Concrete Ecoflo® Peat Filters

Sampling Guide

*This guide contains the information required for the sampling of the **Concrete Ecoflo® Peat Filter**. These tasks must be carried out by authorized personnel, namely the Premier Tech Environment Customer Service team, a Service Partner or authorized agent.*

Note: The technician must be trained before sampling. The sampling technician must be trained in the proper use of equipment, in conducting the sampling procedure without contaminating the samples, and providing paperwork and delivery to a certified laboratory. Therefore, the following procedure is to be used as a guide after the training as been completed.

Extra care should be used in taking representative samples and keeping samples at proper temperatures until delivery to the laboratory. Health and safety precautions and personal protective equipment should be employed.



Composite sampling procedure for Ecoflo® Peat Filter Concrete series effluent

Material

- ISCO portable 3710 sampler or equivalent.
- ISCO suction line coupling with standard weighted strainer (or equivalent for the sampler used).
  - Note 1: Strainer helps to stabilize the suction line and prevents solid particles larger than specific diameter from entering and clogging the suction line.
  - Note 2: Some strainer's holes may need to be plugged in order to collect samples at the appropriate water level. The optimal level to collect water is between 1 to 2 inches from the bottom of Ecoflo® model H1 and between 1 to 3.5 inches for Ecoflo® models H2/H3.

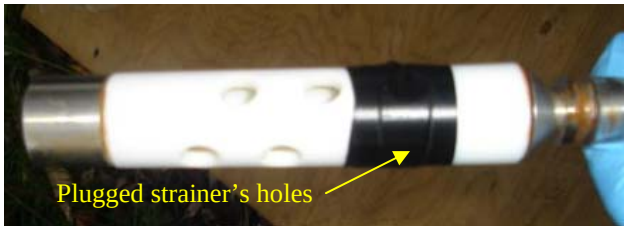

Figure 1 Strainer of the suction line

- Clean ISCO 10 Liters (4 gallons) polyethylene container (or equivalent for the sampler used).
- Ice cubes.
- Tap water (to rinse the sampler after sampling), paper towels, and disinfectant.
- Laboratory sampling bottles, labels and chain of custody forms for analysis (TSS, $CBOD_5$, NH_4^+, coliforms, etc.).
- Latex gloves and other personal protective clothing as required to keep protected from exposure to pathogens.
- Shovel, broom, other equipment to clean around and open lid.

Method

Follow the sampling procedure supplied with the "ISCO" sampler as well as considering the following:

1. Program the sampler for the sampling requirements.
   Note: ISCO sampler default programming parameters are set to collect a sample dose in three phases. First, it empties (drains) the tubing. Second, it collects the amount of water required and finally it empties again. For Ecoflo® sampling, the first draining of the tubing must be cancelled to avoid particle resuspension. Refer to the ISCO procedure to modify this parameter.
2. Calibrate the sampler if necessary.
3. Before opening the Ecoflo® secondary access, clean up its surroundings in order to avoid objects (dirt, stones, leaves, etc.) falling into the water. After opening, remove the insulating board located inside.
4. Verify the system installation condition and operation.
5. Lower down the ISCO suction line to the bottom of the pumping vault. While lowering down the suction line, make sure not to touch anything to prevent particles getting in the water.
6. The proper placement of the sampler intake assures the collection of representative samples. The sampler suction line must between the pump and the vault wall. Do not place the suction line beside the float tree.

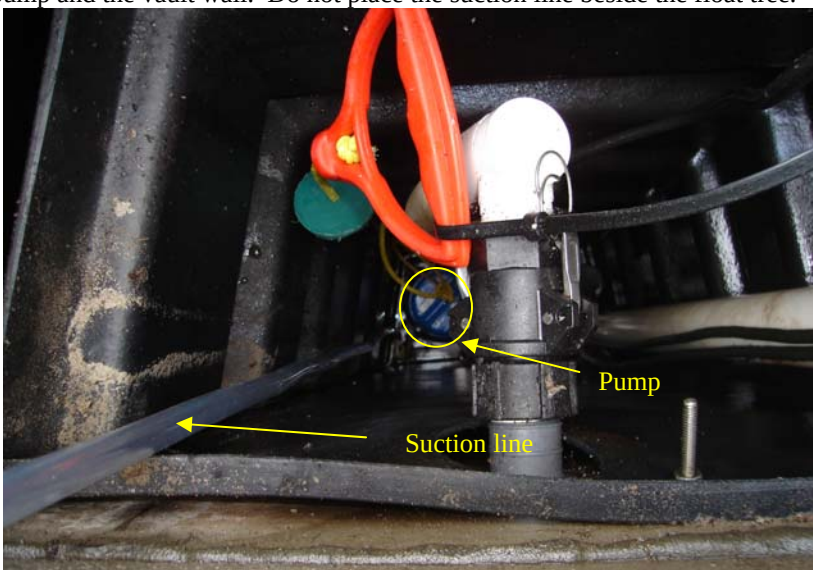

Figure 2 Suction line positions

7. The vertical position of the intake is also important. An intake at the bottom may result in excess heavy solids and no floating materials, while placement at the top may result in the opposite. For Ecoflo® sampling, the optimal levels to collect water is between 1 to 2 inches from the bottom of Ecoflo® model H1 and between 1 to 3.5 inches for Ecoflo® models H2/H3.

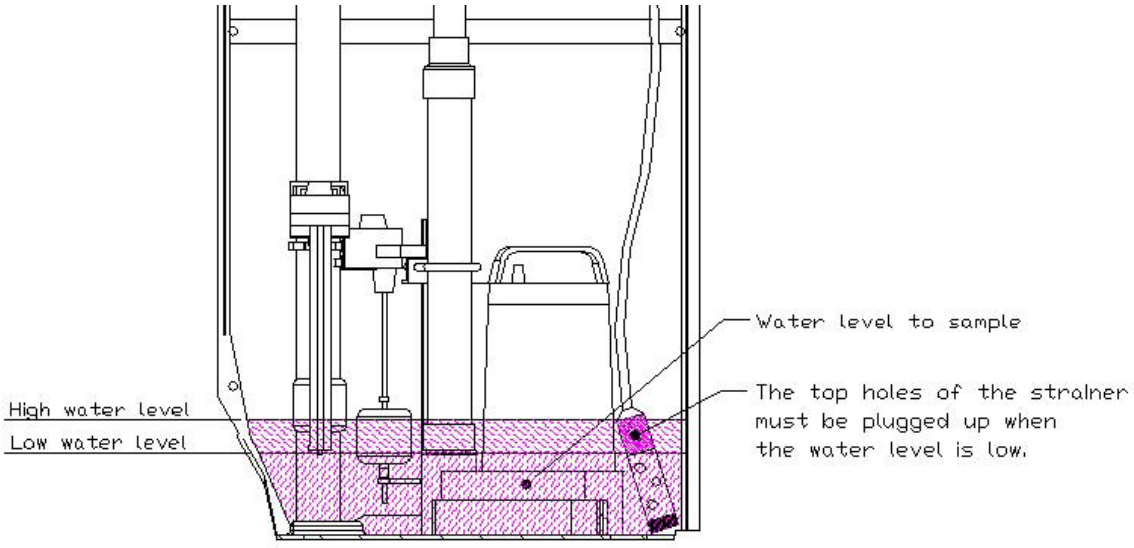

Figure 3 Vertical position of the sampler

8. Stabilize the suction line in order to avoid displacement during the sampling period.
9. Start the sampler.
10. After 24 hours (or other specified period) stop the sampler and remove from pump vault.

11. Transfer collected samples into properly labeled laboratory bottles.
12. Place bottles in a cooler with ice cubes.
13. Immediately transport to a certified laboratory for analysis.

Grab sampling procedure for Ecoflo® Peat Filter Concrete series effluent

Material

- Cleaned Ecoflo® Sampler G-2
  or ISCO portable 3710 sampler (with ISCO suction line coupling with standard weighted strainer)
  or equivalent ;
- Bottles for analysis (TSS, $CBOD_5$, NH_4^+, coliforms, etc.);
- Cooler;
- Frozen ice packs or ice cubes;
- Liquid waste container.
- Tap water (to rinse the sampler after sampling), paper towels, and disinfectant.
- Laboratory sampling bottles, labels and chain of custody forms for analysis (TSS, $CBOD_5$, NH_4^+, coliforms, etc.).
- Latex gloves and other personal protective clothing as required to keep protected from exposure to pathogens.
- Shovel, broom, other equipment to clean around and open lid.

Method

1. Read the "Composite sampling procedure for Ecoflo® Peat Filter Concrete series effluent" because some details could be helpful for the grab sampling.
2. Before opening the Ecoflo® secondary access, clean up its surroundings in order to avoid that objects (dirt, stones, leaves, etc.) fall into the water. After opening, remove the insulating board located inside.
3. Verify the system installation condition and operation.
4. Connect the weighted tubing to the Ecoflo G-2 sampler or the suction line to the ISCO sampler.
5. Lower down the tubing (or the suction line) and position it between ½ to ¾ inches below the surface of the water. While lowering down the tubing, make sure not to touch anything to prevent particles getting into the water.
6. After the tubing end has been submerged, start the sampler. Make sure that the tubing is submerged at the same depth during the entire sampling.
7. Pump 1 to 2 liters of water into the liquid waste container. Stop the sampler.
8. Start sampling: place the sampler tubing on top of each laboratory bottle and fill them up individually.
9. Place labeled bottles in a cooler with ice cubes.
10. Deliver immediately to a certified laboratory.