EAS Basic Soil Gas Sampler

Please Read The Following Important Information before Starting

- ***The EAS Basic Soil Gas Sampler has the traditional design where a pump or evacuated canister can be to purge the probe through the flow regulator. This configuration is not set up for a direct syringe purge of the probe.***
- ***This sampler is used where a field measurement of the tracer gas is not required. Tracer will be measured by laboratory.***
- ***The Soil Gas Sampler is fragile and should be handled with care. Make sure all connections are snug, but do not over tighten fittings.***
- ***The instructions are based on the 2015 DTSC Advisory and are designed to provide general guidance for most projects. For projects where the procedure is critical, be sure to follow the regulators protocol or your approved project plan.***
- ***When sampling is completed, put the samplers back in the original boxes to protect them.***

The EAS Basic Soil Gas Sampler has the traditional, easy to use design for the rapid collection of soil gas samples where the leak check compound is ***not*** going to be measured in the field and a syringe is ***not*** going to be used for purging the probe. This sampler connects directly to the ¼" probe tube and uses an evacuated canister or pump to purge the probe through the flow controller at a flow rate of 100 ml/min. This sampler can be used with any leak check compound including Helium but it does not have the three-way valve needed to make a field measurement of the leak check compound from the probe.

If you need the 3 way-valve, call us and we will send one that can be easily attached to the sampler in front of the flow regulator. Do not try to reconfigure the sampler in the field without calling us or you risk damaging it or creating leaks.

Summary of Steps for Collection of Sample

- **Connect Flow regulator to Canister:** Remove the cap from the canister and connect the canister to the gauge end of the soil gas sampler. Keep the ball valve capped when not in use. See Figures.

- **Shut In Test:** Conduct the Shut In test to check for leaks in the canister/sampler system before connecting the sampler to the well tubing.

- **Probe Purge:** After the Shut In test the probe needs to be purged before sampling.

- **Leak Check**: The soil probe is leak checked by using a leak check compound placed on a rag or in a shroud ***during*** sample collection and measuring it in each canisters at the laboratory. Let the laboratory know which leak check compound was used.

Shut In Test

- The Shut In test leak checks the sampler system with the canister connected. To prepare for this test connect the sampler to the canister that will be used for sample collection. The correct configuration is shown in the Figures.

- Place a cap on the inlet to the soil gas sampler.

- Connect an evacuated purge canister or vacuum pump to the ball valve that is used to flush the sampler. Open the ball valve and put a vacuum on the sampler to at least 100 in water (about 7 in Hg). After a few seconds close the valve, tap the gauge gently and wait for the reading to stabalize. After stabilization, the gauge reading should remain stable for 1 minute.

- If there is a leak, check the connection to the canister and the sampler and make sure the cap on the sampler is 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 cell (805) 801-5660.

Purging Probe and Sampler

- The 2015 guidance document does not recommend a purge volume test. It recommends a purge volume of three times the volume of the tubing, and the void space in the well. This applies to both old and new wells.

- The flow regulator on the soil gas sampler has a flow rate of about 100 mL/min, so the purge time can be calculated using the equation below.

Time (min) = Purge Volume mL / 100 ml/min

- To purge the probe, first make sure that the canister valve is closed, then turn on the purge pump or open the valve on the evacuated purge canister. Open the Purge Shut Off Valve (see Figure 1). Purge the system for the calculated purge time and close the value.

Collecting Sample

- Make sure the probe has been purged and the Purge Shut Off valve is closed. You can remove the pump or purge canister at this time and put the cap back on the ball valve.

- Open the sample canister valve to start collecting the sample.

- Record the initial vacuum, sample time, canister number, and sampler number on the Chain of Custody along with the other information.

- The flow rate into the canister is approximately 100 mL/min. The sample time in porous soil for a 3 liter canister 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 2" of mercury for a valid sample.

- Close the canister valve and remove the canister from the sampler and send back to the lab.

NOTE: ***The current DTSC guidance document specifies a holding time of 30 days for the SUMMA canisters. If your project plan has a different holding time be sure to record it on the Chain of Custody form.***

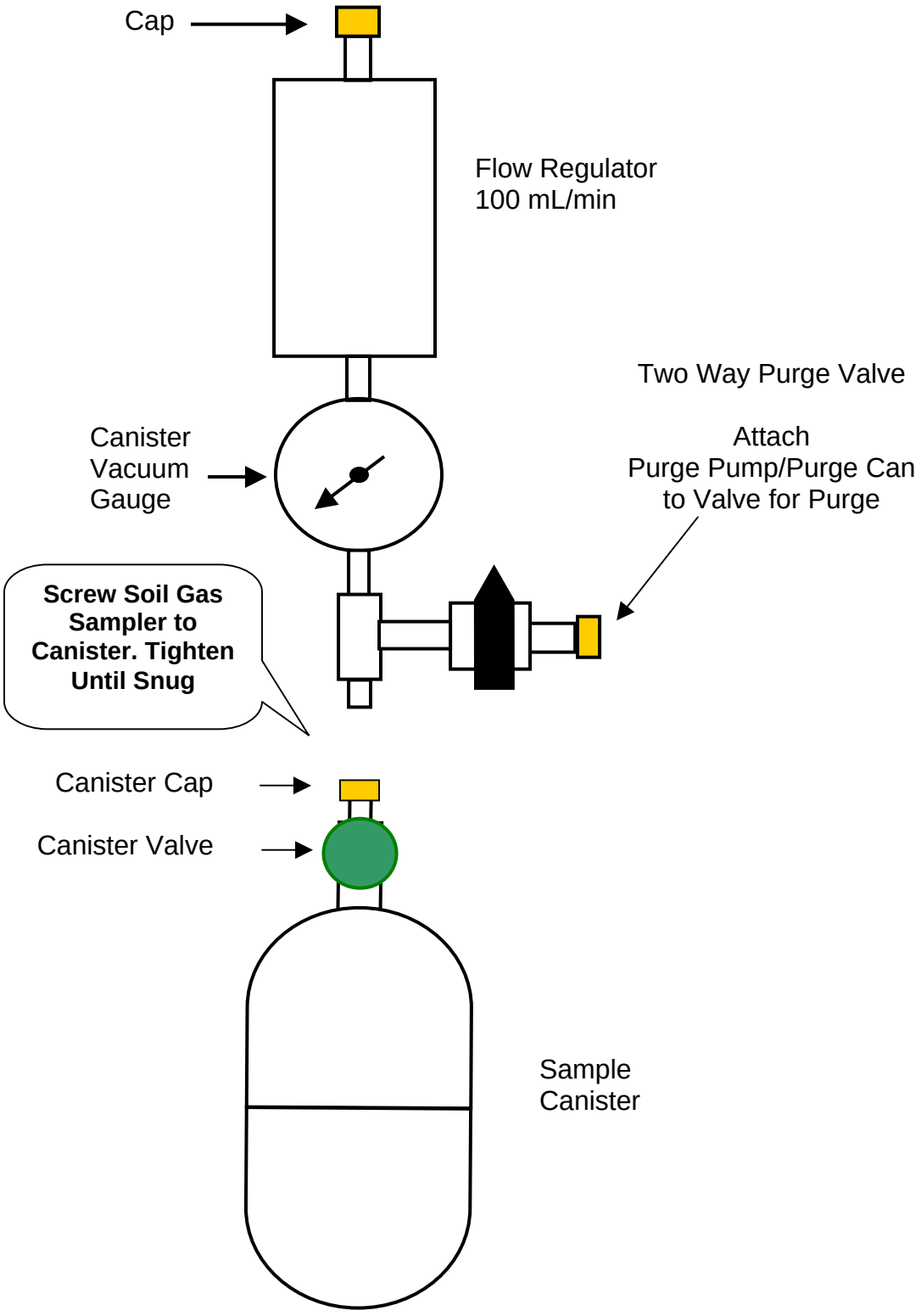
When Done:

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

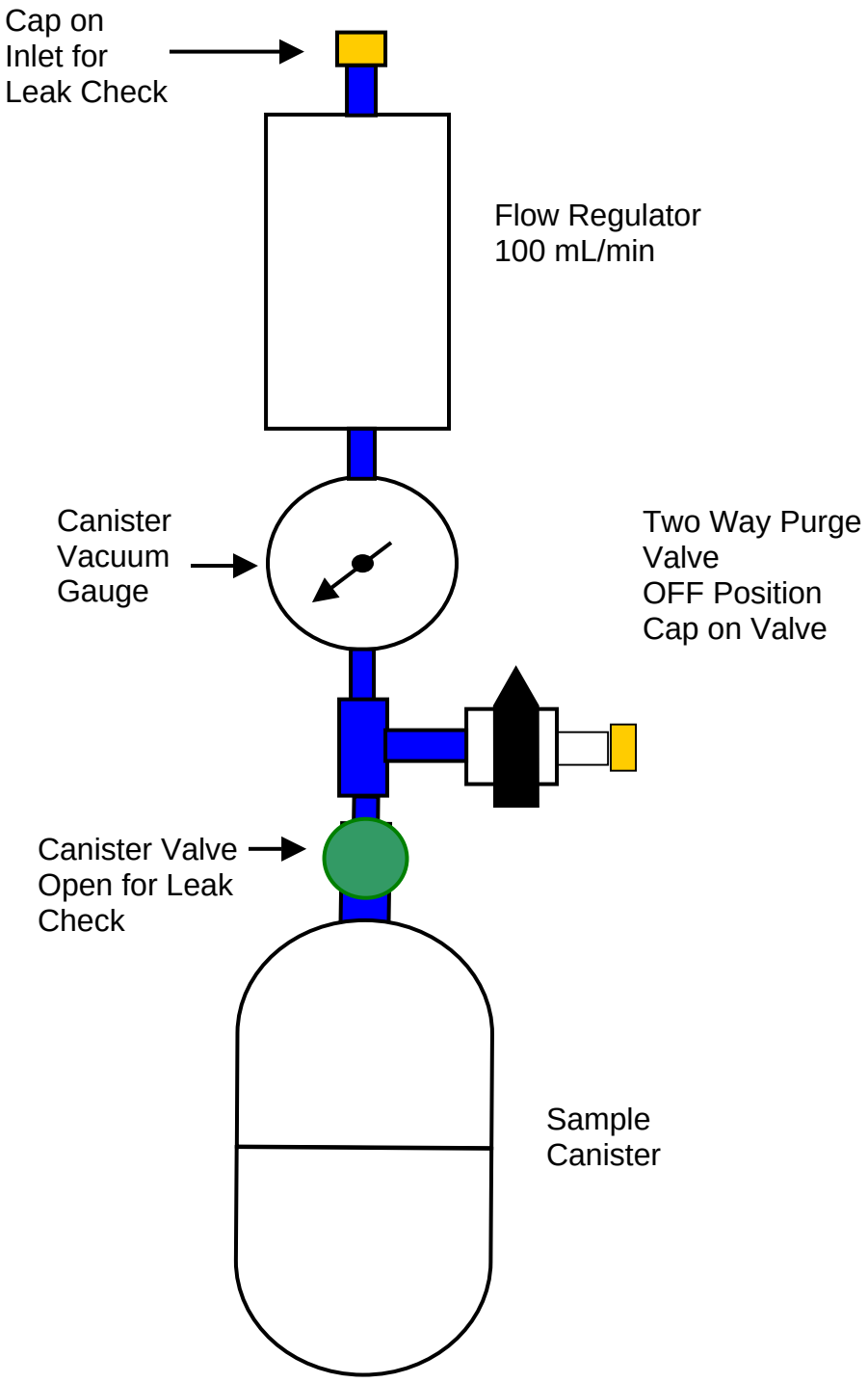
Sample Control
Environmental Analytical Service, Inc.
173 Cross Street
San Luis Obispo, CA 93401

(805) 781-3585

Attaching Soil Gas Sampler to Canister

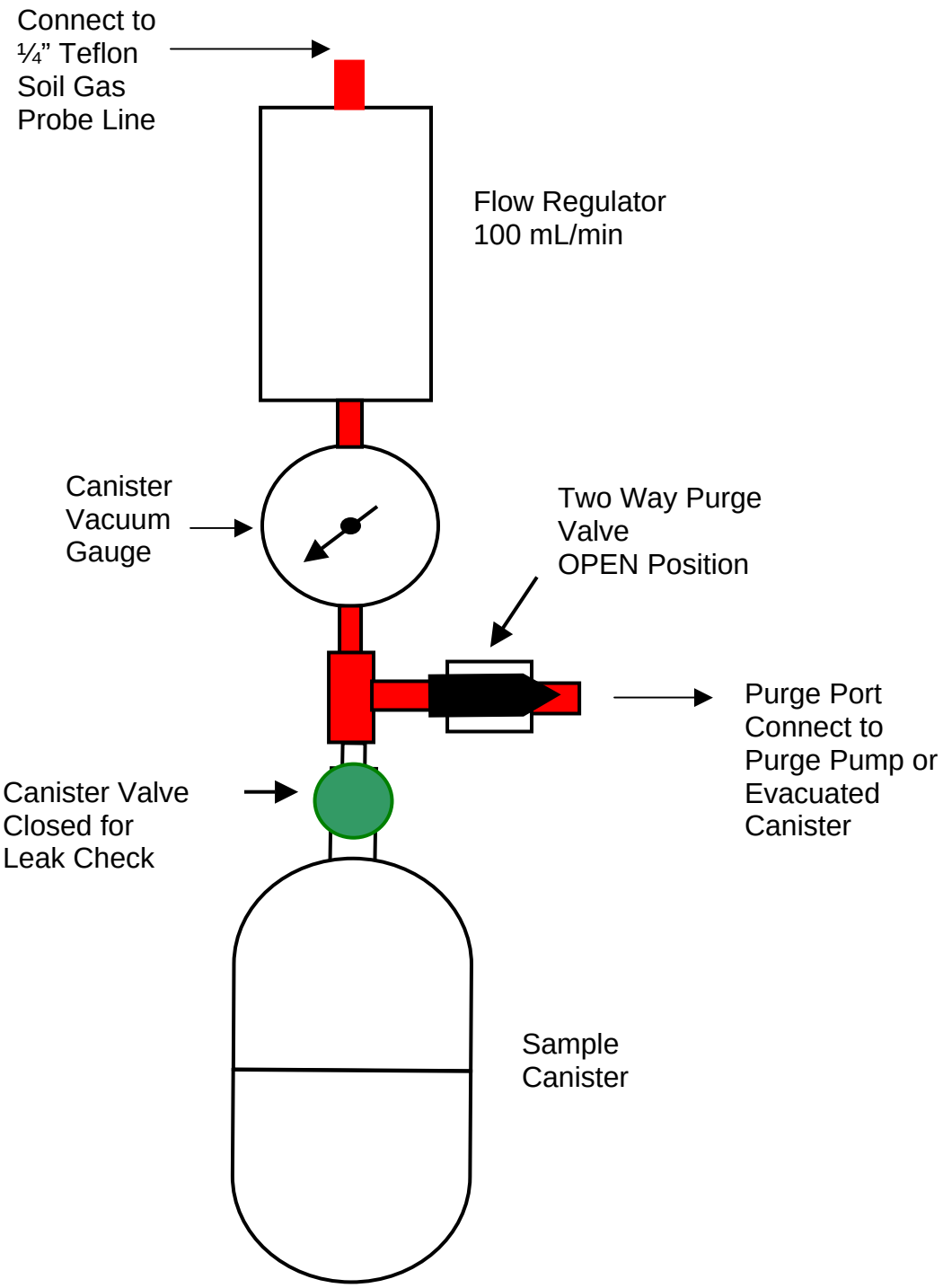


Flow Path for Leak Check

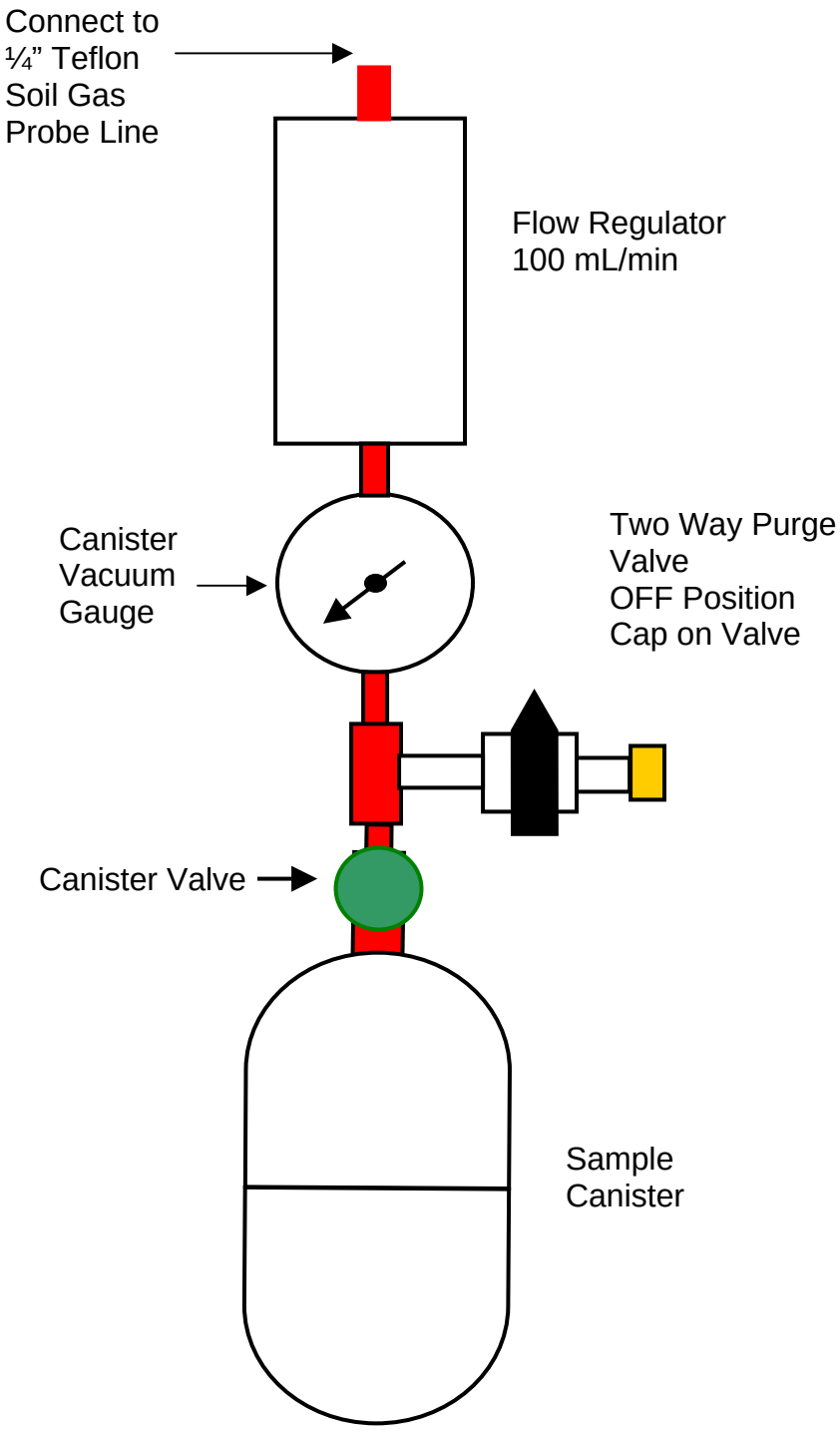


Flow Path for Probe Purge

Purge Through Flow Regulator at 100 ml/min



Flow Path for Sample Collection



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