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

April 18, 2017

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

Re: **Response to Community Letter**
1919 Market Street
Oakland, California
ACEH Case No. RO0003205

Dear Ms. Soo:

On behalf of 1919 Crew, LLC, Pangea Environmental Services, Inc. (Pangea) has prepared the following *Response Letter* to address concerns raised by the community in letter dated March 29, 2017 for the above reference site. As requested, Pangea is responding to concerns relating to quality control and documentation of field procedures on page 2 of the community letter. Pangea understands that your agency or 1919 Crew, LLC will address other comments in the community letter.

Comment on Subslab Sampling Procedures

Community Comment

"In addition, the community is concerned that the holes drilled through the slab were smaller (5/8" diameter) than the diameter of the standard sleeves (1" diameter) used to seal the probes. Please provide documentation that the sub-slab sample devices are properly sealed through the slab to prevent dilution of the samples by ambient air."

Pangea Response

Pangea installed subslab gas probes using Cox-Colvin Vapor Pins® in accordance with procedures provided by the manufacturer. The manufacturer's procedures are included in Attachment A. As documented in our *Site Assessment Report* dated October 6, 2016, subslab gas probes were constructed by drilling a 5/8-inch diameter hole through the concrete slab and installing the Vapor Pin®. The Vapor Pin® includes a silicone sleeve for a seal. Pangea does not understand your reference to a standard sleeve of 1-inch diameter used to seal the probes.

Pangea also used a leak check gas (isopropyl alcohol) to evaluate potential sample dilution from ambient air. Field and laboratory data suggests the levels of isopropyl alcohol in the samples were well below 5% of the levels within the sampling shrouds. According to the July 2015 *Advisory-Active Soil Gas Investigation* guidance from California Environmental Protection Agency, an ambient air leak of up to 5% is acceptable if quantitative tracer test is performed by shrouding. This information suggests the subslab probes did not 'short circuit' to surface air and that the results are representative of subslab soil gas conditions.

Comment on Groundwater Sampling Procedures

Community Comment

"Also we need documentation that ground water samples were collected in accordance with standard practice to prevent escape of Volatile Organic Compounds from the samples during sampling. The community is concerned that the descriptions of ground water sampling procedures and protocols do not rule out the possibility of losses during sampling."

Pangea Response

Pangea's groundwater sampling was conducted following our standard operating procedures presented in Appendix B of the *Site Assessment Report* dated October 6, 2016. The procedures are based on industry practices. Pangea collected groundwater samples B-6 and B-7 by lowering ¼-inch diameter Teflon™ tubing with an attached check valve through temporary screened well casing and into the groundwater. By slowly raising and lowering the check valve, groundwater within the tubing was slowly raised to the surface. Upon reaching the surface, the groundwater sample was slowly decanted into the appropriate containers supplied by the analytical laboratory. In this manner, Pangea collected samples to minimize the potential for volatile organic compounds to 'escape' during sampling, and therefore provide representative data.

For prior sampling performed by others for groundwater samples B-1, B-2, B-3 and B-5, Partner Engineering and Science, Inc. gently lowered a disposal bailer into the open borehole and slowly retrieved and decanted groundwater into appropriate containers supplied by the analytical laboratory.

Pangea hopes these responses address your concerns about sampling procedures.

Sincerely,
PANGEA Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

cc: Ms. Kit Soo, ACDEH (via ACDEH FTP and Geotracker)
Jeremy Harris, 1919 Crew, LLC

ATTACHMENTS

Attachment A - Standard Operating Procedure for Installation and Extraction of the VaporPin®

Standard Operating Procedure Installation and Extraction of the Vapor Pin®

Updated September 9, 2016

Scope:

This standard operating procedure describes the installation and extraction of the VAPOR PIN® for use in sub-slab soil-gas sampling.

Purpose:

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the VAPOR PIN® for the collection of sub-slab soil-gas samples or pressure readings.

Equipment Needed:

- Assembled VAPOR PIN® [VAPOR PIN® and silicone sleeve(Figure 1)]; Because of sharp edges, gloves are recommended for sleeve installation;
- Hammer drill;
- 5/8-inch (16mm) diameter hammer bit (hole **must** be 5/8-inch (16mm) diameter to ensure seal. It is recommended that you use the drill guide). (Hilti™ TE-YX 5/8" x 22" (400 mm) #00206514 or equivalent);
- 1½-inch (38mm) diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent) for flush mount applications;
- ¾-inch (19mm) diameter bottle brush;
- Wet/Dry vacuum with HEPA filter (optional);
- VAPOR PIN® installation/extraction tool;
- Dead blow hammer;
- VAPOR PIN® flush mount cover, if desired;
- VAPOR PIN® drilling guide, if desired;
- VAPOR PIN® protective cap; and
- VOC-free hole patching material (hydraulic cement) and putty knife or trowel for repairing the hole following the extraction of the VAPOR PIN®.

Figure 1. Assembled VAPOR PIN®

Installation Procedure:

1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.

2) Set up wet/dry vacuum to collect drill cuttings.

3) If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. Use of a VAPOR PIN® drilling guide is recommended.

4) Drill a 5/8-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. Hole **must** be 5/8-inch (16mm) in diameter to ensure seal. It is recommended that you use the drill guide.

5) Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.

6) Place the lower end of VAPOR PIN® assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the vapor pin to protect the barb fitting, and tap the vapor pin into place using a dead blow hammer (Figure 2). Make sure the installation/extraction tool is aligned parallel to the vapor pin to avoid damaging the barb fitting.

Figure 2. Installing the VAPOR PIN®

During installation, the silicone sleeve will form a slight bulge between the slab and the VAPOR PIN® shoulder. Place the protective cap on VAPOR PIN® to prevent vapor loss prior to sampling (Figure 3).

Figure 3. Installed VAPOR PIN®

7) For flush mount installations, cover the vapor pin with a flush mount cover, using either the plastic cover or the optional stainless-steel Secure Cover (Figure 4).

Figure 4. Secure Cover Installed

8) Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.

9) Remove protective cap and connect sample tubing to the barb fitting of the VAPOR PIN®. This connection can be made using a short piece of Tygon™ tubing to join the VAPOR PIN® with the Nylaflow tubing (Figure 5). Put the

Nylaflow tubing as close to the VAPOR PIN® as possible to minimize contact between soil gas and Tygon™ tubing.

Figure 5. VAPOR PIN® sample connection

10) Conduct leak tests in accordance with applicable guidance. If the method of leak testing is not specified, an alternative can be the use of a water dam and vacuum pump, as described in SOP Leak Testing the VAPOR PIN® via Mechanical Means (Figure 6). For flush-mount installations, distilled water can be poured directly into the 1 1/2 inch (38mm) hole.

Figure 6. Water dam used for leak detection

11) Collect sub-slab soil gas sample or pressure reading. When finished, replace the protective cap and flush mount cover until the next event. If the sampling is complete, extract the VAPOR PIN®.

Extraction Procedure:

1) Remove the protective cap, and thread the installation/extraction tool onto the barrel of the VAPOR PIN® (Figure 7). Turn the tool clockwise continuously, don't stop turning, the VAPOR PIN® will feed into the bottom of the installation/extraction tool and will extract from the hole like a wine cork, DO NOT PULL.

2) Fill the void with hydraulic cement and smooth with a trowel or putty knife.

Figure 7. Removing the VAPOR PIN®

- Prior to reuse, remove the silicone sleeve and protective cap and discard. Decontaminate the VAPOR PIN® in a hot water and Alconox® wash, then heat in an oven to a temperature of 265° F (130° C) for 15 to 30 minutes. For both steps, **STAINLESS – ½ hour, BRASS 8 minutes**

3) Replacement parts and supplies are available online.