



Standard Operating Procedure Leak Testing the VAPOR PIN® Sampling Device Via Water Dam

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Scope:

The operating procedure describes the methodology to test a VAPOR PIN® sampling device or equivalent sub-slab sampling device for leakage of indoor air.

Purpose:

The purpose of this procedure is to assess the potential for indoor air to leak past the VAPOR PIN® sampling device and dilute the sub-slab soil gas sample.

Equipment Needed:

- Water dam
- Play-Dough or VOC free modeling clay
- distilled water
- VAPOR PIN® sampling device and associated sample tubing.

Procedure:

- 1) Drill a 5/8" diameter hole in the concrete slab and install the VAPOR PIN® sampling device as per the Standard Operating Procedure (SOP).
- 2) Clean the slab within a 2-inch radius of the VAPOR PIN® sampling device to remove dust. Avoid wetting the concrete or wait until the concrete is dry before proceeding and avoid cleaning with VOC-containing substances. A whisk broom or shop vacuum is recommended. Any remaining dust can be picked up with a

piece of scrap Play-Dough or modeling clay.

- 3) Roll a 1-inch diameter ball of Play-Doh or modeling clay between your palms to form a "snake" approximately 7 inches long and press it against the end of the water dam. Push the water dam gently against the slab to form a seal with the concrete.
- 4) Attach the sample tubing to the top of the VAPOR PIN® sampling device and pour enough distilled water into the water dam to immerse base of the VAPOR PIN®, and if desired, the tubing connection at the top of the VAPOR PIN® sampling device.
- 5) Purge the sample point as required by the data quality objectives. Concrete will absorb some of the water, which is normal; however, if water is lost to the sub-slab, stop, remove the water from the water dam, and reposition the VAPOR PIN® sampling device to stop the leakage. Reseat the leak test equipment, if needed.
- 6) If the VAPOR PIN® sampling device is installed in the flush-mount configuration, the larger hole can be filled with water in place of the water dam and Play-Dough.

Figure 1. Water dam used for leak detection



VAPOR PIN® sampling device protected under US Patent # 8,220,347 B2 and other US and International Patents