



DIVISION OF UNDERGROUND STORAGE TANKS

TECHNICAL GUIDANCE DOCUMENT – 005

EFFECTIVE DATE – AUGUST 30, 1991

PREVIOUS REVISED DATES – JUNE 30, 1993; AUGUST 1, 1996; JUNE 28, 2000

REVISED DATE – JULY 1, 2005

RE: SAMPLING AND REPORTING REQUIREMENTS FOR EXCAVATED MATERIAL

The purpose of this document is to assist the regulated community in determining whether excavated material requires treatment. This determination is based upon the collection and analysis of discrete samples obtained from the excavated material.

1. FIELD SCREENING PROCEDURES

The total volume of excavated material (in cubic yards) shall be determined and divided by ten (10). The result of this calculation represents the total number of discrete samples to be collected for field screening. If this result is not a whole number, then round up to the next whole number. Field screening shall be performed in accordance with the current Environmental Assessment Guidelines.

- a. Sampling points shall be evenly distributed throughout the entire volume of the excavated material. The samples collected for field screening shall be representative samples based on volume rather than area.
- b. All samples shall be collected from a depth of at least one (1) foot in the excavated material to ensure that undue volatilization of the petroleum constituents has not occurred. **Surficial samples are not acceptable.**

2. SOIL SAMPLING PROCEDURES

Samples shall be collected from the area(s) having the highest levels of contamination (i.e., the highest field screening results). The number of sample(s) submitted for laboratory analysis shall be in accordance with the Table 1 provided below. All laboratory analysis shall be in accordance with the Table 2 provided below.

Table 1

VOLUME OF TREATED MATERIALS (cubic yards)	NUMBER OF SAMPLES FOR LAB ANALYSIS
0 – 60	1
60 – 240	2
240 – 480	3
480 – 720	4

Note: One additional sample shall be submitted for laboratory analysis for each additional 240 cubic yards of excavated material that requires treatment.

Table 2

Product Stored	Sample for	Product Stored	Sample for
Gasoline	Benzene Ethylbenzene Toluene Total Xylenes MtBE Naphthalene	Waste Oil Used Oil	Naphthalene
Diesel Jet Fuel Kerosene Aviation Fuel	Benzene Ethylbenzene Toluene Total Xylenes MtBE Naphthalene	Unknown	Benzene Ethylbenzene Toluene Total Xylenes MtBE Naphthalene

BTEX, MtBE, and Naphthalene shall be analyzed by EPA method 8260b

3. PROCEDURES FOR DETERMINING IF SOIL DISPOSAL OR TREATMENT WITH ADDITIONAL SOIL SAMPLING IS REQUIRED

(a) If the levels of petroleum contamination are below the Initial Screening Levels (ISLs) for residential property use (see the current UST System Closure Assessment Guidelines, Table 5), then soil disposal/treatment is not required.

(b) Soils with contaminant concentrations exceeding the residential ISLs do not require disposal/treatment provided one of the following conditions is met:

(i) If the levels of petroleum contamination exceed the residential ISLs **but** are below the commercial ISLs (see the current UST System Closure Assessment Guidelines, Table 5), then the referenced soil can be buried on the site of generation **provided** the referenced soil is capped with either asphalt, concrete, or a tightly packed three foot thick layer of clean fill soil **and** provided the referenced site is not currently a residential property and is not reasonably expected to be a residential property in the future. If a soil cap is utilized, then the elevation of the top of the soil cap should not be substantially different than the elevation of the surrounding ground surface. This will help ensure that the integrity of the soil cap will not be compromised in the future.

(ii) If the levels of petroleum contamination exceed the residential ISLs, **but** are below the site-specific clean-up level(s) for the petroleum constituent(s) previously approved by the division, then the referenced soil can be buried on the site of generation **provided** the referenced soil is capped with either asphalt, concrete, or a tightly packed three foot thick layer of clean fill soil. If a soil cap is utilized, then the elevation of the top of the soil cap should not be substantially different than the elevation of the surrounding ground surface. This will help ensure that the integrity of the soil cap will not be compromised in the future.

- (c) If the levels of petroleum contamination exceed the residential and/or commercial ISLs **and** the soil is to be transported to or treated on a site owned by a third party, then the Division of Solid and Hazardous Waste Management must be contacted for approval.
- (d) If soil treatment is required, then the appropriate Application to Treat Petroleum Contaminated Soil [see Technical Guidance Document (TGD) – 009] shall be submitted, and the sampling requirements set forth in this TGD shall be followed for all future stockpile sampling events.

4. REPORTING REQUIREMENTS

A Soil Stockpile Characterization Report summarizing the results of the above referenced sampling activities shall be submitted to the appropriate Environmental Field Office after each stockpile sampling event approved by the division (The initial stockpile sampling results collected during closure activities shall be submitted in table 3 of the Permanent Closure Report). The following items, at a minimum, shall be included in the report:

- (a) A table containing the results from both the field screening and laboratory analyses;
- (b) A site map depicting the location of all sampling points. This map shall also include the distance from a permanent fixed point to the referenced stockpile.
- (c) Originals or carbon copies of the laboratory analysis sheets. Photocopies are not acceptable. All laboratory analysis sheets shall contain the information specified in the UST System Closure Assessment Guidelines.