URS

April 28, 2005

Mr. Robert Schultz
Hazardous Material Specialist
Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RE: Revised Soil and Groundwater Investigation Work Plan
Former BP Service Station #11102
100 MacArthur Boulevard
Oakland, California
ACHCS Case No. RO0000456

Dear Mr. Schultz:

On behalf of Atlantic Richfield Company (RM, an affiliated company of BP), URS Corporation (URS) has prepared this *Revised Soil and Groundwater Investigation Work Plan* (Revised Work Plan) for former BP Service Station #11102 located at 100 MacArthur Boulevard, Oakland, California (the Site, Figure 1). This Revised Work Plan was prepared in response to the January 27, 2005 letter from Alameda County Health Care Services (ACHCS) to RM (Attachment A). The work plan addresses ACHCS comments to the URS *Soil and Groundwater Investigation Work Plan* (Work Plan) dated April 16, 2004 and URS electronic mail (e-mail) dated January 27, 2005. The January 27, 2005 URS e-mail stated that the Quickstop service station located at 96 MacArthur Boulevard had advanced off-site borings and installed off-site monitoring wells which would assist in assessing the downgradient extent of the hydrocarbon plume from the former BP Site. Therefore, URS requested revising the scope of work proposed in URS' April 2004 *Work Plan*. The ACHCS approved URS' request to revise the work scope. This work plan includes a discussion of the Site background, revised proposed scope of work addressing ACHCS's comments, and schedule.

1.0 SITE BACKGROUND

BP acquired the property from Mobil Oil Corporation (Mobil) in 1989. In 1994, BP transferred the property to TOSCO Marketing Company (TOSCO) and has not operated the facility since that time. The Site is currently an active 76-branded gasoline retail outlet located at the intersection of MacArthur Boulevard and Oakland Avenue in Oakland, California (see Figure 1). The Site is located in a mixed commercial and residential area. A Quikstop station is located northwest of the Site at the intersection of Harrison Street and MacArthur Boulevard. The MacArthur Freeway (Interstate 580), an elevated freeway, is located immediately south of the

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RO-456

Atlantic Richfield Company
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April 28, 2005

Re: Revised Soil and Groundwater Investigation Work Plan
Former BP Service Station #11102
100 MacArthur Boulevard
Oakland, CA
ACHCS Fuel Leak Case No. RO0000456

I declare that, to the best of my knowledge at the present time, the information and/or recommendations contained in the attached document are true and correct.

Submitted by:

Kyle Christie
Environmental Business Manager

Site. Existing facilities include three gasoline underground storage tanks (USTs), two pump islands with four product dispensers, and a service center. There are currently three monitoring wells at the Site, MW-1, MW-2, and MW-3. The Site layout and location of existing wells are shown on Figure 2.

1.1 SITE GEOLOGY AND HYDROGEOLOGY

Groundwater at the Site is typically encountered between 10 to 15 feet below ground surface (bgs). The three existing on-site monitoring wells, MW-1, MW-2 and MW-3, are screened from 11 to 32 feet bgs. Screened soils are clayey sands, clayey gravels and clays in well MW-1, silty clays, silts and clays in well MW-2, and clays in well MW-3. Groundwater flow direction during the 2005 first quarter monitoring event on January 10, 2005 was to the west at a gradient of 0.07 feet per foot.

2.0 PROPOSED SCOPE OF WORK

The scope of work proposed in URS' April 2004 *Work Plan,* pertaining to source area characterization and groundwater plume delineation, included advancing four on-site borings (SB-1 through SB-4) and three off-site borings (SB-5 through SB-7). Soil boring SB-1 was proposed adjacent to existing well MW-1 to confirm lithology and assess soil and groundwater conditions prior to reinstalling well MW-1. Soil borings SB-2, SB-3 and SB-4 were proposed along the southern down-gradient edge of the Site. Soil borings SB-5 through SB-7 were proposed off-site and down-gradient of the Site to assess off-site plume migration.

A Quickstop service station is located at 96 MacArthur Boulevard, northwest of the Site. Based on review of groundwater data from Quickstop site wells MW-10 and MW-11, proposed groundwater sampling locations SB-2, SB-5 and SB-6 do not appear necessary. In their January 27, 2005 letter, ACHCS concurred with URS that Quickstop wells MW-10 and MW-11 data can be used to help assess the down-gradient extent of the dissolved hydrocarbon plume. In addition to the ACHCS' concurrence with the deletion of soil borings SB-2, SB-5 and SB- 6, the ACHCS requested that URS evaluate preferential pathways identified in previously conducted conduit studies, delineate source area contamination and delineate the groundwater plume. The following sections address the ACHCS' comments and requests.

2.1 PREFERENTIAL PATHWAYS EVALUATION

In the April 2004 *Work Plan*, URS presented the results of several conduit studies conducted for the Site. A storm drain was identified along MacArthur Boulevard at a depth between approximately 7 feet below ground surface (bgs) to 12 feet bgs. The storm drain has a downward slope towards the northwest. Groundwater at the Site is expected to intersect the storm drain during periods of high groundwater elevations. ACHCS expressed concern that impacted groundwater may be entering the storm drain and migrating via higher permeability

trench material, and the groundwater flow direction at the Site may be seasonally influenced by infiltration into the storm drain.

URS proposes advancing soil borings SB-1 through SB-3 along the storm drain on MacArthur Boulevard which ranges from approximately 7 feet bgs to 12 feet bgs in depth. Depth discrete groundwater samples will be collected at approximately 12 feet bgs, 15 feet bgs and 18 feet bgs from each soil boring location to assess the potential of the storm drain being used as a preferential pathway. The location of proposed soil borings are shown on Figure 2. In addition, URS will coordinate with the City of Oakland to access the storm drain line to collect a sample, if water is present. The storm drain slopes to the northwest along MacArthur Boulevard. URS proposes collecting a sample from a down gradient manhole with an approximate invert depth of 12.5 feet bgs and one upgradient (south) of the Site along MacArthur Boulevard (invert depth~6 feet bgs) to confirm any upgradient contributions that may not be from the Site.

2.1.1 PRELIMINARY FIELD ACTIVITIES

Prior to initiating field activities, URS will obtain necessary permits, prepare a site-specific Health and Safety Plan (HASP) for the proposed work, and conduct a subsurface utility clearance. 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. The borings will be located at least 10 feet from the nearest underground utilities and 50 feet from the nearest overhead electrical lines per RM and URS utility clearance procedures, unless approved by RM. All borings will be cleared using a hand auger or air knife method to a minimum depth of 5 feet bgs and to a minimum of the proposed boring diameter per RM utility clearance procedures.

The HASP will address the proposed boring/well installations and groundwater sampling. 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. Traffic control and lane closures will be performed for the proposed soil borings SB-1 through SB-3 along MacArthur Boulevard.

2.1.2 DEPTH DISCRETE GROUNDWATER SAMPLING

URS proposes collecting depth discrete groundwater samples to assess the potential of dissolved hydrocarbons to enter the storm drain trench and preferentially migrate along the storm drain trench backfill material. Groundwater samples will be collected at depths of approximately 15 feet bgs and 18 feet bgs. Groundwater is anticipated to be encountered at a depth of approximately 14 feet bgs. Soil samples will be collected for lithologic logging purposes only.

Soil samples will be logged by URS personnel under the supervision of a State of California Professional Geologist, according to the Unified Soil Classification System (USCS), and monitored for grain size, color, consistency, staining, and odor using a photoionization detector (PID).

The groundwater samples will be collected, labeled and placed in ice-filled coolers for preservation, and sent under standard chain-of-custody procedures to a California state-certified laboratory. The groundwater samples will be analyzed for the presence of GRO, BTEX, and fuel additives (MTBE, TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB, and ethanol) by EPA Method 8260B.

After sampling has been completed, the boring will be grouted to surface using Portland cement.

2.2 DELINEATION OF SOURCE AREA CHARACTERIZATION AND GROUNDWATER PLUME

ACHCS requested both delineation of the vertical extent of source area contamination and the three dimensional extent of the groundwater plume. The Quickstop, down-gradient of the Site has installed additional monitoring wells and soil borings, which help assess the down-gradient extent of the hydrocarbon plume for the former BP Site has been defined. Therefore, down-gradient of the Site has been defined and the original proposed scope of work has been revised.

URS' proposed revised scope of work includes advancing five on-site soil borings (SB-4 through SB-7), to help assess the potential presence of hydrocarbons in soil and groundwater at the Site. Soil boring SB-4 is proposed to assess the extent of hydrocarbons upgradient of the UST cavity and dispenser islands. Borings SB-5 and SB-6 are proposed to assess the extent of hydrocarbons down-gradient (north and northwest) of the USTs and dispenser islands. Boring SB-7 will be advanced to assess the extent of hydrocarbons down-gradient of well MW-3 and the used-oil tank. Soil boring SB-8 will be advanced in the vicinity of well MW-1 to determine nearby lithology and assess the reinstallation of well MW-1 in response to ACHCS' concern that well MW-1 was installed within fill material, resulting in skewed data collection. The proposed soil boring locations are presented on Figure 2.

2.2.1 Preliminary Field Activities

Prior to initiating field activities, URS will obtain necessary permits, prepare a site-specific Health and Safety Plan (HASP) for the proposed work, and conduct a subsurface utility clearance as described in the previous preliminary field activities section.

2.2.2 Soil Boring Advancement and Sampling

The soil borings will be advanced to a total depth of approximately 25 feet bgs, or approximately 10 feet below the depth of first encountered groundwater using direct push drilling techniques. In order to collect depth discrete groundwater samples within a continuously cored direct push soil boring, or conduct soil sampling while using depth discrete groundwater sampling probes, URS proposes a closely spaced pair of borings (within 2 feet apart) at each boring location. The lithologic characterization of the initial boring will provide the information necessary to determine the proper discrete groundwater sampling depths. Soil samples will be collected for analysis every 5-feet, at the capillary fringe and at signs of obvious soil impacts. Depth discrete groundwater samples will be collected at the saturated/unsaturated zone interface, 10 feet below saturated/unsaturated zone interface, and at multiple discrete water-bearing zones and lithologic changes, if encountered within the initial boring.

Soil samples will be logged by URS personnel under the supervision of a State of California Professional Geologist, according to the Unified Soil Classification System (USCS), and monitored for grain size, color, consistency, staining, and odor using a photoionization detector (PID). Soil samples collected for potential chemical analysis will be sealed with Teflon® tape, capped, and placed in an ice-filled cooler for transportation to the laboratory. Soil samples collected during this investigation will be submitted to a California State-certified analytical laboratory for analysis of GRO, benzene, toluene, ethylbenzene, and xylenes (BTEX), and fuel additives (MTBE, TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB, and ethanol) using EPA Method 8260B.

Depth discrete groundwater samples will be collected, labeled and placed in ice-filled coolers for preservation, and sent under standard chain-of-custody procedures to a California state-certified laboratory. The groundwater samples will be analyzed for the presence of GRO, BTEX, and fuel additives (MTBE TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB, and ethanol) using EPA Method 8260B.

Upon completing sampling activities, each boring will be grouted to ground surface with Portland cement.

3.0 INVESTIGATION DERIVED WASTE DISPOSAL

Investigation derived waste (IDW) will be temporarily stored on-site in 55-gallon, DOT-approved 17H drums, pending characterization and disposal. URS will coordinate with Dillard Environmental Services (Dillard, under direct contract to RM) will transport and dispose of the IDW at an approved facility.

4.0 GEOTRACKER

In accordance with GeoTracker requirements, URS will upload well survey data, soil and groundwater analytical data, and groundwater gauging data related to this investigation.

5.0 PROPOSED SCHEDULE

Upon receiving approval of this Revised Work Plan from ACHCS, URS will proceed with the proposed work. URS will obtain all necessary permits to complete the proposed work. URS anticipates submitting the SWI Report to the ACHCS within 60 days of receipt of all final laboratory analytical results from field activities.

6.0 LIMITATIONS

This report is based on data, Site conditions and other information that is generally applicable as of the date of the report, and the conclusions and recommendations herein are therefore applicable only to that time frame. Background information including but not limited to previous field measurements, analytical results, site plans and other data have been furnished to URS by RM, their previous consultants, and/or third parties, which URS has used in preparing this report. URS has relied on this information as furnished, and is neither responsible for nor has confirmed the accuracy of this information.

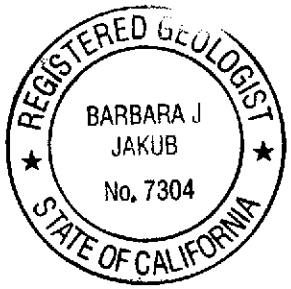
Analytical data provided by the RM approved laboratory has been reviewed and verified by the laboratory. URS has not performed an independent review of the data and is neither responsible for nor has confirmed the accuracy of this data. Field measurements have been supplied by a groundwater sampling subcontractor. URS has not performed an independent review of the field sampling data and is neither responsible for nor has confirmed the accuracy of this data. This report was prepared for the sole use of RM and the local over-sight agency, and should not be relied upon by any third party.

We appreciate the opportunity to present this Revised Work Plan to the ACHCS on behalf of RM and trust that this document meets with your approval. If you have any questions or concerns, please contact us at (510) 893-3600.

Sincerely,
URS CORPORATION

Lynelle Onishi
Project Manager

Barbara J. Jakub, P.G.
Senior Geologist



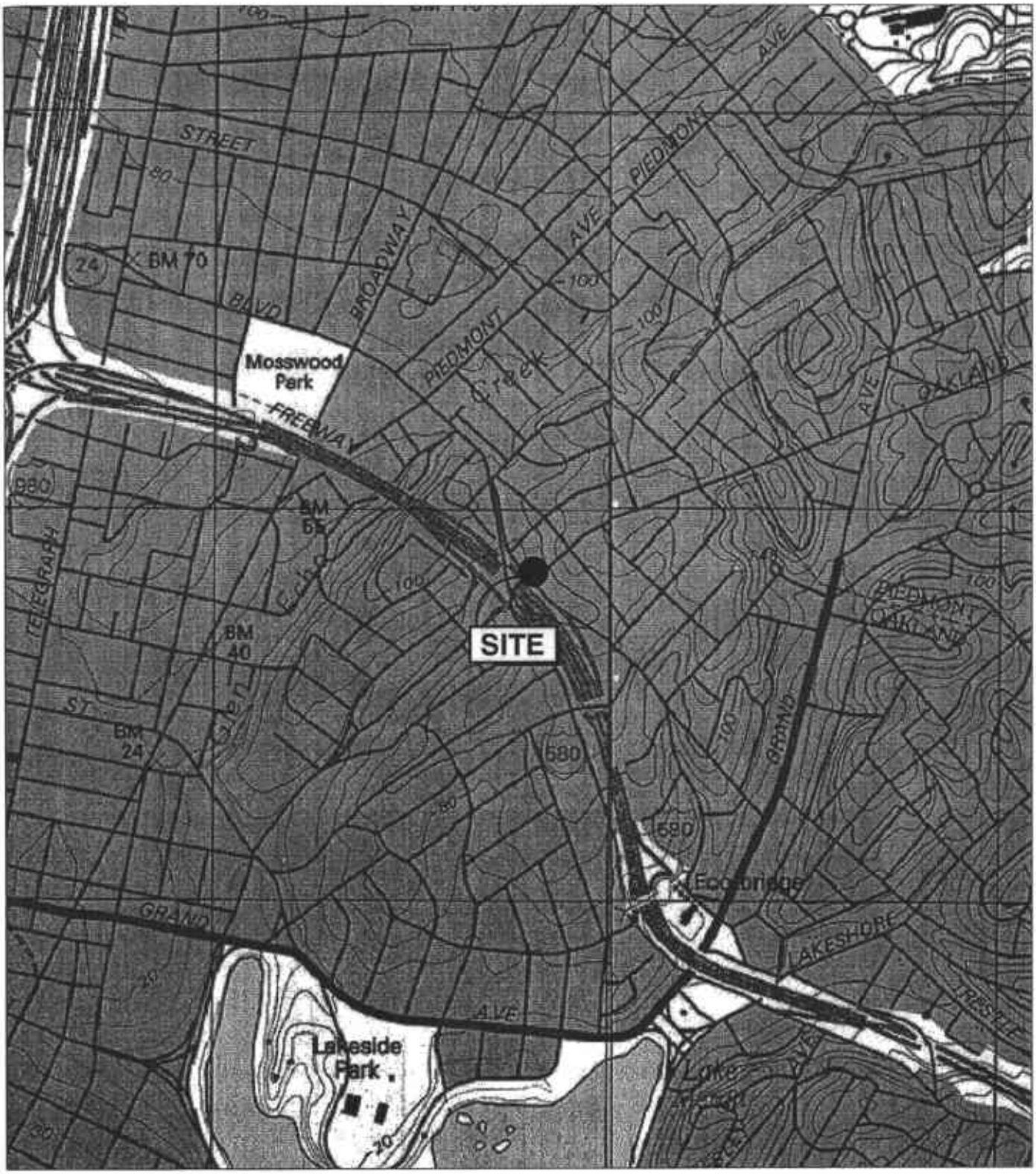
ATTACHMENTS:
Figure 1 – Site Vicinity Map
Figure 2 – Proposed Soil Boring and Well Location Map

Attachment A – ACHCS Letter Dated January 27, 2005

cc: Mr. Kyle Christie, RM (electronic copy uploaded to ENFOS)
Mr. Ade Fagorala, San Francisco Bay Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, California 94612
Ms. Liz Sewell, ConocoPhilips (electronic copy uploaded to URS ftp server)

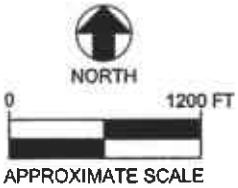
REFERENCES:

URS, 2004. *Soil and Groundwater Investigation Workplan for Former* BP Service Station # 11102, 100 MacArthur Boulevard, Oakland, CA. April 16, 2005.



REF: BASE MAP FROM USGS TOPO!
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1998

QUADRANGLE LOCATION



APPROXIMATE SCALE

URS	Project No. 38487244 Former BP Service Station #11102 100 MacArthur Boulevard Oakland, California	SITE LOCATION MAP	FIGURE 1

Apr 28, 2005 - 9:45am
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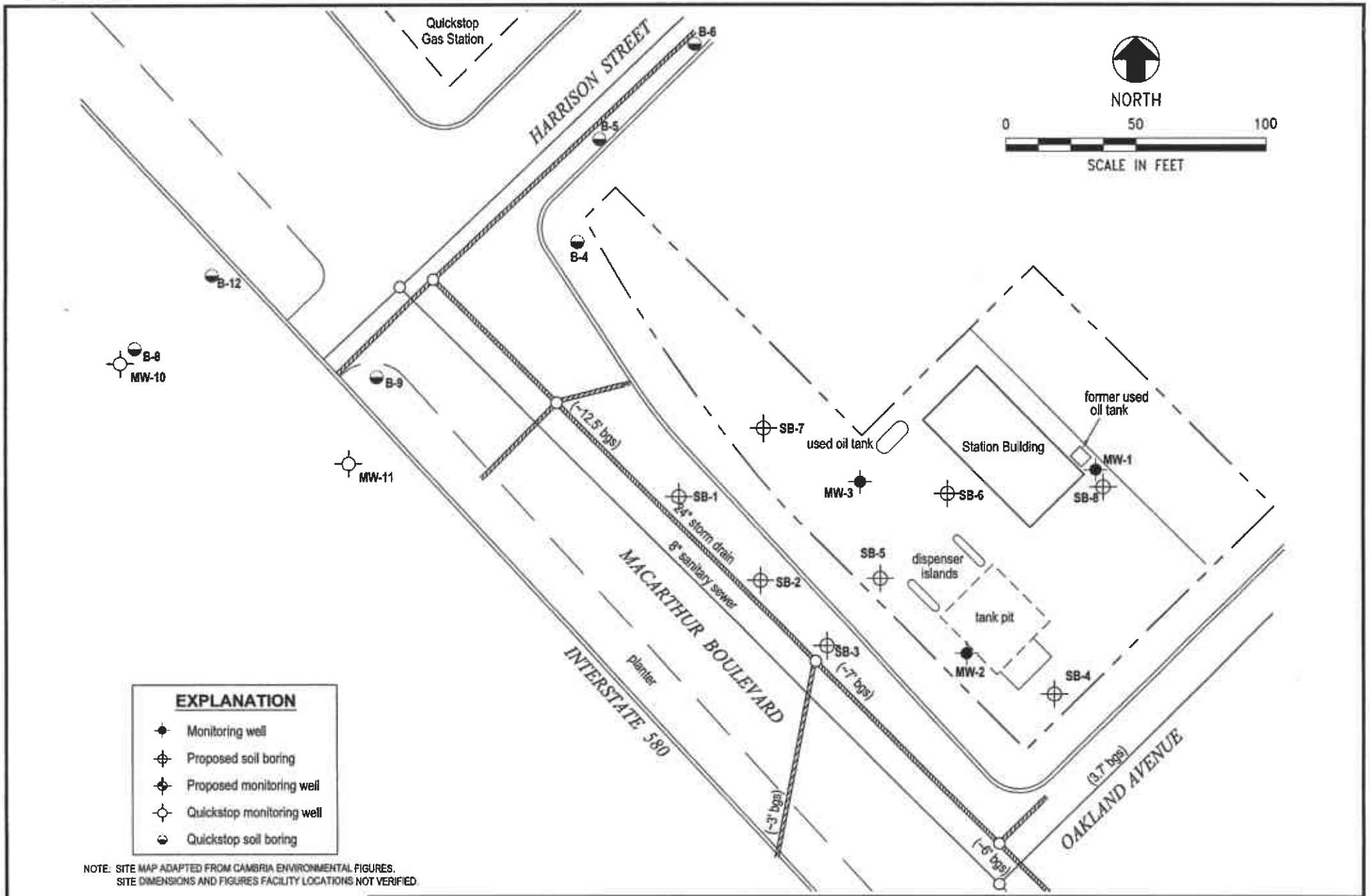

NOTE: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES.
SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.

URS	Project No. 38487244 Former BP Service Station #11102 100 MacArthur Boulevard Oakland, California	PROPOSED SOIL BORING AND WELL LOCATION MAP	FIGURE 2

ATTACHMENT A
ACHCS Letter Dated January 27, 2005

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

January 27, 2005

Kyle Christie
Atlantic Richfield Company
6 Centerpointe Drive, LPR6-161
La Palma, CA 90623-1066

Jennifer Sedlachek
ExxonMobil Refining and Supply Co.
7096 Piedmont Ave., #194
Oakland, CA 94611

Liz Sewell
ConocoPhillips
76 Broadway
Sacramento, CA 95818

Subject: Fuel Leak Case No. RO0000456, BP #11102, 100 MacArthur Blvd., Oakland, California – Workplan Approval

Dear Mr. Christie, Ms. Sedlachek, and Ms. Sewell:

Alameda County Environmental Health (ACEH) has reviewed your April 16, 2004, *Soil and Groundwater Investigation Workplan* prepared by URS Corporation, Inc., and the case file for the above-referenced site. We have also discussed the site with URS; a copy of URS' email to ACEH is attached to this letter. ACEH concurs that, based on review of groundwater data for ConocoPhillips wells MW-10 and MW-11, associated with the nearby service station at 96 MacArthur Blvd., proposed groundwater sampling locations SB-2, SB-5 and SB-6 do not appear necessary. As recommended by URS in the attached email, please revise your workplan and submit technical reports following the schedule below. In addition, we request that you address the following technical comments in your revised workplan.

TECHNICAL COMMENTS

1. Preferential Pathways

URS states that the storm drain beneath MacArthur Blvd. may be submerged or partially submerged during seasonal increases in groundwater elevation. ACEH is concerned that 1) contaminated groundwater may be entering the storm drain or migrating via higher permeability backfill surrounding the storm drain, and 2) groundwater flow direction may be seasonally influenced by infiltration into the storm drain. The storm drain flows to Lake Merritt (a tidal estuary) or the San Francisco Bay. Please propose tasks to evaluate this potential risk in the revised workplan requested below.

2. Delineation of Source Area Contamination

In accordance with 23 CCR 2725(a), we require that you define the likely vertical extent of contamination. As a preliminary step in defining the vertical extent of source area contamination, ACEH typically recommends that soil samples be collected and analyzed from a boring within the footprint of a former UST field (or point of fuel release) to at least 10 ft below the total depth of contamination, as identified by field screening of samples. Please include tasks to vertically define the source area in the revised workplan requested below.

3. Delineation of Groundwater Plume

ACEH requires that sufficient data be collected to define the likely three-dimensional extent of your groundwater plume. Significantly, your findings relative to vertical distribution of soil contamination (Comment 2, above), need to be considered in your groundwater evaluation. ACEH requires that grab groundwater sampling be depth-discrete with a maximum screening interval of 5 ft and that monitoring wells sand pack be 5 ft thick or less. Please propose investigation tasks to fully define your groundwater plume in the revised workplan requested below.

REPORT REQUEST

Please submit your *Revised Soil and Water Investigation Workplan* by **April 27, 2005**. ACEH makes this request pursuant to California Health & Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2778 outline the responsibilities of a responsible party for an unauthorized release from an UST system, and require your compliance with this request.

Professional Certification and Conclusions/Recommendations

The California Business and Professions Code (Sections 6735 and 7835.1) requires that workplans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

Perjury Statement

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports or enforcement actions by ACEH may result in you becoming ineligible to receive cleanup cost reimbursement from the state's Underground Storage Tank Cleanup Fund (senate Bill 2004).

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested we will consider referring your case to the County District Attorney or other appropriate agency, for enforcement. California Health and Safety Code, Section 25299.76 authorizes ACEH enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

Please call me at (510) 567-6719 with any questions regarding this case.

Sincerely,

Robert W. Schultz, R.G.
Hazardous Materials Specialist

cc: Leonard Niles, URS Corporation, 500 12th St., Ste. 200, Oakland, CA 94607-4014
Donna Drogos, ACEH
Don Hwang, ACEH
Robert W. Schultz, ACEH

Schultz, Robert, Env. Health

From: Leonard_Niles@URSCorp.com
Sent: Thursday, January 27, 2005 12:14 PM
To: Schultz, Robert, Env. Health
Cc: Kyle Christie (E-mail); Robert_Horwath@URSCorp.com
Subject: Re: ro-456 - 100 MacArthur Blvd, Oakland

Bob,

The 5/3 & 7/18/03 ACEH letter references in the workplan are erroneous, they were from a different site workplan used as a template. I apologize for the error. The 7/31/01 letter is the most recent ACEH correspondence we have for this site (other than a teleconference with Don Hwang on 8/12/03); I have no record of receiving an e-mail on 3/19/04. Since we submitted the subsurface investigation workplan for this site (former BP #11102), we have obtained additional information regarding subsurface investigations performed at the adjacent Quickstop (former Tosco) service station at 66/96 MacArthur Boulevard. Numerous offsite borings have been drilled and monitoring wells installed at this site, some of which are directly downgradient of our BP site #11102 along the I-580 right-of-way and under the 1-580/Harrison Street overpass. Groundwater hydrocarbon concentrations in those wells and borings immediately downgradient of our site are very low to non-detect. We believe that this data adequately deliniates the downgradient extent of the dissolved hydrocarbon plume from the former BP #11102 site, and that no further offsite investigation is necessary. As a result of this recently discovered data, we are planning to submit an addendum to the previous workplan modifying the proposed scope of work to include only four onsite monitoring well installations, to be constructed also as potential extraction wells for future feasibility studies and remediation. One of these wells will replace current MW-1 near the waste oil tank. We will include the Quickstop data in this workplan addendum as justification for eliminating the proposed offsite borings.

We request that you postpone review of the previous workplan until the addendum is submitted, which we anticipate within 60 days. Also, our ACEH site prioritization spreadsheet is being reviewed by our client, we will request submittal to you as soon as possible.

Thank you,

Leonard P. Niles, R.G./C.H.G
Senior Geologist / Project Manager
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1333 Broadway, Suite 800
Oakland, CA 94612
Direct: 510.874.1720
Fax: 510.874.3268

"Schultz, Robert, Env. Health" <robert.schultz@acgov.org>
01/26/2005 05:34 PM

To: "Leonard Niles (E-mail)" <leonard_niles@urscorp.com>
cc: "Kyle Christie (E-mail)" <chriska@bp.com>
Subject: ro-456 - 100 MacArthur Blvd, Oakland