Scope:

The operating procedure describes the methodology to test a VAPOR PIN® 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 ® and dilute the sub-slab soil gas sample.

Equipment Needed:

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

Procedure:

1) Drill a 5/8" diameter hole in the concrete slab and install the VAPOR PIN® as per the Standard Operating Procedure (SOP).

2) Clean the slab within a 2-inch radius of the VAPOR PIN® 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® 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®.

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® to stop the leakage. Reseat the leak test equipment, if needed.

6) If the VAPOR PIN® 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 6.** Water dam used for leak detection