PAULS™

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

Re: 1233 Bockman Road
San Lorenzo, California
ACEH Case No: RO00003217

Dear Ms. Roe:

PaulsCorp, LLC, has retained Pangea Environmental Services, Inc. (Pangea) for environmental consulting services for the project referenced above. Pangea is submitting the attached report on my behalf.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report are true and correct to the best of my knowledge.

Sincerely,

Andrew J. Lavaux
Managing Director Multifamily Development

September 26, 2016

Andrew Lavaux
PAULS Corporation, LLC
100 Saint Paul Street
Denver, Colorado 80206

Re: **Pilot Study Workplan**
Bockman Road Property
1233 Bockman Road
San Leandro, California 94577
ACEH Case # RO00003217

Dear Mr. Lavaux:

On behalf of PAULS Corporation, LLC, PANGEA Environmental Services, Inc. (PANGEA) prepared this *Pilot Study Workplan* for the subject property. A pilot study is proposed to confirm the effectiveness of the excavation approach presented in Pangea's *Draft Corrective Action Plan* dated September 26, 2016 prior to full CAP implementation. This workplan was requested during an agency meeting on August 11, 2016.

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: *Pilot Study Workplan*

PILOT STUDY WORKPLAN

1233 Bockman Road
San Lorenzo, CA 94577

September 26, 2016

Prepared for:

PAULS Corporation, LLC
100 Saint Paul Street
Denver, Colorado 80206

Prepared by:

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

Written by:

Ron Scheele, P.G.
Principal Geologist

Bob Clark-Riddell, P.E.
Principal Engineer

Pilot Study Workplan
1233 Bockman Road
San Lorenzo, California 94580
September 26 2016

Table of Contents

ATTACHMENTS

1.0 INTRODUCTION

On behalf of PAULS Corporation, LLC (PaulsCorp, LLC), PANGEA Environmental Services, Inc. (PANGEA) has prepared this *Pilot Study Workplan* for the subject property located at 1233 Bockman Road in San Lorenzo, California (Site) (**Figure 1**). A pilot study is proposed to confirm the effectiveness of the excavation approach presented in Pangea's *Draft Corrective Action Plan* (CAP) dated September 26, 2016 prior to full CAP implementation. This workplan was requested during an agency meeting on August 11, 2016.

2.0 SITE BACKGROUND

The Site is currently under initial grading for residential development of 53 two-story residential units. Initial grading is occurring on the western portion of the Site, in compliance with the approved *Soil Management Plan* and agency correspondence. Extensive Site assessment was conducted to initially delineate the extent of volatile organic compounds (VOCs) in the site subsurface. The VOC impact is apparently due a historic dry cleaner at 1269 Bockman Road (eastern portion of Site), a former auto shop at 1415 Bockman Road (western portion of the Site), and potential offsite sources of petroleum hydrocarbons from 1210 Bockman (former Impulse Motors fueling station/auto repair facility) and 17093 Via Chiquita (commercial street sweeping business).

The primary chemicals of concern (COCs) include the following chemicals that have been detected in shallow soil gas in excess of conservative environmental screening levels: benzene, ethylbenzene, and tetrachloroethene (also known as perchloroethene [PCE]). No significant VOC impact has been detected in soil or groundwater.

Soil beneath the Site consists of sandy gravel fill to approximately 1 ft bgs underlain by 2- to 3-feet of moderately plastic clay. The clay layer is underlain by silt and a discontinuous, one-foot thick sand lens observed intermittently between 6 and 10 feet below grade surface (bgs). The depth to static groundwater is approximately 8 feet bgs.

PANGEA prepared a CAP proposing excavation to target residual VOCs that pose a potential vapor intrusion risk for future Site residents. The CAP scope of work includes additional assessment to more thoroughly evaluate subsurface conditions, preparation of a human health risk assessment to guide the excavation and confirm that post-excavation conditions sufficiently safeguard human health, and contingency measures for passive and/or active subslab ventilation systems under Site buildings. The CAP also proposes post-excavation soil gas testing to confirm sufficient removal and mitigation of subsurface VOC impact.

For additional background information refer to PANGEA's *Site Assessment Report* dated August 26, 2016 or

PANGEA's *Draft Corrective Action Plan* dated September 26, 2016.

3.0 EXCAVATION PILOT STUDY

The purpose of the pilot study is to confirm the effectiveness of the excavation and soil reuse approach presented in Pangea's *Draft Corrective Action Plan* (CAP) dated September 26, 2016 prior to full CAP implementation. The scope of work for the pilot study is consistent with the excavation and post-excavation procedures of the CAP.

3.1 Pilot Study Area

The pilot study area will target select *PCE* and *ethylbenzene* impact that exceeds Environmental Screening Levels (ESLs) established by the San Francisco Bay Regional Water Quality Control Board (RWQCB) for *residential* site use. The PCE and ethylbenzene impact in soil gas above ESLs are shown on **Figure 2 and Figure 3**, respectively. These figures also present results of additional soil gas assessment conducted after completion of the *Site Assessment Report* dated August 26, 2016. A discussion of the VOC impact is presented within the CAP.

The proposed pilot study excavation area is shown on Figure 4. The pilot study excavation area consists of approximately 5,250square feet. Assuming excavation to a depth of 7 feet, the proposed excavation soil volume is approximately 1,350 cubic yards. This is equivalent to approximately 2,300 tons of soil, assuming 1.7 tons/cubic yard.

3.2 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 ACEH and permits from the City of San Lorenzo, 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; and
- Coordinate with excavation and laboratory contractors and with involved parties.

Perimeter barriers will be installed and maintained throughout excavation and backfilling activities. Because the excavation work is on private property, it is anticipated that *no* encroachment onto the public right of way will be necessary during soil excavation work.

3.3 Soil Excavation Sequence, Screening and Stockpiling

Based on our understanding of Site conditions, the upper 3 ft of soil is not significantly impacted by VOCs. MIP and soil gas data indicates that some limited VOC impact is present in deeper soil approximately 4 to 6 ft bgs, within and near thin, laterally discontinuous sand materials near this depth. Therefore, the top 3 ft of soil will be considered 'overburden' soil, and will be removed, screened, and segregated separately for testing and potential reuse.

Excavation will commence with removal of overburden soil. Overburden soil will be stockpiled and screened for potential reuse. Any soil with potential VOC impact based on PID screening will be segregated into separate stockpiles. After removal of overburden soil, deeper soil (3 to 7 ft bgs) will be screened and segregated. **Figure 4** shows the planned location for 'clean' and 'impacted' soil stockpiles. Air monitoring procedures during excavation are described below in Section 3.5.

All stockpiled soil will be covered with plastic for further screening for VOCs with a PID. For any soil considered for potential reuse, PANGEA will also construct temporary soil gas probes within the plastic-covered stockpiles to allow collection and analysis of discrete volume soil gas samples. Composite soil sampling will be performed on all stockpiled to profile for offsite disposal and/or soil reuse. Stockpiled soil with VOC impact in soil gas well below ESLs may be reused at the Site. A State-licensed waste hauler will be used to transport any offsite disposal soil to an appropriate facility.

3.4 Soil Excavation Practices

Throughout field activities, all applicable municipal codes and best management practices 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 feet 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. Stockpiles of any contaminated soil will be placed away from the north and east property boundaries to minimize any potential impact to offsite residences.

- 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.

3.5 Odor, Dust and Noise Control

Air monitoring will be conducted during the excavation and handling of any contaminated soil. PID readings will be taken every hour along the north and east perimeters of the Site (downwind direction) to ensure that the activities do not pose a threat to the adjacent offsite residences and exceed VOC emissions of 50 ppmv in accordance with the Bay Area Air Quality Management's Regulation 8, Organic Compounds Rule 40.

All graded surfaces of any nature shall be wetted, or otherwise suitably contained to prevent nuisance from dust or spillage on city streets or adjacent properties. 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.

Dust control measures during excavation, backfilling, and handling of soil will consist of spraying the minimum amount of water needed to suppress the dust onto the soil and work area. Vapor suppressant spray will also be utilized to control odors, as deemed necessary. Any soil not off-hauled from the Site the same day will be stockpiled on plastic sheeting and covered with plastic, if significant rain is expected, or if suspicious odors or visible dust is being generated from the stockpiles.

Noise generated during excavation will be monitored and modified accordingly, to ensure compliance with any applicable noise ordinances. According to the City of San Lorenzo Noise Ordinance 2003 - 005, excavation activities will only be conducted between the hours of 7 am to 7 pm on weekdays, and between 8 am to 7 pm on Saturdays and Sundays.

3.6 Groundwater Control

Although the excavation is not expected to encounter groundwater, 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.

3.7 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 on-site 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 off Site; 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.

3.8 Proposed Vapor Barrier Slurry Wall

Upon completion of the pilot study excavation, a bentonite cement slurry wall will be installed to minimize potential subsurface vapor migration from the future excavation area into the pilot test area. **Figure 4** shows the planned 120 ft long slurry wall location along the eastern boundary of the pilot study area. The trench will be backfilled with a bentonite cement slurry. Alternatively, the top 2 or 3 feet of the trench will be backfilled with clay or bentonite.

3.9 Confirmation Soil Gas Sampling

Soil vapor monitoring wells will be installed and sampled to help verify that VOCs levels in the pilot study area are well below ESLs. As shown on **Figure 5**, the soil vapor wells will be installed within the middle of the pilot study backfill area and near the boundary with native material to better evaluate potential vapor rebound from surrounding native soil. Select probes will also be installed within the footprint of the adjacent planned buildings. The soil vapor wells will be constructed at approximately 5 ft bgs. *Soil gas* samples will be collected and analyzed a minimum of two events to evaluate soil gas trends within the pilot test area, to help demonstrate that soil excavation is successfully helping remediate the source of the the VOC vapor cloud

and the vapor intrusion risk. Pangea will attempt to retain the soil gas monitoring wells to collect additional repeatable data for several seasons.

Based on the lack of VOCs detected in previous soil borings, no confirmation *soil* sampling will be conducted. However, if soil impact is suspected during excavation action, additional soil sampling will be performed with analysis by EPA Method 8260.

3.10 Reporting

PANGEA will prepare a technical report documenting procedures and results of the excavation pilot test. The report will propose modification of the CAP excavation approach as necessary to help achieve remediation to final site cleanup levels. ESLs.

4.0 REFERENCES

PANGEA, 2016a, *Site Assessment Report*. August 26, 2016.

PANGEA, 2016b, *Draft Corrective Action Plan.* September 26, 2016.

Figure 1

1233 Bockman Road
San Lorenzo, California

PANGEA

Vicinity Map

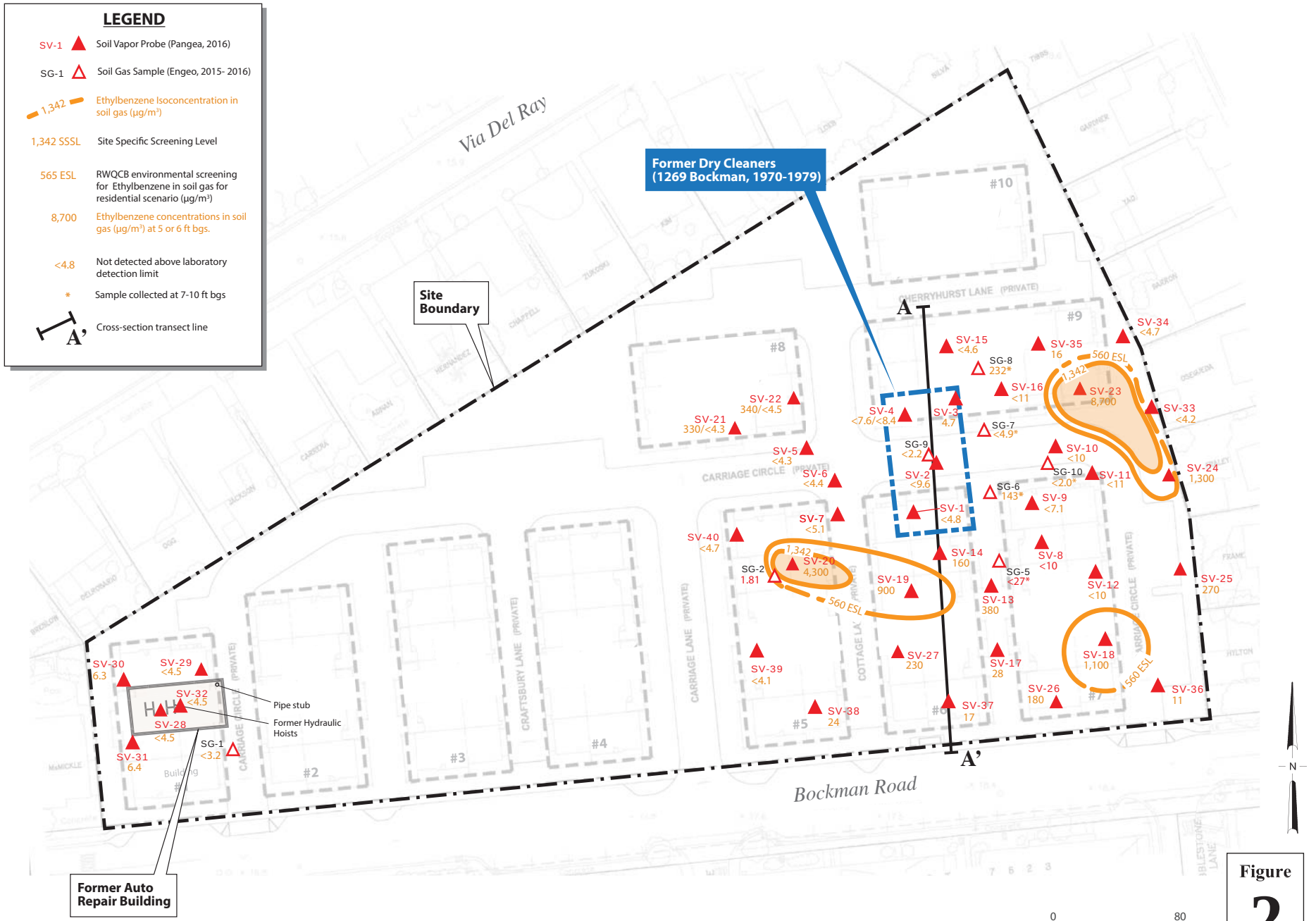


Figure 2

Map courtesy of ENGEO Incorporated. Base map derived from a electronic file titled "ACAD2010-151072-BASE.dwg," received on 09/15/15, and "Bockman Road," by Tetra Tech dated 06/11/15.

1233 Bockman Road
San Lorenzo, California

PANGEA

Ethylbenzene in Soil Gas

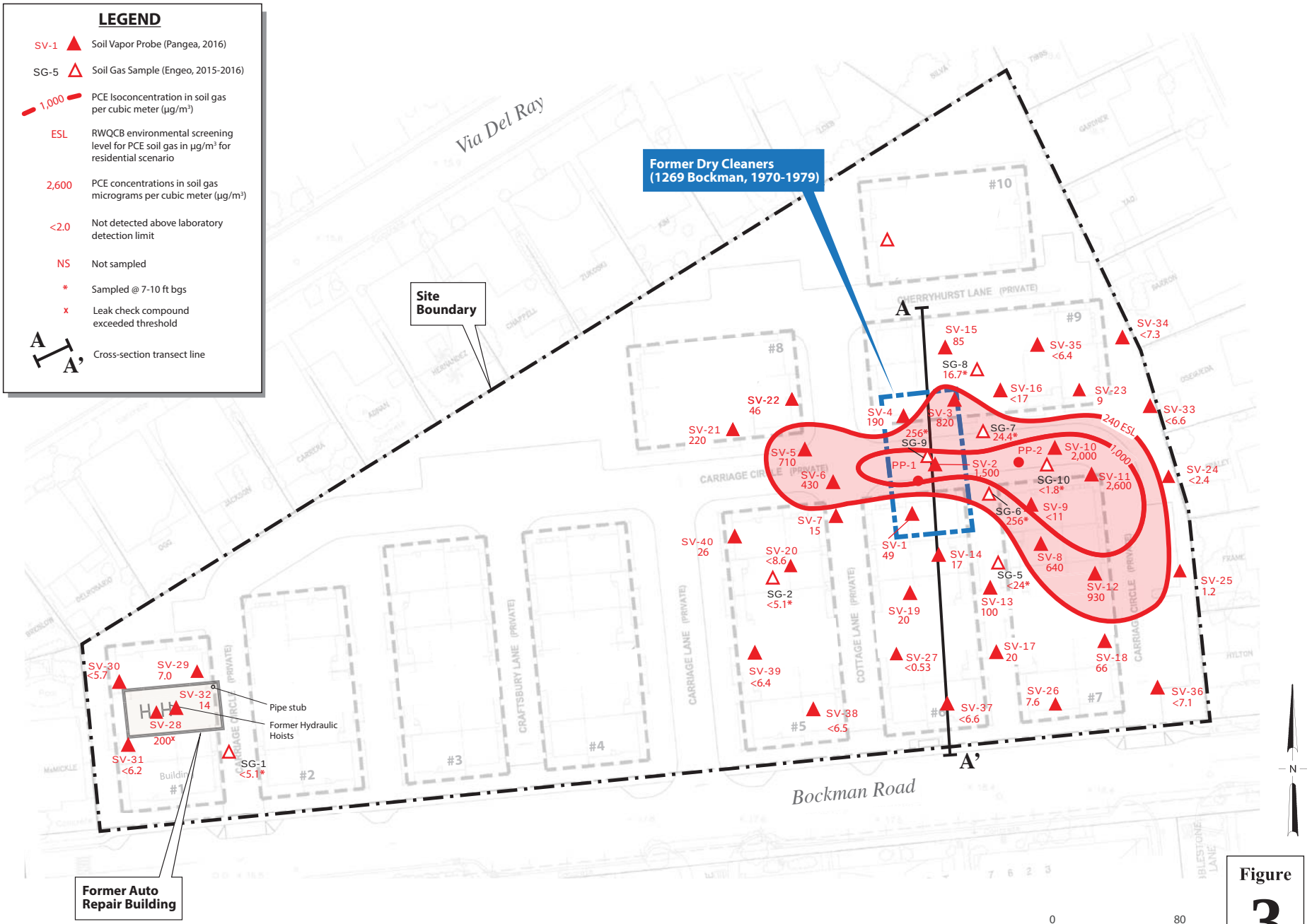


Figure 3

Map courtesy of ENGEO Incorporated. Base map derived from a electronic file titled "ACAD2010-151072-BASE.dwg," received on 09/15/15, and "Bockman Road," by Tetra Tech dated 06/11/15.

1233 Bockman Road
San Lorenzo, California

PANGEA

PCE in Soil Gas

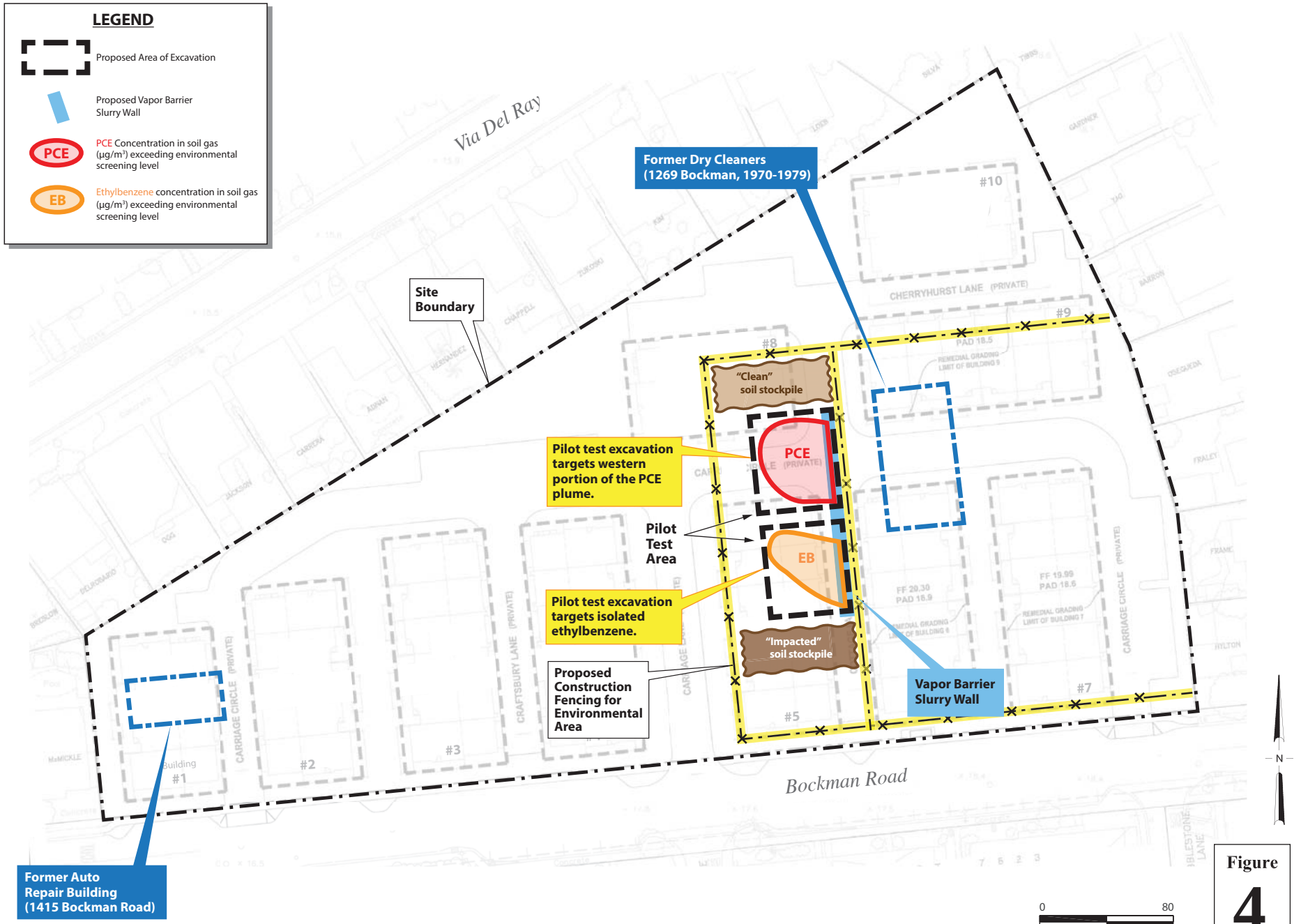


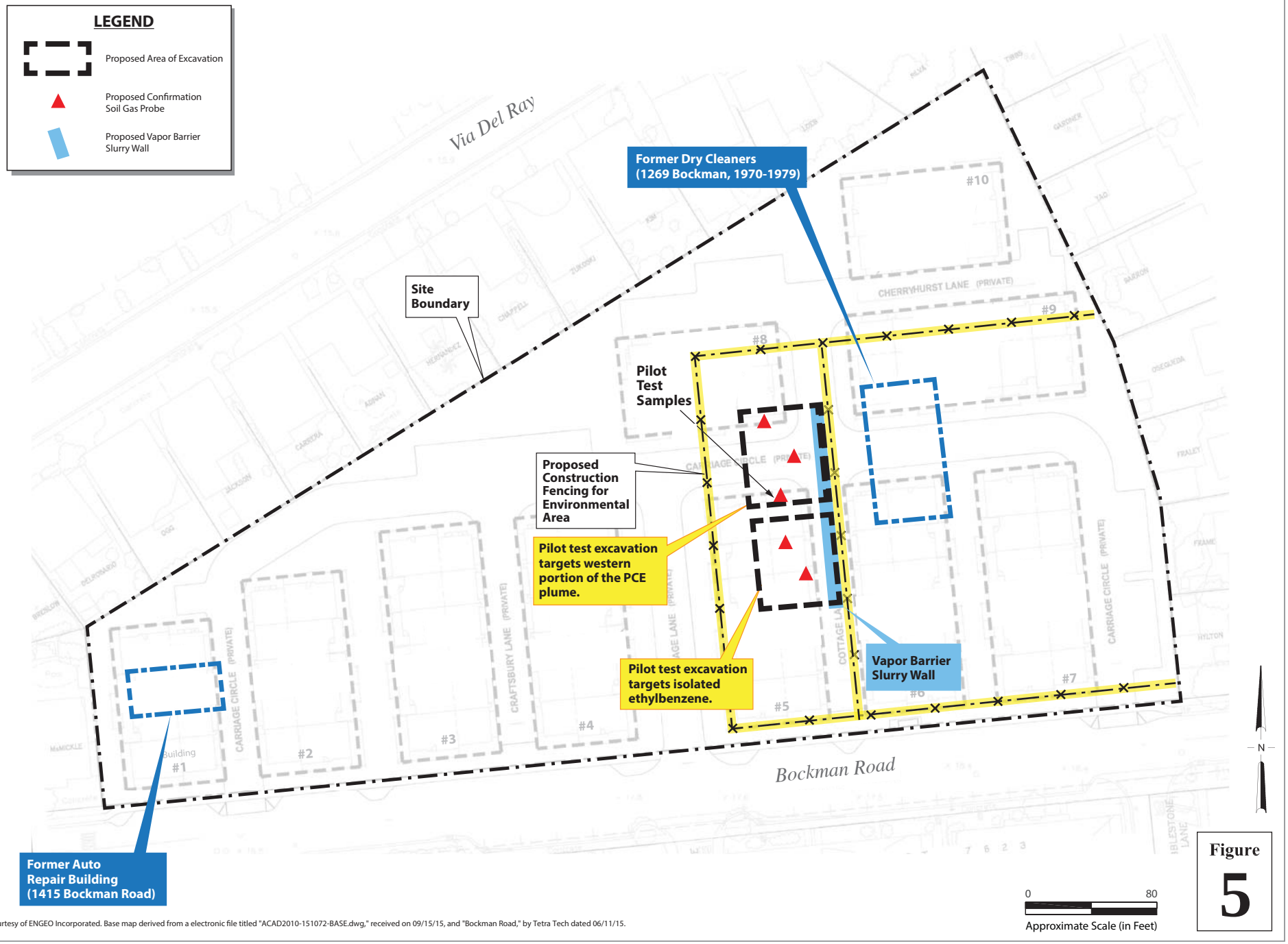
Figure 4

Map courtesy of ENGEO Incorporated. Base map derived from a electronic file titled "ACAD2010-151072-BASE.dwg," received on 09/15/15, and "Bockman Road," by Tetra Tech dated 06/11/15.

1233 Bockman Road
San Lorenzo, California

PANGEA

Proposed Pilot Study Excavation Plan



Map courtesy of ENGEO Incorporated. Base map derived from a electronic file titled "ACAD2010-151072-BASE.dwg," received on 09/15/15, and "Bockman Road," by Tetra Tech dated 06/11/15.

Figure 5

1233 Bockman Road
San Lorenzo, California

PANGEA

Proposed Confirmation Soil Gas Sampling Locations

Pangea

Table 3. Soil Gas Analytical Data - 1233 Bockman Road, San Lorenzo, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2-DCA	PCE	TCE	Chloroform	Other VOCs	Isopropyl Alcohol (Leak Check Compound)	Oxygen	Notes
			ug/m^3											%	
Residential ESL - Soil/Subslab Gas:			**48**	**160,000**	**560**	**52,000**	**41**	**54**	**240**	**240**	**61**	**Varies**	**NA**	**NA**	
Soil Gas Samples - Engeo 2015 - 2016															
SG-1	06/25/15	5.0	1.34	6.33	<3.2	<6.5	<7.8	<3.1	<5.1	<8.1	4.92	--	<30	--	
SG-2	06/25/15	5.0	2.45	18.3	1.81	14.83	<7.8	<3.1	<5.1	<8.1	<7.4	--	<30	--	
SG-5	06/24/16	10	<19	<26	<27	<44	<140	<55	<24	<150	ND	--	--	--	
SG-6	06/24/16	7.0	<1.6	4.1	143	260	<5.2	<2.1	**256**	<5.4	ND	--	--	--	
SG-7	06/24/16	10	21.9	20.9	<4.9	<9.9	<12	<4.7	24.4	<12	ND	--	--	--	
SG-8	06/24/16	7.0	9.18	19.1	232	1,172	<5.2	<2.1	16.7	<5.4	ND	--	--	--	
SG-9	06/24/16	7.0	3.84	9.96	<2.2	4.69	<5.2	<2.1	**256**	<5.4	ND	--	--	--	
SG-10	06/24/16	10	**61.8**	76.2	<2.0	6.97	<10	<4.1	<1.8	<11	ND	--	--	--	
Soil Gas Samples - Pangea 2016															
SV-1	07/27/16	6.0	<3.5	<4.2	<4.8	<4.8	<23	<4.5	49	<5.9	<5.4	--	<11	--	
SV-2	07/27/16	6.0	<7.1	<8.3	<9.6	<9.6	<46	<8.9	**1,500**	<12	<11	--	<22	--	
SV-3	07/27/16	6.0	14	14	4.7	7.7	<22	<4.2	**820**	<5.6	<5.1	--	140	--	
SV-4	07/27/16	6.0	18	7.5	<7.6	<7.6	<36	<7.0	150	<9.4	<8.5	--	<17	--	
	09/01/16	6.0	<6.2	<7.3	<8.4	<16.8	<40	<7.8	190	<10	<9.4	--	<19	--	
SV-5	07/27/16	6.0	3.8	<3.7	<4.3	<4.3	<21	<4.0	**710**	<5.3	<4.8	--	<9.6	--	
SV-6	07/27/16	6.0	12	<3.8	<4.4	<4.4	<21	<4.1	**430**	<5.4	<4.9	--	<9.9	--	
SV-7	07/27/16	6.0	18	27	<5.1	<5.1	<25	<4.7	15	<6.3	<5.7	--	<12	--	
SV-8	07/28/16	6.0	<4.9*	<11*	<10*	<15*	--	<14*	**640**	<8.7*	<9.4*	--	<22*	--	
Shroud (SV-8)	07/28/16	--	--	--	--	--	--	--	--	--	--	--	130,000	--	
SV-9	09/01/16	6.0	<5.2	<6.1	<7.1	<14.2	<34	<6.6	<11	<8.8	<8.0	--	62	--	
SV-10	07/28/16	6.0	<4.9*	<11*	<10*	<15*	--	<14*	**2,000**	170*	<9.4*	--	<22*	--	
SV-11	07/28/16	6.0	<4.9*	<11*	<10*	<15*	--	<14*	**2,600**	150*	<9.4*	--	<22*	--	
SV-12	07/28/16	6.0	<4.9*	<11*	<10*	110*	--	<14*	**930**	76*	<9.4*	--	<22*	--	
SV-13	07/28/16	6.0	<4.9*	<11*	380	1,470	--	<14*	100*	<8.7*	<9.4*	--	<22*	--	

Pangea

Table 3. Soil Gas Analytical Data - 1233 Bockman Road, San Lorenzo, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2-DCA	PCE	TCE	Chloroform	Other VOCs	Isopropyl Alcohol (Leak Check Compound)	Oxygen	Notes
			ug/m^3											%	
Residential ESL - Soil/Subslab Gas:			**48**	**160,000**	**560**	**52,000**	**41**	**54**	**240**	**240**	**61**	**Varies**	**NA**	**NA**	
SV-14	07/27/16	6.0	3.4	3.6	160	980	<20	<3.8	17	<5.1	<4.6	--	64	--	
SV-15	07/27/16	6.0	25	9.2	<4.6	8.6	<22	<4.3	85	6.1	<5.2	--	<10	--	
SV-16	07/27/16	6.0	35	13	<11	<11	<52	<10	<17	<13	<12	--	<24	--	
SV-17	07/28/16	6.0	34	13	28	191	--	<4.1	20	9.7	<5.0	--	150	--	
SV-18	07/28/16	6.0	**54**	59	**1,100**	3,190	--	<4.1	66	<5.5	<5.0	--	7.9*	--	
SV-19	07/28/16	6.0	15	40	**900**	2,490	--	<4.1	20	11	<5.0	--	8.7*	--	
SV-20	08/05/16	6.0	66*	160	**4,300**	18,400	17*	<130	<8.6*	<170	<160	--	<310	--	
SV-21	08/05/16	6.0	5.6*	<11	330	3,090	3.2*	<12	160	<16	<15	--	<29	--	
	09/01/16	6.0	<3.2	<3.8	<4.3	9.7	<21	<4.0	220	<5.4	<4.9	--	<9.8	--	
SV-22	08/05/16	6.0	21*	<82	340	18,100	10*	<88	24*	<120	<110	--	<210	--	
	09/01/16	6.0	<3.3	<3.9	<4.5	30.7	<21	<4.1	46	<5.5	8.0	--	<10	--	
SV-23	08/05/16	6.0	24*	150	**8,700**	34,000	19*	<130	9.0*	<170	<150	--	<310	--	
SV-24	08/05/16	6.0	42	45	**1,300**	5,500	13*	<35	<2.4*	<47	<43	--	<86	--	
Shroud (SV-24)	08/05/16	--	--	--	--	--	--	--	--	--	--	--	180,000	--	
SV-25	08/05/16	6.0	39	47	270	1,440	<1.2*	<11	1.2*	<14	<13	--	<26	--	
SV-26	08/05/16	6.0	23	28	180	920	2.6*	<4.4	7.6	<5.8	<5.3	--	<11	--	
SV-27	08/05/16	6.0	**73**	48	230	1,250	3.9*	<7.9	<0.53*	<11	<9.6	--	<19	--	
SV-28	08/23/16	6.0	<3.3	<3.9	<4.5	<9.0	<22	<4.2	200	9.6	<5.1	--	1,800	--	well destroyed 08/23/16
SV-29	08/23/16	6.0	7.5	<3.9	<4.5	17.1	<21	<4.1	7.0	<5.5	<5.0	--	83	--	well destroyed 08/23/16
SV-30	09/01/16	6.0	31	42	6.3	33.3	<21	<4.0	<6.7	<5.3	6.6	--	<9.7	--	
SV-31	09/01/16	6.0	16	34	6.4	40	<19	<3.7	<6.2	<4.9	<4.5	--	<9.0	--	
SV-32	09/01/16	6.0	6.4	3.9	<4.5	<9.0	<21	<4.1	14	<5.5	<5.0	--	<10	--	
SV-33	09/01/16	6.0	20	27	<4.2	8.8	<20	<3.9	<6.6	<5.2	<4.7	--	<9.5	--	
SV-34	09/01/16	6.0	17	33	4.7	24.3	<22	<4.3	<7.3	<5.7	<5.2	--	<11	--	
SV-35	09/01/16	6.0	36	100	16	79	<20	<3.8	<6.4	<5.1	5.8	--	<9.3	--	
SV-36	09/01/16	6.0	33	72	11	53	<22	<4.2	<7.1	<5.6	<5.1	--	<10	--	
SV-37	09/01/16	6.0	43	110	17	85	<21	<4.0	<6.6	<5.3	<4.8	--	<9.6	--	
SV-38	09/01/16	6.0	**48**	120	24	120	<20	<3.9	<6.5	<5.2	<4.7	--	<9.4	--	

Pangea

Table 3. Soil Gas Analytical Data - 1233 Bockman Road, San Lorenzo, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2-DCA	PCE	TCE	Chloroform	Other VOCs	Isopropyl Alcohol (Leak Check Compound)	Oxygen	Notes
			ug/m^3											%	
Residential ESL - Soil/Subslab Gas:			**48**	**160,000**	**560**	**52,000**	**41**	**54**	**240**	**240**	**61**	**Varies**	**NA**	**NA**	
SV-39	09/01/16	6.0	19	30	<4.1	12	<20	<3.8	<6.4	<5.1	<4.6	--	<9.3	--	
SV-40	09/01/16	6.0	29	51	<4.7	22.2	<23	<4.4	26	<5.9	17	--	<11	--	
SV-41	09/19/16	6.0	**49**	31	<6.1	7.6	<30	<5.7	<9.6	<7.6	<6.9	#	<14	2.9	
SV-42	09/19/16	6.0	<20	<24	<27	<54	<130	<25	<43	<34	<31	#	<62	11	
SV-43	09/19/16	6.5	7.2	23	6.9	32.2	<20	<3.9	<6.5	<5.2	<4.7	#	<9.5	10	
SV-44	09/19/16	6.0	--	--	--	--	--	--	--	--	--	--	--	--	water detected in probe
SV-45	09/19/16	6.0	8.7	33	9.4	43.3	<23	<4.4	20	<5.8	<5.2	#	<11	4.5	

Abbreviations:

DCA = 1,2-dichloroethane

PCE = Tetrachloroethene

TCE = Trichloroethene

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

VOCs by EPA Method TO-15.

See lab report for trace concentrations of other VOCs

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

ft bgs = Feet below ground surface

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; Feb 2016 (Rev. 3)

ND = not detected above laboratory reporting limits.

-- = Not analyzed

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

Bold concentrations exceed residential ESL.

* = Represents an estimated concentration (j-flag value) below the reporting limit, or indicates that there was no detection above the method detection limit.

= other VOCs detected below screening level thresholds. See lab report for details.

contaminant detections highlighted in gray