

*This brochure is effective
October 13, 2018.*

UNDERGROUND STORAGE TANK

RELEASE DETECTION

MANAGING YOUR

UNDERGROUND STORAGE TANK

Owners and operators of regulated underground storage tanks (USTs) on tribal lands must comply with the federal UST regulation.

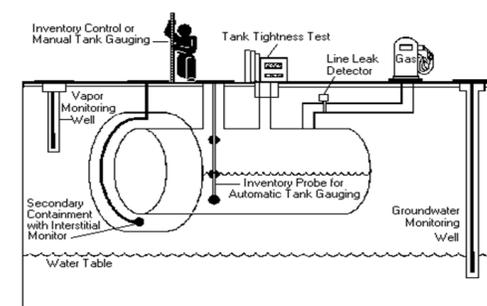
This compliance assistance brochure highlights tips to help you manage your underground storage tanks.

Note: This document is a resource to promote compliance and does not replace the federal UST regulation.

This brochure is one in a series of EPA compliance assistance brochures designed to help owners and operators in Indian country comply with the federal UST regulation.

Other brochures focus on implementation, compatibility, spill buckets, overflow protection, recordkeeping and notification, financial responsibility, insurance, and piping release detection.

<https://www.epa.gov/ust/best-management-practices-usts-indian-country>



Office of Underground Storage Tanks
www.epa.gov/ust
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Compliance Assistance In
Indian Country

RELEASE DETECTION

Underground storage tank (UST) [release detection](#) is an electronic or manual method or combination of methods designed to help you quickly detect releases from your tank.

What type of storage tank release detection must you use?

You must conduct one of the following:

- ☞ automatic tank gauging
- ☞ continuous in-tank leak detection
- ☞ statistical inventory reconciliation (SIR)
- ☞ interstitial monitoring
- ☞ groundwater monitoring
- ☞ vapor monitoring
- ☞ manual tank gauging (for tanks 2,000 gallons or less)
- ☞ tank tightness test and inventory control (can only be used for 10 years after tank installation)
- ☞ or another method approved by the implementing agency

If you use vapor monitoring or groundwater monitoring, you must keep records of a site assessment, showing that the monitoring system is set up properly.

For USTs installed or replaced after April 11, 2016, you must use secondary containment with interstitial monitoring.

What should you do to ensure your release detection method is working properly? If you use:

Automatic Tank Gauging (ATG)

- ☞ Check your printout and make sure:
 - * the ATG probe is working
 - * there is enough down time between fuel delivery and testing
 - * the product level is appropriate for testing

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START LEAK TEST
FEB  7, 2011 12:30 AM
TEST LENGTH  2 HOURS
T 1:UNLEAD
VOLUME      = 601 GALS
ULLAGE      = 2407 GALS
90% ULLAGE  = 2105 GALS
TC VOLUME   = 613 GALS
HEIGHT      = 16.25 INCHES
WATER       = 0.00 INCHES
TEMP        = 30.9 DEG F
0.0 GAL HR PLAC
LOW LEVEL TEST ERROR
    
```

Invalid test due to low product level

Immediately respond to and investigate any audible alarms or flashing lights.

Make sure alarms function properly. Releases may go undetected if you ignore or disable the alarms.



ATG in alarm status

Interstitial monitoring

- ☞ Inspect your system
 - * Look for liquid at the lowest point of the UST containment and record the results
 - * If the sensor alarms, contact your service provider to find the source of the alarm and replace malfunctioning electronic sensors

Vapor or groundwater monitoring

- ☞ Check your well and well cover
 - * Make sure it is installed so that leaks can not enter into the monitoring well
 - * Make sure the well caps are secure
 - * Make sure the well caps are not damaged



Monitoring well placed in the flow of surface run-off



Monitoring well with missing cover and filled with debris

Inventory control

- ☞ Use the right equipment:
 - * Make sure the gauge stick is not warped; its ends are not worn, broken, or shortened; and markings are clearly legible
 - * Record readings daily and reconciled them monthly
Use water finding paste to check for water on the tank bottom and record the reading.



Gauge stick with a broken end.



Checking for water on bottom of tank with paste.

Statistical Inventory Reconciliation (SIR)

- ☞ Collect the right information
 - * Record the data according to your vendor's instruction
 - * Have a trained professional analyze your data

How do you avoid common UST release detection problems?

ATG

- ☞ Perform a monthly leak test
- ☞ Make sure ATG is properly functioning and programmed
- ☞ Respond to ATG alarms
- ☞ Make sure probes are functioning and connected
- ☞ Install printer paper
- ☞ Have enough product in tank for tests
- ☞ Allow enough time for tests

Interstitial Monitoring

- ☞ Make sure sensor is present, properly installed, and functioning



Interstitial monitoring sensor

SIR

- ☞ Investigate inconclusive results
- ☞ Obtain timely vendor reports

Inventory Control

- ☞ Gauge the tank daily, check for water monthly, and record all deliveries
- ☞ Reconcile data at the end of each month
- ☞ Conduct an annual tightness test

Tightness Testing

- ☞ Have enough product in the tank to perform the leak test

Recordkeeping

- ☞ Maintain printed copies of electronic monthly leak detection records
- ☞ Maintain written logs of manual monthly interstitial monitoring checks
- ☞ Keep inventory records
- ☞ Keep records of the 30 day visual equipment inspection, and annual walkthrough inspections
- ☞ Keep records of annual release detection equipment tests

For more information on UST release detection, see EPA's [Release Detection Methods For Underground Storage Tanks And Piping: Straight Talk On Tanks](#); or order free copies by calling (800) 490-9198.