

Site assessment for underground storage tanks with no apparent contamination

This fact sheet answers questions about sampling for contamination during site assessment of regulated underground storage tank (UST) systems.

This document provides guidance for facilities that have **no apparent contamination** at the time of site assessment. If you do suspect a release from tanks or piping at the facility through visual observation, odor, or otherwise, you must immediately report the suspected release to the Minnesota Duty Officer at 651-649-5451 or toll-free at 1-800-422-0798, and refer to the Minnesota Pollution Control Agency's (MPCA) Petroleum Remediation Program (PRP) guidance documents and sampling protocol for further assessment.

When is site assessment required?

Site assessment of a regulated UST is required at the time of:

- Change in status to storage of a non-regulated substance
- Permanent closure-in-place
- Removal of tanks or piping

Site assessment is not required for tanks which are not regulated by the MPCA, such as tanks smaller than 110 gallons, and farm or residential USTs with a capacity of 1,100 gallons or less used for storing motor fuel not for resale.

Site assessment is recommended but not required for regulated heating oil tanks.

What are the sampling requirements?

A site assessment consists of collecting soil samples at the tank site where a release is most likely to have occurred and conducting a laboratory analysis of the samples to determine if contamination is present.

In selecting sample types, locations, and measurement methods, the following elements need to be considered:

- The method of closure
- The nature of the stored substance
- The type of back fill
- The depth to groundwater
- Any other appropriate factors that identify contamination

Table 1. Sample requirements

	One Tank Individual Tank Basin	More than one UST <10,000 gallons	More than one UST >10,000 gallons	Dispenser island	Piping
Samples needed	Two samples	One sample per tank	Two samples	One sample	Varies
Location	At each end of tank	Under center of each tank	At each end of tank	Five feet below dispenser or just above water table	Under pipe fittings or joints
Specifics	Sample one to two feet below the floor of the excavation and above the water table	Sample one to two feet below the floor of the excavation and above the water table	Sample one to two feet below the floor of the excavation and above the water table	If dispenser is over tank basin, no sample required	Take soil headspace samples where contamination is likely to be present

Who can collect samples?

Samples must be collected by someone instructed in proper field sampling procedures. The MPCA strongly encourages site assessments be conducted by an experienced environmental consultant. An experienced consultant is familiar with the soil sampling requirements, laboratory tests, and actions required if contamination is encountered. An environmental consultant will also be familiar with procedures for reimbursement. Having a knowledgeable consultant will save you time and money in the long run.

To search for environmental consultants registered with the Petrofund, go to <https://mn.gov/commerce/industries/fuel/petrofund/>.

How should samples be collected?

Samples are taken from freshly exposed soil, for example, from the open excavation during tank removal or from a soil boring. For safety reasons, open excavation soil samples should be taken from a backhoe bucket instead of entering the excavation.

All samples should be collected using the appropriate sample bottles provided by the laboratory. Fill each sample bottle so that no headspace exists. Coffee cans and other non-approved containers are unacceptable.

All sample bottles should be clearly labeled with the date, time, facility name, sample location, and the analysis parameters requested.

Soil samples should be grab samples that are representative of the soil at one location. The samples should not be composite samples.

What do you analyze samples for?

Samples collected at tank sites where gasoline was stored should be analyzed for benzene, ethyl benzene, toluene, xylene, and the Wisconsin Department of Natural Resources (WDNR) modified-method for Gasoline Range Organics. Samples collected at tank sites storing other petroleum products should be analyzed for WDNR modified-method Diesel Range Organics.

Where can I have samples analyzed?

A certified lab can perform the soil sample analysis. If you have a question about certified laboratories in Minnesota, call the Minnesota Department of Health at 612-676-5200.

What should I do with the sampling results?

If no contamination is found, owners and operators must keep all site assessment and closure records, including the sampling protocol and lab report, which demonstrate compliance with the site assessment and closure requirements in Minnesota Rules. These records must be retained during the life of the tank and for a minimum of three years after tank closure, and the MPCA recommends that you keep the closure records indefinitely.

If any contamination is discovered from the samples, it must be immediately reported to the Minnesota Duty Officer at 651-649-5451 or toll free at 1-800-422-0798. A separate sampling protocol must then be followed. The purpose of the protocol is to gather samples that will define the extent and magnitude of the contamination and determine what type of cleanup is necessary. If you have any questions about the remediation program, call toll-free at 1-800-657-3864 and ask for Petroleum Remediation Program (formerly LUST) staff in your area, or visit the program webpage at <https://www.pca.state.mn.us/waste/petroleum-remediation-program>.

What about tanks permanently closed in place?

Some USTs may be permanently closed in-place if they cannot be easily removed. You must obtain approval for closure-in-place from your local fire official. Site assessment for contamination is required.

The MPCA recommends taking a minimum of two soil borings in the tank basin of each tank, regardless of tank size. This may require conducting borings inside a building. Angled borings that extend under the tank are also acceptable. All soil borings should extend to the water table or five feet deeper than the base of the tank. One soil sample should be obtained from the bottom of each soil boring. An alternative method includes taking samples under the tank. You cut or punch a hole through the tank bottom once it has been thoroughly cleaned and emptied. A sample should be taken under the dispenser island as well.

The MPCA staff may allow exceptions to these requirements or alternative investigation methods on a site-specific basis.

Can I back fill the tank basin or replace the tank before getting lab reports for soil samples?

You may back fill the basin or proceed with installing a new tank if there is no visible petroleum contamination or odors in the tank basin when it is removed. If the samples indicate any contamination, it must be reported to the Minnesota Duty Officer immediately. Additional investigation and cleanup, including soil borings, through or near the previous tank basin may be required. If visible contamination or odors are present in the tank basin, it should be reported immediately to the Minnesota Duty Officer as a release.

Need more information?

Visit the UST Program at <https://www.pca.state.mn.us/waste/underground-storage-tank-systems>. The site has forms, fact sheets, and other information about USTs and UST requirements.

You can also call the MPCA at 651-296-3300 or 1-800-657-3864.