

1301:7-9-17 Sampling and analysis of excavated soil for the purpose of treatment and disposal.

(A) Purpose and scope.

For the purpose of prescribing rules pursuant to divisions (A) and (E) of section 3737.88 and division (B) of section 3737.882 of the Revised Code, the state fire marshal hereby adopts this rule governing the sampling and analysis of excavated soil arising from underground storage tank (UST) systems containing petroleum. This rule is adopted by the state fire marshal in accordance with Chapter 119 of the Revised Code and shall not be considered a part of the "Ohio Fire Code."

(B) Definitions.

- (1) "Excavated soil" means soil removed from the surface or subsurface in conjunction with a suspected release as that term is defined in paragraph (C) of rule 1301:7-9-13 of the Administrative Code; in conjunction with a release as that term is defined in paragraph (C) of rule 1301:7-9-13 of the Administrative Code; in conjunction with a confirmed release as that term is defined in paragraph (C) of rule 1301:7-9-13 of the Administrative Code; or in conjunction with the closure-in-place or permanent removal of an UST system pursuant to rule 1301:7-9-12 of the Administrative Code.
- (2) "Petroleum contaminated soil" or "PCS" means soil that contains chemical(s) of concern in concentrations that exceed one or more of the re-use action levels in table 1 of rule 1301:7-9-16 of the Administrative Code and excludes soil defined as hazardous waste.
- (3) "Soil" means solid and semi-solid earthen materials or backfill consisting of clay, silt, sand, stones, or gravel and any debris contained therein.
- (4) "Licensed disposal facility" means a facility that has obtained such permits or licenses that this or another state may require to accept materials for permanent burial, destruction, or treatment, including petroleum contaminated soil.

(C) General requirements.

- (1) Excavated soil shall be segregated based upon apparent degree of contamination.
- (2) Each soil pile or container of soil shall be sampled in accordance with this rule. The soil sample containing the highest analytical result shall characterize the entire soil pile or container for disposal, treatment, or re-use.
- (3) All excavated soil shall be managed as PCS unless laboratory analysis indicates otherwise.
- (4) The volume of excavated soil, for each soil pile or container, shall be calculated to determine the number of soil samples that shall be collected to comply with this rule. In-situ soil volume shall be converted to excavated soil volume by multiplying the in-situ volume by an expansion factor of 1.25. This paragraph shall not apply to excavated soil stored in containers.

- (5) Analytical results obtained pursuant to paragraph (I) of rule 1301:7-9-12 of the Administrative Code shall not be used to characterize excavated soil generated during a permanent removal, change-in-service, or closure-in-place of an UST pursuant to rule 1301:7-9-12 of the Administrative Code.
- (6) All soil samples collected for the purposes of this rule shall be discrete grab samples. Composite soil samples shall not be used for the purposes of complying with this rule. All excavated soil shall be sampled within forty-eight hours of the completion of the excavation.
- (7) Grab samples shall be split into two components. One component shall be packaged for field screening, the other packaged for potential laboratory analysis. The sampling and packaging shall be in accordance with procedures established by the state fire marshal.
- (8) If field screening is not conducted on the grab samples, all of the grab samples collected shall be submitted for laboratory analysis.
- (9) All soil samples must be analyzed by an accredited laboratory.

(D) Combining piles.

Excavated soil may be combined provided they are segregated in accordance with this rule. When combining soil, one or more of the following shall be conducted:

- (1) Excavated soil generated from various areas of an UST site may be combined at the discretion of the owner or operator;
- (2) Excavated soil from different facilities may be combined for purposes of characterizing the soil pile. However, if one or more of the chemical(s) of concern exceed re-use action levels, referenced in table 1 of rule 1301:7-9-16 of the Administrative Code, the soil must be disposed of at a licensed disposal facility; or
- (3) If all the combined excavated soil has not been previously characterized prior to being combined, they shall be characterized in accordance with this rule.

(E) Sampling soil in drums and small containers.

- (1) Analytical results obtained from soil borings sampled pursuant to rule 1301:7-9-12 or 1301:7-9-13 of the Administrative Code may be used to characterize soil from such borings for purposes of this rule.
- (2) For excavated soil in containers having a capacity of fifty-five gallons (0.27 cubic yards) or less, one grab sample shall be collected from the center at mid-depth of the soil in the container. Each sample collected shall be submitted for laboratory analysis.

(F) Sampling soil in piles and large containers.

Excavated soil that has not been previously characterized pursuant to paragraph (E) of this rule shall be characterized as follows:

- (1) At a minimum, the number of soil samples required to be collected for field screening shall be the number set forth in table 1 of this rule;

Table 1 - Cubic yards of soil generated

	<25	25-100	101-250	251-450	>450
1. Minimum number of grab samples to collect and field screen	3	6	12	18	18 plus 1 sample per each additional 50 cubic yards (or fraction thereof)
2. Minimum number of grab samples to submit to the laboratory if field screened	2	3	6	8	8 plus 1 sample per each additional 100 cubic yards (or fraction thereof)

- (2) Soil sample locations shall be determined by visually dividing the soil pile or the container into a sampling grid with sections of approximately equal surface area. The number of sample grids shall equal the minimum number of grab samples to be collected. The minimum number of grab samples to be collected is specified in table 1 of this rule; and
- (3) A grab sample shall be collected from the center of each grid section at least twelve inches below the soil surface.
- (4) The minimum number of grab sample components to be submitted for laboratory analysis is specified in table 1 of this rule. All soil samples collected shall be split into two components; one packaged for field screening, the other packaged for potential laboratory analysis. The sampling and packaging shall be in accordance with procedures established by the state fire marshal. The samples with the highest field screening readings shall be submitted for laboratory analysis.

(G) Sample analysis.

Grab samples submitted for laboratory analysis shall be analyzed pursuant to paragraph (H)(1)(c) of rule 1301:7-9-13 of the Administrative Code.

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