D. Sampling Requirements

Samples collected to comply with the site assessment requirements shall comply with the following requirements:

1. Because of the volatile nature of many products, perform collection and handling of samples in such a way as to disturb the samples as little as possible. With the exception of uncontaminated soil pile sampling, samples must be discrete samples which are representative of the conditions at one location and not composite samples. Samples should be collected promptly and water samples should be as free of sediment as possible.

2. If the excavation, piping trench or tank can be entered in accordance with applicable OSHA regulations, samples may be collected using a hand auger or trowel for non-volatile analytes, or with an appropriate sampling device for volatile analytes.

3. If the excavation or piping trench cannot be entered safely for sampling, samples may be collected using a hand auger extension or from a backhoe bucket. Samples should be collected as rapidly as is physically possible to reduce the loss of volatile analytes.

4. If the samples are to be collected by drilling, split spoon and thin-walled samplers are required. Grab samples collected from drill cuttings are not acceptable. The department recommends that drilling and sample collection be conducted in accordance with applicable American Society of Testing and Materials (ASTM) standard methods or other comparable methods. For information, contact the ASTM, 1916 Race Street, Philadelphia, PA 19103, telephone 215-299-5400. Ask for Publication 4.08.

5. All soil samples must be taken from freshly exposed soil.

6. All soil sampling tools should be thoroughly cleaned before use at each sampling point using water/detergent, methanol or other appropriate solvents. All rinsates must be collected and properly disposed. Dedicated or disposable sampling tools may also be used.

7. Perform sample collection and handling in accordance with protocol established for the analytical methodology to be utilized. See page 28 for a table of the containers, preservatives, and holding times that are specified in the analytical methods used in the Pennsylvania DEP storage tank program.

8. Sample containers should be clearly labeled and promptly sealed and placed on ice for transport to the laboratory. Reusable ice packs ("blue ice") are not acceptable unless samples have been pre-chilled. Samples should be shipped to the laboratory as soon as possible. Do not allow samples to be held so that the maximum holding time is violated. Follow and document proper chain-of-custody procedures. Laboratories must document that samples meet all applicable preservation requirements.

9. Do not conduct field screening of soil samples with field instrumentation such as flame ionization detectors, photoionization detectors and portable gas chromatographs on the portion of the soil sample to be submitted to a laboratory for analysis. Place soil samples for laboratory analysis in a sample container immediately after collection. A portion of this sample can be retained in a separate clean container for the field screening procedure.

10. Store all samples at 4°C until analysis. Sample storage should be in an area free of organic solvent vapors and direct or intense light.

11. EPA Method 5035 is a new sample collection protocol that **must** be applied whenever soil samples are collected for volatile analyses. The method provides two different sample collection and preservation procedures based on the level of contamination present in the soil sample. Procedures are supplied for collecting and preparing soil samples containing low and high concentrations of volatile organic compounds (VOCs). However, based on the lowest cleanup level, the low level concentration procedures will not apply except in the case of analyses of 1,2-Dibromoethane. Low level concentrations of contaminants are defined in the method as soils containing 0.5 to 200 ug/kg of contaminants. Samples that are expected to be greater than 200 ug/kg should be sampled using the high level concentration procedures. For samples with low concentration of VOCs there are two options for the collection and preservation of the sample:

- place soil into a soil sample vial which contains a preservative compound.
- collect the soil in an apparatus which is airtight and affords little to no headspace (such as the En Core™ sampler) in order to eliminate loss of contaminants due to volatilization. Soil from this type of sampler must be transferred to a soil sample vial containing a preservative as soon as possible, or analyzed within 48 hours, to prevent loss of contaminants due to biodegradation.

For samples with high concentration of VOCs there are three options for the collection and preservation of the sample:

- place soil into a soil sample vial which contains a preservative compound.
- collect the soil in an apparatus which is airtight and affords little to no headspace (such as the En Core™ sampler) in order to eliminate loss of contaminants due to volatilization. Soil from this type of sampler must be transferred to a soil sample vial containing a preservative as soon as possible, or analyzed within 48 hours, to prevent loss of contaminants due to biodegradation.
- collect sample without preservation, however, the sample container must be filled as much as possible in order to minimize headspace. Sampling without preservation procedures should only be done when it is not possible to sample with preservatives in the sample container, or when a soil collection device which is airtight and affords little to no headspace (such as the En Core™ sampler) cannot be used. The department does not recommend the use of this option, and will require adequate justification of its use before accepting the analytical data.

Documentation of which option(s) was/were used in sample collection must accompany the analytical results.

RECOMMENDED CONTAINERS, PRESERVATIVES AND HOLDING TIMES FOR SAMPLES COLLECTED DURING CLOSURE SITE ASSESSMENTS

Medium	Method	Container/ Sample Size	Preservative	Holding Time	Reference
Aqueous Samples With No Residual Chlorine Present[1]	5030B/8011, 5030B/8021B or 5030B/8260B	2 X 40-mL vials with Teflon-lined septum caps	Cool to 4°C and adjust pH to < 2 with H_2SO_4, HCL or solid $NaHSO_4$	14 Days	Table 4-1, SW-846, Revision 3, December 1996
	8270C or 8310	1-gal., 2 X 0.5-gal., or 4 X 1-L amber glass container with Teflon-lined lid	Cool to 4°C	Samples extracted within 7 days and extracts analyzed within 40 days after extraction	
	504.1	2 X 40 mL vials with Teflon-lined septum caps	Cool to 4°C	14 days	EPA Method 504.1, Revision 1.1, (1995)
	524.2	2 X 40-mL vials with Teflon-lined septum caps	Adjust pH to < 2 at time of collection[2], using two drops of 1:1 HCL for each 40-mL of sample. Cool to 4°C.	14 days	EPA Method 524.2, Revision 4.1, (1995)
	525.2	1-gal., 2 X 0.5-gal., or 4 X 1-L amber glass container with Teflon-lined lid	Adjust pH to < 2 at time of collection[2], using 6 N HCL. Cool to 4°C.	Samples extracted within 14 days and extracts analyzed within 30 days after extraction	EPA Method 525.2, Revision 2.0, (1995)
	6020 or 7421	600-mL glass or plastic containers. Use only polyethylene or fluorocarbon containers for Method 6020.	Filter on site through .45-µm filter, preserve with HNO_3 to pH < 2	6 months	Table 3-1, SW-846, Revision 3, December 1996; and Table 11-1, SW-846, Revision 0, September 1986
Solid Samples (e.g. soil, sediments, sludges, ash)	5035/8021B[3,4] or 5035/8260B[3,4]	Low Concentration Soil Samples 2 X 40 mL glass vials containing a clean magnetic stiring bar with Teflon-lined septum caps, OR use a soil collection device which is airtight and affords little to no headspace (such as the En Core™ sampler), which can also serve as a storage container after sample collection.	Collect 5.0± 0.5 g of sample in a glass vial preserved with 1 g of sodium bisulfate and 5 mL of organic-free reagent water. If samples are markedly smaller or larger than 5 g, adjust the preservative amount by 0.2 g for each 1 g of sample, OR use a soil collection device such as the En Core™ sampler. Cool to 4°C.	14 days. Soil collected and stored in a sampling device like the En Core™ sampler must be transferred to a sample container with the appropriate preservative, as soon as possible, or analyzed within 48 hours of collection.	Table 4-1, SW-846, Revision 3, December 1996 and EPA Method 5035, Revision 0, December 1966
		High Concentration Soil Samples 2 - glass vials capable of holding 5 g of soil or solid material to be tested and 10 mL of methanol and can be sealed with a screw-cap containing a Teflon-lined septum, OR use a soil collection device such as the En Core™ sampler.	Collect 5.0 ± 0.5 g of sample in a glass vial preserved with 10 mL of methanol, OR use a soil collection device such as the En Core™ sampler. Cool to 4°C.		
	8270C or 8310	250-mL widemouth glass container with Teflon-lined lid	Cool to 4°C	Samples extracted within 7 days and extracts analyzed within 40 days after extraction	
	6010B or 7420	200 g plastic or glass container	None	6 months	Table 3-1, SW-846, Revision 3, December 1996; and Table 11-1, SW-846, Revision 0, September 1986

Footnotes:

1. If samples are possibly chlorinated, collector must follow dechlorination procedures listed within each method.
2. Addition of HCL to the sample bottles prior to shipping to the sampling site is not permitted.
3. Each type of soil sample (low and high concentration) will require one additional sample that is not preserved for moisture determination. Use at least a 40-mL glass vial teflon-lined cap.
4. Documentation of the sampling option(s) used must accompany the laboratory results.

E. Analytical Requirements

The following table specifies the analytical requirements for soil and water samples collected during the site assessment to determine whether a storage tank site may be closed pursuant to this guidance document or is subject to the corrective action process regulations. Other recognized methods may be used if approved by the appropriate DEP regional office.

PRODUCT STORED	PARAMETERS TO BE TESTED IN SOIL	ANALYTICAL METHOD (reported on a dry weight basis)	PARAMETERS TO BE TESTED IN WATER	ANALYTICAL METHOD
Leaded Gasoline, Aviation Gasoline, and Jet Fuel	Benzene	EPA Method 5035/8021B or 5035/8260B	Benzene	EPA Method 5030B/8021B, 5030B/8260B or 524.2
	Toluene		Toluene	
	Ethyl Benzene		Ethyl Benzene	
	Xylenes (total)		Xylenes (total)	
	Cumene		Cumene	
	Naphthalene		Naphthalene	
	Dichloroethane, 1,2-		Dichloroethane, 1,2-	
	Dibromoethane, 1,2- (Ethylene Dibromide)		Dibromoethane, 1,2- (Ethylene Dibromide)	EPA Method 8011 or 504.1
	Lead (total)	EPA Method 6010B or 7420	Lead (dissolved)	EPA Method 6020 or 7421
Unleaded Gasoline	Benzene	EPA Method 5035/8260B	Benzene	EPA Method 5030B/8260B or 524.2
	Toluene		Toluene	
	Ethyl Benzene		Ethyl Benzene	
	Xylenes (total)		Xylenes (total)	
	Cumene		Cumene	
	Methyl Tert-Butyl Ether (MTBE)		Methyl Tert-Butyl Ether (MTBE)	
	Naphthalene		Naphthalene	
Kerosene, Fuel Oil No. 1	Benzene	EPA Method 5035/8021B or 5035/8260B	Benzene	EPA Method 5030B/8021B, 5030B/8260B or 524.2
	Toluene		Toluene	
	Ethyl Benzene		Ethyl Benzene	
	Cumene		Cumene	
	Naphthalene		Naphthalene	
	Fluorene	EPA Method 8270C or 8310	Fluorene	EPA Method 8270C, 8310 or 525.2
Diesel Fuel, Fuel Oil No. 2	Benzene	EPA Method 5035/8021B or 5035/8260B	Benzene	EPA Method 5030B/8021B, 5030B/8260B or 524.2
	Toluene		Toluene	
	Ethyl Benzene		Ethyl Benzene	
	Cumene		Cumene	
	Naphthalene		Naphthalene	
	Fluorene	EPA Method 8270C or 8310	Fluorene	EPA Method 8270C, 8310 or 525.2
	Phenanthrene		Phenanthrene	

PRODUCT STORED	PARAMETERS TO BE TESTED IN SOIL	ANALYTICAL METHOD (reported on a dry weight basis)	PARAMETERS TO BE TESTED IN WATER	ANALYTICAL METHOD
Fuel Oil Nos. 4, 5 and 6, and Lubricating Oils and Fluids	Benzene	EPA Method 5035/8021B or 5035/8260B	Benzene	EPA Method 5030B/8021B, 5030B/8260B or 524.2
	Naphthalene		Naphthalene	
	Fluorene	EPA Method 8270C or 8310	Phenanthrene	EPA Method 8270C, 8310 or 525.2
	Anthracene		Pyrene	
	Phenanthrene		Chrysene	
	Pyrene			
	Benzo(a)anthracene			
	Chrysene			
	Benzo(b)fluoranthene			
	Benzo(a)pyrene			
	Benzo(g,h,i)perylene			
Used Motor Oil	Benzene	EPA Method 5035/8021B or 5035/8260B	Benzene	EPA Method 5030B/8021B, 5030B/8260B or 524.2
	Toluene		Toluene	
	Ethyl Benzene		Ethyl Benzene	
	Cumene		Cumene	
	Naphthalene		Naphthalene	
	Pyrene	EPA Method 8270C or 8310	Pyrene	EPA Method 525.2
	Benzo(a)anthracene		Benzo(a)anthracene	
	Chrysene		Chrysene	
	Benzo(b)fluoranthene		Benzo(b)fluoranthene	
	Benzo(a)pyrene		Benzo(a)pyrene	
	Indeno(1,2,3-cd)pyrene		Indeno(1,2,3-cd)pyrene	
	Benzo(g,h,i)perylene		Benzo(g,h,i)perylene	
	Lead (total)	EPA Method 6010B or 7420	Lead (dissolved)	EPA Method 6020 or 7421
Other Petroleum Products Blended Petroleum Products Unknown Petroleum Products Other Regulated Substances	Contact Regional Office Responsible for County in Which Tank is Located			

Notes:

When reporting non-detects (ND), the data must be accompanied by a numerical quantitation limit that takes into account dilution, sample preparation, and matrix effects.

The responsible party has the obligation to ensure that the analytical methodologies and techniques employed are suitable to provide data that meets the minimal data quality objectives outlined and referenced in this document.

Laboratories must document that samples meet all applicable preservation requirements.

F. Submission and Maintenance of Closure Site Assessment Records

Federal regulations governing closure of USTs, published at 40 CFR Part 280, Subpart G, became effective on December 22, 1988. On September 20, 1991, the department incorporated those regulations into Pennsylvania law by reference at 25 Pa. Code §245.2. Section 280.74 of the federal (and Pennsylvania's) regulations states that the results of the tank system excavation zone assessment (site assessment) must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the UST system out of service;
(b) By the current owners and operators of the UST system site; or
(c) By mailing these records to the implementing agency if they cannot be maintained at the closed facility.

At least one option must be chosen. If option (c) is chosen, the site assessment records should be sent to the DEP regional office responsible for the county in which the tank was located. The department has developed an "Underground Storage Tank System Closure Report Form" (Attachment 4). A completed Closure Report Form will satisfy the site assessment records requirement. Also keep in mind that an amended "Registration of Storage Tanks" form must be submitted to the Division of Storage Tanks indicating that the UST or USTs have changed status to permanently closed.

G. Evaluation of Need for Corrective Action

Based on the analytical results for the confirmatory samples collected during the site assessment, the owner or operator may be required by the department to undertake or continue corrective action.

On May 19, 1995, Governor Tom Ridge signed the Land Recycling and Environmental Remediation Standards Act (Act 2) into law. This law became effective on July 18, 1995. Act 2 establishes cleanup levels and liability protection for releases from storage tanks regulated under Act 32. However, Section 904(c) of Act 2 preserves the corrective action process for the remediation of releases from storage tanks regulated by Act 32.

The department has established statewide cleanup standards/action levels for soil and water necessary to interpret the results from confirmatory sampling at closure of petroleum USTs. These are provided in Attachment 5.

Where the results of the site assessment indicate that no obvious contamination was encountered and the analytical results of the confirmatory sampling showed levels below the statewide standards/action levels, no further action is required regarding the closure of the tanks. Because no release has been documented, liability protection under Act 2 is not applicable to this closure.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling, following excavation of the contaminated soil, show levels below the statewide standards/action levels, no further action is required regarding the closure of the tanks and remediation of the site. In this case, the completed closure report form may be used to satisfy the site characterization report requirements of Section 245.310(b) of the Corrective Action Process regulations. The closure/site characterization report must be submitted to the department within 180 days of verbally reporting the release. Because a confirmed, reportable release occurred, liability protection under Act 2 is automatically afforded to this release for soils.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standards/action levels; or where there is obvious, extensive contamination, the department

must be verbally notified of the release within two hours and corrective action must continue in accordance with the CAP regulations. A copy of the closure report should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

For more information on conducting cleanups in accordance with Act 2, contact any of our six regional offices. To obtain a manual and fact sheets concerning the new program contact the Land Recycling Program at 717-783-7509.

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL CLEANUP PROGRAM
STORAGE TANK SECTION

REGION:	Southeast
CONTACT:	Stephan Sinding
INFORMATION:	610-832-5949
RELEASE REPORTING:	610-832-6000 (24-hour number including weekends and holidays)
FAX:	610-832-6143

REGION:	Northeast
CONTACT:	Ronald Brezinski
INFORMATION:	717-826-5475
RELEASE REPORTING:	717-826-2511 (24-hour number including weekends and holidays)
FAX:	717-820-4907

REGION:	Southcentral
CONTACT:	Gregory Bowman
INFORMATION:	717-705-4705
RELEASE REPORTING:	717-705-4705 (24-hour number including weekends and holidays)
FAX:	717-705-4830

REGION:	Northcentral
CONTACT:	Philip Zechman
INFORMATION:	570-321-6525
RELEASE REPORTING:	570-321-6525 (8 a.m. to 5.p.m., M-F) 570-327-3636 (after hours, weekends and holidays)
FAX:	570-327-3420

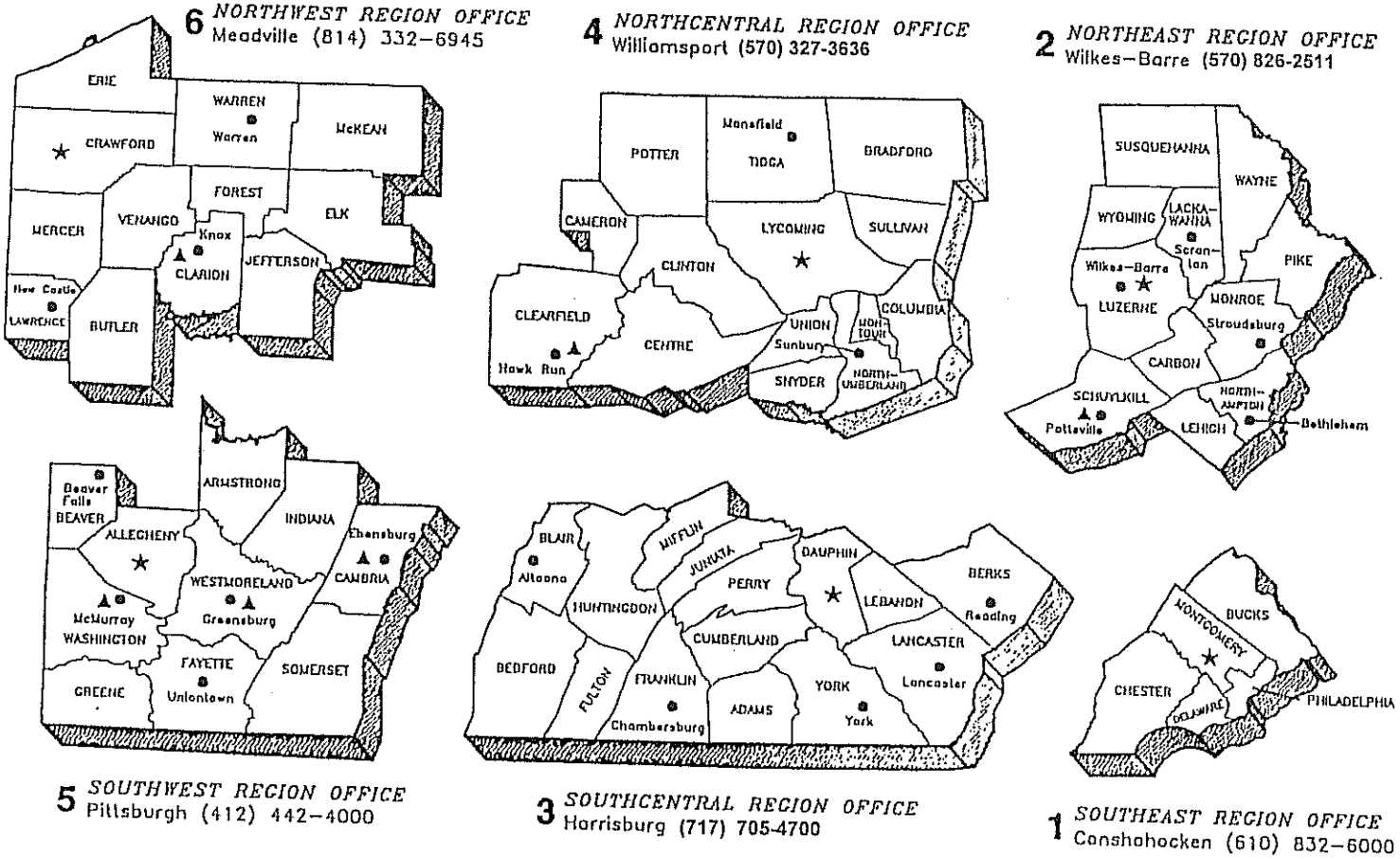
REGION:	Southwest
CONTACT:	Anna Marie Tempero
INFORMATION:	412-442-4000
RELEASE REPORTING:	412-442-4000 (24-hour number including weekends and holidays)
FAX:	412-442-4194

REGION:	Northwest
CONTACT:	Daniel Peterson
INFORMATION:	814-332-6648
RELEASE REPORTING:	814-332-6945 (8 a.m. to 5 p.m., M-F) 800-373-3398 (after hours, weekends and holidays)
FAX:	814-332-6121

In the event no contact is made with the appropriate region, or there is a question regarding which region to call, releases should be reported to the Harrisburg Central Office at 717-787-4343 or 800-541-2050 (in Pa. Only). These numbers are active 24 hours a day, including weekends and holidays.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

REGIONAL OFFICES



LEGEND: ★ REGIONAL OFFICES ● DISTRICT OFFICES ▲ MINING OFFICES

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

PLANNING FOR PERMANENT CLOSURE CHECKLIST

- ☐ "Closure Notification Form" sent to appropriate DEP regional office with copy sent to Pennsylvania State Police (or appropriate office in Philadelphia or Allegheny County) at least 30 days prior to initiating permanent closure.
- ☐ "Registration of Storage Tanks" form submitted to appropriate DEP regional office, if the USTs are required to be registered and they are not.
- ☐ Pennsylvania "One-Call" contacted (800-242-1776) to have utilities mark their lines.
- ☐ Local municipality contacted to obtain any necessary permits or approvals for UST system closure.
- ☐ DEP certified installer hired to perform tank handling activities.
- ☐ Arrangements made for site assessment and laboratory analysis of samples collected.
- ☐ Material Safety Data Sheets (MSDS) obtained for all hazardous substances stored in the USTs to be closed.
- ☐ Arrangements made for treatment/disposal of any contaminated soils encountered.
  NOTE: Unless this item is specified in the contract, it can remain a continuing burden of the owner/operator.
- ☐ "Registration of Storage Tanks" form obtained to amend facility status and submit to the Division of Storage Tanks after UST system closure is performed.
  NOTE: Unless an amended registration form is sent to the Division of Storage Tanks, registration and USTIF billing will continue.

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

DATE RECEIVED: _____

ATTACHMENT 3

UNDERGROUND STORAGE TANK SYSTEM CLOSURE NOTIFICATION FORM

NOTE: Notification of permanent closure must be received by the appropriate regional office of the Department at least 30 days prior to initiation of the closure activities.

I.	**Owner of Tank System**		
	Owner Name		
	Street Address		Phone Number ( )
	City	State	Zip Code
II.	**Location of Tank System**		
	Facility Name		Facility Identification Number
	Street Address	City	State PA / Zip Code
	Municipality	County	
	Contact Person		Phone Number ( )
III.	**Month/Day/Year of Proposed Closure** ____/____/____		
IV.	**Certified Installer/Company Performing Tank Handling Activities**		
	Certified Installer Name		Installer Certification Number
	Street Address		Phone Number ( )
	City	State	Zip Code
	Certified Company Name		Company Certification Number
V.	**Contractor/Individual Performing Site Assessment Activities**		
	Name of Contractor or Individual		
	Street Address		Phone Number ( )
	City	State	Zip Code
VI.	**Description of Underground Storage Tank Systems** (See reverse side of form)		
VII.	**Will this closure involve replacement of at least one old tank with a new tank?** Yes _____ No _____		
VIII.	**Signature of Tank System Owner**		**Date**

VI. **Description of Underground Storage Tank System** (Complete for each tank undergoing closure)					
Tank Registration Number					
Estimated Total Capacity (Gallons)					
Substance(s) Stored Throughout Operating Life of Tank (Check All That Apply)	a. **Petroleum**				
	Unleaded Gasoline	☐	☐	☐	☐
	Leaded Gasoline	☐	☐	☐	☐
	Aviation Gasoline	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐
	Jet Fuel	☐	☐	☐	☐
	Diesel Fuel	☐	☐	☐	☐
	Fuel Oil No. 1	☐	☐	☐	☐
	Fuel Oil No. 2	☐	☐	☐	☐
	Fuel Oil No. 4	☐	☐	☐	☐
	Fuel Oil No. 5	☐	☐	☐	☐
	Fuel Oil No. 6	☐	☐	☐	☐
	New Motor Oil	☐	☐	☐	☐
	Used Motor Oil	☐	☐	☐	☐
	Other, Please Specify _____				
	b. **Hazardous Substance**	☐	☐	☐	☐
	Name of Principal CERCLA Substance _____				
	AND				
	Chemical Abstract Service (CAS) No. _____				
	c. **Unknown**	☐	☐	☐	☐
Proposed Closure Method (Check Only One)	a. **Removal**	☐	☐	☐	☐
	b. **Closure-in-Place**	☐	☐	☐	☐
	c. **Change-In-Service**	☐	☐	☐	☐
Partial System Closure (Yes or No)					
Tank Registration Number					
Estimated Total Capacity (Gallons)					
Substance(s) Stored Throughout Operating Life of Tank (Check All That Apply)	a. **Petroleum**				
	Unleaded Gasoline	☐	☐	☐	☐
	Leaded Gasoline	☐	☐	☐	☐
	Aviation Gasoline	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐
	Jet Fuel	☐	☐	☐	☐
	Diesel Fuel	☐	☐	☐	☐
	Fuel Oil No. 1	☐	☐	☐	☐
	Fuel Oil No. 2	☐	☐	☐	☐
	Fuel Oil No. 4	☐	☐	☐	☐
	Fuel Oil No. 5	☐	☐	☐	☐
	Fuel Oil No. 6	☐	☐	☐	☐
	New Motor Oil	☐	☐	☐	☐
	Used Motor Oil	☐	☐	☐	☐
	Other, Please Specify _____				
	b. **Hazardous Substance**	☐	☐	☐	☐
	Name of Principal CERCLA Substance _____				
	AND				
	Chemical Abstract Service (CAS) No. _____				
	c. **Unknown**	☐	☐	☐	☐
Proposed Closure Method (Check Only One)	a. **Removal**	☐	☐	☐	☐
	b. **Closure-in-Place**	☐	☐	☐	☐
	c. **Change-In-Service**	☐	☐	☐	☐
Partial System Closure (Yes or No)					

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

UNDERGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

_____
Facility I.D.

_____
Municipality County

_____
Date Prepared

_____
Name of Person Submitting Report
(Please Print)

_____
Company Name
(If Applicable)

_____
Title

Closure Method (Check all that apply):

- ☐ Removal
- ☐ Closure-In-Place
- ☐ Change-In-Service

Site Assessment Results (Check all that apply):

- ☐ No Obvious Contamination - Sample Results Meet Standards/Levels
- ☐ No Obvious Contamination - Sample Results Do Not Meet Standards/Levels
- ☐ Obvious, Localized Contamination - Sample Results Meet Standards/Levels
- ☐ Obvious, Localized Contamination - Sample Results Do Not Meet Standards/Levels
- ☐ Obvious, Extensive Contamination

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

DATE RECEIVED: _____

UNDERGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

Owners who are permanently closing underground storage tanks may use this form to demonstrate that an underground storage tank closure was performed in accordance with the "Closure Requirements for Underground Storage Tank Systems" document. PLEASE PRINT OR TYPE. COMPLETE ALL QUESTIONS.

SECTION I. Owner/Facility/Tank/Waste Management and Disposal Information

1. Facility ID Number _____ 2. Facility Name _____
3. Facility County _____ 4. Facility Municipality _____
5. Facility Address _____
6. Facility Contact Person _____ 7. Facility Telephone Number (_____) _____
8. Owner Name _____
9. Owner Mailing Address _____
10. Description of Underground Storage Tanks (Complete for each tank closed)

DATE OF TANK CLOSURE (Month/Day/Year)					
Tank Registration Number					
Estimated Total Capacity (Gallons)					
Substance(s) Stored Throughout Operating Life of Tank (Check All That Apply)	a. **Petroleum**				
	Unleaded Gasoline	☐	☐	☐	☐
	Leaded Gasoline	☐	☐	☐	☐
	Aviation Gasoline	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐
	Jet Fuel	☐	☐	☐	☐
	Diesel Fuel	☐	☐	☐	☐
	Fuel Oil No. 1	☐	☐	☐	☐
	Fuel Oil No. 2	☐	☐	☐	☐
	Fuel Oil No. 4	☐	☐	☐	☐
	Fuel Oil No. 5	☐	☐	☐	☐
	Fuel Oil No. 6	☐	☐	☐	☐
	New Motor Oil	☐	☐	☐	☐
	Used Motor Oil	☐	☐	☐	☐
	Other, Please Specify _____				
NOTE: If Hazardous Substance Block is Checked, Attach Material Safety Data Sheets (MSDS)	b. **Hazardous Substance**	☐	☐	☐	☐
	Name of Principal CERCLA Substance _____				
	AND				
	Chemical Abstract Service (CAS) No. _____				
	c. **Unknown**	☐	☐	☐	☐
Closure Method (Check Only One)	a. **Removal**	☐	☐	☐	☐
	b. **Closure-in-Place**	☐	☐	☐	☐
	c. **Change-In-Service**	☐	☐	☐	☐
Partial System Closure (Yes or No)					

DATE OF TANK CLOSURE (Month/Day/Year)					
Tank Registration Number					
Estimated Total Capacity (Gallons)					
Substance(s) Stored Throughout Operating Life of Tank (Check All That Apply)	a. **Petroleum**				
	Unleaded Gasoline	☐	☐	☐	☐
	Leaded Gasoline	☐	☐	☐	☐
	Aviation Gasoline	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐
	Jet Fuel	☐	☐	☐	☐
	Diesel Fuel	☐	☐	☐	☐
	Fuel Oil No. 1	☐	☐	☐	☐
	Fuel Oil No. 2	☐	☐	☐	☐
	Fuel Oil No. 4	☐	☐	☐	☐
	Fuel Oil No. 5	☐	☐	☐	☐
	Fuel Oil No. 6	☐	☐	☐	☐
	New Motor Oil	☐	☐	☐	☐
	Used Motor Oil	☐	☐	☐	☐
	Other, Please Specify _____				
NOTE: If Hazardous Substance Block is Checked, Attach Material Safety Data Sheets (MSDS)	b. **Hazardous Substance**	☐	☐	☐	☐
	Name of Principal CERCLA Substance _____				
	AND				
	Chemical Abstract Service (CAS) No. _____				
	c. **Unknown**	☐	☐	☐	☐
Closure Method (Check Only One)	a. **Removal**	☐	☐	☐	☐
	b. **Closure-in-Place**	☐	☐	☐	☐
	c. **Change-In-Service**	☐	☐	☐	☐
Partial System Closure (Yes or No)					

Yes **N/A**

11. Briefly describe the storage tank facility and the nature of the operations which were conducted at the facility (both historical and present) **including use of tanks:** _____

_____

_____

_____

☐ 12. A site location and sampling map of the site, drawn to scale, is attached. See page 11 of 11.

☐ 13. Original, color photographs of the closure process are attached (i.e., inside of excavation/piping runs, pit water, tanks showing condition).

☐ 14. An amended "Registration of Storage Tanks" form was submitted to the DEP, Bureau of Watershed Conservation, Division of Storage Tanks, P.O. Box 8762, Harrisburg, PA 17105-8762.

Date: _____

☐ ☐ 15. If a reportable release was confirmed, the appropriate regional office of DEP was notified by the owner or operator.

Date: _____ Office: _____

Yes N/A

☐ ☐ 16. If tanks were cleaned on-site:

a. Briefly describe the disposition of usable product: _____

_____

_____

b. Briefly describe the disposal of unusable product, sludges, sediments, and wastewater generated during cleaning. Provide the name and permit number of the processing, treatment, storage or disposal facility. (Attach documentation of proper disposal): _____

_____

_____

c. If tank contents were determined/deemed to be hazardous waste, provide:

(1) Generator ID Number: _____

(2) Licensed Hazardous Waste Transporter Name and ID Number: _____

_____

☐ ☐ 17. If tanks were removed from the site for cleaning:

a. Provide the name and permit number of the processing, treatment, storage or disposal facility performing the tank cleaning: _____

_____

b. If tank contents were d determined/deemed to be hazardous waste, provide:

(1) Generator ID Number: _____

(2) Licensed Hazardous Waste Transporter Name and ID Number: _____

_____

18. Briefly describe the disposition of tanks/piping (Attach documentation of proper disposal):

_____

_____

_____

☐ ☐ 19. If contaminated soil is excavated:

a. Briefly describe the disposition and amount _____ (tons) of contaminated soil. Provide the name and permit number of the processing, treatment, storage or disposal facility. (Attach documentation of proper disposal):

_____

_____

_____

b. If contaminated soil is determined/deemed to be hazardous waste, provide:

(1) Generator ID Number: _____

(2) Licensed Hazardous Waste Transporter Name and ID Number: _____

_____

Yes	N/A	
☐	☐	20. Briefly describe the disposition of and amount _____ (tons) of uncontaminated soil (attach analyses): _____

I, _____, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the owner of the above referenced storage tank(s) and that the information provided by me in this closure report (Section I) is true, accurate and complete to the best of my knowledge and belief.

_____ Signature of Tank Owner

_____ Date

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

UNDERGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION II. Tank Handling Information

Facility ID Number _____

Yes N/A

1. Briefly describe the excavation and initial on-site staging of uncontaminated/contaminated soil:

_____

_____

2. Briefly describe the method of piping system closure and the closure of the piping systems including the quantity and condition of the piping:

_____

_____

3. Briefly describe the condition of the tanks and any problems encountered during tank removal:

_____

_____

4. Briefly describe the method used to purge the tanks of and monitor for explosive vapors: _____

_____

_____

☐ ☐ 5. If tanks were cleaned on-site:

a. Briefly describe the tank cleaning process: _____

_____

_____

b. If subcontracted, name and address of company that performed the tank cleaning: _____

_____

☐ ☐ 6. If tanks were closed-in-place, briefly describe the tank fill material: _____

_____

_____

☐ ☐ 7. If contamination was suspected or observed, the "Notification of Contamination" form was submitted.

SECTION II. (continued)

I, _____, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the certified installer who performed the tank handling activities associated with the closure of the above referenced storage tank(s) and that the information provided by me in this closure report (Section I) is true, accurate and complete to the best of my knowledge and belief.

_____
Signature of Certified Installer

_____
Date

_____
Installer Certification Number

_____
Company Certification Number

_____
Company Name

_____
Street

_____
City/Town, State, Zip

_____
Phone

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

UNDERGROUND STORAGE TANK CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # _____ (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number _____

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A: if NOT encountered).

Bedrock _____ feet below land surface Water _____ feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).
Length of piping _____ feet

C. **TANK SYSTEM REMOVED FROM THE GROUND**

1). Was obvious contamination observed while excavating?

☐ NO ----------→ Conduct confirmatory sampling ----------→ See end of this section for options on submission and maintenance of closure records ----------→ Do not complete item C.2. below.

☐ YES----------→ Report release to DEP within 2 hours ----------→ Describe contamination observed and likely source(s) tank, piping, dispenser, spills, overfills): _____

_____

_____ ----------→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES --------→ Remove or remediate contaminated soil --------→ Conduct confirmatory sampling-------→

See end of this section for options on submission and maintenance of closure records -------→ Call Indemnification Fund (717-787-0763).

☐ NO----------→ Continue interim remedial actions ----------→ See end of this section for options on submission and maintenance of closure records ----------→ Call Indemnification Fund (717-787-0763).

D. **TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE**

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----------→ Conduct confirmatory sampling ----------→ See end of this section for options on submission and maintenance of closure records.

☐ YES----------→ Report release to DEP within 2 hours ----------→ Describe contamination observed and likely source(s) tank, piping, dispenser, spills, overfills): _____

_____

_____

Continue with corrective action ----------→ See end of this section for options on submission and maintenance of closure records ----------→ Call Indemnification Fund (717-787-0763).

E. If the answer to C.1. is "no", the answer to C.2. if "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the UST system out of service;
(b) By the current owners and operators of the UST system site; or
(c) By mailing these records to the implementing agency if they cannot be maintained at the closed facility.

At least one option must be chosen. If option (c) is chosen, the closure report form should be sent to the DEP regional office responsible for the county in which the tank is located.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the CAP regulation requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, _____, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Signature of Person Performing Site Assessment	Date
Title of Person Performing Site Assessment	Name of Company Performing Site Assessment

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

UNDERGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)
Facility ID Number _____

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed

[1] Where EPA Method 5035 is required, indicate sample collection option in the right hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.
N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large scale map of the site where tanks were closed. Scales between 1" = 10 and 1" = 100 feet frequently work out well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tanks removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID:

County:

Township/Borough:

APPENDIX E

STANDARDS/ACTION LEVELS FOR CONFIRMATORY SAMPLES COLLECTED AT CLOSURE SITE ASSESSMENTS*

*** *NO WATER ENCOUNTERED* ***

Parameter	Unsaturated Soil Standard/Action Level (mg/kg)	Standard for Reuse of Soil On-Site (mg/kg)
Anthracene	350	350
Benzene	0.5	0.5
Benzo[a]anthracene	25/320	25/110
Benzo[a]pyrene	2.5/46	2.5/11
Benzo[b]fluoranthene	25/170	25/110
Benzo[ghi]perylene	180	180
Chrysene	230	230
Cumene	780/1600	780/1600
Dibromoethane, 1,2- (Ethylene Dibromide)	.005	.005
Dichloroethane, 1,2-	0.5	0.5
Ethyl Benzene	70	70
Fluorene	3000/3800	3000/3800
Indeno [1,2,3-cd] pyrene	25/28,000	25/110
Lead (Total)	450	450
Methyl Tert-Butyl Ether (MTBE)	2	2
Naphthalene	25	25
Phenanthrene	10,000	10,000
Pyrene	2200	2200
Toluene	100	100
Xylenes (Total)	1,000	1,000

Note: In cases where two numbers are shown for a parameter's soil standard/action level, the lower number applies to residential sites and the higher number applies to non-residential sites.

Because only a limited site characterization is required to be conducted in localized contamination situations, the more conservative statewide standards are presented. For instance, in soil, the confirmatory sampling will be assumed to be conducted within 2 to 15 feet of the surface. Therefore, the more stringent of the direct contact or highest soil to groundwater numeric values will apply. Where the soil to groundwater values apply, it will be assumed that the aquifer is used with a TDS < or = 2,500. It will also be assumed that any soil reused on-site will be placed back in the excavation to grade and/or spread on the site. All sample results must attain the statewide standards. Please recognize that the standards presented above are based on these assumptions. Depending on the particular contamination situation, different statewide standards may apply or other cleanup options may be available.

* The numeric standards contained in Appendix E reflect updated standards that are a part of the Chapter 250 regulations, which were approved by the Scientific Advisory Board, the Environmental Quality Board and the Independent Regulatory Review Commission and were published in the Pennsylvania Bulletin on November 24, 2001.

STANDARDS/ACTION LEVELS FOR CONFIRMATORY SAMPLES COLLECTED AT CLOSURE SITE ASSESSMENTS*

** * * WATER ENCOUNTERED * * **

Parameter	Saturated Soil[1] Standard/Action Level (mg/kg)	Unsaturated Soil Standard/Action Level (mg/kg)	Water Standard/Action Level (ug/l)	Standard for Reuse of Soil On-Site (mg/kg)
Anthracene	35	350	-	35
Benzene	0.5	0.5	5	0.5
Benzo[a]anthracene	7.9/32	25/320	0.9	7.9/32
Benzo[a]pyrene	2.5/4.6	2.5/46	0.2	2.5/4.6
Benzo[b]fluoranthene	12/17	25/170	0.9	12/17
Benzo[ghi]perylene	18	180	0.26	18
Chrysene	23	230	1.9	23
Cumene	110/230	780/1600	1,100	110/230
Dibromoethane, 1,2- (Ethylene Dibromide)	.005	.005	.05	.005
Dichloroethane, 1,2-	0.5	0.5	5	0.5
Ethyl Benzene	70	70	700	70
Fluorene	300/380	3,000/3,800	1,500	300/380
Indeno [1,2,3-cd] pyrene	25/2,800	25/28,000	0.9	25/110
Lead (Dissolved)	-	-	5	-
Lead (Total)	45	450	-	45
Methyl Tert-Butyl Ether (MTBE)	2	2	20	2
Naphthalene	10	25	100	10
Phenanthrene	1,000	10,000	1,100	1,000
Pyrene	220	2200	130	220
Toluene	100	100	1,000	100
Xylenes (Total)	1,000	1,000	10,000	1,000

[1] These standards apply to soil/water interface samples only.

Note: In cases where two numbers are shown for a parameter's soil standard/action level, the lower number applies to residential sites and the higher number applies to non-residential sites.

Because only a limited site characterization is required to be conducted in localized contamination situations, the more conservative statewide standards are presented. For instance, in soil, the confirmatory sampling will be assumed to be conducted within 2 to 15 feet of the surface. Therefore, the more stringent of the direct contact or highest soil to groundwater numeric values will apply. Where the soil to groundwater values apply, it will be assumed that the aquifer is used with a TDS < or = 2,500. More stringent standards may apply to samples collected at the soil/water interface. Where water is encountered, it will be assumed to be groundwater in a used aquifer with a TDS < or = 2,500. Where any soil is reused on-site, it will be assumed that the soil will be placed back in the excavation to grade and/or spread on the site. All sample results must attain the statewide standards. Please recognize that the standards presented above are based on these assumptions. Depending on the particular contamination situation, different statewide standards may apply or other cleanup options may be available.

* The numeric standards contained in Appendix E reflect updated standards that are a part of the Chapter 250 regulations, which were approved by the Scientific Advisory Board, the Environmental Quality

Board and the Independent Regulatory Review Commission and were published in the Pennsylvania Bulletin on November 24, 2001.