



**SWM-SWP-G-026- Disposal of Petroleum Contaminated Soil and Debris in Class I Landfills – DRAFT
UPDATE- MM/DD/YY**

Disposal of Petroleum Contaminated Soil and Debris in Class I Landfills - Guidance

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A. PURPOSE

The purpose of this guidance is to establish the acceptable criteria for soil, gravel, and/or absorbent materials (soil/debris), which has been contaminated with petroleum products (e.g., gasoline, diesel, kerosene, fuel oils, new and used oils) to be approved for disposal only in a Class I (Subtitle D) landfill in Tennessee. Such contaminated soil/debris is considered a "special waste" under Tennessee Chapter 0400-11-01, Solid Waste Processing and Disposal, and may be disposed in a landfill in Tennessee under one of the scenarios described in Sections C, D, and E below.

B. STATUTORY AND REGULATORY AUTHORITY

Tennessee Statutory Authorities

T.C.A. § 68-211-101 *et seq.*

T.C.A. § 68-211-102(b) states:

The general assembly declares that it is the policy of this state to ensure that no hazardous waste, as regulated under chapter 212 of this title, is disposed of in a solid waste disposal facility. Therefore, subject to the appropriation of funds in the general appropriations act for such purposes, the department shall develop an inspection program for all permitted facilities, including landfills and processing facilities, that provides for frequent, thorough and regular inspections. Further, subject to the appropriation of funds in the general appropriations act for such purposes, the department shall inspect waste streams, baled waste and special waste generators and transporters to prevent the introduction of hazardous waste into solid waste disposal facilities.

T.C.A. § 68-211-103(8) states:

(A) *"Solid waste" means garbage, trash, refuse, abandoned material, spent material, byproducts, scrap, ash, sludge, and all discarded material including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, and agricultural operations, and from community activities. Solid waste includes, without limitation, recyclable material when it is discarded or when it is used in a manner constituting disposal;*

(B) *"Solid waste" does not include:*

(i) *Solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows, or industrial discharges that are point sources subject to permits under § 402 of the Federal Water Pollution Control Act, codified in 33 U.S.C. § 1342;*

(ii) *Steel slag or mill scale that is an intended output or intended result of the use of an electric arc furnace to make steel; provided, that such steel slag or mill scale is sold and distributed in the stream of commerce for consumption, use, or further processing into another desired commodity and is managed as an item of commercial value in a controlled manner and not as a discarded material or in a manner constituting disposal; or*

(iii) *Except to the extent inconsistent with applicable federal law, soil is not discarded material constituting waste as long as the soil is intended for use or reuse as soil;*

T.C.A. § 68-212-101 *et seq.*

Tennessee Rule Authorities

Rule 0400-11-01-.01(2) [Rule page 11] states, in part:

“Solid waste disposal” means the process of permanently or indefinitely placing, confining, compacting, or covering solid waste.

...

“Special Wastes” are solid wastes that are either difficult or dangerous to manage and may include sludges, bulky wastes, pesticide wastes, medical wastes, industrial wastes, hazardous wastes which are not subject to regulations under Rules 0400-12-01-.03 through 0400-12-01-.07, liquid wastes, friable asbestos wastes, and combustion wastes. . . .

Rule 0400-11-01-.01(4)(b) [Rule pages 13 and 14] states:

General Requirement - Except as may be specifically allowed in the permit, an operator may not accept for processing or disposal at his facility any special waste unless and until specifically approved to do so in writing by the Department. Facilities shall not process or dispose of special waste for which approval by the Department has expired. Special waste generators shall not send off-site to processing or disposal facilities special waste for which approval by the Department has expired, unless the facility has specific authority in the permit to accept such waste.

Rule 0400-11-01-.01(4)(c)1 [Rule page 14] states:

Persons who generate and wish to process or dispose of a special waste must make application to the Commissioner for waste evaluation. Also such persons who generate and wish to process or dispose of sludges, bulky wastes, pesticide wastes, medical wastes, industrial wastes, hazardous wastes which are not subject to regulations under Rules 0400-12-01-.03 through 0400-12-01-.07, liquid wastes, friable asbestos wastes, and combustion wastes, must make application to the Commissioner for waste evaluation unless the Commissioner determines such is not necessary. Such application must be on a form provided by the Department and completed according to the accompanying instructions. This application shall include, but not necessarily be limited to, a chemical and physical description of the solid waste, the amounts of and frequencies such solid waste is to be managed at the facility, a description of the processes or operations generating the waste, and an identification of the facility which such person wants to handle his waste, and any additional information needed by the Commissioner to clarify the application.

Rule 0400-12-01-.03(1)(b) [Rule pages 5 and 6] states:

Hazardous Waste Determination and recordkeeping [40 CFR 262.11]

A person who generates a solid waste, as defined in subparagraph (1)(b) of Rule 0400-12-01-.02, must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable hazardous waste management regulations. A hazardous waste determination is made using the following steps:

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1. *The hazardous waste determination for each solid waste must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the hazardous waste management regulatory classification of the waste may change.*
2. *A person must determine whether the solid waste is excluded from regulation under subparagraph (1)(d) of Rule 0400-12-01-.02.*
3. *If the waste is not excluded under subparagraph (1)(d) of Rule 0400-12-01-.02, the person must then use knowledge of the waste to determine whether the waste meets any of the listing descriptions under paragraph (4) of Rule 0400-12-01-.02. Acceptable knowledge that may be used in making an accurate determination as to whether the waste is listed may include waste origin, composition, the process producing the waste, feedstock, and other reliable and relevant information. If the waste is listed, the person may file a delisting petition under 40 CFR 260.20 and 260.22 to demonstrate to the EPA Administrator that the waste from this particular site or operation is not a hazardous waste.*
4. *The person then must determine whether the waste exhibits one or more hazardous characteristics as identified in paragraph (3) of Rule 0400-12-01-.02 by following the procedures in subpart (i) or (ii) of this part, or a combination of both.*
 - (i) *The person must apply knowledge of the hazard characteristic of the waste in light of the materials or the processes used to generate the waste. Acceptable knowledge may include process knowledge (e.g., information about chemical feedstocks and other inputs to the production process); knowledge of products, by-products, and intermediates produced by the manufacturing process; chemical or physical characterization of wastes; information on the chemical and physical properties of the chemicals used or produced by the process or otherwise contained in the waste; testing that illustrates the properties of the waste; or other reliable and relevant information about the properties of the waste or its constituents. A test other than a test method set forth in paragraph (3) of Rule 0400-12-01-.02, or an equivalent test method approved by the EPA Administrator under 40 CFR 260.21, may be used as part of a person's knowledge to determine whether a solid waste exhibits a characteristic of hazardous waste. However, such tests do not, by themselves, provide definitive results. Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at subparagraph (2)(a) of Rule 0400-12-01-.01.*
 - (ii) *When available knowledge is inadequate to make an accurate determination, the person must test the waste according to the applicable methods set forth in paragraph (3) of Rule 0400-12-01-.02 or according to an equivalent method approved by the EPA Administrator under 40 CFR 260.21 and in accordance with the following:*
 - (I) *Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at subparagraph (2)(a) of Rule 0400-12-01-.01.*
 - (II) *Where a test method is specified in paragraph (3) of Rule 0400-12-01-.02, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste.*

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5. *If the waste is determined to be hazardous, the generator must refer to Rules 0400-12-01-.02, 0400-12-01-.05, 0400-12-01-.06, 0400-12-01-.09, 0400-12-01-.10, and 0400-12-01-.12 for possible exclusions or restrictions pertaining to management of the specific waste.*
6. *Recordkeeping for small and large quantity generators. A small or large quantity generator must maintain records supporting its hazardous waste determinations, including records that identify whether a solid waste is a hazardous waste, as defined by subparagraph (1)(c) of Rule 0400-12-01-.02. Records must be maintained for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal. These records must comprise the generator's knowledge of the waste and support the generator's determination, as described in parts 3 and 4 of this subparagraph. The records must include, but are not limited to, the following types of information: the results of any tests, sampling, waste analyses, or other determinations made in accordance with this subparagraph; records documenting the tests, sampling, and analytical methods used to demonstrate the validity and relevance of such tests; records consulted in order to determine the process by which the waste was generated, the composition of the waste, and the properties of the waste; and records which explain the knowledge basis for the generator's determination, as described at subpart (4)(i) of this subparagraph. The periods of record retention referred to in this part are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Commissioner.*
7. *Identifying hazardous waste numbers for small and large quantity generators. If the waste is determined to be hazardous, small quantity generators and large quantity generators must identify all applicable hazardous waste numbers (EPA hazardous waste codes) in paragraphs (3) and (4) of Rule 0400-12-01-.02. Prior to shipping the waste off site, the generator also must mark its containers with all applicable hazardous waste numbers (EPA hazardous waste codes) according to subparagraph (4)(c) of this rule.*

C. SPECIAL WASTE EXEMPTION - SMALL QUANTITIES

Soil/debris contaminated from a traffic accident spill with less than twenty-five (25) gallons of petroleum (transmission fluid, motor oil, gasoline, and/or diesel and de minimis amounts of motor coolant, battery acid, hydraulic fluid, and windshield washer fluid) and the total amount of soil/debris is less than five (5) cubic yards per accident are exempt from special waste approval if disposed of in a Tennessee Class I landfill (with the landfill's permission) because it is not considered dangerous or difficult to manage. (See DSWM SWM-SWP-G-130-Environmental Cleanup Guidance for Petroleum Transportation Spills).

D. CLASS I LANDFILL BLANKET SPECIAL WASTE APPROVAL

Class I landfills in Tennessee, unless they are prohibited from receiving this waste, are granted blanket approval for soil/debris contaminated **only with transmission fluid, motor oil, and/or diesel** from traffic accident spills. De minimis amounts of motor coolant, battery acid, hydraulic fluid, and windshield washer fluid spilled from vehicles is allowable for landfill disposal under the blanket approval but not if carried as cargo. Two (2) conditions of this blanket approval are:

1. The generator signs a statement that the soil/debris is contaminated **only with transmission fluid, motor oil, and/or diesel and possibly de minimis amounts of motor coolant, battery acid, hydraulic fluid, and windshield washer fluid spilled from the vehicle** from a traffic accident; and
2. The landfill must maintain records of all petroleum contaminated soil/debris disposed under a blanket approval, including the generator statement required in item 1 above, the amounts disposed of for each accident, and the dates of disposal. These records must be available for inspection by the DSWM.

E. SPECIAL WASTE APPROVAL

All petroleum contaminated soil/debris not covered under the small quantity exemption in paragraph C above or a Class I landfill blanket approval described in paragraph D above is required to have individual special waste approval from the DSWM in order to be disposed in a Class I landfill. To apply for special waste approval, a Special Waste Application must be submitted to the DSWM together with the applicable analytical data and fee.

Suggested minimum number of soil samples (Note: A larger number of samples than presented in the below table may be required by DSWM if determined necessary based on the characteristics of a spill. Cubic yard of soil equals approximately 1.3 tons of soil.):

VOLUME OF CONTAMINATED SOIL (cubic yards)	NUMBER OF SAMPLES FOR LAB ANALYSIS
0 – 60	1
60 – 240	2
240 – 480	3
480 – 720	4
One (1) additional sample should be submitted for laboratory analysis for each additional two hundred forty (240) cubic yards of contaminated soil.	

The following are the three (3) categories for petroleum contaminated soil/debris not covered under the small quantity exemption or Class I landfill blanket approval and the special waste requirements:

1. **Soil/debris contaminated with diesel, kerosene, fuel oils, and/or unused oil.** There is no requirement for the sampling and analyses of soil/debris contaminated **only** with diesel, kerosene, fuel oils, and/or unused oil. However, the generator must state on the special waste application that the soil/debris is contaminated with diesel, kerosene, fuel oils, and/or unused oil and is not contaminated with PCBs or other material(s) with hazardous constituent(s). If the soil/debris is also contaminated with gasoline, this must be stated on the application and the analyses in item 2 below for benzene, if applicable (see exemptions), must be performed and submitted with the application. If the soil/debris could contain PCBs, then it must be representatively sampled and analyzed for PCBs. If the concentration of PCBs is equal to or exceeds 50 mg/kg, then the waste cannot be disposed

of as a special waste and must be managed in accordance with Toxic Substances Control Act (TSCA) and 40 CFR Part 761. If the soil/debris could contain other material(s) with hazardous constituent(s), then a hazardous waste determination must be made in accordance with Chapter 0400-12-01, which may require representative sampling and analyses of the soil/debris.

- 2. Soil/debris contaminated with gasoline.** Soil/debris contaminated with gasoline must be representatively sampled and analyzed for benzene except for petroleum-contaminated media and debris that are subject to the corrective action regulations under 40 CFR Part 280 or Underground Storage Tank program regulations (Chapter 0400-18-01). Otherwise, if the total amount of benzene in any sample is equal to or exceeds 10 mg/kg, then the sample(s) must be subjected to the Toxicity Characteristic Leaching Procedure (TCLP) and the extract analyzed to determine the concentration of benzene. If the concentration of benzene in the TCLP extract is equal to or exceeds 0.5 mg/L, then the waste is a hazardous waste and cannot be disposed of as a special waste. The waste must be managed as a hazardous waste in accordance with Chapter 0400-12-01. The exception is petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of Rule 0400-12-01-.02(3)(e) (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under 40 CFR Part 280 or Underground Storage Tank program regulations (Chapter 0400-18-01) are categorically exempt from being a classified as a hazardous waste.

If the generator has reason to believe the soil/debris contaminated with gasoline contained lead, a representative sample of the waste must be analyzed for lead. If the total amount of lead in any sample is equal to or exceeds 100 mg/kg, then the sample(s) must be subjected to the TCLP and the extract analyzed to determine the concentration of lead. If the concentration of lead in the TCLP extract is equal to or exceeds 5 mg/L, then the waste is a hazardous waste and cannot be disposed of as a special waste. The waste must be managed as a hazardous waste in accordance with Chapter 0400-12-01.

The generator must state on the special waste application that the soil/debris is not contaminated with PCBs or other material(s) with hazardous constituent(s). If the soil/debris could contain PCBs, then it must be representatively sampled, and analyzed for PCBs. If the concentration of PCBs is equal to or exceeds 50 mg/kg, then the waste cannot be disposed of as a special waste and must be managed in accordance with TSCA and 40 CFR Part 761. If the soil/debris could contain other material(s) with hazardous constituent(s), then a hazardous waste determination must be made in accordance with Chapter 0400-12-01, which may require sampling and analyses of representative samples of the soil/debris.

- 3. Soil/debris contaminated with used oil.** If the generator knows that the used oil does not contain PCBs and/or other material(s) with hazardous constituent(s), then no analyses are necessary. However, the generator must state on the special waste application that the used oil is not contaminated with PCBs or other material(s) with hazardous constituent(s). If the used oil could contain PCBs, then the soil/debris must be representatively sampled and analyzed for PCBs. If the concentration of PCBs is equal to or exceeds 50 mg/kg, then the waste cannot be disposed of as a special waste and must be managed in accordance with TSCA and 40 CFR Part 761. If the used oil could contain other material(s) with hazardous constituent(s), then a

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hazardous waste determination must be made in accordance with Chapter 0400-12-01, which may require sampling and analyses of representative samples of the soil/debris. (Note: Hazardous constituents are listed in Appendix VIII of Tennessee Rule 0400-12-01-.02.)

REVISION HISTORY TABLE

Revision Number	Date	Brief Summary of Change
0	03/23/90	Initial
1	06/04/96	Updated to 1) Add information regarding actions to take when the Total Petroleum Hydrocarbon levels are below and above 1,000 ppm; and 2) Add information on additional guidance documents that address daily cover in the section on management and approval of PFC soil and debris at the landfill.
2	07/14/97	Updated to 1) Remove several sections found in the previous version that were no longer applicable; and 2) Clearly state that a special waste application is required for all petroleum contaminated soil to be disposed of in a subtitle D landfill.
3	01/15/01	Updated to clarify the requirements for soils contaminated solely from vehicle accidents in which only diesel fuel is involved.
4	11/14/10	Updated to 1) Identify special waste exemption for small quantity; 2) Identify special waste blanket approval; and 3) Identify when analyses are necessary.
5	MMDDYY	Updated to 1) Be consistent with BOE Policy; 2) Reference new and updated guidance documents; 3) Provide suggested number of soil samples; and 4) Clarify that petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of Rule 0400-12-01-.02(3)(e) (Hazardous Waste Codes D018 through D043 only) are subject to the corrective action regulations under 40 CFR Part 280 or Chapter 0400-18-01 are not hazardous waste.