



Tank Management Branch  
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**NOTIFICATION AND SOIL SAMPLING REQUIREMENTS  
for  
UNDERGROUND STORAGE TANK SYSTEM  
RETROFITS and UPGRADES**

**(Including DISPENSER or SUMP UPGRADES,  
SPILL CONTAINMENT INSTALLATION or REPLACEMENT,  
INTERNAL LINING and CP UPGRADES)**

Revised May 2005

Notification forms must be received in the TMB office ten (10) days prior work commencing on an UST system. The TMB recommends mailing the forms certified mail, return receipt requested, fifteen (15) days before the work begins. Notification forms may also be hand delivered. If the forms are not received in time by the TMB, work **may not** commence as described in the Regulations, Part A, Section 4.05.

A "Confirmation of Scheduled Tank Work" form will be faxed to the contractor upon receipt of the notification form. A **site map** identifying all portions of the UST system in the work area must be submitted with the notification. The Department will review this information and use it to determine the number of soil samples necessary to characterize the site.

**GENERAL REQUIREMENTS:**

A State of Delaware certified contractor is required to install any retrofit, upgrade or internal lining of an UST system. The contractor must notify the TMB prior to beginning any work, and will subsequently receive a faxed confirmation form from the TMB. The TMB also requires a precision test be conducted prior to recommissioning the UST system when any new product lines are installed, when concrete is broken, or when excavation occurs in the tank field. Results of the tank and/or line test must be forwarded to the Department. Line or tank test failures must be reported immediately to the Department by calling 1-800-662-8802.

**CORROSION PROTECTION REPAIRS, UPGRADES AND INTERNAL LINING:**

The UST must be assessed for upgrade suitability and documentation of the assessment must be submitted with the upgrade plan to the TMB for approval prior to work beginning. All submissions should be clearly marked Attention: Retrofit/Upgrade. The Department may, at its discretion, require a tank integrity assessment to be performed prior to repair of an inoperative or failing UST cathodic protection system.

**Assessment Method:**

- For non-invasive ASTM G-158-98 methods such as Tank Environmental Profile or Mean Time to Corrosion Failure, the results of the evaluation, including results of the soil samples that were taken as part of the assessment, must be forwarded to the TMB.

## RETROFIT/UPGRADE

May 2005

PAGE 2 of 4

- For invasive ASTM G-158-98 methods such as a video camera or ultrasonic robot, the results of the evaluation including a complete description of the internal condition of the UST(s) must be forwarded to the TMB.
- For tanks assessed for upgrade suitability via internal inspection, a report documenting the results of the inspection including the presence of any hole(s) in the tank must be forwarded to the TMB.

### **Design Requirements:**

Sacrificial anode or impressed current systems must be designed by a registered National Association of Corrosion Engineers (NACE) Corrosion Engineer or Corrosion Expert. A copy of the designed CP plan must be forwarded to the TMB.

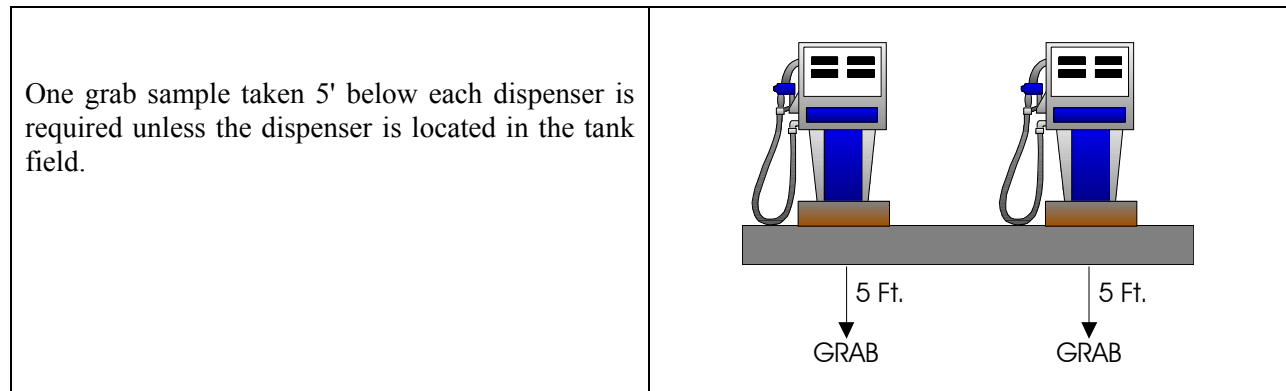
UST systems upgraded with internal lining must have an internal inspection of the tank. The inspection results must be submitted to the TMB, including the discovery of holes, repairs made, or groundwater entering the tank before or after sandblasting.

**Any evidence of a release such as a hole in the tank, or if analytical results indicate a release, must be reported to the Department within 24-hours by calling 1-800-662-8802. Corrective action measures must be implemented and you must re-evaluate the suitability of your UST system for CP upgrade.**

If you have any questions regarding this information, please contact the TMB at (302) 395-2500.

### **DISPENSER OR SUMP UPGRADES:**

If the retrofit includes replacement of the sump or dispensers, or replacement of piping to the dispenser, then one soil sample is required per dispenser.



### **SPILL CONTAINMENT INSTALLATION OR REPLACEMENT:**

Soils samples must be collected when concrete is broken or backfill is exposed to install new spill containment or replace existing spill containment. One grab sample taken at the bottom of the excavation for the spill containment is required for each spill containment device installed or replaced. This requirement pertains to both fill pipe spill containment and spill containment at vapor recovery adapters.

**TANK-TOP SUMP INSTALLATION OR REPLACEMENT:**

Soils samples must be collected when concrete is broken or backfill is exposed to install or replace tank-top sumps. One composite sample is required to be collected from the excavated material. In the event that no material is required to be excavated in order to install the new sump, one composite sample must be collected from the walls of the excavation in the locations where contamination is visible or most likely to be present.

Other tank-top work that exposes backfill and is not specifically mentioned here may require soils sampling at the Department's discretion.

**SOIL SAMPLE REQUIREMENTS:**

Soils samples must be collected from soil excavated from the tank field or piping run during the retrofit or upgrade. One (1) composite sample is required for every twenty cubic yards (20 yd<sup>3</sup>) of soil excavated. Please refer to the table below for analytical requirements.

Soil samples from petroleum UST sites must be analyzed according to the following DERBCAP Tier 0 table:

Analyte	Gasoline	Kerosene/ Jet Fuels	Diesel/ Heating Fuels	Used Oil <sup>1,2</sup>	Aviation Gas	Heavy Oils	Other <sup>6</sup>
BTEX <sup>5</sup>	X	X		X	X		
GRO	X	X		X	X		
DRO		X	X	X			
HRO						X	
Lead <sup>4</sup> , EDB, EDC	X						
MTBE <sup>3</sup>	X	X		X	X		
Other <sup>6</sup>							X

## Table Footnotes:

- Used oil as defined in Part A § 2 of Delaware's UST Regulations and the Delaware Solid and Hazardous Waste Management Branch's regulations.
- Used oil USTs may also be required to analyze for metals, volatiles, semi-volatiles, EDB, EDC or any other analyte as required on a site specific basis depending on the tank contents. Contact the TMB for determination.
- MTBE Analysis **is required**, unless conclusive documentation is submitted and pre-approved by the TMB that the tank was not in service after January 1, 1978.
- Lead, EDB and EDC Analysis **is required**, unless conclusive documentation is submitted and pre-approved by the TMB that the tank was installed after January 1, 1988.
- In addition to total BTEX, benzene **must** be reported separately.
- If the tank contained anything other than petroleum products, contact the TMB for information on sampling procedures and analytical requirements.

**QA/QC PROTOCOL:**

All samples **must** be collected in clean sealed glass containers and kept at 4°C until delivered to the laboratory for analysis. The laboratory must receive samples within twenty-four (24) hours of collection. If sample delivery within twenty-four (24) hours is not possible (for example, samples are collected late on a Friday after the laboratory is closed) proper storage of the samples must be documented on the chain of custody form. A chain of custody form must be maintained at all times for all samples and submitted to the TMB.

To maintain sample integrity, a TMB Representative on-site may apply a custody seal to the sample container at the time of sample collection. If the seals are applied a separate chain-of-custody will be provided. This chain of custody must accompany the sample to the laboratory and a copy must be returned to the TMB along with the sample results. If a sample is received by the laboratory with a damaged custody seal the TMB may not accept the sample results and will request additional samples be collected.

**Call the TMB for more specific information about sampling methods, including proper procedures to assure QA/QC of samples and decontamination of tools.**