

November 20, 2017

**RECEIVED**

By Alameda County Environmental Health 10:04 am, Nov 21, 2017

Mr. Mark E. Detterman, PG, CEG  
Environmental Protection  
Alameda County Health Care Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Subject: Fuel Leak Case No. R0000320, Former Paco Pumps, Inc., 9201 San Leandro Street, Oakland, CA

Dear Mr. Detterman:

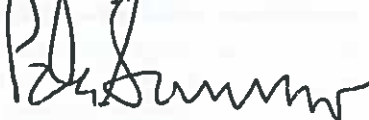
Please find enclosed the *Third Quarter, 2017 Groundwater Monitoring Report (Report)* for the Former Paco Pumps facility located at 9201 San Leandro in Oakland, California (the Site).

Results from this groundwater monitoring event indicate that groundwater affected by petroleum hydrocarbons and related compounds remain on Site at concentrations that pose a very low risk to human health and the environment.

If you have any questions during your review of the Report, please feel free to contact Jacob Wilcox, [jacob.wilcox@apexc.com](mailto:jacob.wilcox@apexc.com) or 925-951-6387.

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's Geotracker website.

Sincerely,



Peter Serrurier  
Precision Castparts Corp.

**Work Plan – Paco Pumps**  
Former Paco Pump Site



November 6, 2017

Mr. Mark Detterman  
Alameda County Health Agency  
1131 Harbor Bay Parkway, #250  
Alameda, CA 94502

RE: Former Paco Pump Site, 9201 San Leandro Street, Oakland, CA  
Case #: RO 000320

Dear Mr. Detterman,

Thank you for meeting with us on April 15, 2016 regarding the former Paco Pump site.

This work plan and summary presents the issues discussed at the meeting and our understanding of the resolution of said issues. This work plan also is meant to address your April 19, 2017 letter. Figure 2 presents the location of each area discussed.

**1. Area 5 - Vicinity of well MW-4 in eastern building**

Issues: Elevated hydrocarbon concentrations in soil gas in former soil vapor sampling point SV6; potential former UST near northeast corner of former building and dissolved hydrocarbon concentration in well MW-4.

Proposed Tasks:

- Resampling of soil gas probes SV-6, SV-7, SV-8;
  - Soil vapor sampling will be in accordance with the 2015 DTSC Soil Vapor Guidance Document. This includes:
    - A laboratory cleaned manifold and helium shroud will be placed over the soil vapor point;
    - Three soil vapor point volumes will be purged from each soil vapor point with a dedicate purge canister;
    - The shroud will be filled to at least 20% helium;
    - Three soil vapor point volumes will be purged.
    - The samples will be collected in a 1.4L, batch certified summa canister;
    - The sample will be analyzed by EPA method TO-15, TO-3 and for helium.

- One ambient control air sample will be taken with an eight-hour flow controller, during the resample of soil vapor probes. The location of this sample is presented on figure 1. This sample will be analysed by EPA methods TO-15 and TO-3.
  - All air samples will be transported under chain-of custody control to a local laboratory.
- Collection of two indoor air samples in the eastern building, including one location near SV-6. These samples will be collected in accordance with the DTSC guidance. They will be collected from approximate breathing zone height during the soil vapor sampling process. An additional out-door air sample will be taken for comparison. All indoor and out-door samples will be collected with an 8-hour flow controller in accordance with the 2011 DTSC soil vapor guidance document. Indoor air locations are presented in figure 2.
  - The outdoor air sample will be collected in a location consistent with the 2011 DTSC guidance document. The location of the outdoor air sample is presented on figure 2. The location will be up wind during the time of sample collection.
- Collection of three grab groundwater samples aligned in a north-south transect between MW-4 and the western edge of the eastern building.
  - This includes logging borings per the USCS, and collecting one groundwater grab sample per boring.
  - Grab groundwater samples will be collected by advancing a macro-core direct push rod to a maximum depth of 20 feet; actual depth and screened interval will be determined by a field geologist. A 3/4-inch temporary well casing and screen will be placed in the boring. A groundwater sample will be collected with a disposable bailer or a peristaltic pump with disposable tubing. Temporary well screens will be placed in a manner consistent with MW-4.
  - Grab groundwater samples will be analyzed for volatile organic compounds and total petroleum hydrocarbons as diesel and gasoline. Volatile organic compounds and total petroleum hydrocarbons as gasoline will be analyzed by EPA method 8260B and total petroleum hydrocarbons as diesel will be analyzed by EPA method 8015M.
  - Boring work will be permitted by Alameda County Department of Public works. Borings will be backfilled via tremie pipe with neat cement grout and capped to match the surrounding ground surface, as required by the Alameda County Department of Public Works.

These tasks are designed to address potential vapor intrusion concerns and potential dissolved hydrocarbons in groundwater in the western part of the eastern building.

## **2. Area 4 – Formerly Suspected UST Area, vicinity of wells MW-3**

In November of 2016, Apex-SGI contracted with Subdynamic Locating Services, Inc. to perform a geophysical survey. Areas of the survey are presented in figure 2. The survey was conducted to locate and verify the presence of UST(s) within Area 4. Ground Penetrating Radar (GPR), metal detection, and line locating techniques were employed to establish the location of UST(s). No GPR signatures consistent with UST presence or backfill were found. Two small GRP anomalies were detected in the

southern sweep area. These were thought to be remnants of USTs or some other type of subsurface anomaly detected by GPR and metal detection. These areas were potholed in February of 2017 to confirm or deny UST presence, these locations are presented on figure 2 as pothole locations.

An attempt to find monitoring wells MW-3 and E-8 was also made at the time of the geophysical survey. Wells MW-3 and E-8 were not found during the geophysical survey, and therefore, will need to be replaced.

In February of 2017, Apex-SGI contracted with Cornerstone Environmental Contractors of Concord, California to pothole two potholes in order to confirm the lack of UST presence. Potholes were no more than 4 feet deep. Soils were found to be similar to that of native with various buried debris. Slight visual staining was visible in soil. There were no olfactory signs of contamination in these potholes. No UST(s) were found, nor was there evidence of UST backfill (pea-gravel or otherwise) in these potholes. Potholes were backfilled with clean fill. Wastes from these potholes was stockpiled, covered and analyzed and subsequently found to be non-hazardous waste. Photo documentation is presented in the attached photo log.

Issues: Residual petroleum hydrocarbon groundwater and soil concentrations and potential vapor intrusion at the south end of western building.

#### Proposed Tasks:

- Replacement of former monitoring wells MW-3 and E-8.
  - New wells will be installed in accordance with the Alameda County Department of public works. These wells will be installed as close to the former well location as possible, with matching construction details.
- Indoor air testing from two locations in the western building.
  - Indoor air sampling locations are presented in figure 2. These samples will be collected in the same manner described above, during the time that the balance of the above air samples are collected.
- Install additional downgradient well (proposed well MW-13; discussed in point number 5 below);
- If the new downgradient well is significantly contaminated and indoor air testing fails, then excavate and dispose contaminated soil to groundwater near MW-3/Formal UST, backfilling with clean fill to remove accessible secondary source of hydrocarbons.

### **3. Area 4 – Vicinity of Wells E-3, E-5, E-2, E-6, Southern End of Western Building**

Issue: Elevated dissolved TPH-motor oil detected during previous groundwater monitoring events.

#### Comments:

- Potential vapor intrusion;
- The TPH-motor oil concentration in well E-3 (590,000 µg/l) decreases very rapidly downgradient to well E-5 (11,000 µg/l) (located about 12 feet to the west), and decreases again downgradient to wells E-2 (720 µg/L) and E-6 (750 µg/l), each located another 15 feet.

- west. Concentrations at boundary sentinel monitoring wells MW-9 (non-detect at <300 µg/L) and MW-10 (1,300 µg/l) located another 65 to 75 feet downgradient, respectively, are both estimated values below the laboratory reporting limit. This steep decrease indicates a rapid lateral attenuation with no significant risk of off-site impact;
- Soil concentrations of hydrocarbons reported during drilling of wells E-2, E-3, E-5, and E-6 indicate a possible source remaining in the area.
- If a source of TPH-motor oil is/was located in the vicinity of well E-6, it likely predates the building construction (pre-1946, per aerial photos), confirming the limited migration of hydrocarbons over a more than 70-year period.
- 

Proposed Tasks:

- No additional subsurface investigation;
- Collection of two indoor air samples to evaluate vapor intrusion risk in the western building.

#### 4. **Area 2 Soil**

Issue: Soil samples taken in the vicinity of wells MW-10 and MW-11 in September 2014 contained PCBs above the ESL for commercial/industrial worker of 1.0 mg/kg.

Proposed Tasks:

- Sampling of soil in a grid pattern (up to six borings) in the alley between the fence and building, encompassing the area approximately between MW-10 to MW-5, ranging in depth from one (1)-foot bgs to the top of groundwater at approximately six (6) to nine (9) feet bgs. Total depth would be dependent upon the groundwater depth at the time of sampling.
- Evaluate the volume of soil with PCBs greater than the San Francisco Regional Water Quality Control Board (SF RWQCB) environmental screening level (ESL) for commercial/industrial worker exposure of 1.0 mg/kg. Based on the findings, we will propose either 1) full soil excavation, or 2) shallow soil excavation and a deed restriction for deeper soil.

#### 5. **Area 2 – Wells MW-9, MW-12**

Issue: Potential data gap between groundwater migration sentinel wells MW-9 and MW-12.

Proposed Task:

- Install a new well (MW-13) mid-point between MW-9 and MW-12 to fill the gap.
  - Take soil samples every five feet for TPH-d and TPH-mo analysis.
  - Develop well in a timely manner, so that it may be incorporated in to the next groundwater sampling event.

#### 6. **Area of Former Oil Soil, SW corner**

Issue: Surface staining of soil in the eastern portion of Area 2 was noted by ACEH in 2014. Subsequently, the stained soil was removed by the current owner; SGI was not part of the removal, but in September 2014, SGI performed sampling in the area where staining had previously been noted, finding TPHd and TPHmo in samples taken from one (1) and two-and-a-half (2.5) feet below ground surface (bgs), all at levels below the applicable RWQCB ESL. Concentrations were highest in the shallow samples, decreasing with depth.

Proposed Tasks:

- None.

**7. Deed Restriction and Soil Management Plan**

A deed restriction limiting certain types of land uses and preparation of an accompanying Soil Management Plan will be prepared for the Site encompassing known environmental issues.

**Semi-Annual Groundwater Monitoring and Sampling**

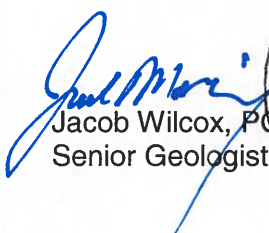
Though not discussed directly at the meeting, semi-annual groundwater monitoring will continue for at least one more event. The next event is scheduled for the 3<sup>rd</sup> Quarter, 2017.

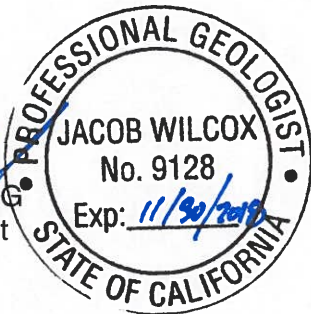
**Summary**

We believe the list of issues/concerns and proposed tasks are in line with our discussion on April 15, 2016, and that the proposed tasks will bring site conditions to a no-further-action status.

Upon agreement with the above, we expect to complete the repair of damaged wells and installation of new monitoring well MW-13 will proceed almost immediately so they can be incorporated into the next semi-annual monitoring event.

Sincerely,  
The Source Group, Inc., a division of Apex Companies, LLC,

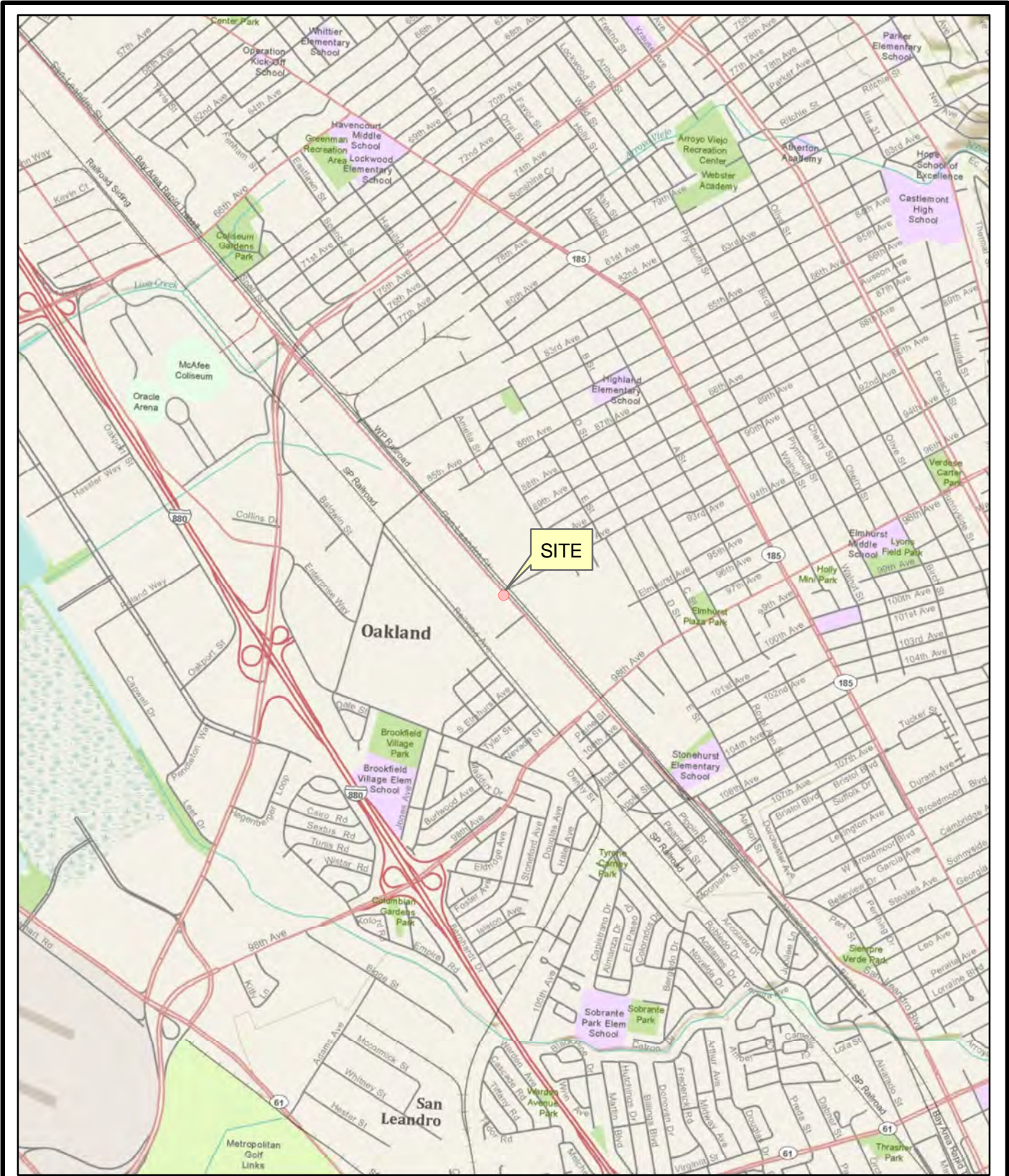
  
Jacob Wilcox, PG  
Senior Geologist




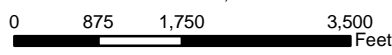

**Attachments:**

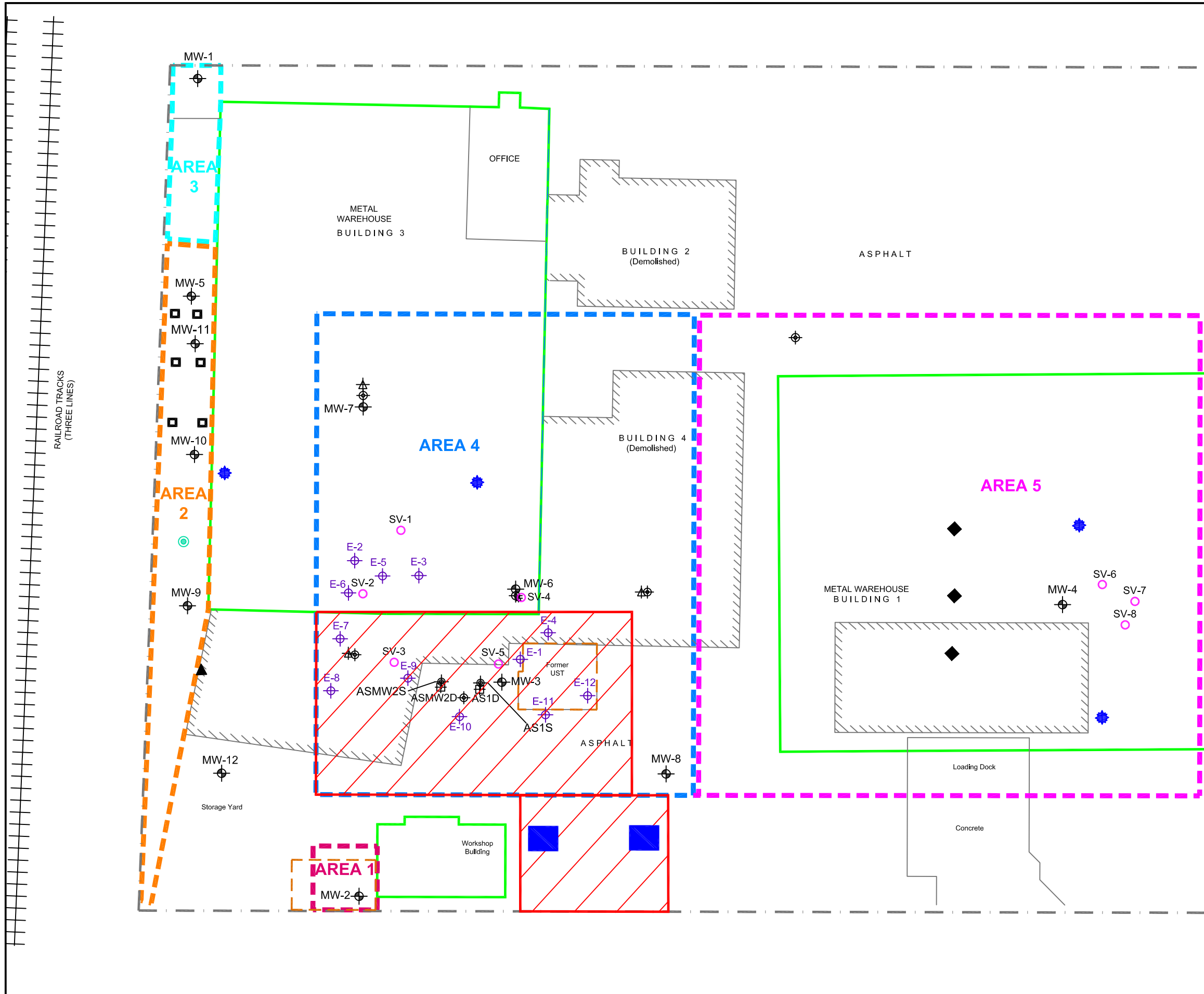
Figure 1 – Vicinity Map  
Figure 2- Site Plan

Photo log: Geophysical Survey and Pothole Photos



SOURCE: 7.5 MINUTE USGS TOPOGRAPHIC MAP FROM ARCGIS MAP SERVICE

 <b>THE SOURCE GROUP, INC.</b> 1962 FREEMAN AVE. SIGNAL HILL, CA 90755	PROJECT NO.: 04-PFT-001	DATE: 10/14/2009	DR.BY: AC	APP.BY: SS	SCALE 1:24,000 	N  <b>FIGURE 1</b>
	<b>FORMER PACO PUMPS FACILITY</b> 9201 SAN LEANDRO STREET OAKLAND, CALIFORNIA				<b>SITE LOCATION MAP</b>	



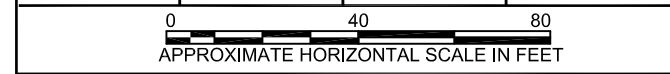
**LEGEND**

- Site Boundary
- Project Areas of Concern
- Area of Excavation
- Building Outline
- Former Buildings
- Railroad Tracks
- Deep Groundwater Air Injection or Air Injection Monitoring Well by LFR January 2009
- Shallow Groundwater Air Injection or Air Injection Monitoring Well LFR January 2009
- Groundwater Monitoring Well
- Soil Vapor Probe by SGI 2013
- Groundwater Monitoring Well by SGI 2010
- Membrane Interface Probe by LFR January 2009
- Grab Groundwater Sample Location by LFR January 2009
- Approximate Proposed Grab Groundwater Sample Locations
- Approximate Proposed PCB Exploratory Boring Locations
- Approximate Proposed MW-13 Location
- Indoor Air Samples
- Outdoor Ambient Air Sample
- UST Geophysical Search Area (approximate)
- GPR Anomaly and Pot Hole Location (not to scale)

**SITE PLAN**

FORMER PACO PUMPS SITE  
9201 SAN LEANDRO STREET  
OAKLAND, CALIFORNIA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
04-PFT-005	10/23/2017	ZA	ST



3478 BUSKIRK AVENUE, SUITE 100  
PLEASANT HILL, CA 94523

**FIGURE 2**



**Client Name:** Paco Pumps

**Project:** UST Exploration, February 15, 2017



Photograph 1: Taken Facing North East. GPR anomalies detected in this area, indicating the possible presence of a UST.



Photograph 2: Taken facing North East. Eastern pothole. No UST was found in this pothole.

**Client Name:** Paco Pumps

**Project:** UST Exploration, February 15, 2017



Photograph 3: Taken facing North East. Western pothole. No UST was found at in this pothole.



Photograph 4: Taken facing South East. Pothole area post backfill and clean up.