

## EAS Soil Gas Sampler

Please Read The Following Important Information before Starting

- *The Soil Gas Sampler is fragile and should be handled with care. Make sure all connections are snug, but to not over tighten fittings.*
- *The EAS Soil Gas Sampler is designed to collect soil gas samples into SUMMA canisters using the DTSC protocol.*
- *The instructions below are designed to provide general guidance for most projects. For projects where procedure is critical, be sure to review and follow the DTSC Protocol or your Project QAPP.*
- *When sampling is completed, put the samplers back in the original boxes to protect them.*

### Operation of Sampler

- Attach the 6-liter flushing canister (canister under vacuum) to the end of the sampler that has the “Tee”. When the canister is standing the sampler extends up into the air. See Attached Picture.
- Attach the sampling canister to the other port of the “Tee” so the canister extends out sideways. See Figure 1 to see how the system looks with a 3.2-liter sampling canister.
- Connect the sample line from the soil gas probe to the valve on the top of the sampler.
- Before collecting a sample do the leak check and flush the sampler and tubing.

### Leak Check the Sampler

- The Soil Gas sampler can be leaked checked by first verifying that the valves on the canisters are closed.
- Then turn off the top valve that connects to the sample line.
- Open the valve on the flushing can and put a vacuum on the sampler. After a few seconds close the valve and check the vacuum gauge near

The canister and record the vacuum. The gauge reading should remain stable and not drop fast. This verifies that there are not any major leaks in the system.

- To check for small leaks, open the valve on the flushing can and leave open for 30 seconds. Tap the gauge a few times to stabilize the reading. Close the valve on the canister. Wait 30 seconds and record the pressure reading. The sampler is leak tight if the vacuum on the gauge does not drop more than 2" in 2 minutes.
- If there is a leak, check the fittings to make sure they are tight. Use two wrenches to tighten the fittings especially on the flow orifice. Do not over tighten fittings. If this does not fix the problem call Steve Hoyt at (805) 781-3585.

## **Purging Probe and Sampler**

- The sampler and probe should be purged with three times the estimated dead volume. The flow orifice has a flow rate of about 100 mL/min, so it would take about 2 minutes for most systems. Follow the instructions in the DTSC procedure if the flushing is critical to the project.

$$\text{Flushing volume (mL)} = 100 \text{ mL/min} \times \text{minutes canister is open}$$

- To flush the sampler first open the top valve where the tubing connects, then open the 6 Liter flushing canister and start the timer. Close the valve after 2 minutes, or the time calculated to get the desired flushing volume.

## **Collecting Sample in Canister**

- Make sure the valve on the flushing canister is closed. Make sure the valve to the soil gas probe is open.
- Open the sample canister valve to start collecting the sample.
- Record the initial vacuum, sample time, final vacuum, canister number and sampler number on the Chain of Custody along with the other information.
- The flow rate into the canister is 100 mL/min. The sample time in porous soil would be about 30 minutes. If the soil is not permeable then the sampling time may be longer. Fill canister to about 5" vacuum and close the valve on the sampling canister.

- The vacuum in the canister can be between 15" and 5" for a valid sample.
- Close the canister valve and remove the canister from the sampler and send back to the lab.

**NOTE: *The current draft DTSC guidance document specifies a holding time of 14 days for the SUMMA canisters. The holding time for EPA Method TO-15 is 30 days, so if you are using the 14 day holding time be sure to mark it on the Chain-of-Custody otherwise the samples will be logged in with the standard 30 day holding time.***

Leak Check Compound. If you are going to use a leak check compound be sure to notify the lab as to the type used.

## **When Done:**

Ship the Sampler and Canister back to Environmental Analytical Service, Inc.

Environmental Analytical Service, Inc.  
173 Cross Street  
San Luis Obispo, CA 93401

(805) 781-3585

# Figure 1 EAS Soil Gas Sampler

