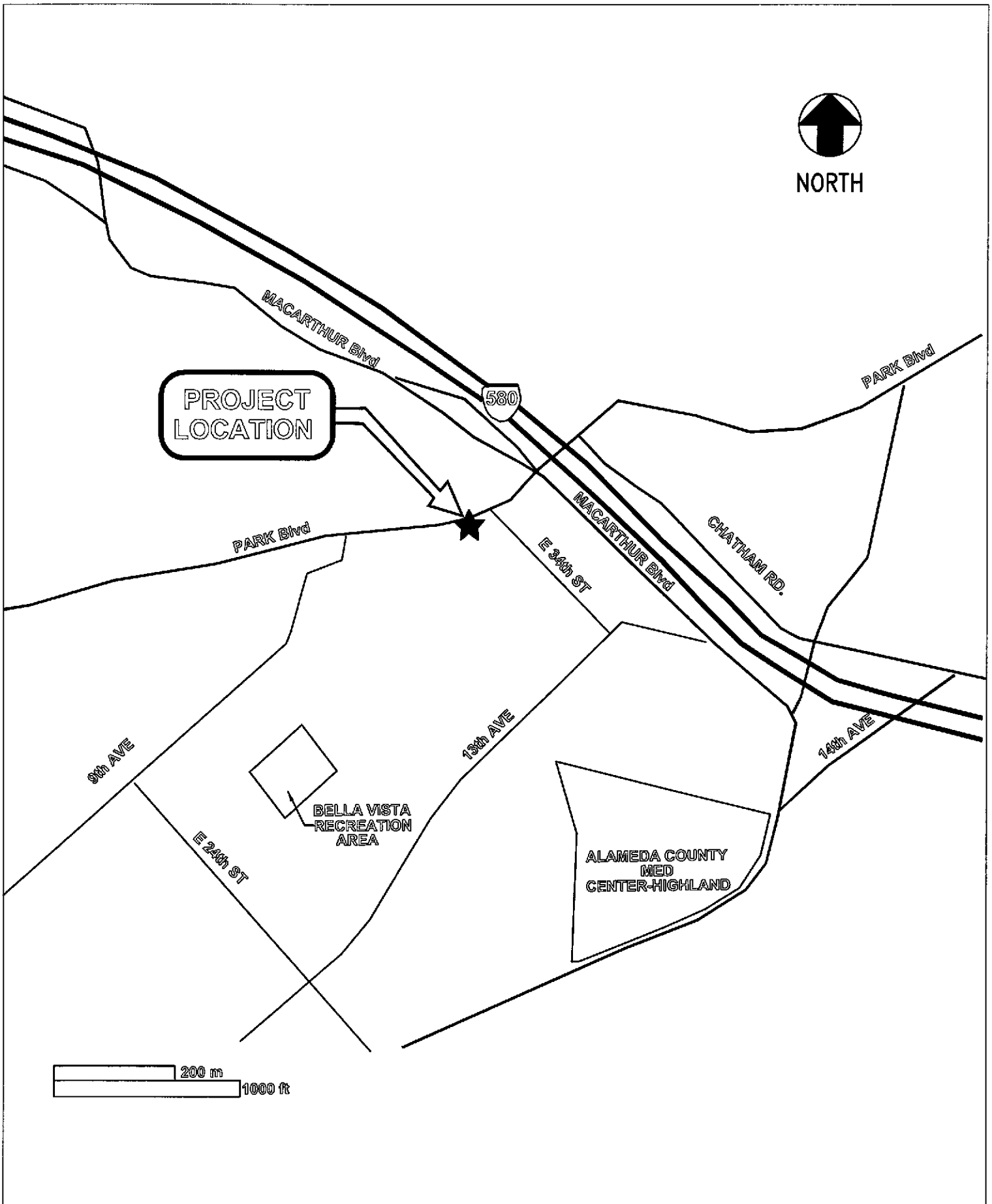
cc: Mr. Paul Supple, Atlantic Richfield Company, P.O. Box 6549 Moraga, CA 94570

Attachments: Table 1 - Soil Analytical Data - Product Line Removal and Upgrade
Figure 1 - Site Location Map
Figure 2 - Proposed Well Installation Locations
Attachment A - Alameda County Environmental Health Agency (April 15, 2003)
Attachment B - Unauthorized Release Report (January 21, 2003)
Attachment C - URS Drilling Checklist
Attachment D - Typical Monitoring Well Construction Diagram

Table 1
Soil Analytical Data
Product Line Removal and Upgrade
ARCO Service Station 2107
3310 Park Boulevard
Oakland, California

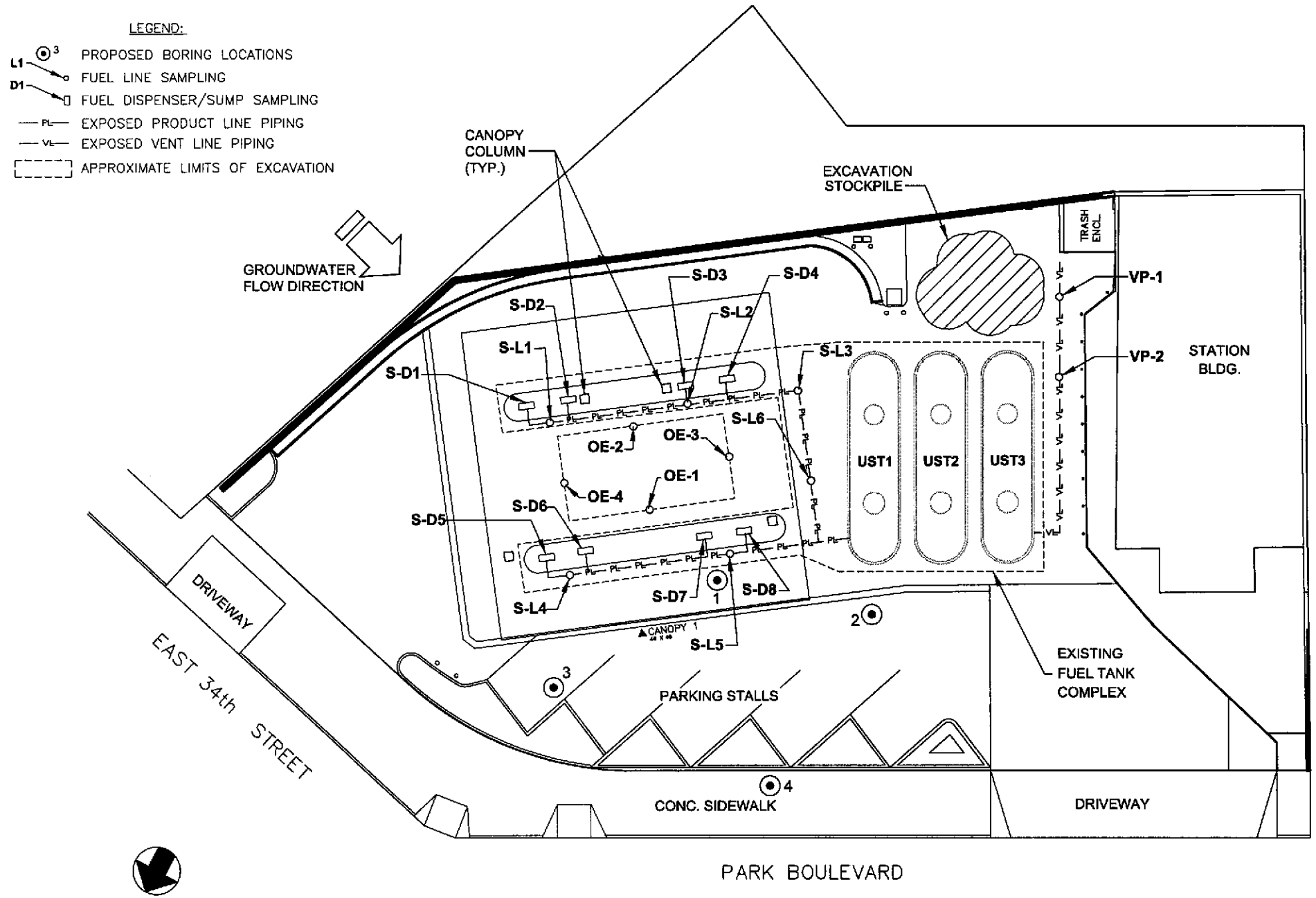
Soil Sample ID	Sample Depth (feet)	Date Sampled	TPHg as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	MTBE (ppm)	Pb (ppm)
Dispenser and Product Line Soil Sample Results									
S-D1	4	10/18/2002	ND<0.5	ND<1.8	ND<1.8	ND<1.8	ND<1.8	**0.061**	**6.7**
S-D2	4	10/18/2002	ND<0.5	ND<1.6	ND<1.6	ND<1.6	ND<1.6	ND<1.6	**36**
S-D3	3.5	10/18/2002	ND<0.5	ND<0.78	ND<0.78	ND<0.78	ND<0.78	**34**	**8.2**
S-D4	3.5	10/18/2002	ND<0.5	ND<1.1	ND<1.1	ND<1.1	ND<1.1	**11**	**29**
S-D5	5	10/18/2002	ND<0.5	ND<0.98	ND<0.98	ND<0.98	ND<0.98	**8.9**	ND<5.0
S-D6	5	10/18/2002	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<1.0	**17**	ND<5.0
S-D7	5	10/18/2002	**4,000**	ND<10.0	**220**	**150**	**1,100**	**19**	**7.6**
S-D8	5	10/18/2002	**2,900**	ND<10.0	**52**	**46**	**400**	**6.7**	**8.9**
S-L1	4.5	10/18/2002	ND<0.5	ND<1.2	ND<1.2	ND<1.2	ND<1.2	**19**	ND<5.0
S-L2	4	10/18/2002	ND<0.5	**0.89**	ND<0.62	ND<0.62	ND<0.62	**19**	ND<5.0
S-L3	4.5	10/18/2002	ND<0.5	ND<1.0	ND<1.0	ND<1.0	**2.3**	**83**	**10**
S-L4	5	10/18/2002	ND<0.5	ND<0.84	ND<0.84	ND<0.84	ND<0.84	**37**	ND<5.0
S-L5	5	10/18/2002	**450**	ND<2.5	**3.4**	**4.9**	**44**	ND<1.2	ND<5.0
S-L6	6.5	10/18/2002	**37**	ND<0.79	ND<0.79	ND<0.79	ND<0.79	**0.099**	**6.7**
VP-1	4	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--
VP-2	4	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--
Over-excavation Sample Results									
S-OE1	7.5	10/18/2002	**2,200**	ND<2.5	**7.9**	**7.1**	**40**	**3.4**	**5.5**
S-OE2	7.5	10/18/2002	**21**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**3.4**	**8.1**
OE-3	7	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--
OE-4	7	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--

TPH	= Total purgeable petroleum hydrocarbons using EPA Method 8015, modified.
BTEX	= Benzene, toluene, ethylbenzene, total xylenes using EPA Method 8021B.
MTBE	= Methyl Tertiary Butyl Ether.
ppm	= Parts per million.
ND<	= Less than stated laboratory detection limit.



URS	Project No. 38486013 ARCO Service Station 2107 3310 Park Boulevard Oakland, California	SITE LOCATION MAP	Figure 1

X:\x_env_waste\BP GEM\Sites\Scott Robinson\Paul Supple\2107\Work Plan\PWIL.dwg



URS	Project No. 38486013 ARCO Service Station 2107 3310 Park Boulevard Oakland, California	**PROPOSED WELL INSTALLATION LOCATIONS**

FIGURE
2

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

April 25, 2003

Paul Supple
Atlantic Richfield Co.
P.O. Box 6549
Moraga, CA 94570

Dear Mr. Supple:

Subject: Fuel Leak Case No. RO0002526, Arco #2107, 3310 Park Blvd., Oakland, CA 94610

Alameda County Environmental Health (ACEH) staff has reviewed "Product Line Removal and Upgrade Soil Sampling Report" dated January 31, 2003, prepared by URS Corp. The removal and replacement of gasoline product lines and dispensers on January 7, 2003 found a release had occurred. Soil and groundwater samples collected beneath the product lines and dispensers detected up to 4,000 mg/kg Total Petroleum Hydrocarbons - gasoline (TPHg), 1,100 mg/kg Xylenes, and 4,200 ug/l TPHg, 300 ug/l Benzene, 11,000 ug/l Xylenes, 4,900 ug/l Methyl Tertiary-Butyl Ether (MTBE). We request that you address the following technical comments and send us the technical reports requested below.

TECHNICAL COMMENTS

A soil and groundwater investigation of contamination from your site is required. Please submit a work plan to investigate the lateral and vertical extent of soil and groundwater contamination from your site.

UST CLEANUP FUND

Please be aware that you may be eligible for reimbursement of the costs of investigation from the California UST Cleanup Fund (Fund). In some cases, a deductible amount may apply. If you believe you meet the eligibility requirements, I strongly encourage you to contact the Fund for an application.

TECHNICAL REPORT REQUEST

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

June 15, 2003 – Work Plan
60 days after Work Plan approval – Soil and Water Investigation Report

These reports are being requested pursuant to the Regional Water Quality Control Board's (Regional Board) authority under Section 13267 of the California Water Code. If you have any questions, please call me at (510) 567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist
Local Oversight Program

C: Scott Robinson, URS Corp., 55 S. Market St., Suite 1500, San Jose, CA 95113
Donna Drogos
file

BP West Coast Products LLC
4 Centerpointe Drive, LPR4-451
La Palma, California 90623-1066

Mailing Address: Box 6038
Artesia, CA 90702-6038

Voice (530) 308-0495
Fax (209) 744-2871
Email SchettJ1@bp.com

Tuesday, January 21, 2003
11:04 AM

via Facsimile

Alameda County Environmental Health
1131 Harbor Bay Parkway, #240
Alameda, CA 94502-6577
Attention: Mr. Ariu Levi
FAX: (510) 337-9335

Re: ARCO Facility No. 2107

Dear Mr. Levi:

With this, I am transmitting an Underground Storage Tank Unauthorized Release Report in connection with an incident at the facility noted above. Please feel free to call me at (530) 308-0495 with any questions.

Best regards,

John Schetter
Environmental Compliance Specialist
BP West Coast Retail Unit

c: San Francisco Bay Regional Water Quality Region 2
Terri Harlan / LPR4-464
File

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☒ NO

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I HAVE DISTRIBUTED THIS INFORMATION ACCORDING TO THE DISTRIBUTION SHOWN ON THE INSTRUCTION SHEET ON THE BACK PAGE OF THIS FORM.
SIGNED: DATE:

ORT DATE: 0 1 2 0 0 3 (M M D D Y Y)

CASE #:

REPORTED BY

NAME OF INDIVIDUAL FILING REPORT: **John Schetter**

PHONE: **(530) 308-0495**

SIGNATURE:

REPRESENTING ☒ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☐ OTHER

COMPANY OR AGENCY NAME: **BP West Coast Products LLC**

ADDRESS: **Four Centerpointe Drive, LPR4-460** (STREET) **La Palma** (CITY) **CA** (STATE) **90623** (ZIP)

RESPONSIBLE PARTY

NAME: **BP West Coast Products LLC** ☐ UNKNOWN

CONTACT PERSON: **John Schetter**

PHONE: **(530) 308-0495**

ADDRESS: **Four Centerpointe Drive, LPR4-451** (STREET) **La Palma** (CITY) **CA** (STATE) **90623** (ZIP)

SITE LOCATION

FACILITY NAME (IF APPLICABLE): **Arco Facility No. 2107**

OPERATOR: **NHON HA**

PHONE: **510-532-1716**

ADDRESS: **3310 PARK BLVD** (STREET) **Oakland** (CITY) **Alameda** (COUNTY) **94610** (ZIP)

CROSS STREET: **Macarthur Blvd.**

IMPLEMENTING AGENCIES

LOCAL AGENCY — AGENCY NAME: **Alameda County Enviromental Health**

CONTACT PERSON: **Ariu Levi**

PHONE: **(510) 567-6862**

REGIONAL BOARD: **California Regional Water Quality Board 2**

PHONE: **(510) 622-2460**

SUBSTANCE INVOLVED

(1) NAME: **Gasoline** QUANTITY LOST (GALLONS) ☒ UNKNOWN

(2) ☐ UNKNOWN

DISCOVERY/ABATEMENT

DATE DISCOVERED: 0 1 2 0 0 3 (M M D D Y Y)

HOW DISCOVERED ☐ TANK TEST ☐ INVENTORY CONTROL ☐ TANK REMOVAL ☐ SUBSURFACE MONITORING ☒ OTHER Line Replacement ☐ NUISANCE CONDITIONS

DATE DISCHARGE BEGAN: (M M D D Y Y) ☒ UNKNOWN

HAS DISCHARGE BEEN STOPPED? ☒ YES ☐ NO IF YES, DATE: 0 1 2 0 0 3 (M M D D Y Y)

METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)
☐ REMOVE CONTENTS ☐ CLOSE TANK & REMOVE ☐ REPAIR PIPING
☐ REPAIR TANK ☐ CLOSE TANK & FILL IN PLACE ☐ CHANGE PROCEDURE
☐ REPLACE TANK ☒ OTHER Replace product piping

SOURCE/CAUSE

SOURCE OF DISCHARGE
☐ TANK LEAK ☒ UNKNOWN
☐ PIPING LEAK ☐ OTHER

CAUSE(S)
☐ OVERFILL ☐ RUPTURE/FAILURE ☐ SPILL
☐ CORROSION ☒ UNKNOWN ☐ OTHER

CASE TYPE

CHECK ONLY ONE
☐ UNDETERMINED ☒ SOIL ONLY ☐ GROUNDWATER ☐ DRINKING WATER – (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS

CHECK ONLY ONE
☐ NO ACTION TAKEN ☐ PRELIMINARY SITE ASSESSMENT WORKPLAN SUBMITTED ☒ POLLUTION CHARACTERIZATION
☐ LEAK BEING CONFIRMED ☐ PRELIMINARY SITE ASSESSMENT UNDERWAY ☐ POST CLEANUP MONITORING IN PROGRESS
☐ REMEDIATION PLAN ☐ CASE CLOSED (CLEANUP COMPLETED OR UNNECESSARY) ☐ CLEANUP UNDERWAY

REMEDIAL ACTION

CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ CONTAINMENT BARRIER (CB) ☐ VACUUM EXTRACT (VE)
☐ EXCAVATE & DISPOSE (ED) ☐ EXCAVATE & TREAT (ET) ☐ NO ACTION REQUIRED (NA) ☒ OTHER **TBD**
☐ REMOVE FREE PRODUCT (FP) ☐ PUMP & TREAT GROUNDWATER (GR) ☐ TREATMENT AT HOOKUP (HU)
☐ ENHANCED BIO DEGRADATION (IT) ☐ REPLACE SUPPLY (RS) ☐ VENT SOIL (VS)

COMMENTS

MtBE detected in soil sample S-D-7.5 @ 19 ppm. A soil report for the line upgrade will be issued soon.

PREDRILLING/SUBSURFACE CHECKLIST FOR INTRUSIVE FIELDWORK

Site Name _____ Job # _____

Site Phone Number: _____

Site Address _____ County _____

BP EBM: _____ Phone _____

BP Site Manager Contacted On: _____ By: _____

Site Drawings (yes / no / NA) _____ (please attach) Historical Drawings (yes / no / NA) _____

As-Build Drawings (yes/no/NA) _____ (please attach)

Third Party Construction/Redevelopment Plans (yes/no/NA) (please attach)

***ATTACH SITE FIGURE WITH PROPOSED BORING LOCATIONS

Subcontractor's (drillers, concrete, etc...) Company _____

Subcontractor's Name / Contact Person _____ Phone _____

Meeting / Start Date _____ Time _____

1) **Health and Safety Form Completed:** Y / N Date _____

2) **Mandatory Utility Protection Services** Minimum 48 Hrs. Advance Notice (State Specific Notification Period Supercedes)

Called: Date _____ Time _____ Initials _____

Reference # _____

Proposed Drilling Locations Premarked for Locating Service. Y / N

3) **Mandatory Private or In-House Utility Locating Service Performed?** Y / N _____

Called: Date _____ Time _____ Initials _____

Name of Locating Service: _____

Telephone #/ contact: _____

Supplier Locating Technician: _____

Type of sensing equipment used: _____

Proposed Drilling Locations Premarked Y / N

4) **Other Potential Underground Structures**

Name of City Engineer/Utility Representative: _____

Telephone #: _____

Date Notified _____ Maps: Y / N

Cleared: Y / N

5) **COMPLETED SITE WALKOVER W/ SITE MANAGER/DESIGNEE OR OWNER/TENANT REP.** Y / N

Name of Site Manager: _____

Name of Property Owner/Tenant Representative: _____

Cleared: Yes / No

Building Utility Service Line Connections Identified: Y / N

Utility Service Line Points of Entry to the Property from Utility Mains Identified: Y / N

(Hand sketch on site map w/proposed boring locations and most likely utility trench locations)

6) **Utility Inventory:** Y / N

Utility	Name	Depth (ft)	Phone	Notified - Date	Marked
Above Ground Services:					
Electric		NA		Y / N	Y / N
Telephone		NA		Y / N	Y / N
Cable		NA		Y / N	Y / N
Overhead Supports		NA		Y / N	Y / N
Traffic light cables		NA		Y / N	Y / N

6) Utility Inventory Continued:

Below Ground Services:

Electric				Y / N		Y / N
Telephone				Y / N		Y / N
Cable				Y / N		Y / N
Gas				Y / N		Y / N
Water				Y / N		Y / N
UST System				Y / N		Y / N
Storm				Y / N		Y / N
Sanitary				Y / N		Y / N
Steam				Y / N		Y / N
Pipeline Companies				Y / N		Y / N

Other:

				Y / N		Y / N
				Y / N		Y / N
				Y / N		Y / N

7) **Site-Specific Emergency Contingency Plan Incorporated in Health & Safety Plan** Y / N

8) **Signature of Supplier Project Mgr. (required to begin fieldwork):**

High Risk Drilling Locations Approved by EBM **Date:** Y / N

(Predrilling Checklist and supporting information to be included with the site H&S Plan, present on-site during all intrusive investigations and available upon request.)

NAME OF PROJ. MGR. (PRINTED OR TYPED)

SIGNATURE OF PROJ. MGR.

Name of Supplier Field Personnel

Signature of Field Personnel

NOTE: Primary Contractor Signature is verification that Field Personnel have reviewed, adhered to and received the necessary supplier training to implement precautionary drilling standards for performing work at GEM Marketing Retail properties as defined in BP's PRECAUTIONARY PROCEDURES AND GUIDELINES FOR DRILLING, SUBSURFACE INVESTIGATIONS AND REMEDIAL CONSTRUCTION ACTIVITIES. Any questions or concerns should be elevated to the Primary Contractor Project Manager or EBM prior to initiating field work.

ADDITIONAL COMMENTS / NOTES: