

Standard Operating Procedure for Management and Disposal of Petroleum-Contaminated Soil Following a Release from a Non-Underground Storage Tank Petroleum Storage Tank

SOP WST-2014-1, Revision 1




**State of Idaho
Department of Environmental Quality
Waste Management and Remediation**

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Approval Signatures

This statewide standard operating procedure (SOP) becomes effective on the date of the last approval signature.



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1 Purpose and Applicability

This standard operating procedure (SOP) was created for Idaho Department of Environmental Quality (DEQ) General Remediation Program staff to evaluate petroleum releases from non-underground storage tank (UST) sites.

1.1 Mission and Authority

This SOP provides a process for determining the management and disposal requirements for petroleum-contaminated soil (PCS) generated during the cleanup of a release from a non-UST petroleum storage tank (PST). A non-UST PST is a tank or tank system that is a PST under DEQ's "Water Quality Standards" (IDAPA 58.01.02) but is *not* a petroleum UST under "Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)" (40 CFR 280). Non-UST PSTs include stationary and mobile petroleum storage tanks, piping and ancillary equipment, or other containers that are more than 90% aboveground and non-regulated USTs (see Section 2).

This SOP identifies how DEQ will determine whether to require management and disposal of PCS as a hazardous waste consistent with the "Rules and Standards for Hazardous Waste" (IDAPA 58.01.05) or as a non-hazardous solid waste consistent with "Petroleum Release Response and Corrective Action" (IDAPA 58.01.02.852) and "Standards and Procedures for Application of Risk Based Corrective Action at Petroleum Release Sites" (IDAPA 58.01.24). IDAPA 58.01.02.852 and IDAPA 58.01.24 are collectively referred to as the DEQ petroleum cleanup rules. This SOP does not address petroleum cleanup standards or completion criteria (IDAPA 58.01.02.852 and IDAPA 58.01.24 provide cleanup standards and completion criteria).

1.2 Program Objectives

The objective is statewide consistency for application of regulations, and management and disposal of PCS that is generated from petroleum releases from non-UST sites.

2 Definitions

2.1 DEQ's Petroleum Storage Tank Definition

Petroleum Storage Tank (PST) System means "Any one (1) or combination of storage tanks or other containers, including pipes connected thereto, dispensing equipment, and other connected ancillary equipment, and stationary or mobile equipment, that contains petroleum or a mixture of petroleum with *de minimis* quantities of other regulated substances" (IDAPA 58.01.02.010.78).

2.2 Federal Underground Petroleum Storage Tank Definitions

Petroleum Underground Storage Tank (UST) System means "an *underground storage tank* system that contains petroleum or a mixture of petroleum with *de minimis* quantities of other

regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils” (40 CFR 280.12).

Underground storage tank (UST) means “any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is *10 percent or more beneath the surface of the ground*” (40 CFR 280.12).

3 Personnel Qualifications

DEQ staff conducting evaluations of petroleum releases under this SOP must have experience in assessment and remediation for petroleum releases to the environment and know the regulatory requirements for managing and disposing of PCS.

4 Procedures

Step 1. Toxicity Determination

PCS must be managed as a hazardous waste unless it meets the exemption criteria of “Identification and Listing of Hazardous Waste” (40 CFR 261.4(b)(10)). If PCS contains a listed hazardous waste (40 CFR 261.31 Hazardous wastes from non-specific sources for F-listed wastes; 40 CFR 261.32 Hazardous wastes from specific sources for K-listed wastes; 40 CFR 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof for P-listed wastes (acutely toxic); and U-listed wastes (toxic)) or fails the toxicity characteristic leachate procedure (TCLP) for any characteristic other than hazardous waste codes D018 through D043 (petroleum constituent codes; Table 1 in 40 CFR 261.24 Toxicity characteristic), the PCS must be managed as a hazardous waste consistent with the Idaho Hazardous Waste Management Act (HWMA) of 1983 (Idaho Code §39-4401 et seq.) and the federal Resource Conservation and Recovery Act (RCRA) Subtitle C (42 USC §6901 et seq.).

Regulated entities are responsible for making the toxicity determination as follows:

- A. **Process Knowledge and Reasonable Expectation of Non-petroleum Contaminants/Professional Judgment.** Responsible parties will review all available information, including the known information concerning the contents, source, and destination of the released petroleum, to determine whether additional contaminants, such as listed wastes or other waste (e.g., antifreeze), could reasonably be present in the PCS.
 - 1) **No Reasonable Expectation of Non-petroleum Contaminants:** It is reasonable to expect that petroleum products such as product gasoline, diesel, or heating oil that are intended for ordinary automotive or heating use, and are not recycled or used products will meet the specifications for a non-hazardous waste media. Based on this process knowledge, responsible parties may determine that the product would not characterize for any constituents other than the D018–D043 characteristics. The responsible party should seek concurrence with DEQ in

reaching such a conclusion. Based on this determination, it may be appropriate to manage and dispose of the PCS under DEQ's petroleum cleanup rules. **Proceed to Step 2.**

- 2) **Reasonable Expectation of Non-petroleum Contaminants:** If DEQ staff determines the PCS may reasonably be expected to contain non-petroleum contaminants, DEQ will require a TCLP test be performed by the responsible party or property owner for toxicity. This situation often occurs when the non-UST PST contains waste petroleum, such as *used oil or off-spec gasoline*. If the non-UST PST may have received material other than product gasoline, diesel, or heating oil, it is likely that the PCS could contain other hazardous constituents. If this determination is made, the responsible party or property owner (or contractor acting on behalf of the responsible party or property owner) must perform a hazardous waste characterization consistent with HWMA and RCRA Subtitle C. **Proceed to Step 1.B.**

B. TCLP Test for Toxicity

- 1) If the TCLP test for toxicity *fails for D018 through D043 only*, it may be appropriate to manage and dispose of the PCS under DEQ's petroleum cleanup rules. **Proceed to Step 2.**
- 2) If the TCLP test for toxicity *fails for other hazardous waste code(s)*, the PCS must be managed as a hazardous waste under HWMA and RCRA Subtitle C. **Proceed to Step 3.**

Step 2. Accidental Release or Intentional/Knowing Release Determination

Only PCS that results from an accidental release from a non-UST PST may be managed and disposed of as non-hazardous solid waste under DEQ's petroleum cleanup rules. If the PCS results from the intentional or knowing disposal of a petroleum product from a non-UST PST, the PCS must be managed as a hazardous waste. Examples of an accidental non-UST PST release include a tanker-truck accident causing a roadside release or an accidental spill or leak from an above ground storage tank.

- A. **Accidental Release.** If DEQ staff can readily determine the PCS was generated due to an accidental release (e.g., tanker-truck accident) and assuming the PCS contains only petroleum contaminants (Step 1), it is appropriate to manage the PCS under DEQ's petroleum cleanup rules. **Proceed to Step 3.**
- B. **Intentional or Knowing Disposal.** If DEQ staff determines the PCS is the result of intentional or knowing disposal of a petroleum product or waste from a non-UST PST, DEQ should approach the site as a potential hazardous waste disposal site. Regardless of any process knowledge (Step 1.A), DEQ should require the responsible party or property owner (or contractor acting on behalf of the responsible party or property owner) to *perform a full hazardous waste determination and characterization* (i.e., toxicity, ignitability, corrosivity, and reactivity) on both the PCS and, to the extent possible, on remaining contents of the non-UST PST, to determine what was released and/or disposed. In the case of an intentional or knowing

disposal, the toxicity exemption for petroleum constituents (D018 through D043 found in 40 CFR 261.4(b)(10)) does not apply; if the PCS or other materials fail the TCLP test for any hazardous waste code, or otherwise characterize as a hazardous waste, the PCS or other materials must be managed as hazardous waste(s) under HWMA and RCRA Subtitle C. **Proceed to Step 3.**

- C. **Further Review Required.** If DEQ staff cannot readily determine whether the release was accidental or done with intent or knowledge, staff should discuss the response action. The meeting should include regional and state offices and Leaking UST, General Remediation, and HWMA Program staff. The purpose of the meeting will be to determine whether the PCS was generated due to an accidental release, or a knowing or intentional release. Once the determination is made, return to Step 2.A for accidental release or Step 2.B for intentional or knowing disposal.

Step 3. DEQ Conclusion

After completing Steps 1 and 2, DEQ regional or state office staff will provide the responsible party, property owner, or a contractor acting on behalf of a responsible party or property owner with its determination (either verbally or in writing) regarding the applicable DEQ requirements for managing and disposing of PCS.

5 Records

If a written determination is provided, project staff will enter the written determination into TRIM following program protocols.

If a verbal determination is provided, project staff will create a *Note-to-File* indicating the determination made and enter into TRIM following program protocols.

6 References

Idaho Hazardous Waste Management Act. 1983. Idaho Code §39-4401 et seq.

Identification and Listing of Hazardous Waste. 2013. 40 CFR 261.

Resource Conservation and Recovery Act, Subtitle C. 1976. 42 USC §6901 et seq.

Rules and Standards for Hazardous Waste. 2013. IDAPA 58.01.05.

Standards and Procedures for Application of Risk Based Corrective Action at Petroleum Release Sites. 2013. IDAPA 58.01.24.

Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST). 2013. 40 CFR 280.

Water Quality Standards. 2013. IDAPA 58.01.02.