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By Alameda County Environmental Health 1:05 pm, Sep 12, 2017

Mr. Jeremy Harris
1919 Crew LLC
Pier 54 Suite 202
San Francisco, CA 94158

Ms. Dilan Roe
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: 1919 Market Street – Acknowledgement Statement
Oakland, California 94805
ACEH Case# RO0003205
APNs 5-410-13-1, 5-410-14, 5-410-25

Dear Ms. Roe:

1919 Crew LLC has retained the environmental consultant referenced on the attached report for the project referenced above. The attached report is being submitted on behalf of 1919 Crew LLC.

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 State Water Resources Control Board's GeoTracker website.

Sincerely,

Jeremy Harris

September 8, 2017

Mr. Jeremy Harris
1919 Crew LLC
Pier 54 Suite 202
San Francisco, CA 94158

Re: **Interim Remedial Action Plan**
1919 Market Street
Oakland, California 94607
ACDEH Site Cleanup Program RO3205

Dear Mr. Harris:

Pangea Environmental Services, Inc. (Pangea) prepared this *Interim Remedial Action Plan* (IRAP) for the subject property. This IRAP was requested during the agency meeting on August 22, 2017. The goal of the IRAP activities is to remove volatile organic source material in the northwest corner of the Site that represents a potential vapor intrusion concern to adjacent offsite properties, as well as future occupants of the proposed development. The IRAP work scope involves remedial soil excavation in the historical painting area of the Site where select volatile organic compounds (VOCs) have been detected in soil gas above regulatory screening levels. The work scope also includes procedures for mitigation of dust and odor during the interim remedial excavation.

If you have any questions or comments, please call me at (510) 435-8664 or email briddell@pangeaenv.com.

Sincerely,
Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachment: *Interim Remedial Action Plan*

INTERIM REMEDIAL ACTION PLAN

1919 Market Street
Oakland, California, 94607
ACDEH Site Cleanup Program RO3205

September 8, 2017

Prepared for:

Mr. Jeremy Harris
1919 Crew LLC
Pier 54 Suite 202
San Francisco, CA

Prepared by:

Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200
Oakland, California 94612

Written by:

Ron Scheele
Principal Geologist

Bob Clark-Riddell, P.E.
Principal Engineer

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1.0 INTRODUCTION

PANGEA Environmental Services, Inc. (PANGEA) prepared this *Interim Remedial Action Plan* (IRAP) for the subject property located at 1919 Market Street, Oakland, California (Site). This IRAP was requested during a meeting with Alameda County Department of Environmental Health (ACDEH) on August 22, 2017. The goal of the IRAP activities is to remove volatile organic source material in the northwest corner of the Site that represents a potential vapor intrusion concern to adjacent offsite properties, as well as future occupants of the proposed development. The IRAP work scope involves remedial soil excavation in the historical painting area of the Site where select volatile organic compounds (VOCs) have been detected in soil gas above regulatory screening levels. The work scope also includes procedures for mitigation of dust and odor during the interim remedial excavation. The Site background, chemical distribution, proposed interim remedial soil excavation, post-IRAP monitoring plan, and IRAP schedule are presented below.

2.0 SITE BACKGROUND

The Site consists of three parcels of land comprising 1.457 acres located on the west side of Market Street and the east side of Myrtle Street within a mixed residential and commercial area of Alameda County, in Oakland, California (Figure 1). The Site's assessor parcel numbers (APN) are: 5-410-13-1, 5-410-14, and 5-410-25. The property is owned and being redeveloped by 1919 Crew LLC into live-work units. The Site is currently developed with one 70,000 square foot building constructed in 1923 that has been partially demolished. In addition to the structure, the Site is improved with asphalt-paved parking, perimeter fencing, and associated drainage features. The subject property is bound by residential housing to the north, Market Street to the east beyond which is residential housing, St. John Missionary Baptist Church and residential housing to the south, and Myrtle Street to the west beyond which is residential housing. An aerial map showing Site features and surrounding properties is included as Figure 2.

2.1 Regulatory Cases at Site

Regulatory oversight is currently provided by the Alameda County Department of Environmental Health (ACDEH) under case #RO0003205 for Site redevelopment at 1919 Market Street. A LUST case under the name Scott Company of California for 1919 Market Street was closed in January 1999 pertaining to two former USTs located directly west of the Site beneath the sidewalk along Myrtle Street (ACDEH case# RO0002439).

2.2 Current and Historic Site Use

The Site has historically housed both residential and commercial tenants. The Site was formerly occupied by Greyhound Bus Lines and a plumbing contractor warehouse, which included onsite operations such as auto motive repair and painting. The property was formerly equipped with two 10,000-gallon underground storage

tanks (USTs), located within the sidewalk to the southwest side of the building along Myrtle Street. The USTs were reportedly used by Greyhound Bus Lines to store diesel prior to the 1960s. The Site was occupied by Scott Company starting as early as 1957, who reportedly used the southwest UST to store gasoline. A former fuel dispenser was reportedly located on the southwest portion of the property, near the corner of the subject property building. The USTs and dispenser were removed in the early 1980s at a time when Myrtle Street was being repaved. On January 22, 1999, the Site received closure via Letter of No Further Action from the ACDEH for the Leaking UST case. According to a Phase I environmental site assessment (AEI, 2014), solvents were stored near the southwest and southeast corners of the Site and refrigerant oil was stored in the northeast corner of the Site. Historical use areas are shown on Figure 2.

2.3 Development Plans

The planned redevelopment of the Site will involve conversion of the existing warehouse to live/work units with communal courtyards. A site map showing the planned Site development is included as Figure 3. The existing street side facades and portions of the building that are structurally adequate will remain, while rebuilding the middle portion of the building to current structural standards from the ground up. The entire building floor slab will be removed to allow for construction of new structural elements, infrastructure, and utilities, except within the planned stacked parking area in the northeast corner of the Site. The development plans include fill import to raise the elevation of the three depressed slab/subgrade loading areas at the Site.

2.4 Site Geology and Hydrogeology

The Site is situated within the Coast Range physiographic province of the State of California. The Coast Ranges are northwest-trending mountain ranges and narrow valleys, extending approximately 600 miles from the Oregon Border to the Santa Ynez River near Santa Barbara, sub-parallel to the Pacific coast and San Andreas Fault. Structural features including faults and synclinal folds largely control topography in the province and reflect both previous and existing regional tectonic regimes. The Coast Ranges are comprised of Mesozoic and Cenozoic aged sedimentary strata, dominated by the Franciscan Complex within the subject property vicinity.

The Site is located within the East Bay Plain subbasin, which is part of the larger Santa Clara Valley Groundwater Basin. The East Bay Plain subbasin is a northwest trending alluvial plain bounded to the north by San Pablo Bay, to the east by the contact with Franciscan Basement rock, and to the south by the Niles Cone Groundwater basin. The basin extends beneath San Francisco Bay to the west. Groundwater is generally found very near the surface throughout the basin. The East Bay Plain subbasin aquifer system consists of unconsolidated sediments of Quaternary age. The Early Holocene Temescal Formation is the most recently deposited and consists of primarily silts and clays with some gravel layers.

The relatively flat Site lies at an elevation of approximately 20 feet (ft) above mean sea level to the east of San Francisco Bay and to the north of the Oakland Inner Harbor (Figure 1). According to previous boring

logs, soil beneath the Site consists of silty sand fill underlain by silty sand, clayey sand, and sandy clay to a total depth of 25 ft bgs. Potential shallow fill material consisting of sand, gravelly sand and/or silty sand is found at approximately 0 to 4 ft bgs. The Merritt Sand formation present in West Oakland consists of silty sand, making it difficult to differentiate this potential shallow fill material from the native soil. The shallow material is underlain by silt from 4 to 10 ft bgs, silty sand or clay from 10 to 21 ft bgs, sand from 21 to 24 ft bgs and clay from 24 to 25 ft bgs. In the former loading area in the northwest corner of the building, along the perimeter of the Site, and underneath Myrtle Street, a silty sand was observed from 13 to 21 ft bgs. During previous drilling, groundwater was generally encountered at approximately 13 to 16 ft bgs and with water levels rising several ft after drilling. Groundwater appears to be under semi-confined conditions. Based on historical well monitoring data from the Site and Site vicinity, groundwater flows to the northwest.

2.5 Chemicals of Potential Concern

The chemicals of potential concern (COPC) at this Site primarily include the following chlorinated VOCs and petroleum hydrocarbons: tetrachloroethene (PCE), trichloroethene (TCE), carbon tetrachloride, chloroform, benzene, ethylbenzene, and total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd).

The following chemicals have been detected in Site media (soil, soil gas, subslab gas or groundwater) above conservative residential environmental screening levels (ESLs) established by the San Francisco Bay Region Water Quality Control Board (RWQCB): PCE, TCE, carbon tetrachloride, chloroform, benzene, ethylbenzene, and total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd). The following additional VOCs have been detected at the Site below ESLs: arsenic; 1,2-dichloroethane; naphthalene; 1,1,1-trichloroethane; toluene; xylenes; and TPH as motor oil (TPHmo).

No significant VOC impact has been detected in soil or groundwater based on data comparison to ESLs, with only limited benzene in groundwater above ESLs in the southeast corner (boring B-15). The primary impacted media of concern is soil gas and subslab gas.

2.6 Previous Site Assessment

A summary of previous environmental activities at the Site is provided below. Investigation drilling and sampling locations are shown on Figure 4.

- **November 19, 2014, Phase I Environmental Site Assessment, AEI:** A Phase I ESA revealed that the Site was formerly occupied by Greyhound Bus Lines and a plumbing contractor warehouse, which included onsite operations such as motor repair and painting. The property was formerly equipped with two 10,000-gallon USTs, located within the sidewalk to the southwest side of the building along Myrtle Street.

- **March 28, 2016, Phase II Subsurface Investigation Report, Partner Engineering & Science (Partner):** Three subslab samples (SS-3, SS-4 and SS-5) were collected on March 11, 2016. One of the subslab samples (SS-4) contained a detectable concentration of benzene which exceeded the residential Environmental Screening Level (ESL) established by the San Francisco Bay Regional Water Quality Control Board. No other VOCs were detected in excess of applicable ESLs. Based on the results of this investigation, the report concluded that there has been a release of VOCs to the subsurface in the vicinity of the former painting area.

- **May 2, 2016, Additional Subsurface Investigation Report, Partner:** Five soil borings (B-1 through B-5) were advanced to a depth of 15 to 20 feet below grade surface (ft bgs) inside the building. **S**oil, groundwater, and shallow soil gas at 5 ft bgs were sampled to identify potential concerns related to the aforementioned historical operations. No VOCs were detected in soil samples above the applicable laboratory reporting limits (RL). Tetrachloroethene (PCE) was detected in one groundwater sample (B5-GW) at a concentration less than the applicable ESL. No other VOCs were detected in groundwater exceeding laboratory RLs and/or residential ESLs. One soil gas sample (B3-SG-5) contained PCE and trichloroethene (TCE) concentrations exceeding applicable ESLs. Two soil gas samples (B2-SG-5 and B4-SG-5) contained chloroform concentrations exceeding the applicable ESL.

- **October 6, 2016, Site Assessment Report, PANGEA:** Nineteen subslab gas probes and three soil gas wells were installed and sampled to delineate VOCs beneath the building. Two soil borings were also drilled and grab groundwater samples collected to assess groundwater conditions. The extent of PCE, TCE, benzene, carbon tetrachloride and chloroform were delineated in subslab gas/soil gas beneath the building. The extent of PCE in groundwater was also delineated.

- **May 17, 2017, Preliminary Offsite Assessment Results – 2006 Myrtle Street, PANGEA:** Two soil gas probes were installed and sampled to assess potential vapor intrusion at the residence located at 2006 Myrtle Street. Additionally, an indoor air sample was collected from the basement of the residence. Soil gas samples did not detect any VOCs above residential Environmental Screening Levels (ESLs). However, two contaminants of concern, benzene and carbon tetrachloride, were detected in the indoor air sample above residential ESLs. This Perimeter/Offsite Assessment Report documents additional soil gas and indoor air testing that showed that VOC concentrations in indoor air resembled VOC concentrations in ambient air.

- **July 17, 2017, Preliminary/Offsite Assessment Report and Site Assessment Workplan, PANGEA:** Soil, groundwater, subslab gas, shallow soil gas and indoor air samples were collected to further delineate the perimeter and offsite extent of known subsurface VOCs and possible VOCs near historical Site operations/chemical use. Soil sampling results showed that the shallow fill/soil within the proposed courtyard/landscaped areas had only trace levels of hydrocarbons, low metal

concentrations, and no VOCs, SVOCs or PCBs. No significant COC impact was detected in soil or groundwater during perimeter/offsite sampling, except in the southeast corner in B-15. No VOCs were detected in the perimeter/offsite soil gas wells above applicable ESLs or LTCP criteria, except for low *chloroform* concentrations in one offsite soil gas well (SG-10) just above the conservative ESL. Only low VOC concentrations were detected in the basement air at 2006 Myrtle Street and levels appeared to be representative of ambient air conditions.

3.0 DISTRIBUTION OF COPCs

The following chemicals have been detected in Site media (soil, soil gas, subslab gas or groundwater) above conservative residential RWQCB environmental screening levels (ESLs) and are considered the primary chemicals of potential concern (COPCs): PCE, TCE, carbon tetrachloride, chloroform, benzene, ethylbenzene and total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd). Available information suggests several onsite releases from previous historical operations/storage areas are likely responsible for the VOCs and hydrocarbons discovered at the Site. PANGEA prepared a *Remedial Action Plan* (RAP) dated September 8, 2017 to address COPCs for the entire Site. For additional information about the COPC distribution at the entire Site refer to the RAP.

Available data also suggests that the following chemicals in the northwestern corner represent a potential risk to adjacent offsite properties: PCE, TCE, and benzene. The distribution of these chemicals within all media is summarized on Figures 5, 6, and 7. For additional information of COPC distribution, refer to PANGEA's *Perimeter/Offsite Assessment Report and Site Assessment Workplan* dated September 8, 2017.

4.0 INTERIM REMEDIAL SOIL EXCAVATION

The following IRAP is consistent with discussions from the ACDEH meeting on August 25, 2017. This report section provides the IRAP objective, remedial design, and implementation procedures for the proposed interim remedial soil excavation.

4.1 IRAP Objective

The specific objectives of the IRAP are to investigate, remove and initiate mitigation of volatile organic source material in the northwestern corner of the Site that represents a potential vapor intrusion concern for the adjacent properties. The IRAP target area is within the historical painting area of the subgrade loading area, which is located adjacent to the residential properties where select VOCs have been detected in select offsite media. By removing VOC source material, the interim remediation will also help safeguard future Site occupants. A remedial action plan (RAP) will be prepared separately to address potential vapor intrusion concern for future Site occupants with respect to residual VOC impact following IRAP implementation.

4.2 IRAP Work Scope

The IRAP work scope involves the following tasks:

- Soil delineation via borings to help refine the proposed excavation extent;
- Pre-profiling soil for offsite disposal to allow direct loading of excavated soil and to avoid stockpiling of soil with significant VOC impact;
- Soil excavation and confirmation soil sampling;
- Excavation sloping, benching and/or slot trenching (excavation pit design);
- Backfill and compaction;
- Air and dust monitoring; and
- Post-IRAP soil gas monitoring.

4.3 Interim Remedial Soil Excavation Plan

The VOCs that represent a potential *offsite* vapor intrusion concern due to subslab gas/soil gas impact are illustrated on Figures 5, 6, and 7. These figures show the following COPCs in this area of the Site: PCE, TCE, and benzene. Figure 8 shows the proposed initial lateral extent of the interim remedial soil excavation. Figure 9 presents a cross-section illustration of the proposed initial soil excavation extent with respect to subsurface conditions. The extent of the initial soil excavation is subject to change based on the results from delineation soil borings that are to be drilled prior to excavation as described below in Section 4.4.

The proposed initial remedial soil excavation will be approximately 15 ft long, 15 ft wide and 7 ft deep for the removal of approximately 60 bank cubic yards (BCY) of soil. This is equivalent to approximately 100 tons of soil assuming 1.7 tons/BCY. The excavation extent may be reduced or expanded based on the laboratory results from proposed soil delineation borings, as well as field screening and laboratory analytical data obtained during soil excavation. The estimated maximum extent of the excavation based on geotechnical limitations is also shown on Figure 8.

Note that the interim remedial soil excavation is not designed to target chloroform in soil gas that was detected slightly above the ESL in boring B-2. Chloroform was not detected in soil or groundwater at location B-2 within the northwest IRAP area. Low chloroform concentrations are commonly detected in soil gas as a result of the chemical breakdown of chlorinated tap water. Chloroform has been detected slightly above soil gas ESLs at a few apparent isolated locations near former or existing water service. In addition to soil gas well B-2, chloroform slightly above residential ESLs have been detected at soil gas location B-4 in the north central area of the Site and in soil gas well SG-10 located west of the Site along Myrtle Street.

4.4 Delineation of Impacted Soil and Soil Profiling

Four proposed soil borings within the northwest loading area will further delineate the extent of impacted soil and refine the proposed excavation limits. The proposed initial excavation extent and estimated maximum excavation extent are shown on Figure 8. To delineate impacted soil, soil samples will be collected at approximate 2.5 ft intervals to a total boring depth of approximately 10 ft bgs. The actual depth of each boring may be adjusted in the field based on visual observations and VOC field screening using a portable, RAE Systems MiniRAE 3000, photo-ionization detector (PID). If impacted soil is detected above soil ESLs, up to four additional step-out soil borings will be drilled to further delineate the extent of impacted soil as shown on Figure 8. Soil sample analysis for delineation from each boring will be based on PID readings. Soil samples will be collected using EPA Method 5035 (e.g., TerraCore™) and analyzed for VOCs analysis by EPA Method 8260 using at a California-certified laboratory.

Soil samples will also be collected from the proposed soil borings to profile the soil for disposal. Obtaining acceptance of impacted soil at a soil accepting facility prior to excavation will enable the excavated soil to be direct loaded for offsite disposal and avoid stockpiling of soil with potentially significant VOC impact. Soil samples for profiling will be analyzed for various constituents as required by the soil accepting facility. For non-VOC analyses, soil samples will be collected in stainless steel tubes, glass jars, or acetate sleeves. PANGEA's standard operating procedures for soil sampling are presented in Appendix A.

4.5 Excavation Preparation, Permitting and Notification

Soil excavation will be performed by an appropriately licensed contractor. Prior to initiating field activities, the following tasks will be conducted:

- Obtain authorization from ACDEH and permits from the Oakland, as necessary.
- Pre-mark the excavation area with white paint and notify Underground Service Alert (USA) of the excavation activities at least 48 hours before work begins;
- Prepare a Site-specific health and safety plan to educate personnel and minimize their exposure to potential hazards related to Site activities;
- Coordinate with excavation and laboratory contractors and with involved parties;
- Install and maintain perimeter barriers throughout excavation and backfilling activities; and
- Follow soil handing and dust mitigation and monitoring procedures described below.

Soil excavation will be conducted consistent to prior approved plans and grading/construction permits.

4.6 Soil Excavation, Screening and Confirmation Soil Sampling

The most elevated VOC impact in soil gas is located near the center of the former subgrade loading/painting area in the northwest corner of the Site. The initial excavation extent will be direct loaded for offsite disposal. During excavation for offsite disposal, PANGEA will screen soil for field indication of VOC impact to further confirm and characterize the apparent source area of VOCs. In addition to visual indicators, PANGEA will use a PID to screen soil for VOCs.

Field staff/technicians will screen soil with a PID in numerous manners. As soil is excavated and loaded for offsite disposal, technicians will screen soil within the excavator bucket and/or within newly exposed soil (if excavation cavity entry complies with OSHA requirements). Soil will also be placed in a plastic bag for screening. Due to the expected silt and clay composition of Site soil, technicians will loosen soil within the bag while screening for VOCs with the PID. Visual observations may also assist with screening.

After excavation of the planned excavation based on the pre-excavation delineation borings, additional excavation may be conducted if PID readings or lab data indicate additional VOC source in soil. Any soil with a PID reading of 0.1 parts per million per volume (ppmv) or greater will be a candidate for additional soil excavation. Therefore, the excavation may be expanded laterally and vertically based on the field indications and PID readings.

This section describes the soil screening provided by PID monitoring. While empirically 0.1 ppmv PCE equals 680 µg/m^3, a PID reading of 0.1 ppmv correlates to a PCE soil gas concentration of approximately 390 µg/m^3 based on the PID response factor of 0.57 provided by equipment manufacturer RAE Systems. This 0.1 ppmv PID reading is roughly equivalent to 1.5 times the residential soil gas ESL for PCE of 240 µg/m^3. A similar methodology can be used to evaluate PID screening provided for TCE and benzene. The screening provided by the PID with respect to the Tier 1 ESL for each target COPC of the IRAP is summarized below in Table A.

Table A – Rationale for PID Screening Level

Chemical	Empirical Concentration for 1.0 PPMV	PID Response Factor	PID Equivalence for 1.0 PPMV	PID Equivalence for 0.1 PPMV	Tier 1 ESL	0.1 PPMV PID versus ESL
PCE	6,800 µg/m^3	0.57	3,900	390	240	1.5 x ESL
TCE	5,400 µg/m^3	0.54	2,900	290	240	1.2 x ESL
Benzene	3,250 µg/m^3	0.53	1,700	170	48 (85 LTCP)	3.7 x ESL (2 x LTCP)

For benzene, a 0.1 ppmv PID reading is equivalent to 3.7 times the residential soil gas ESL for benzene 48 µg/m^3. However, a 0.1 ppmv PID reading is approximately 2.0 times the Low Threat UST Closure Policy

criteria for benzene of 85 µg/m^3 when no bioattenuation zone is present. PANGEA proposes to use 0.1 ppmv (the lowest PID reading provided by the MiniRAE 3000) as the screening level for identifying impact that could represent a potential vapor intrusion risk.

To help identify primary VOC source material, in-situ soil samples will also be collected at locations exhibiting field indication of PCE or other VOC impact. PANGEA plans to collect and analyze a minimum of four sidewall and two bottom soil samples from the planned initial exploration area. If the excavation extent is expanded based on field indications or laboratory data, additional sidewall and bottom soil samples will be collected and analyzed. Soil samples will be collected using Method 5035 (e.g., TerraCore™) and analyzed for VOCs by EPA Method 8260B by a state certified laboratory. PANGEA's standard operating procedures for soil sampling are presented in Appendix A. In summary, any soil impact exceeding Tier 1 RWQCB ESLs or with elevated PID readings will be considered potential VOC source material and may be excavated for offsite disposal.

For select soil near the excavation boundary with PID readings of 0.0 or 0.1 ppmv, this soil may be temporarily stockpiled onsite and covered with plastic sheeting for additional screening and profiling for offsite disposal or reuse.

4.7 Excavation Pit Design

The excavation pit design will be based on information provided by the 1919 Crew LLC's geotechnical consultant, and the extent of impact as determined from the delineation soil borings. The estimated maximum excavation extent based on geotechnical considerations is shown on Figure 8. To protect the structural integrity of the offsite residential building to the north, the excavation will be sloped with a horizontal to vertical ratio of 1.5 to 1. In other directions, a 1:1 ratio will be maintained. Depending upon the vertical and horizontal extent of the excavation, benching, sloping or slot trenching may be implemented to preserve the structural integrity of walls with the subgrade loading area. Slot trenching would involve narrow excavation slots constructed with a maximum width of 6 ft perpendicular to the area of concern. The slot trenches would be quickly filled with a 2-sack cement slurry and allowed to solidify for 48 hours or longer before adjacent excavation or additional slot trenching.

While the excavation pit is open, the excavation will be secured with fencing and sloping as required to comply with OSHA safety requirements.

4.8 Excavation Backfilling

The excavation area will likely be backfilled entirely with imported material, unless limited soil from the excavation area meets soil reuse criteria as described below in Section 4.9. Any imported material will be screened or recorded following import procedures described below in Section 4.10. While the excavation pit is open, the excavation will be secured with fencing and sloping as required to comply with OSHA safety

requirements. Soil backfilling will be performed to meet requirements of the developer's geotechnical consultant. Imported backfill material is likely to be Class II A/B rock or other suitable material acceptable to the geotechnical consultant. Tentative compaction requirements are 90% for the bottom 5 ft of the excavation and 95% above.

4.9 Criteria for Offsite Soil Disposal and Soil Reuse

An estimated minimum of 60 BCY of soil will be excavated and disposed of offsite to ensure a minimum removal of potential source material. Any additional excavated material that meets the reuse criteria shown below may be reused within the excavation cavity. PANGEA understands that any residual VOC impact determined by subsequent post-IRAP assessment activities can be further remediated or mitigated during the separate future RAP process.

Soil for offsite disposal will be profiled according to requirements of the soil accepting facility. A State-licensed waste hauler will be used transport impacted soil to the appropriate soil accepting facility. Trucks transporting impacted soil will travel along 18th Street to access nearby Highway 980 on their way to the soil accepting facility. Trucks transporting soil offsite will avoid tracking dirt or other materials offsite.

The soil reuse criteria are as follows: any soil from the excavation with PID readings above 0.1 ppmv will not be reused and will be disposed of offsite. If any of the soil from the excavation has PID readings of 0.0 ppmv, the soil may be reused onsite as backfill within the excavation pit. For select soil near the excavation boundary with PID readings of 0.1 ppmv, this soil may be temporarily stockpiled onsite and covered with plastic sheeting for additional screening and testing for offsite disposal or potential reuse. Any soil with test results above RWQCB Tier 1 ESLs will not be reused and will be hauled offsite for disposal.

4.10 Criteria for Import of Backfill Material

For import of fill material from commercial sources or quarries, letters of certification will be provided by the quarry or commercial business providing the engineered fill, baserock or other material. If the certification information is deemed insufficient, additional soil characterization will be conducted to facilitate the use of imported fill.

For non-commercial facilities, documentation regarding the previous land use and any environmental site assessments performed at the source of the fill will be provided to minimize the potential of introducing contaminated fill material onto the Site. If an environmental site assessment was performed at the fill source site, its findings will be provided.

If adequate documentation cannot be provided, the source fill material will be tested for potential impact to ensure that 'clean' fill is being brought onsite. Per ACDEH direction, the source fill material will be sampled

and analyzed for TPH, VOCs, SVOCs, and CAM-17 metals, and results will be compared to RWQCB Tier 1 ESLs. Samples will be submitted under chain-of-custody to a California certified laboratory.

4.11 Soil Excavation Practices

Throughout field activities, all applicable municipal codes and best management practices (BMPs) and standards will be followed. Mechanical and manual (hand digging) excavation techniques will be utilized during remedial activities. Procedures before and during excavation activity include:

- A competent person trained to identify hazardous conditions, with authority to take corrective action, will be in charge of excavation. This person will inspect excavations daily and after every rain event, and ensure that all equipment and materials are in good, working condition.

- Excavated or other materials as required will be stored 2 ft or more from the edge of the excavation. Workers will stay away from any equipment loading or unloading material. Perimeter protection will be provided at all times.

- Workers will have all appropriate training and wear the required personal protective equipment including hardhats, safety footwear, gloves, eye protection, hearing protection, and fall protection devices, as needed.

- Excavated material and the excavation pit will be monitored by hand-held screening instrumentation, (e.g., PID), as well as visual and olfactory indications of soil impact from petroleum hydrocarbons or chlorinated solvents (e.g., visible green or gray staining, odor).

- Stockpiles of materials will not be placed within the public right of way, will not obstruct drainage ways, will not be subject to erosion, will not endanger other properties and will not create a public nuisance or safety hazard.

- Debris (brick, rubble, etc.) encountered during excavation as well as concrete and/or asphalt cuttings will be separated from the excavated soil and handled separately for recycling.

The contractor will comply with Cal/OSHA requirement to ensure a safe working environment and to keep the sides of the excavation stable. Excavation activities will be documented by photographs.

4.12 Odor, Dust and Noise Control

Air and dust monitoring will be conducted during the excavation and handling of any contaminated soil in general accordance with the procedures outlined in PANGEA's *Draft Site Management Plan* dated February 10, 2017 and *Site Management Plan Addendum* dated May 20, 2017, as clarified below. The air/dust monitoring below incorporates comments from agency correspondence on May 22, 2017. PANGEA plans to

incorporate appropriate information into a revised Site Management Plan (SMP) following additional clarification with ACDEH.

Air/Dust Monitoring Personnel: PANGEA field personnel will designated as the Air/Dust Monitor to conduct air and dust monitoring near the IRAP area and the Site perimeter as described herein. The remediation contractor may perform additional VOC monitoring in the breathing zone of the exclusion zone adjacent to the excavation to provide for worker health and safety during onsite excavation activities

Air Monitoring for VOCs: A portable PID or equivalent will be used to collect VOC measurements adjacent the excavation. The PID will be serviced and calibrated by manufacturer's representative prior to use, and additional field calibrations will be conducted as necessary by the Air/Dust Monitor during field activities. If VOC concentrations are measured above 50 parts per million per volume (ppmv) during the handling of any contaminated soil, additional PID readings will be collected every half hour along the downwind perimeter of the Site. The dominant downwind direction at the Site is towards the east based on previous Site observations. The downwind direction and speed will be estimated daily using a windsock mounted at the Site. A handheld digital anemometer will also be used to confirm the wind speed. A high wind condition is defined as 18 mph sustained for at least 5 minutes in any 1-hour period.

Air Mitigation Measures: VOC emissions from the Site will be maintained below 50 parts per million per volume (ppmv) in accordance with the Bay Area Air Quality Management's Regulation 8, Organic Compounds Rule 40. The 50 ppmv threshold also corresponds to an action level that is 50% of the 8-hour time-weighted-average permissible exposure limit of 100 ppmv for PCE and ethylbenzene established by Cal OSHA. Should the Air/Dust Monitor identify VOC concentrations exceeding the 50 ppmv (above background), the Air/Dust Monitor will immediately take steps to stop operations until the source of the vapor emissions is identified and mitigated. Potential mitigation steps would include covering the area/stockpile with heavy duty plastic and/or applying a vapor/odor suppressant such as Simple Green™ onto the soil.

Dust Monitoring: Dust monitoring will be conducted daily at the Site during any earthwork activities or truck traffic by PANGEA's dedicated Air/Dust Monitor using one perimeter continuous dust meter/data logging station and one portable dust meter. Dust will be monitored for coarse particulate matter less than 10 microns (PM10) which is commonly associated with road dust and construction activities. Perimeter dust monitoring for real-time PM10 concentrations will be conducted each work day (approximately 7AM to 5PM) using a mounted, battery-powered, TSI Dust Trak 8530 meter/data logger or equivalent. The dust meter/datalogger will be serviced and calibrated by manufacturer's representative prior to use and additional field calibrations will be conducted as necessary by the Air/Dust Monitor. Perimeter dust monitoring PM10 results will be recorded with the datalogger continuously every minute each day from a fixed tripod-mounted station setup down wind of the excavation which is likely to be east of the excavation based on the typical weather pattern of the Site. Since the Site and the soil excavation are surrounded by existing concrete building walls, particularly along the west and north sides, significant wind across the excavation is not

anticipated. Wind direction and wind speed will also be monitored periodically throughout the day using a handheld digital anemometer and a windsock mounted at the Site. Should the downwind direction fluctuate or vary at the Site, the perimeter dust meter station will either be relocated to a more appropriate downwind perimeter location, or additional dust measurements will be collected on a half hour basis in the downwind direction using a portable dust meter. The dedicated Air/Dust Monitor will visit the monitoring station throughout the work day to ensure to ensure the meter is operating as designed. Additional onsite dust monitoring for real-time PM10 concentrations will also be measured directly around the excavation activities and at the upwind property boundary using a portable TSI AIM 510 meter or equivalent. The dust monitoring results from the portable dust meter will be written manually every half hour on preformatted data field sheets as shown in Appendix B.

All manual entries are to be made in a legible and orderly manner using permanent ink. Erasures will be avoided. If an error is made, it is to be crossed out with a single line and the correction immediately made. Cancellations or insertions should be initialed, dated, and explained (in the margin, if possible) by an appropriate notation. All operating details and conditions should be recorded. Each page will be signed and dated by the individual making the entry and performing the work. An example of the Air and Dust Monitoring Log for field work is provided in Appendix B.

Dust Mitigation Measures: Dust from the Site will be maintained below the California Ambient Air Quality Standard (CAAQS) PM10 concentration of 50 $\mu g/m^3$ in accordance with 17 California Code of Regulations [CCR] 70200. Should the dedicated Air/Dust Monitor observe any visible dust or identify PM10 readings exceeding 50 $\mu g/m^3$ (above background) for more than for 5 minutes along the perimeter, or for more than 15 minutes directly adjacent to the earthwork location, the Air/Dust Monitor will immediately arrange for the soil to be wetted with water, or otherwise suitably contained to prevent nuisance from dust. For high wind days, the upwind/downwind subtraction will be used to calculate the dust contribution from the Site at the property boundary as well as the ten percent contribution above the federal National Ambient Air Quality Standard PM10 value of 150 µg/m3. For example, the Site would be in compliance with agency requirements assuming the following:

- PM10 (upwind) = 200 µg/m3
- PM10 (downwind) = 220 µg/m3
- Contribution from the Site = 20 µg/m3
- Total loading at ten percent of 220 µg/m3 = 22 µg/m3

Equipment, materials and roadways on the Site shall be used in a manner or treated as to prevent excessive dust conditions. Dust and dirt control activities shall not result in any material entering the storm drain system. These procedures supplement the procedures in the Storm Water Pollution Prevention Plan (SWPPP)

approved for the Site grading operations, which include best management practices (BMP) implemented throughout excavation activities.

Dust control measures during any grading, earthwork or handling of aggregate will consist of spraying the minimum amount of water needed to suppress the dust onto the soil and work area, and limiting the speed of traffic through the work area to 15 miles per hour. Any soil not off-hauled from the Site the same day will be stockpiled on plastic sheeting and covered with plastic.

Documentation and Record Keeping: Documentation of all air and dust monitoring will include copies of written air and dust monitoring logs, copies of the PM10 data captured during data logging, and all equipment maintenance and calibration records. Photos will be taken of the monitoring stations and various dust mitigation measures used at the Site.

4.13 Groundwater Control

Although groundwater is not expected to be encountered in the excavation, if necessary, groundwater removal and disposal will be performed to manage any potential groundwater accumulation in the excavation. Depending on the volumes and recharge rates, groundwater will be pumped either directly into vacuum trucks for transport and disposal, or will be pumped into a recovery tank for storage and offsite recycling/disposal at an appropriate facility.

4.14 Grading and Erosion Control

The following grading and erosion control best management practices (BMP) will be observed and implemented throughout excavation activities:

- Delineate with field markers clearing limits, easements, setbacks, sensitive or critical areas, buffer zones, trees, and drainage courses.
- Stabilize all denuded areas and install and maintain all temporary erosion and sediment controls continuously between October 15th and April 15th.
- Perform clearing and earth moving activities only during dry weather (without significant rainfall).
- Provisions will be made for diverting onsite runoff around exposed areas and diverting offsite runoff around the Site.
- Provisions for preventing erosion and trapping sediment on Site, storm drain inlet protection, covers for soil stock piles, and/or other measures.

- Store, handle, and dispose of construction materials and wastes properly, so as to prevent their contact with stormwater.

- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, concrete, petroleum products, chemicals, washwater or sediments, and non-storm water discharges to storm drains and any nearby surface water.

- Avoid cleaning or maintaining vehicles on Site, except in a designated area where washwater is contained and treated.

- Protect adjacent properties and undisturbed areas from construction impacts.

- Limit construction access routes and stabilize designated access points.

- Avoid tracking dirt or other materials offsite; clean offsite paved areas and sidewalks using dry sweeping methods.

- Train and provide instruction to all employees and subcontractors regarding the construction BMPs.

If any storm water catch basins are found in close proximity to excavation, the contractor will implement the following procedures designed to ensure that grading and erosion control practices proposed for the above project comply with best management practices and standards.

- Any catch basin will be protected by silt fencing or other erosion sedimentation prevention devices at all times.

- Erosion control devices will not be moved or modified without approval of the project manager.

- All removable erosion protective devices shall be in place at the beginning and end of each working day at all times.

- All silt and debris shall be removed from streets and public right of way immediately.

- All immediate downstream inlets will be protected.

4.15 Soil Gas Probe Abandonment

During the remedial excavation, there is potential for the excavation area to extend toward and impact soil gas wells SG-1 and SG-2. These soil gas probes were constructed in a 3-inch diameter boring with a vapor implant placed at 5 ft below grade surface and ¼-diameter Teflon™ tubing extended to the surface. If the soil gas probes are encountered during excavating, the soil gas probe and associated borehole materials will be

fully removed using the bucket of the excavator. If these soil gas wells are removed, PANGEA will replace them following completion of the excavation.

4.16 Reporting

PANGEA will prepare an IRAP Completion Report documenting the remedial excavation activities. IRAP project documentation will include waste manifests documenting offsite disposal of excavated soil.

5.0 POST-IRAP SOIL GAS SAMPLING

Following completion of the interim remedial soil excavation, confirmation soil gas sampling will be conducted to assess the effect of source removal on nearby soil gas concentrations. New and existing soil gas wells located around the excavation area and screened at approximately 5 and 10 ft bgs will be sampled as shown on Figure 10. Samples will be collected from two soil gas well pairs: SG-1(5ft)/SG-1B(10ft) and SG-2(5ft)/SG-2B(10ft). Soil gas samples will also be collected from nearby shallow soil gas wells SG-18 and SG-19. The new soil gas wells (SG-1B, SG-2B, SG-18 and SG-19) will be installed upon completion of the IRAP excavation. A minimum of two sampling events will be conducted to evaluate any remaining residual soil gas conditions. Refer to PANGEA's *Perimeter/Offsite Assessment Report and Site Assessment Workplan* dated September 8, 2017 for further soil gas well installation and sampling details.

6.0 SCHEDULE

The responsible party, 1919 Crew LLC, will provide ACDEH with a project schedule. The overall schedule goal is to implement the IRAP at the earliest opportunity during the fourth quarter 2017

7.0 REFERENCES

The regulatory record for this Site can be found on the State of California GeoTracker Website at https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000009433

AEI Consultants, 2014, *Phase I Environmental Site Assessment*, (AEI, 2014) 1919 Market Street, Oakland California, November 19.

CalEPA/DTSC, 2010, *Proven Technologies and Remedies Guidance, Remediation of Chlorinated Volatile Organic Compounds in Vadose Zone Soil,* April 2010.

CalEPA/DTSC, 2011. *Vapor Intrusion Mitigation Advisory (VIMA), Revision 1, Final.* October. https://dtsc.ca.gov/SiteCleanup/upload/VIMA_Final_Oct_20111.pdf

CalEPA/DTSC, 2015, *Advisory – Active Soil Gas Investigations,* July 2015.

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PANGEA Environmental Services, Inc., 2017, *Preliminary Offsite Assessment Results – 2006 Myrtle Street*, 1919 Market Street, Oakland California, May 17.

PANGEA Environmental Services, Inc., 2017, *Perimeter/Offsite Assessment Report and Site Assessment Workplan*, 1919 Market Street, Oakland California, July 17.

Partner Engineering & Science, Inc., 2016, *Phase II Subsurface Investigation Report*, 1919 Market Street, Oakland California, March 28.

Partner Engineering & Science, Inc, 2016, *Additional Subsurface Investigation Report*, 1919 Market Street, Oakland California, May 2.

SWRCB, 2012, Low-Threat Underground Storage Tank Case Closure Policy. August 17, 2012.

SFRWQCB, 2016. San Francisco Bay Regional Water Quality Control Board, *Environmental Screening Levels*, February 22, (Revision 3, May)

1919 Market Street
Oakland, California

PANGEA

Vicinity Map

Figure 2

1919 Market Street
Oakland, California

Site Map and Historical Use Areas

1919 Market Street
Oakland, California

PANGEA

Site Map with
Planned Site Development

1919 Market Street
Oakland, California

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Site Map with Investigation Locations

Figure 5

1919 Market Street
Oakland, California

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PCE in Soil, Groundwater and Subslab/Soil Gas

Figure 6

1919 Market Street
Oakland, California

PANGEA

TCE in Soil, Groundwater and Subslab/Soil Gas

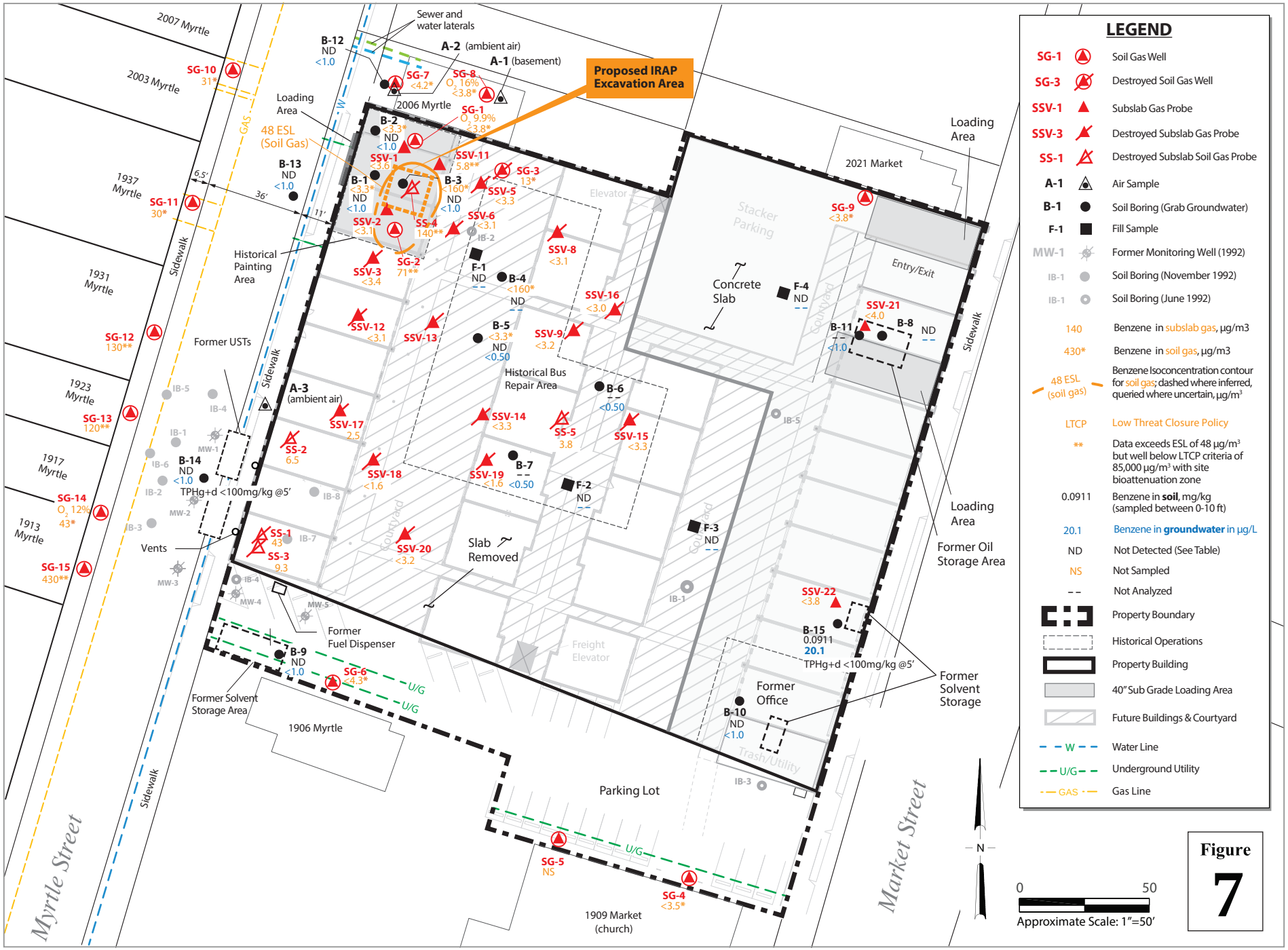

Figure 7

1919 Market Street
Oakland, California

PANGEA

Benzene in Soil, Groundwater and Subslab/Soil Gas

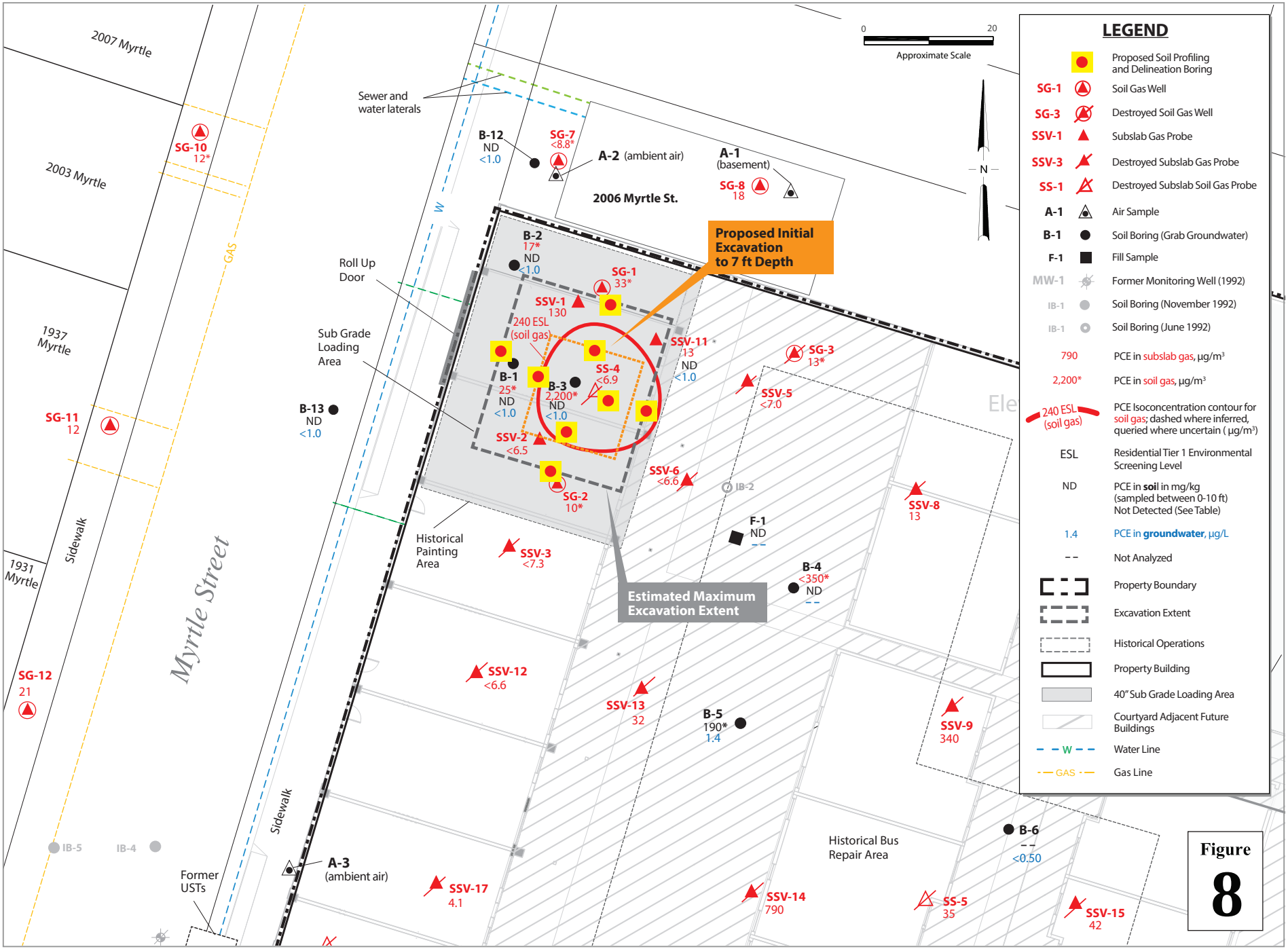

Figure 8

1919 Market Street
Oakland, California

PANGEA

Proposed Remedial Soil Excavation (Plan View)

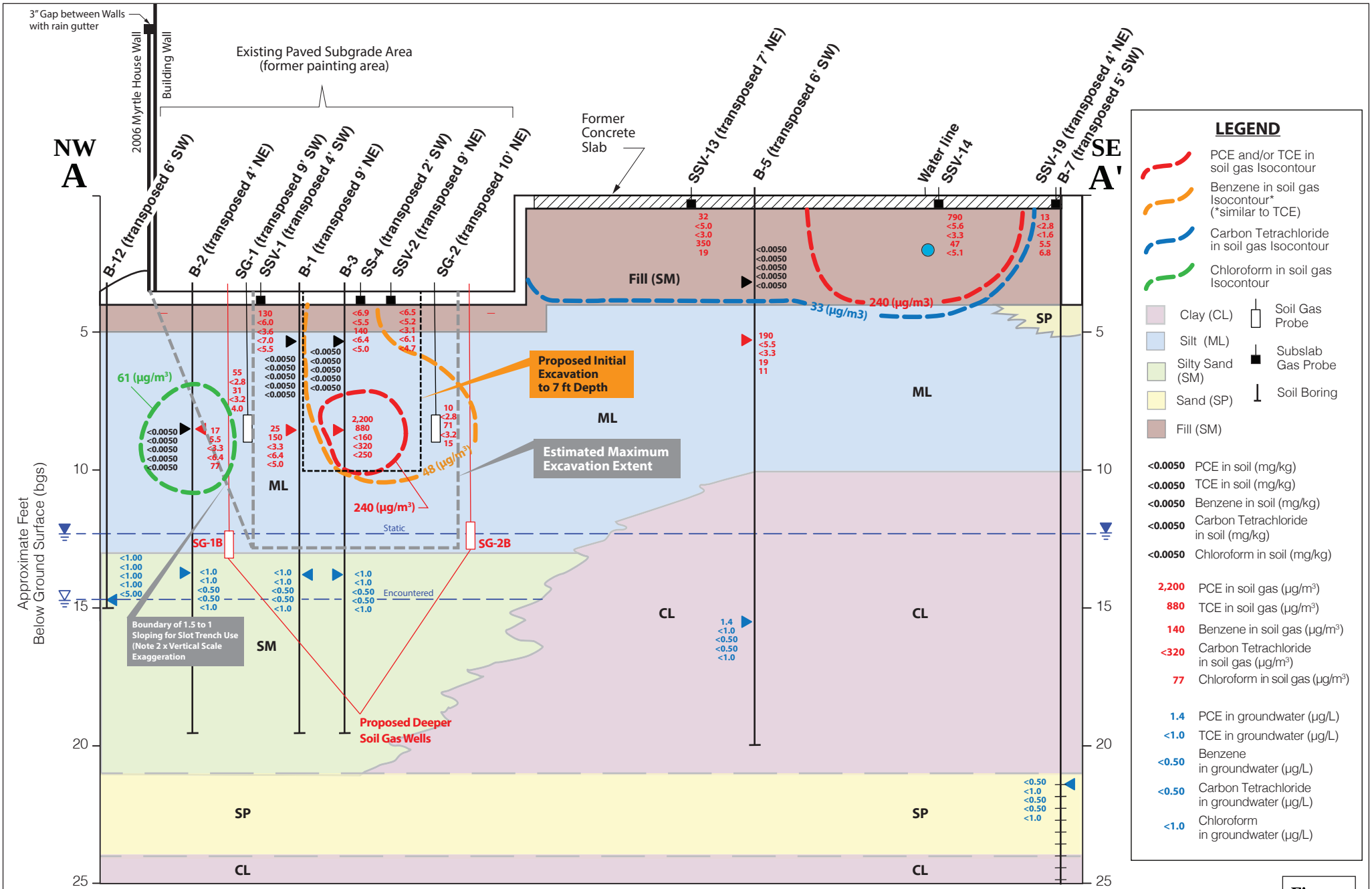

Figure 9

1919 Market Street
Oakland, California

PANGEA

Proposed Remedial Soil Excavation (Cross SectionView)

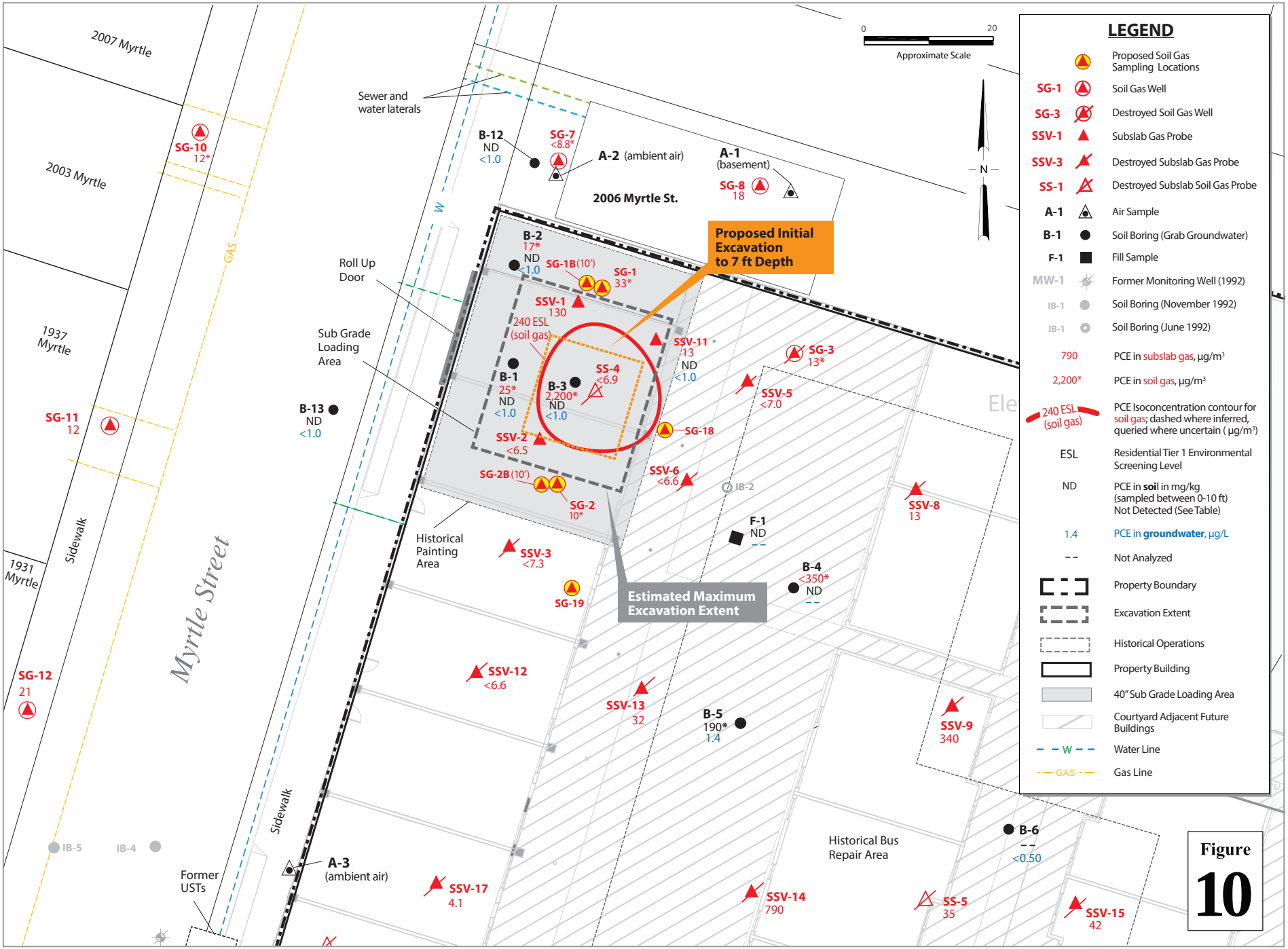

Figure 10

1919 Market Street
Oakland, California

PANGEA

Proposed Post-IRAP Monitoring Locations

Table 1. Soil Analytical Data - 1919 Market Street, Oakland, California

Boring / Sample ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2-DCA	PCE	TCE	1,1,1-TCA	Carbon Tetrachloride	Chloroform	SVOCs	PCBs	Metals	NOTES
			mg/kg																	
		Soil - Tier 1 ESL:	100	230	5,100	0.044	2.9	1.4	2.3	0.033	0.0045	0.42	0.46	7.8	0.048	0.068	Varies	0.25	Varies	
		Residential 0-5 ft - LTCP Criteria:	<100		NA	1.9	NA	21	NA	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	
June 1992 Soil Sampling																				
IB-1	June 1992	5.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
		10.5	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
IB-2	June 1992	5.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
		10.5	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
IB-3	June 1992	5.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
		10.5	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
IB-4	June 1992	5.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
		10.5	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
		15.0	**2.5**	--	--	ND	**0.016**	**0.030**	**0.10**	--	--	--	--	--	--	--	--	--	--	
IB-5	June 1992	5.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
		10.5	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	
November 1992 Soil Sampling																				
IB-1	11/25/1992	6.0	**2.8**	<10	**<10 / 14**[a]	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		11.0	**87**	**300**	<20	<0.005	<0.005	<0.005	0.030	--	--	--	--	--	--	--	--	--	--	
IB-2	11/25/1992	6.0	<0.50	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		11.0	**23**	**<10 / 12**[a]	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
IB-3	11/25/1992	6.0	<0.5	<10	**13 / <10**[a]	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		11.0	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
IB-4	11/25/1992	6.0	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		11.5	**13**	**170**	**27**	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	
IB-5	11/25/1992	7.0	<1	<1	<10	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
		11.5	<1	<1	<10	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
IB-6	11/25/1992	7.0	<1	<1	<10	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
		11.5	<1	<1	<10	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
IB-7	11/25/1992	5.0	<1	<1	<10	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
		10.0	**560**	**44**	<10	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
IB-8	11/25/1992	5.0	<1	<1	**11**	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
		10.0	**160**	**76**	<10	<0.0025	<0.0025	**1,100**	<0.0025	--	--	--	--	--	--	--	--	--	--	

Table 1. Soil Analytical Data - 1919 Market Street, Oakland, California

Boring / Sample ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2-DCA	PCE	TCE	1,1,1-TCA	Carbon Tetrachloride	Chloroform	SVOCs	PCBs	Metals	NOTES
			← mg/kg →																	
		Soil - Tier 1 ESL:	100	230	5,100	0.044	2.9	1.4	2.3	0.033	0.0045	0.42	0.46	7.8	0.048	0.068	Varies	0.25	Varies	
MW-1	1992	5.0	**40**	**140**	<10	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	
		10.5	**430**	**1,100**	**61**	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
		13.0	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
MW-2	1992	5.5	**120**	**180**	<10	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	
		10.5	**310**	**1,200**	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
		15.5	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
MW-3	1992	5.5	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		10.5	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		15.5	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005											
MW-4	1992	8.0	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		12.5	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
MW-5	1992	8.0	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
		14.5	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	
2016-2017 Soil Sampling																				
B-1	04/15/2016	2.0[1]	--	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	
B-2	04/15/2016	5.0[1]	--	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	
B-3	04/15/2016	2.0[1]	--	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	
B-4	04/15/2016	3.0	--	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	
B-5	04/15/2016	3.0	--	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	
B-8-5	11/14/2016	5.0	<0.15	<0.99	<5.0	<0.0038	<0.0038	<0.0038	<0.015	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	--	--	--	
B-9-5	5/26/2017	5.0	<0.116	<4.63	<4.63	<0.00116	<0.00578	<0.00116	<0.00347	<0.00578	<0.00116	<0.00116	<0.00116	<0.00116	<0.00116	<0.00578	--	--	--	
B-10-5	5/26/2017	5.0	<0.113	<4.52	<4.52	<0.00113	<0.00566	<0.00113	<0.00339	<0.00566	<0.00113	<0.00113	<0.00113	<0.00113	<0.00113	<0.00566	--	--	--	
B-12-5	5/26/2017	5.0	<0.116	<4.65	<4.65	<0.00116	<0.00581	<0.00116	<0.00349	<0.00581	<0.00116	<0.00116	<0.00116	<0.00116	<0.00116	<0.00581	--	--	--	
B-13-5	5/26/2017	5.0	<0.116	<232	**1,914**	<0.00116	<0.00580	<0.00116	<0.00348	<0.00580	<0.00116	<0.00116	<0.00116	<0.00116	<0.00116	<0.00580	--	--	--	
B-14-5	5/26/2017	5.0	**3.34**	**22.8**	<4.67	<0.00117	<0.00583	<0.00117	<0.00350	<0.00583	<0.00117	<0.00117	<0.00117	<0.00117	<0.00117	<0.00583	--	--	--	
B-14-10	5/26/2017	10.0	**65.1**	**252**	**16.2**	<0.0196	<0.0979	<0.0196	<0.0587	<0.0979	<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	<0.0979	--	--	--	b
B-15-5	5/26/2017	5.0	**5.50**	<4.51	<4.51	<0.0194	<0.0972	<0.0194	<0.0583	<0.0972	<0.0194	<0.0194	<0.0194	<0.0194	<0.0194	<0.0972	--	--	--	
B-15-10	5/26/2017	10.0	**101**	<5.32	<5.32	**0.0911**	<0.110	<0.0220	<0.0659	<0.110	<0.0220	<0.0220	<0.0220	<0.0220	<0.0220	<0.110	--	--	--	b

Table 1. Soil Analytical Data - 1919 Market Street, Oakland, California

Boring / Sample ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2-DCA	PCE	TCE	1,1,1-TCA	Carbon Tetrachloride	Chloroform	SVOCs	PCBs	Metals	NOTES
			mg/kg																	
		Soil - Tier 1 ESL:	100	230	5,100	0.044	2.9	1.4	2.3	0.033	0.0045	0.42	0.46	7.8	0.048	0.068	Varies	0.25	Varies	
F-1	11/14/2016	2.0	<0.14	**12**	**30**	<0.0034	<0.0034	<0.0034	<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<1,700	<0.096	c	
F-2	11/14/2016	2.0	<0.14	<1.0	<5.0	<0.0033	<0.0033	<0.0033	<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<1,700	<0.096	c,d	d =lead detected at 84.4 mg/kg
F-3	11/14/2016	2.0	<0.15	<1.0	<5.0	<0.0039	<0.0039	<0.0039	<0.0078	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<1,700	<0.096	c	
F-4	11/14/2016	2.0	<0.19	1.0	<5.0	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<1,700	<0.096	c	

Legend:

TPHg,d,mo = Total Petroleum Hydrocarbons as gasoline (TPHg), diesel(TPHd), and motor oil(TPHmo) by EPA Method 8015C.

VOCs = Volatile Organic Compounds by EPA Method 8260B.

1,2-DCA = 1,2-Dichloroethane

PCE = Tetrachloroethene

TCE = Trichloroethene

1,1,1-TCA = 1,1,1-Trichloroethane

SVOCs = Semi-Volatile Organic Compounds

mg/Kg = milligrams per kilogram

ft bgs = Depth below ground surface in feet.

ND = analyte(s) not detected, detection limit unkowwn

< n = Chemical not present at a concentration in excess of detection limit shown.

-- = Not analyzed, not applicable

ESL = Environmental Screening Level, from California Regional Water Quality Control Board - San Francisco Bay Region, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Revised February 2016 (Revision 3).

a = duplicate sample taken

b = sample analyzed outside of laboratory method hold time. See lab report for details

c = all metals detected below Tier 1 ESLs, except for arsenic which was detected above its Tier 1 ESL, but within background range for the area.

(1) = Grade elevation is 40" below rest of building so sample depth is approximately 3.3 ft lower than samples collected outside of Loading Area

Concentrations exceed environmental screening levels

Bold = contaminant detected above reporting limit

Table 2. Groundwater Analytical Data - 1919 Market St, Oakland, CA

Well ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2-DCA	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Carbon Tetrachloride	Chloroform	NOTES
			µg/L																	
	Groundwater - Tier 1 ESL:		100	100	50,000	1.0	40	13	20.0	0.170	0.50	3.0	5.0	6.0	10	0.061	62	0.22	2.3	
	LTCP Criteria:		NA	NA	NA	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Historical Monitoring Well Data																				
MW-1	8/7/1992	--	<0.050	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	12/3/1992	--	<0.050	<0.050	<0.050	<0.5	**14**	**1.8**	**2.5**	--	--	--	--	--	--	--	--	--	--	
	6/11/1993	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/28/1994	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/10/1995	--	<0.050	**0.06**	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	6/12/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/22/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/7/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-2	8/7/1992	--	<0.050	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	12/3/1992	--	<0.050	<0.050	<0.050	<0.5	**14**	**1.9**	**2.5**	--	--	--	--	--	--	--	--	--	--	
	6/11/1993	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/13/1994	--	<0.050	**0.11**	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/10/1995	--	<0.050	**0.06**	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	6/12/1997	--	<0.050	<0.050	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	10/22/1997	--	<0.050	<0.050	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	5/7/1998	--	--	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-3	8/7/1992	--	<0.050	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	12/3/1992	--	<0.050	<0.050	<0.050	<0.5	**16**	**2.4**	**3.5**	--	--	--	--	--	--	--	--	--	--	
	6/11/1993	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/13/1994	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/10/1995	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	6/12/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/22/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/7/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/7/1992	--	**2.8**	<0.050	<0.050	**20**	**150**	**7.5**	**340**	--	--	--	--	--	--	--	--	--	--	
	12/3/1992	--	**0.22**	<0.050	<0.050	**13**	**36**	**8.2**	**31**	--	--	--	--	--	--	--	--	--	--	
	6/11/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1/13/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 2. Groundwater Analytical Data - 1919 Market St, Oakland, CA

Well ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2-DCA	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Carbon Tetrachloride	Chloroform	NOTES
			µg/L																	
	Groundwater - Tier 1 ESL:		100	100	50,000	1.0	40	13	20.0	0.170	0.50	3.0	5.0	6.0	10	0.061	62	0.22	2.3	
MW-4 cont.	1/10/1995	--	**3.0**	**0.75**	<0.5	**25**	**52**	**43**	**230**	--	--	--	--	--	--	--	--	--	--	
	6/12/1997	--	**5.4**	**0.39**	--	**5.2**	**5.2**	**30**	**130**	--	--	--	--	--	--	--	--	--	--	
	10/22/1997	--	**7.7**	<0.30	--	**17**	**18**	**110**	**300**	--	--	--	--	--	--	--	--	--	--	
	5/7/1998	--	**17**	<0.30	--	**8.8**	<0.5	**9.9**	**22**	--	--	--	--	--	--	--	--	--	--	
MW-5	8/7/1992	--	<0.050	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	12/3/1992	--	**0.072**	<0.050	<0.050	<0.5	**33**	**3.5**	**4.2**	--	--	--	--	--	--	--	--	--	--	
	6/11/1993	--	<0.050	**0.10**	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/13/1994	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	1/10/1995	--	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
	6/12/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/22/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/7/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Groundwater Data																				
B-1-GW	4/11/2016	16*	--	--	--	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	
B-2-GW	4/11/2016	16*	--	--	--	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	
B-3-GW	4/11/2016	16*	--	--	--	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	
B-5-GW	4/11/2016	20	--	--	--	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	
B-6-GW	9/1/2016	21	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
B-7-GW	9/1/2016	21	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
B-9-GW	5/26/2017	15	<100	**688**	**304**	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	
B-10-GW	5/26/2017	16	<100	**576**	**706**	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	
B-11-GW	5/26/2017	15	<100	**219**	**381**	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	**2.62**	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	
B-12-GW	5/26/2017	15	<100	<100	<100	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	
B-13-GW	5/26/2017	14	<100	**150**	**315**	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	
B-14-GW	5/26/2017	12.5	**461**	**1,170**	**938**	<5.00	<5.00	<5.00	<15.0	<25.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<25.0	
B-15-GW	5/26/2017	13	**6,650**	**4,660**	**3,830**	**20.1**	<10.0	<10.0	<30.0	<50.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	

Table 2. Groundwater Analytical Data - 1919 Market St, Oakland, CA

Well ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2-DCA	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Carbon Tetrachloride	Chloroform	NOTES
			µg/L																	
Groundwater - Tier 1 ESL:			100	100	50,000	1.0	40	13	20.0	0.170	0.50	3.0	5.0	6.0	10	0.061	62	0.22	2.3	

Legend:

TPHg = Total Petroleum Hydrocarbons as gasoline by EPA Method 8015.

TPHd = Total Petroleum Hydrocarbons as diesel by EPA Method 8015. ESE Carbon Range of C12-C22.

TPHmo = Total Petroleum Hydrocarbons as motor oil by EPA Method 8015. ESE Carbon Range of C22-C32.

1,2-DCA = 1,2-Dichloroethane

PCE = Tetrachloroethene

TCE = Trichloroethene

1,1,1-TCA = 1,1,1-Trichloroethane

µg/L = Micrograms per Liter

ft bgs = feet below ground surface in feet

< n = Chemical not present at a concentration in excess of detection limit shown.

-- = Not analyzed

ESL = Environmental Screening Level, from California Regional Water Quality Control Board - San Francisco Bay Region, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Revised February 2016 (Revision 3).

* = Surface elevation approximately 3.3 ft below other borings

Concentrations exceed environmental screening levels

Bold = contaminant detected above reporting limit

Table 3. Subslab Gas and Soil Gas Analytical Data - 1919 Market Street, Oakland, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft bgs)	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2-DCA	PCE	TCE	1,1,1-TCA	Carbon Tetrachloride	Chloroform	Other VOCs	Isopropyl Alcohol (Leak Check Compound)	Oxygen	Methane (1)	Carbon Dioxide	Notes
			ug/m^3														%	%	%	
Subslab Gas /Soil Gas - Residential ESL:			300,000	48	160,000	560	52,000	41	54	240	240	520,000	33	61	Varies	NA	NA	NA	NA	
Soil Gas @ 5 ft with Bio Zone - LTCP Criteria:			NA	<85,000	NA	<1,100,000	NA	<93,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Subslab Soil Gas Samples																				
SS-1	02/05/16	0.5	**380**	**43**	**27**	**1.3**	**9.0**	**1.9**	<0.70	<1.2	<0.93	**2.3**	<1.1	<0.83	*	**12**	**17**	<0.20	--	
SS-2	02/05/16	0.5	<1,000	**6.5**	**16**	<2.2	<6.6	**5.3**	<2.1	<3.5	<2.8	<2.8	<3.2	<2.5	--	**16**	**17**	<0.19	--	
SS-3[2]	03/11/16	0.5	--	**9.3**	**140**	**19**	**100**	--	<4.1	<6.9	<5.5	<5.6	<6.4	<5.0	--	--	--	--	--	
SS-4[2]	03/11/16	0.5	--	**140**	**35**	**6.9**	**46**	--	<4.1	<6.9	<5.5	<5.6	<6.4	<5.0	--	--	--	--	--	
SS-5	03/11/16	0.5	--	**3.8**	**19**	<4.4	**26**	--	<4.1	**35**	**26**	**67**	<6.4	<5.0	--	--	--	--	--	
SSV-1	08/01/16	0.5	--	<3.6	**8.2**	<4.9	**9.7**	<23	<4.5	**130**	<6.0	<6.1	<7.0	<5.5	*	**14**	--	--	--	
SSV-2	08/01/16	0.5	--	<3.1	**8.1**	<4.2	**6.3**	<20	<3.9	<6.5	<5.2	<5.3	<6.1	<4.7	--	--	--	--	--	
SSV-3	08/01/16	0.5	--	<3.4	**4.2**	<4.6	**5.6**	<22	<4.3	<7.3	<5.7	**10**	**260**	**9.3**	--	**38**	--	--	--	
SSV-5	08/01/16	0.5	--	<3.3	**5.9**	<4.5	**7.5**	<21	<4.1	<7.0	<5.5	<5.6	**15**	<5.0	--	**21**	--	--	--	
SSV-6	08/01/16	0.5	--	<3.1	**4.5**	<4.2	**6.2**	<20	<3.9	<6.6	<5.2	**18**	**61**	<4.8	*	**13**	--	--	--	
SSV-8	08/01/16	0.5	--	<3.1	<3.7	<4.2	<8.4	<20	<3.9	**13**	<5.2	**80**	<6.1	<4.8	*	--	--	--	--	
SSV-9	08/01/16	0.5	--	<3.2	<3.8	<4.4	<8.4	<21	<4.1	**340**	<5.5	**220**	**33**	**7.0**	*	--	--	--	--	
SSV-10	--	--	----------probe destroyed before sampling could occur----------																	
SSV-11	08/17/16	0.5	--	**5.8**	**34**	<4.2	**15.3**	<20	<3.9	**13**	<5.2	<5.3	<6.1	<4.7	--	**10**	--	--	--	
SSV-12	08/17/16	0.5	--	<3.1	<3.7	**17**	**168**	<20	<3.9	<6.6	<5.2	**17**	**390**	**17**	--	**21**	--	--	--	
SSV-13	08/17/16	0.5	--	<3.0	<3.5	<4.0	<8.0	<19	<3.7	**32**	<5.0	**79**	**350**	**19**	--	<9.1	--	--	--	

Table 3. Subslab Gas and Soil Gas Analytical Data - 1919 Market Street, Oakland, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft bgs)	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2-DCA	PCE	TCE	1,1,1-TCA	Carbon Tetrachloride	Chloroform	Other VOCs	Isopropyl Alcohol (Leak Check Compound)	Oxygen	Methane [1]	Carbon Dioxide	Notes
			ug/m^3														%	%	%	
Subslab Gas /Soil Gas - Residential ESL:			300,000	48	160,000	560	52,000	41	54	240	240	520,000	33	61	Varies	NA	NA	NA	NA	
SSV-14	08/17/16	0.5	--	<3.3	<3.9	<4.5	<9.0	<22	<4.2	**790**	<5.6	**240**	**47**	<5.1	--	**13**	--	--	--	
SSV-15	08/17/16	0.5	--	<3.3	<3.9	<4.5	<9.0	<22	<4.2	**42**	<5.5	**260**	**35**	<5.0	--	**15**	--	--	--	
SSV-16	08/17/16	0.5	--	<3.0	<3.6	<4.1	<8.2	<20	<3.8	**47**	<5.1	**52**	<6.0	<4.6	--	**20**	--	--	--	
SSV-17	09/01/16	0.5	--	**2.5**	**5.9**	<2.2	<6.6	<5.3	<2.0	**4.1**	<2.8	**5.3**	**11**	<2.4	*	**320**	--	--	--	
SSV-18	09/01/16	0.5	--	<1.6	**4.5**	<2.2	<6.6	<5.3	<.20	**3.6**	<2.8	**12**	**4.4**	<2.4	*	**150**	--	--	--	
SSV-19	09/01/16	0.5	--	<1.6	**3.1**	<2.2	<6.6	<5.3	**11**	**13**	<2.8	**160**	**5.5**	**6.8**	*	**110**	--	--	--	
SSV-20	09/01/16	0.5	--	<3.2	**6.4**	<4.4	<13	**13**	<4.1	**13**	<5.5	**13**	<6.4	<4.9	*	<100	--	--	--	
SSV-21	05/31/17	0.5		<4.0	<4.7	<5.4	<10.8	<13	<5.0	**190**	<6.7	<6.8	<7.8	<6.1	--	**14**	--	--	--	
SSV-22	05/31/17	0.5	--	<3.8	<4.5	<5.2	<10.4	<13	<4.9	<8.2	<6.5	<6.6	<7.6	<5.9	--	<12	--	--	--	
Soil Gas Samples																				
B-1[2]	04/29/16	5.0[3]	--	<3.3	<3.8	<4.4	<8.8	--	<4.1	**25**	**150**	<5.6	<6.4	<5.0	--	--	--	--	--	
B-2[2]	04/29/16	5.0[3]	--	<3.3	<3.8	**66**	**400**	--	<4.1	**17**	**5.5**	<5.6	<6.4	**77**	--	--	--	--	--	
B-3[2]	04/29/16	5.0[3]	--	<160	<190	<220	<220	--	<210	**2,200**	**880**	<280	<320	<250	--	--	--	--	--	
B-4[2]	04/29/16	5.0	--	<160	<190	<220	<220	--	<210	<350	<270	<280	<320	**910**	--	--	--	--	--	
B-5[2]	04/29/16	5.0	--	<3.3	<3.8	<4.4	<8.8	--	<4.1	**190**	<5.5	**46**	**19**	**11**	--	--	--	--	--	
SG-1	09/06/16	5.0[3]	--	**31**	**24**	**2.6**	**14**	<5.3	<2.0	**55**	<2.8	<2.8	<3.2	**4.0**	*	<50	--	--	--	
	05/24/17	5.0[3]	--	<3.8	<4.5	<5.2	<10.4	<12	<4.8	**33**	<6.4	<6.5	<7.6	<5.8	--	<12	**9.9**	<0.00032	**2.3**	
SG-2	09/06/16	5.0[3]	--	**71**	**120**	**17**	**80**	<5.3	<2.0	**10**	<2.8	<2.8	<3.2	**15**	*	<50	--	--	--	

Table 3. Subslab Gas and Soil Gas Analytical Data - 1919 Market Street, Oakland, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft bgs)	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2-DCA	PCE	TCE	1,1,1-TCA	Carbon Tetrachloride	Chloroform	Other VOCs	Isopropyl Alcohol (Leak Check Compound)	Oxygen	Methane [1]	Carbon Dioxide	Notes
			ug/m^3														%	%	%	
Subslab Gas /Soil Gas - Residential ESL:			300,000	48	160,000	560	52,000	41	54	240	240	520,000	33	61	Varies	NA	NA	NA	NA	
SG-3	09/06/16	5.0	--	**13**	**38**	**8.3**	**53**	<5.3	<2.0	**13**	<2.8	**3.4**	<3.2	<2.4	*	<50	--	--	--	
SG-4	05/23/17	5.0	--	<3.5	<4.2	<4.8	<9.6	<12	<4.5	**23**	<5.9	<6.0	<7.0	<5.4	--	**760**	--	--	--	
SG-5	05/23/17	5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	not sampled, water in well
SG-6	05/24/17	5.0	--	<4.3	<5.0	<5.8	<11.6	<14	<5.4	<9.1	<7.2	<7.3	<8.4	<6.5	--	<13	--	--	--	
SG-7	04/14/17	5.0	--	<4.0	<4.7	<5.4	<10.8	<26	<5.1	**16**	<6.7	<6.8	<7.9	<6.1	*	**68**	--	--	--	
	05/24/17	5.0	--	<4.2	<4.9	<5.7	<11.4	<14	<5.3	<8.8	<7.0	<7.1	<8.2	<6.4	--	<13	--	--	--	
SG-8	04/14/17	5.0	--	**11**	**27**	<6.5	**15**	<31	<6.0	**22**	<8.0	<8.1	<9.4	**9.5**	*	**15**	--	--	--	
	05/24/17	5.0	--	<3.8	<4.4	<5.1	<10.2	<12	<4.8	**18**	<6.3	<6.4	<7.4	14	--	<12	**16**	<0.00024	**1.6**	
	05/24/17	5.0	--	<3.8	<4.5	<5.1	<10.2	<12	<4.8	**20**	<6.4	<6.5	<7.4	14	--	<12	--	--	--	duplicate sample
SG-9	05/24/17	8.0	--	<3.8	<4.4	<5.1	<10.2	<12	<4.8	**9.2**	<6.3	<6.4	<7.4	<5.7	--	<12	--	--	--	
SG-10	05/31/17	8.0	--	**31**	**44**	**5.1**	**22**	<12	<4.6	**12**	<6.2	<6.3	<7.2	**66**	--	<11	--	--	--	
SG-11	05/31/17	5.0	--	**30**	**42**	**5.9**	**16**	<13	<5.0	**12**	<6.7	<6.8	<7.9	<6.1	--	**12**	--	--	--	
SG-12	05/31/17	5.0	--	**130**	**110**	**10**	**46**	<12	<4.7	**21**	<6.3	<6.4	<7.4	<5.7	--	<12	--	--	--	
SG-13	05/31/17	5.0	--	**120**	**150**	**18**	**79**	<13	<5.0	**27**	<6.7	<6.8	<7.8	**49**	--	**21**	--	--	--	
SG-14	05/31/17	5.0	--	**43**	**100**	**28**	**109**	<12	<4.8	**12**	<6.4	<6.5	<7.5	<5.8	--	<12	**12**	<0.00024	**3.0**	
SG-15	05/31/17	5.0	--	**430**	**1,600**	**300**	**1,140**	<25	<9.8	**34**	<13	<13	<15	<12	--	<24	--	--	--	
Shroud Samples																				
Shroud (SG-8)	04/14/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**110,000**	--	--	--	
Shroud (SG-1)	05/24/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**180,000**	--	--	--	
Shroud (SG-1)	05/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**180,000**	--	--	--	

Table 3. Subslab Gas and Soil Gas Analytical Data - 1919 Market Street, Oakland, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft bgs)	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	1,2-DCA	PCE	TCE	1,1,1-TCA	Carbon Tetrachloride	Chloroform	Other VOCs	Isopropyl Alcohol (Leak Check Compound)	Oxygen	Methane (1)	Carbon Dioxide	Notes
			ug/m^3														%	%	%	
Subslab Gas /Soil Gas - Residential ESL:			300,000	48	160,000	560	52,000	41	54	240	240	520,000	33	61	Varies	NA	NA	NA	NA	

Legend:

VOC = Volatile Organic Compounds

TPHg = Total Petroleum Hydrocarbons as gasoline

1,2-DCA = 1,2-dichloroethane

PCE = Tetrachloroethene

TCE = Trichloroethene

1,1,1-TCA = 1,1,1-trichloroethane

VOCs analyzed by EPA Method TO-15

ug/m^3 = Micrograms per cubic meter of air.

ft bgs = Depth interval below ground surface in feet.

< n = Chemical not present at a concentration in excess of detection limit shown.

-- = not analyzed

NA = not applicable

* = trace levels of other VOCs detected well below screening level thresholds. See lab report for details.

ESL = Environmental Screening Level for Shallow Soil Gas for Evaluation of Potential Vapor Intrusion (Table E-2). Established by the SFBRWQCB, Interim Final - November 2007 (Revised February 2016).

(1) = The lower explosion limit for methane is 4.4 to 5%.

(2) = Samples collected by Partner Engineering and Science, Inc. as part of seperate investigation

(3) = Grade elevation is 40 inces below rest of building so sample depth is at approximately 8.3 ft relative to samples collected outside of Loading Area

Concentrations exceed environmental screening levels

Bold = contaminant detected above reporting limit

APPENDIX A

Standard Operating Procedures

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

This document describes Pangea Environmental Services' standard field methods for drilling and sampling soil borings. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality, and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist, scientist or engineer working under the supervision of a California Registered Engineer, California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or product saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e. cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or hydraulic-push technologies. At least one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples are collected near the water table and at lithologic changes. With hollow-stem drilling, samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the borehole. With hydraulic-push drilling, samples are typically collected using acetate liners. The vertical location of each soil sample is determined by measuring the distance from the middle of the soil sample tube to the end of the drive rod used to advance the split barrel sampler or the acetate tube. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes or cut acetate liners chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

Soil samples collected during drilling will be analyzed in the field for ionizable organic compounds using a photo-ionization detector (PID) with a 10.2 eV lamp. The screening procedure will involve placing an undisturbed soil sample in a sealed container (either a zip-lock bag, glass jar, or a capped soil tube). The container will be set aside, preferably in the sun or warm location. After approximately fifteen minutes, the head space within the container will be tested for total organic vapor, measured in parts per million on a volume to volume basis (ppmv) by the PID. The PID instrument will be calibrated prior to boring using hexane or isobutylene. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples collected from borings are either collected from the open borehole, from within screened PVC inserted into the borehole, or from a driven Hydropunch-type sampler. Groundwater is typically extracted using a bailer, check valve and/or a peristaltic pump. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Pangea often performs electrical conductivity (EC) logging and/or continuous coring to identify potential water-bearing zones. Hydropunch-type sampling is then performed to provide discrete-depth grab groundwater sampling within potential water-bearing zones for vertical contaminant delineation. Hydropunch-type sampling typically involves driving a cylindrical sheath of hardened steel with an expendable drive point to the desired depth within undisturbed soil. The sheath is retracted to expose a stainless steel or PVC screen that is sealed inside the sheath with Neoprene O-rings to prevent infiltration of formation fluids until the desired depth is attained. The groundwater is extracted using tubing inserted down the center of the rods into the screened sampler.

Duplicates and Blanks

Blind duplicate water samples are collected usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55 gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

APPENDIX B

Air and Dust Monitoring Log

AIR AND DUST MONITORING LOG

Site:	**Recorded By:**
Station ID:	**Date:**
Perimeter Dust Monitor Model:	
Perimeter Dust Monitor Serial Number:	
Portable Dust Monitor Model:	
Portable Dust Monitor Serial Number:	
PID Meter Model:	
PID Meter Serial Number:	

Time	Wind Direction	Wind Speed (mph)	PM_{10} Concentration (ug/m^3)			PID Reading (ppmv)	Notes
			Upwind, Work Area	Downwind, Work Area	Downwind, Perimeter		