PES Environmental, Inc.
Engineering & Environmental Services

R 148

December 17, 2001

167.002.01.008

Greater Bay Trust Company
c/o Rory Campbell, Esq.
Hanson, Bridgett, Marcus, Vlahos & Rudy
333 Market Street, Suite 2300
San Francisco, California 94105-2173

DEC 19 2001

**ADDENDUM TO WORKPLAN
MONITORING WELL INSTALLATION,
RESUMPTION OF ENHANCED BIO-REMEDIATION, AND
RESUMPTION OF QUARTERLY SAMPLING
FORMER COX CADILLAC FACILITY
230 BAY PLACE
OAKLAND, CALIFORNIA**

Dear Mr. Campbell:

PES Environmental, Inc. (PES) presents this Addendum to the August 29, 2001 Workplan[1] for activities to be conducted at the former Cox Cadillac Facility, 230 Bay Place, Oakland, California (Site, Plate 1). This Addendum is submitted in response to a letter from Alameda County Environmental Health Services (ACEHS) dated September 19, 2001. A copy of the letter is attached to this Addendum. The Addendum has been completed on behalf of the Greater Bay Trust Company, trustee for the Robert Shepard Trust, Brian F. Shepard Trust, Douglas C. Shepard Trust, and the Lisa C. Shepard Trust, the former owners of 230 Bay Place.

This Addendum to Workplan includes the following information:. (1) proposed well installation specifications; (2) a proposed cleanup goal for total petroleum hydrocarbons as gasoline (TPHg) in groundwater; and (3) clarification of the proposed enhanced bioremediation program to be conducted at the site. Based on a telephone conversation with Mr. Don Hwang of ACEHS on November 7, 2001, it is PES' understanding that trench sampling along Bay Place is not required at this time.

WELL INSTALLATION SPECIFICATIONS

As outlined in the Workplan, one new groundwater monitoring well will be installed between existing well TW-7 and the intersection of Bay Place and Harrison Street on the western side of the site (Plate 2). The monitoring wells will be constructed with 2-inch diameter, flush

[1] *Workplan, Monitoring Well Installation, Resumption of Enhanced Bio-Remediation, and Resumption of Quarterly Sampling, Former Cox Cadillac Facility, 230 Bay Place, Oakland, California,* August 29, 2001

threaded, Schedule 40 PVC well casing and factory-slotted well screen with a flush threaded end cap. Based on the current interpretation and understanding of the hydrogeologic conditions at the site, the monitoring well will be screened from approximately 5 to 20 feet below ground surface (bgs). The final depth of screened interval will be adjusted so that the top of the screen extends at least 1 foot above the expected seasonal high groundwater level at the well location.

GROUNDWATER CLEANUP OBJECTIVES

Cleanup objectives for benzene, toluene, ethylbenzene, and total xylenes (BTEX) as well as methyl tert-butyl ether (MTBE) were presented in the Workplan based on the City of Oakland RBCA Site Specific Target Levels. The City of Oakland RBCA levels do not include cleanup guidance for TPHg. The objective of resuming enhanced bio-remediation of groundwater is to reduce the concentrations of petroleum hydrocarbons in groundwater to acceptable human health risk levels for the planned and possible future use of the site. For the case of TPHg, PES proposes adoption of remedial goals presented in the Regional Water Quality Control Board – San Francisco Bay Region (RWQCB) site cleanup requirements for the Santa Francisco International Airport (Order No. 95-136, June 23, 1995)[2]. Table 6 (Human Health Protection Zone Tier 1 Standards) of the Order presents a human health risk based cleanup standard for TPHg in groundwater of 10 milligrams per liter (mg/l). As the Oakland RBCA levels are also based on human health related risks in a commercial/industrial setting, the cleanup guideline of 10 mg/l for TPHg is proposed as the cleanup guideline for the subject site.

EXPANDED ENHANCED BIO-REMEDIATION PROGRAM

An evaluation of in-situ remediation of groundwater through applying a combination of bio-remediation methods was conducted for one year between January 1999 and January 2000. The methods included adding water enriched with nutrients (nitrogen and phosphorus) and hydrogen peroxide directly into the site wells to enhance natural biodegradation rates of petroleum hydrocarbons in groundwater. The enhanced bioremediation program proved effective in reducing the concentrations of petroleum hydrocarbons in groundwater on site at the locations of wells MW-1 and TW-6, but not effective at offsite wells MW-2 and TW-7 (Plate 2). PES believes this may have been due to a low number of hydrocarbon-degrading bacteria in groundwater in the vicinity of wells MW-2 and TW-7.

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[2] *Revised Site Cleanup Requirements for: City and County of San Francisco and San Francisco International Airport Tenants for the property at San Francisco International Airport, San Mateo County, Order No. 95-136,* June 23, 1995

PES proposes to expand the enhanced bioremediation program at the site by augmenting the current bacterial population. The bacterial augmentation will be conducted by introducing a culture of hydrocarbon-degrading bacteria into groundwater at wells MW-2 and TW-7. The culture will be introduced *in addition* to water enriched with nitrogen and phosphorous nutrients and hydrogen peroxide. The previous enhanced bioremediation program did not include the introduction of hydrocarbon-degrading bacteria to groundwater. As stated in the Workplan, groundwater samples will be collected and submitted for several biological analyses, and based on the results of these analyses, a microbiologist will recommend an appropriate bacterial batch culture for introduction to groundwater. The bacterial batch culture will be prepared and introduced as presented in the Workplan.

We trust this Addendum provides Greater Bay Trust Company and Alameda County Environmental Health Services with the information required at this time. If you have any questions or require additional information, please contact either of the undersigned.

Very truly yours,

PES ENVIRONMENTAL, INC.

François A. Bush
Senior Geologist

Robert S. Creps, P.E.
Principal Engineer

Attachments: Plate 1 - Site Location Map
Plate 2 - Site Plan and Well Location Map
ACEHS Letter dated September 19, 2001

cc: Ms. Cheryl Howell - Greater Bay Trust Company
Mr. Don Hwang - Alameda County Environmental Health Services
Mr. Mark Owens - California UST Cleanup Fund
Ms. Lita Freeman, LFR

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
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September 19, 2001

Greater Bay Trust Co.
C/o Leah S. Goldberg, Esq.
Hanson, Bridgett, Marcus, Vlahos & Rudy
333 Market St., Suite 2300
San Francisco, CA 94105-2173

Dear Ms. Goldberg:

Subject: Former Cox Cadillac, 230 Bay Pl., Oakland, CA
RO0000148

"Workplan, Monitoring Well Installation, Resumption of Enhanced Bio-Remediation, and Resumption of Quarterly Sampling" dated August 29, 2001" by PES Environmental, Inc., was reviewed. 1) We concur with the procedures for continued groundwater monitoring using the existing wells. 2) The installation of an offsite well between TW-7 and the intersection of Bay Place and Harrison Street to provide additional hydrogeologic data to assess the lateral extent of the hydrocarbon affected groundwater was proposed. However, the well construction specifications were incomplete. Include screen length and interval, depth interval, bottom cap or plug, etc. 3) The City of Oakland Risk-Based Corrective Action (RBCA) Tier 2 Site Specific Target Levels does not include Total Petroleum Hydrocarbons-Gasoline (TPH-G). TPH-G concentrations also need to be evaluated for human health and environmental risks using accepted risk assessment thresholds. 4) Bio-remediation of groundwater using cultured bacteria and periodic introduction of enriched water followed with Oxygen Releasing Compound (ORC) was proposed. Previously, bio-remediation using enriched water and ORC was tried at monitoring wells MW-2 and TW-7 but the groundwater contaminant concentrations did not decrease and the concentrations have in fact increased in MW-2 since the introduction of enriched water in March 1999. Provide documentation which demonstrates that this approach could be feasible. 5) Sampling of the trenches is required to indicate if the trenches are intercepting the onsite plume or are being used as pathways for an offsite source.

Please provide an addendum to the workplan that will address the above concerns. If you have any questions, I may be reached at (510) 567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist

C: Francois Bush, Andy Briefer, PES Environmental, Inc., 1682 Novato Blvd., Suite 100, Novato, CA 94947-7021

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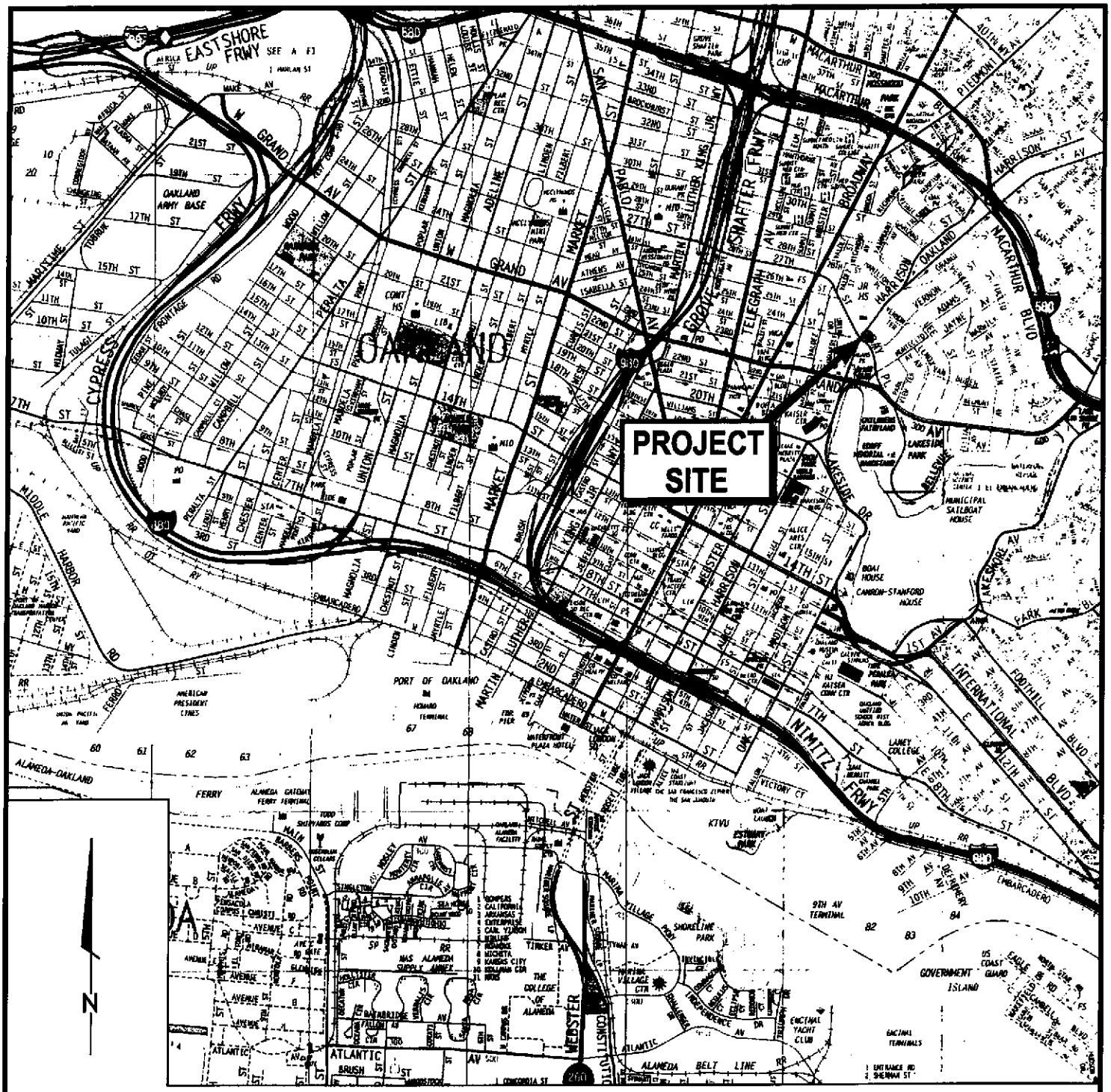

Ref: "The Thomas Guide- Alameda/Contra Costa Counties Street Guide and Directory" 1998 Edition

PES Environmental, Inc.
Engineering & Environmental Services

Site Location Map
Former Cox Cadillac-230 Bay Place
Oakland, California

PLATE
1

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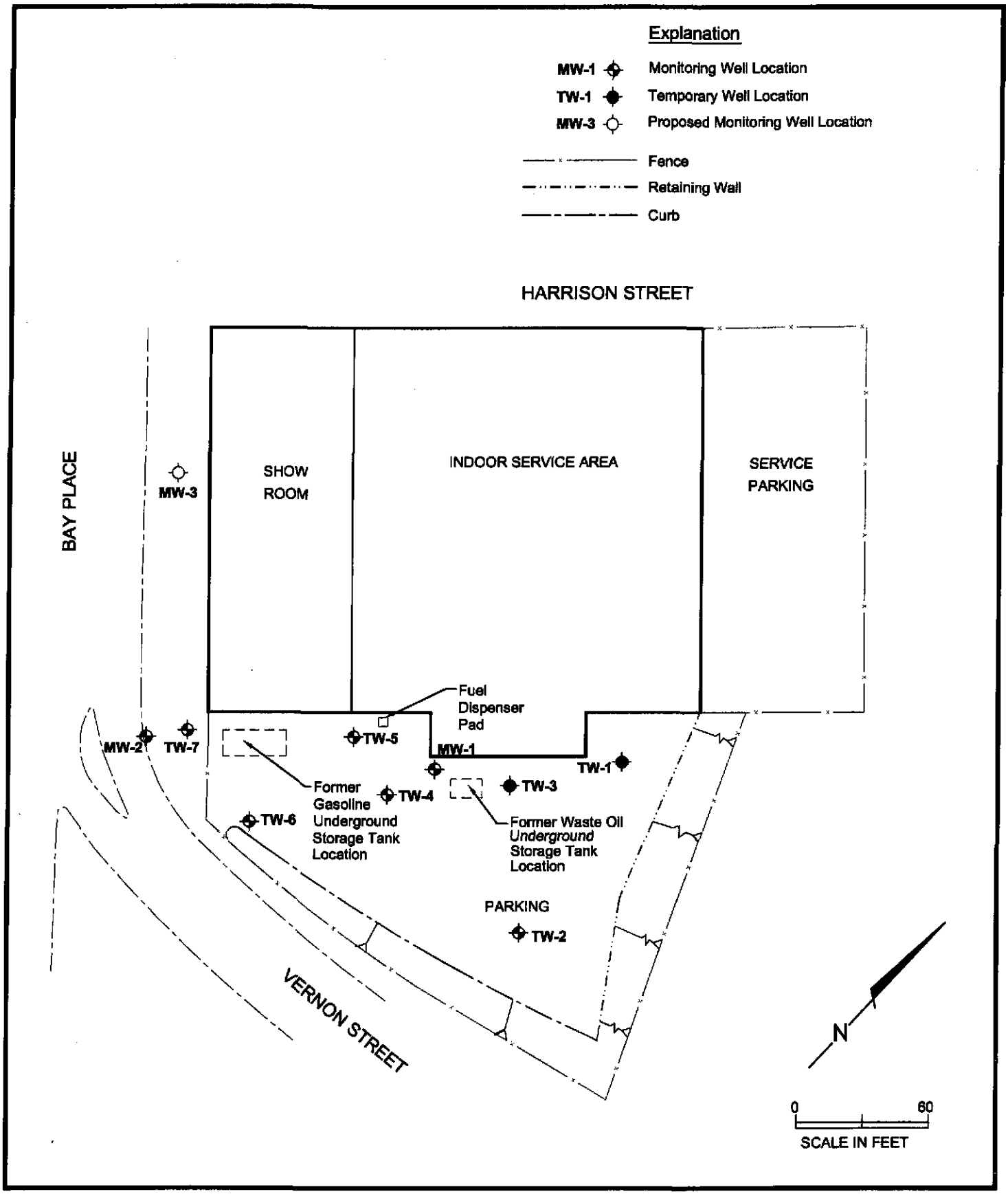

PES Environmental, Inc.
Engineering & Environmental Services

Site Plan and Proposed Well Location
Former Cox Cadillac-230 Bay Place
Oakland, California

PLATE 2

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