

16 December 2009  
Project 4954.01

Mr. Mark Detterman  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Subject: Groundwater Investigation Work Plan Addendum  
Emeryville Industrial Court  
5885 Hollis Street  
Emeryville, California

Dear Mr. Detterman:

Treadwell & Rollo, Inc. (Treadwell & Rollo), on behalf of Wareham Development, has prepared this letter to act as an addendum to our *Groundwater Investigation Work Plan* (Work Plan) dated 26 August 2009 which presents the scope of work and methodology for conducting groundwater sampling at 5885 Hollis Street in Emeryville, California (Site). This addendum describes additional boring locations that will be performed to characterize the aerial and vertical extent of groundwater impacted by petroleum hydrocarbons in the southwestern portion of the Site.

This investigation was requested by Alameda County Environmental Health (ACEH) in a letter dated 18 June 2009. This scope was also discussed and verbally approved by Mark Detterman of ACEH in a telephone conversation on 11 December 2009.

## **BACKGROUND**

The Site comprises the northern three-quarters of the block bounded by 59<sup>th</sup> Street to the north, Hollis Street to the east, and Peladeau Street to the west. In the southern one-quarter of the block, the Site adjoins the Conoco-Philips station and some commercial storefronts. The Conoco-Philips station is bounded by Powell Street to the south.

The Site was operated by the Union Oil Company of California as an above-ground bulk oil facility until 1964. The Site was then operated as an industrial park with an underground fuel storage tank (UST) until it was redeveloped into the current office building. Numerous chemicals were used and stored on the Site during these previous operations. During redevelopment activities, soils at the Site were excavated to a depth of 12 to 15 feet below the ground surface (bgs).

Numerous environmental investigations and remedial activities have occurred at the Site since 1985 including Phase I environmental site assessments, soil over-excavation and removal, UST removal, several rounds of soil and groundwater investigation, and implementation of an approved soil management plan (SMP) during redevelopment activities. ACEH approved the completion of the SMP in a letter dated 22 January 2007.

The Conoco-Philips (CP) station on the southern adjacent property is under investigation for potential releases of petroleum hydrocarbons to soil and groundwater. Treadwell & Rollo reviewed the results of CP's *Report of CPT Delineation of Fuel Hydrocarbon Affected Soil and Groundwater* dated 24 August 2009. The additional boring locations proposed in this addendum are based on the results of the investigation at the neighboring property.

## **ADDITIONAL INVESTIGATION ACTIVITIES**

This section presents a description of the field procedures to be used during the investigation. Selected subcontractors will assist with this work. A Treadwell & Rollo geologist or engineer will be present to coordinate on-site access, direct field work, record and interpret Site conditions, conduct health and safety monitoring of organic vapors, and provide technical assistance as required.

### **Pre-field Activities**

Prior to conducting field work, soil boring permits will be obtained from the Alameda County Public Works Agency. An encroachment permit will be obtained from the City of Emeryville. Underground Service Alert will be called to mark the location of underground utilities in the vicinity of the borings a minimum of 48 hours prior to initiating field activities. A private utility locator will be retained to identify subsurface utilities at the Site.

### **Subsurface Sampling and Analysis**

Treadwell & Rollo will advance five additional exploratory borings (TRCPT-3 through TRCPT-7) for the purpose of characterizing the aerial and vertical extent of petroleum hydrocarbons in groundwater. The proposed groundwater sampling locations are shown in Figure 1.

The four borings located in Peladeau Street (TRCPT-4, TRCPT-5, TRCPT-6, and TRCPT-7) will be advanced to a depth of approximately 20 feet bgs. One boring (TRCPT-3) will be advanced to a depth of approximately 50 feet bgs. All borings will be performed using a CPT rig. The CPT rig will first advance a CPT piezo cone for classification of soils and to identify appropriate water bearing zones for sampling. Once a zone has been identified, the rig will be moved approximately 1 foot laterally to advance the sampler to the desired depth. Groundwater samples will be collected using a depth-discrete hydropunch sampler with 3 feet of screen. If multiple groundwater samples are required from a single location, each depth-discreet sample will be collected from a separate boring to minimize cross contamination. Groundwater samples will be collected using a disposable bailer. Groundwater samples will be decanted into appropriately preserved containers and placed on ice for shipment to a California-certified analytical laboratory under appropriate chain-of-custody protocol. All sampling equipment will be thoroughly cleaned with a detergent solution and rinsed with distilled water before each sampling event to prevent cross-contamination. A tremie pipe will be used to grout each hole upon completion.

Groundwater samples will be analyzed for the following:

- Total petroleum hydrocarbons as gasoline by EPA method 8015
- Total petroleum hydrocarbons as diesel by EPA method 8015
- Total petroleum hydrocarbons as motor oil by EPA method 8015
- Volatile organic compounds by EPA method 8260.

### **Waste Containment**

If necessary, waste generated by the sampling activities will temporarily be stored on-Site in sealed 5-gallon buckets for subsequent testing and proper disposal at an appropriate off-site disposal facility.



Mr. Mark Detterman  
Alameda County Environmental Health  
16 December 2009  
Page 3

**Data Evaluation and Reporting**


At the completion of the field work, the data from the work described in the work plan and addendum will be reviewed and Site conditions will be summarized in a written report. The investigation results will be presented in the report using figures, tables, and CPT logs to describe Site conditions. Data summary tables will present detected concentrations of analytes in groundwater. Treadwell & Rollo will provide recommendations based on the appropriate commercial/industrial environmental screening levels where groundwater is not a source of drinking water. Based on the analytical results, Treadwell & Rollo will recommend closure of these Site-related issues or additional Site characterization. Data obtained from the additional field work summarized in this Work Plan Addendum will be shared with ConocoPhillips who is performing investigations at the adjacent property (1400 Powell Street)

**SCHEDULE**

It is anticipated that the investigation and laboratory analysis will be completed within approximately 3 weeks of regulatory approval. The schedule assumes that the regulatory approvals, subcontractor availability, weather, and investigation results cause no delays to the schedule.

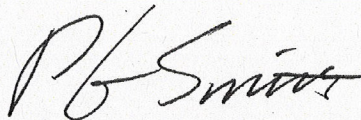
We look forward to continuing working with you on this project. If you have any questions or require additional information, please call Matthew Hall at 415-955-9040 x267.

Sincerely yours,  
TREADWELL & ROLLO, INC.

  
Matthew B. Hall, PE  
Senior Project Engineer

49540101.PGS





Philip G. Smith, REA II  
Vice President

cc: Mr. Geoff Sears, Wareham Development Corporation, San Rafael CA

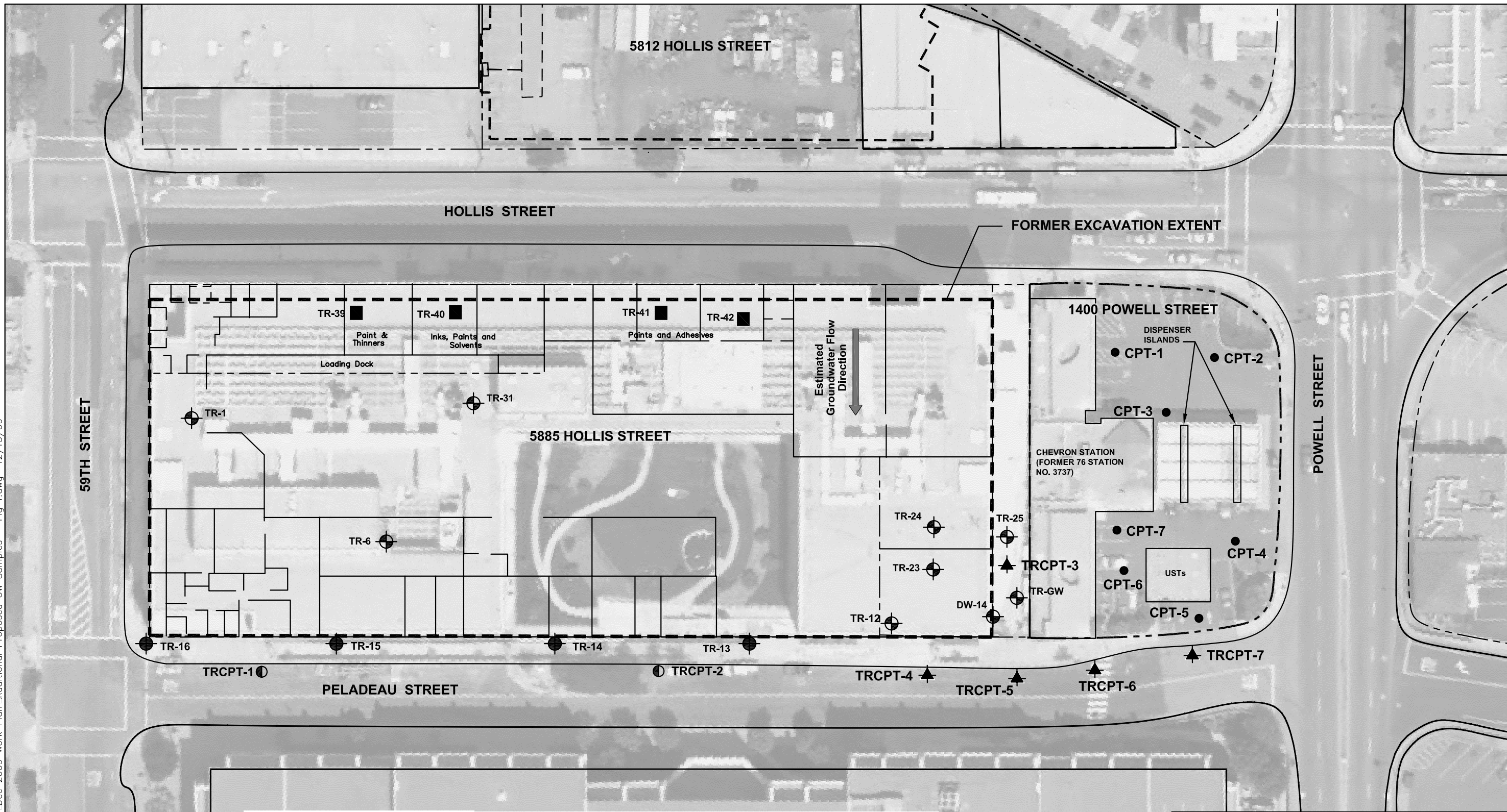
Attachment: Figure 1



**FIGURE**

S:\Trgraphics-Oak\4900's\4954\01\Dec\_2009\Work Plan\Additional Proposed GW Samples - Fig 1.dwg 12/15/09

Basemap: Google Earth 2009.



<b>EXPLANATION</b>	
■ Soil sample from area of requested VOC characterization	▲ Proposed additional CPT and grab groundwater location for dissolved petroleum hydrocarbon delineation
● Soil sample in area of residual benzo(a)pyrene in soil	● CPT locations by Delta, 2009
⊙ Historic Treadwell & Rollo groundwater sample location	
○ Proposed groundwater sampling location for VOC's & PAH's from 26 August 2009 Work Plan	

0 50 Feet  
Approximate scale

<b>5885 HOLLIS STREET</b> Emeryville, California		
<b>ADDITIONAL PROPOSED GROUNDWATER SAMPLE LOCATIONS</b>		
Date 12/15/09	Project No. 4954.01	Figure 1
<b>Treadwell &amp; Rollo</b>		