Petroleum Remediation Program
Minnesota Pollution Control Agency
http://www.pca.state.mn.us/programs/lust_p.html

Frequently Asked Questions (FAQs) about Investigation and Remediation of Above Ground Storage Tanks Facilities

Guidance Document 4-17

This document provides information and guidance for investigations and remediation of releases from above ground storage tank (AST) systems. For more complete guidance on investigation and remediation requirements, refer to the Petroleum Remediation Program guidance documents. This document highlights how investigation and remediation of releases from AST systems are different from underground storage tank (UST) systems and refers you to the Petroleum Remediation Program guidance document for more comprehensive guidance.

Investigations of AST releases are similar to investigations of UST releases in most respects. The main difference is that surface soil contamination often occurs at AST sites from loading or transfer areas, valves locations and lines, and from tank releases. Surface soil contamination can pose a risk to surface water, ground water, and to direct human exposure.

Frequently asked questions:

1. What do I do if a spill or release has occurred from any part of my AST system?

State law requires reporting any contamination releases to the surface or subsurface from tanks, piping leaks or spills at your facility to the MPCA through the **State Duty Officer (1-800-422-0798)**. The only exception: if a petroleum release is less than five-gallons, the petroleum spill does not need to be reported. However, all spills, regardless of volume, must be cleaned up. For spills of all other chemicals or materials, any quantity is reportable. Reporting of both old and new spills is required; this also includes new releases and old releases discovered during AST upgrades or when de-commissioning ASTs.

2. What are the sampling requirements during AST upgrades or when ASTs are taken out of commission?

1. **Upgrades**: During a tank facility upgrade when there is no visible contamination, verification samples are not required but highly recommended. See table below for sampling guidance.

If removing or moving a tank to a different location on your tank facility as part of your upgrade **sampling is required**, see table below for sampling requirements.

Sampling is required if a petroleum release has occurred or visible contamination is present at the tank facility. All contamination/releases must be reported immediately to the duty officer at 1-800-422-0798. If you are working with a remediation program, you should also call the project manager for assistance. See MN Statute 7151.8400 for additional guidance. See table below for sampling requirements.

2. **Decommissioning:** AST owners and operators must take verification samples when permanently decommissioning a tank(s) and the tank appurtenances to determine if contamination is present, per Minnesota Rules Chapter 7151.8400. See table below for sampling requirements.

   All contamination/releases must be reported immediately to the duty officer at 1-800-422-0798. If you are working with a remediation program, you should also call the project manager for assistance. See MN Statute 7151.8400 for additional guidance.

3. **AST Sampling Requirements:**

TABLE 6.5

Tank Size and Type	Number of Samples	Sample Location
Vertical tank less than or equal to 12' diameter	1 sample	2 feet below the tank
Vertical tank greater than 12' diameter	Divide tank diameter by 12' and round up to nearest whole number. (**see example**)	2 feet below the tank
Horizontal tank 10,000 gallons or less	1 sample	2 feet below the center of tank
Horizontal tank greater than 10,000 gallons	2 samples	2 feet below each end of the tank
Transfer Area(s)	1 sample in each area if there is more than one transfer area	2 feet below the loading rack
Piping or Areas of Visible Contamination	Take soil headspace samples 2 feet under the following areas: pipe fittings, joints and any other area where contamination is present or likely to be present. Submit soil samples with a headspace reading greater than zero for laboratory analyses.	

<table>
<tr><td colspan="2">Collect any additional samples that may be needed to adequately characterize the excavation(s).</td></tr>
<tr><td colspan="2">Example: 27 foot diameter tank: 27/12 = 2.25. Round up 2.25 to nearest whole number equals 3. 3 soil samples are required.</td></tr>
<tr><td colspan="2">Soil Analytical Requirements</td></tr>
<tr><td>For samples collected from areas with visible or known contamination:</td><td>• Refer to Guidance Document 4-04 Soil Sample Collection and Analysis Procedures for the required analyses.</td></tr>
<tr><td>For verification samples collected from areas with no visible contamination:</td><td>Perform the following analyses based on tank content and/or sample location:

• Gasoline tank samples must be analyzed for GRO (Gasoline Range Organics) and BTEX (benzene, toluene, ethyl benzene and xylenes).
• Other petroleum tank samples must be analyzed for DRO (Diesel Rang organics).
• Transfer area samples must be analyzed for GRO, DRO and BTEX unless gasoline was never stored at the facility, then only DRO is required.</td></tr>
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3. Are there reimbursement funds available for AST investigation and cleanup work? Are there funds available for AST upgrades or closures?

If contamination is discovered, up to 90% of your AST investigation and cleanup costs may be eligible for Petrofund reimbursement. In addition, up to $10,000 may be available for AST upgrades or closures for work performed between June 1, 1998 and November 1, 2003. For more information contact Petrofund staff, Minnesota Department of Commerce at (651) 297-1119.

4. What should I do if the AST facility is changing ownership or changing to a different use?

If there is a change in tank ownership, a change in the stored content, or a change in the use-status of a tank, you are required to file a notification of the change with the MPCA Tank Program (651) 297-8664). If the facility is decommissioned and the property is open for other uses, then changing the land use of your property may affect cleanup approaches and targets. The MPCA's Petroleum Brownfields program is designed to guide you through decisions related to your future use and development or sale of the property. The Petroleum Brownfields Program can also provide liability release letters to potential buyers of the property. For more information contact the Petroleum Brownfields Program at (651) 297-8573.

5. Should contaminated soil be removed from sites at the time that ASTs are being taken out of service?

In most cases, no. Contaminated soil should be left in place until a Limited Site Investigation (LSI) or a full remedial investigation has been conducted. There is an exception. If ground water has not been impacted, the MPCA allows the excavation of up to 150 cubic yards if doing so will remove all of the contamination and avoid the need for an investigation. In some instances, the MPCA may give site-specific approvals for excavating more than 150 cubic yards of petroleum contaminated soil. If ground water has been impacted or more than 150 cubic yards of contaminated soil exist, leave the contaminated soil in place and proceed with an LSI. The need for and the methods of corrective action will be determined by the remedial investigation. Refer to Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil*, for more details.

6. Can contaminated soil be removed to complete an AST upgrade or to install a new AST?

If petroleum contaminated soil must be removed to complete an AST upgrade or to install a new AST system, you may remove up to two feet of soil from below the foot-prints of all the features being installed or upgraded (e.g. substance transfer areas, below the AST, and/or in the secondary containment area in order to complete the upgrade or installation). However, you must screen and segregate the 'clean' soil from the contaminated soil. See Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil* for cleanup criteria and other details.

If surface contamination exists in other areas of the facility, additional soil removal or other types of corrective action may be necessary, but should wait until an LSI or a full remedial investigation has been conducted. However, if deeper contamination exists, and upgrading or installing a new AST system would make the contaminated soil inaccessible, the MPCA may request that additional soil be removed, or that an investigation be conducted, before completing the upgrade or new system installation.

You have automatic approval to remove up to two feet of soil petroleum contaminated soil from below the foot-prints of all the features being upgraded or installed, and, you may remove up to 150 additional cubic yards (more with site specific approval) if doing so completely addresses the release and eliminates the need for further investigation at the site.

All excavated contaminated soil must be treated as per MPCA guidance documents.

7. Why is surface contamination considered to be a problem?

Petroleum contaminated soils at or near the surface is often present at AST sites. Leakage or spillage occurs at transfer/filling stations, from pipes, or other release locations. Surface contamination is considered a risk because of the potential for dermal contact and because of the potential for the contamination of rain/snow runoff.

If corrective action is required, MPCA may request the removal of the upper two feet of contaminated soil; this is a common corrective action. Other options may be available (e.g. capping the area with an impermeable surface or active soil remediation). If petroleum contaminated soil is removed the excavated area should be restored with clean fill.

Corrective action for the surface contaminated soil should be performed after an LSI or a full remedial investigation has been performed (unless prior approval is granted by the MPCA).