

MARYLAND DEPARTMENT
OF THE
ENVIRONMENT

HOMEOWNER GUIDANCE

1/2/2002

SUBJECT:
Residential Underground Heating Oil Tank Failure
Assessment



Oil Control Program
410-537-3443

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Introduction

It is the mandate of the Maryland Department of the Environment (MDE) to ensure that the environment and the citizens of this State are protected from oil releases. State law mandates that the owner of the discharged oil is responsible for the cleanup. The homeowner is the responsible party (RP) for oil released from their residential heating oil storage system. The homeowner's actions must comply with Maryland regulations. The adherence to this guidance, which is provided for informational purposes, should assist the homeowner in complying with Maryland regulations. Adherence to this document does not guarantee that no further action will be required by MDE and does not ensure that a homeowner or a homeowner's contractor will not be liable to the State or to impacted third parties. MDE, by drafting and making this guidance available to the public, does not waive any rights it may have to pursue an enforcement action, or any other action, against a homeowner or a homeowner's contractor for violations of the State's oil pollution laws. Homeowners may take additional steps on their own to correct aesthetic issues, such as minor odors, which effect a home's livability.

Purpose:

This guidance is designed for a homeowner to use upon detection of a leaking residential underground heating oil storage tank (either through tank testing, excavation, or detection of petroleum odors) or the abandonment in-place of a suspected residential leaking heating oil tank. The tank owner must notify MDE, within twenty-four hours, of these activities and an assessment defining the extent of the heating oil contamination must be performed. This assessment is required in order to determine the oil impact to localized soil, groundwater, and/or the potential for heating oil vapors or liquids to travel into living spaces of the home or neighboring homes.

Heating oil tank testing and removals are commonly associated with the sale of a home. Home sales require numerous activities to be performed within a short period of time. The discovery of an unknown heating oil tank, as well as the possible failure of a tank, can often result in unanticipated delays in the property transfer process. The requirement that a MDE inspector be present at the site during tank removal may also cause delays due to scheduling conflicts. This guidance is designed to eliminate that delay. Furthermore, this guidance can be used by the homeowner to assist in the proper documentation of site conditions upon closure for presentation for future sale or refinancing, even in cases where a test failure has not occurred or a release is not suspected.

It is the intent of this guidance to establish a procedure that will:

1. permit petroleum release investigation activities to proceed without requiring MDE's presence at every site;
2. give guidance to homeowners in order for them to obtain price quotes from contractors;
3. allow homeowners to budget tank removal, testing and investigation activities; and
4. be protective of the environment and public health and safety.

Exclusion:

This guidance document is not intended nor should it be interpreted to be a regulation as defined in Section 10-101, State Government Article. This document sets forth criteria and guidelines to assist MDE in determining the nature of a possible release from residential underground heating oil tanks. If at anytime MDE determines that a site represents a significant threat that is unresolved or unaddressed by the responsible party, MDE may assume control of the site and initiate steps to abate the threat. All costs incurred by MDE while undertaking such actions are recoverable from the responsible party.

Local Governments:

Many local governments have site inspection programs that will satisfy the items set forth in this document. MDE works closely with your local government and accepts their findings and evaluation of residential tank issues.

Contractors:

It is important for the homeowner to hire properly licensed contractors who are familiar with tank investigation activities. The contractor must follow all appropriate standards while performing tank removals, including the removal of all liquid from the tank prior to excavation or abandonment in-place. MDE further encourages homeowners to make contact with their oil supplier during this type of activity. In many cases an oil supplier will be able to assist and guide a homeowner during tank testing, removal and investigation. They can also provide references for companies that can perform the needed tank work and sampling. MDE can provide a list of contractors capable of performing the required work, but cannot recommend and will not guarantee the quality of work performed.

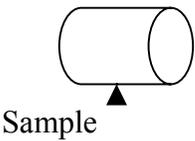
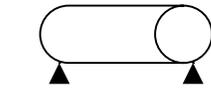
Motor Fuel:

Occasionally underground motor fuel tanks have been installed at residential properties for private use. Motor fuels require expanded sampling beyond what is addressed in this guidance and present significantly more hazards upon removal, especially the removal of a gasoline UST. If you are closing a motor fuel tank you should contact MDE for addition direction.

Required Actions

To investigate the extent of contamination, certain actions must take place when an underground storage tank or its associated piping has been determined to be leaking. This discovery is normally through a test, removal activity, failure of the heating system, or by other means such as the discovery of heating oil in a basement, sump pump pit, or domestic water supply well. A soil sampling collection must be performed. The soil sample shall be stored in a laboratory supplied 125ml jar or container. The soil samples must be analyzed by using United States Environmental Protection Agency (EPA) Method 8015B Diesel Range Organics (DRO). When underground heating oil tanks are excavated, the soil samples must be taken at the locations described or at a greater depth if contaminated soils are being removed. When the tank is to be closed in-place, the sampling must be performed as close as possible to the described locations.

Soil Around the Tank:

Tank Capacity	Sample Location	
Less than 300 gallons	At the center, two feet below the tank bottom.*	 Sample
Between 300 and 1,100 gallons	Two samples one at each end, two feet below the tank bottom.*	 Samples
Greater than 1,100 gallons	MDE must make site visit to designate sampling locations. At a minimum, two samples will be required	Thirty day written notice before removal, then (48) hour telephone conformation to the OCP.

* Or the sample may be taken just below the level of the soil excavated from the tank pit when greater than two feet below the tank bottom.

Soil Around the Piping:

When oil-piping runs are longer than 10 feet an additional soil sample must be collected at the mid-point of the piping run immediately below the piping. When the piping is longer than 20 feet, a soil sample must be collected at 10-foot intervals. If it is determined that the piping cannot be removed, the piping may be tested, with an approved method, to prove that it is tight and has never caused a release.

Groundwater:

If groundwater is found in the tank pit a water sample must be obtained and analyzed. The water sampled is to be analyzed using EPA Methods 8260 or 524.4 and 8015B. The chemicals of concern are Benzene, Toluene, Ethyl-Benzene, Xylenes and MTBE for the 8260 or 524.4 Method and Total Petroleum Hydrocarbons DRO for the 8015B Method.

Domestic wells:

If a domestic well is utilized as the primary water supply for the home, sampling of the well must be performed regardless of the well depth. EPA Method 8260 or 524.4 and 8015B diesel and gasoline range organics are to be used for the analysis. The main chemicals of concern are Benzene, Toluene, Ethyl-Benzene, Xylenes and MTBE for the 8260 or 524.4 Method. However, the full analysis run (regulated drinking water compounds) should be reported. For the Total Petroleum Hydrocarbons analysis EPA Method 8015B is to report both Gasoline Range Organics GRO and Diesel Range Organics DRO.

Additional Evaluation:

In addition to the environmental samples collected and observations made, an inspection of the home should be performed. The goal of this inspection is to discover any entry of heating oil into the structure. Items that should be observed for oil include, but are not limited to basement sump pumps, oil feed piping entry points, basement walls, crawl spaces, and furnace areas.

Of course all the investigations and actions performed should be documented. The homeowner must make the documentation available to MDE or local authorities and should keep this documentation for future use. The use of photographic documentation is highly recommended.

Test Results

Liquid Product:

When liquid product is found, its removal must be addressed immediately. If MDE is not on site, notification to MDE must be made within 2 hours of product discovery. MDE will give instructions on how to handle the liquid product. However, the responsible party and their contractor should be prepared to remove the product with absorbent material or by mechanical means.

Oil Contaminated Soil Results and Actions:

Soil Lab Analyses	Action
TPH \leq 230 PPM	Properly backfill excavation
TPH > 230 PPM	Remove soil until levels are below 230 PPM or groundwater is encountered or RISK analysis is performed.

In dealing with residential heating oil tank releases, MDE applies the concept of risk based corrective action, which allows a certain amount of petroleum contamination to remain in place due to minimal impacts to sensitive receptors. MDE recommends the removal of as much contaminated soil as possible. We further recommend the use of field screening techniques to assist in determining the extent of the needed excavation. MDE realizes that site constraints and proximity of the underground tank to building foundations limit the amount of soil to be excavated. Excavated contaminated soil must be properly disposed of at a local landfill (if acceptable) or an approved soil recycling and or disposal facility. The tank owner must be prepared to take sampling as required by the receiving facility. On-site soil treatment, such as land farming, may be approved by MDE on a site-specific basis.

Unsuccessful Soil Removal:

If it is not feasible to remove soil to achieve a level equal to or below 230 parts per million (PPM) total petroleum hydrocarbons (TPH) the tank owner may elect to hire a contractor to perform a site analysis to evaluate the potential risk/impact from the release.

For home heating oil releases, risk is defined as the ability of the released heating oil to impact waters of the State, the living space of the home, the space within any neighboring building or the ability for human contact with the oil contamination. An environmental professional should be carefully chosen by the homeowner to perform a proper risk analysis. The report must include statements on the location of nearest groundwater, its use, the ability of vapors to impact the living space of the home, and the ability of the contamination to be ingested or come in contact with humans. In preparing the risk assessment, the contractor must characterize the site condition and may have to perform an extensive subsurface investigation to define the extent of contamination and to support their findings and conclusions. Please note that each home has its own characteristics, therefore, the assessment must be designed specifically for each site. If it is determined that there is a risk from the release, the owner must provide MDE with a Corrective Action Plan as required under Code of Maryland Regulations (COMAR) 26.10.09. MDE will establish site-specific cleanup goals. The owner may also consider certain restrictions on the property to ensure no future exposure takes place as an alternative to performing additional corrective actions. An environmental professional may find MDE’s document “Maryland Environmental Assessment Technology for Leaking Underground Storage Tanks” helpful in designing a site investigation and corrective action plan.

Groundwater:

When sampling indicates the following contamination levels in groundwater MDE must be notified.

Water	Action
8260 or 524.4 analysis above any MCLs and/or MTBE above 20 ppb.	Contact MDE/OCP
8015B TPH/DRO above .047 ppm.	Contact MDE/OCP

Closing

As you can see from reading this document the prevention of an oil release is much easier and cost effective than a cleanup. MDE encourages all homeowners to have their tanks inspected. If your underground heating oil tank is over 25 years old, we encourage you to replace the system with a corrosion protected underground tank and piping or replace it with a new aboveground tank. MDE hopes this guidance proves helpful to the reader. Please feel free to contact the Oil Control Program of MDE with any questions or comments.

Appendix A

John Doe
ABC Street
Baltimore MD 21211

(Sample) SITE STATUS LETTER

RE: MDE Case 2001-0000BC

Dear: Mr. Doe:

This letter is written under the authority of Code of Maryland Regulations (COMAR) 26.10.01.05. The Oil Control Program (OCP) has reviewed our file for the above referenced site and the sampling information provided. Our review indicates that the case can be closed. The site has undergone the removal of one home heating oil underground storage system. The tank area depicted no levels of petroleum contamination. Our review also indicates that the case does not warrant additional investigation and, therefore, will be closed.

Residual petroleum contamination remains on site; however, it appears that this contamination poses no threat to human health or the environment. However, should future excavation of the soil in this area occur the property owner must submit a plan for approval for the proper management of the petroleum-contaminated soil.

Please be advised that COMAR 26.10.01.05G states: "A purchaser of oil-contaminated property does not become a person responsible for a discharge solely as a result of the purchase of the property, unless the purchaser is otherwise a person responsible for a discharge under Environmental Article, 4-401(i)".

If you have further questions please contact this office at 410-537-3442.

John Wayne
Chief of Compliance

Appendix B

Services Lists

The Department of Environment has several service lists available for your use. These lists can be obtained from any Oil Control field person, from our office at 410-537-3442 and by facsimile 410-537-3092. Some lists are also available on our web site www.mde.state.md.us. The available lists are:

1. Oil Spill Contractors
2. Tank Testers
3. Private Laboratories
4. Tank installer and removers
5. Well Drillers
6. Soil Disposal facilities
7. Available OCP Fact Sheets
8. Used Oil Contractors
9. Metal Tank Salvagers
10. Direct Push Contractors

NOTICE
FUNDING FOR CLEANUP
OF
RESIDENTIAL HEATING OIL SPILLS

The State of Maryland has passed legislation that will allow the reimbursement of up to \$10,000 of certain costs related to the cleanup of home heating oil spills. The Maryland Department of Environment will have limited funding to reimburse eligible sites for costs incurred after October 1, 2000. These costs must be effective, reasonable and consistent with an approved reimbursement application.

STATUS

Currently the Department is preparing regulations that will address the eligibility requirements for the owner of the home heating oil system. Once these regulations are final the Department will start mailing applications to owners that have notified the Department.

WHAT YOU SHOULD DO

If you have experienced a release of heating oil from your home tank, you should follow the directions for cleanup given to you by the Department of Environment or other regulatory agency involved, such as the local fire department or health department. You should save proof of expenditures such as receipts and canceled checks for all removal and cleanup activities. Most importantly you should notify the Department's Oil Control Program and request to be placed on the notification list for homeowner reimbursement.

WHAT WE WILL DO FOR YOU

Once the regulations are final, the Oil Control Program will send an application to each homeowner on the notification list. We will review the applications as required by the regulations and notify each homeowner of the results of the Department's eligibility determination. Once eligible we will work closely with you to ensure prompt reimbursement. Please keep in mind; there is no guarantee that you will be covered under this reimbursement program.

If you have questions, please contact Mr. Paul Certeza at 410-537-4152.

(October 31,2000)

Contractors Report

1. Site description:
 - A. Contractors name/address/phone number
 - B. Owners Name/mailing address/phone number
 - C. Site Address
 - D. County
 - E. Water supply well/public
 - F. Sewer septic/public

2. Tank description:
 - A. Material of Construction
 - B. Size
 - C. Age
 - D. Last date of use
 - E. Test history

3. Closure narrative:
 - A. Date
 - B. Type: Removal/in place
 - C. Soil excavation
 - i. amount
 - ii. disposal
 - D. Tank disposal
 - E. Liquid product discovery
 - F. Oil impact evaluation
 - F. Issues

4. Sampling
 - A. Locations
 - B. Chain-of-custody
 - C. Laboratory results
 - D. Field Screening results

5. Conclusions
 - A. Future work
 - B. Site closure request