

Sampling Method for Ferrous Ochre analysis

The biochemical phenomenon of ferrous ochre is an issue presently reported in most regions of Quebec. In the presence of oxygen, water and/or ferruginous bacteria, the iron contained in the soil transforms into an orange gelatinous mass. Gradually, this gelatine-like substance attaches to the walls of the French drain and causes an obstruction of the duct. In some cases, this orange gel develops in the foundation drain as well as in the catch basin, causing damage to the pump.



- ☞ **Appropriate testing of water and / or soil samples can indicate if there are ochre deposits present.**
- ☞ **In addition, a complete analysis of your water sample can predict the potential for clogging of your drain.**

Water

The accessibility of the drain and the availability of water for sampling can vary depending on the site. The most conclusive samples for assessing the potential for clogging come from the foundation drain. However, if it is not accessible, the water in the catchment / retention basin of the pump (also called sump) is also acceptable. Essentially, it is important to obtain a sample that is the most representative of the surveyed site.

Before recovering the sample, homogenize the liquid properly by stirring the water from the drain or basin with a small tool, for example a spoon. To do this, gently mix the water **without scraping the bottom of the drain or basin**. If the clumps of gelatin and bacteria deposited at the bottom are suspended, the measured bacterial count will be overestimated. Then, remove the water using a pipette or a baster.

A minimum of three containers are provided for water sampling: the first is a preserved sterile bottle for microbiological analysis, the second is a non-preserved bottle for physicochemical analysis and the third is a preserved bottle with nitric acid for the analysis of extractable iron. Fill all bottles to the shoulder. If the amount of water available is insufficient, first fill the non-preserved bottle for physicochemical analysis as much as possible.

Note:

If there is insufficient water in the drain and sump, contact a customer service agent to help you find other sampling solutions.

Please make sure the bottles are closed tightly to help prevent any leaks during transportation. Also, avoid inserting the sampling certificate directly with the sampled water; rather attach it directly onto the transport cooler

Soil

The containers provided by the laboratory for a soil sample are 250mL glass jars. Alternatively, any clean and hermetically sealed container is acceptable, for example a *Mason* jar or a plastic freezer *Ziploc* bag.

To collect a soil sample, make sure it is taken at a distance of 1.5m away from the foundation of the building, and at a depth of approximately 1.5m. The amount of soil required for the analysis is about 1 cup (250 mL), which is equivalent to the provided jar filled to the rim. **If several different types of soil can be seen on site (visible strata / veins), it is important to produce a sample that is a proper representation (a composite) of the soil around the French drain.** Therefore, it is important to collect all of the different elements present on the sampling site. Please avoid large rocks or stones, as these cannot be analysed.

How to store and ship your samples?

It is crucial to bring all water samples to the laboratory as soon as possible and to respect the following time limits for analysis:

- **pH Analysis (Chemistry) : 24 hours**
- **Ferrous Iron analyses (Fe²⁺) (Chemistry) : 48 hours**
- **Iron Extraction analyses (Chemistry) : 180 days (if preserved in nitric acid)**
- **Ferruginous Bacteria analysis (Microbiology): 72 hours**

Even though soil samples are more stable, it is important to bring them to the laboratory **as soon as possible.**

Keep samples cool at a temperature of around 4°C at all times by using the provided icepacks in the sampling kit.

Please complete the sampling certificate with all essential information as cited below :

- ✓ Date of sampling
- ✓ Sampling location
- ✓ Sampled by
- ✓ Contact information

Any questions ?



Contact your project manager
 OR the environmental
 customer service team at
 1-877-977-1220 ext. 5400 or 6400