

**GUIDELINES FOR SITE CHECKS, TANK CLOSURE,
AND INITIAL RESPONSE AND ABATEMENT
FOR UST RELEASES**

UST Section

North Carolina Department of Environmental Quality

Division of Waste Management

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method as an alternative to the detection limit indicated in the method description and is listed for each analyte in the *Guidelines for Sampling*.

NAPL: also known as “free product”. A non-aqueous phase liquid (i.e., not dissolved in water) which may be present within the subsurface at a measurable thickness greater than or equal to 0.01 of a foot (approximately 1/8 inch), as a sheen on surface water, or accumulating as a liquid on an exposed surface. Depending on the density of the liquid in relation to water, the NAPL may be further described as ‘Light’ (LNAPL) or ‘Dense’ (DNAPL).

Non-Commercial Underground Storage Tank: any tank or tank system, including any connected piping, containing petroleum products, where at least ten percent (10%) of the total system volume (including both tanks and piping) is buried beneath the surface of the ground, that is *not* included within the Commercial UST classification, and excluding any systems exempted in North Carolina General Statute (NCGS) 143-215.94A(7) .

Petroleum or Petroleum Product: crude oil or any fraction thereof which is liquid at standard conditions of temperature (60 degrees Fahrenheit) and pressure (14.7 pounds per square inch absolute), but excluding substances defined as a hazardous substance in Section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980.

Petroleum-Contaminated Soil or Soil Containing Petroleum Products: any soil that has been exposed to petroleum products because of any emission, spillage, leakage, pumping, pouring, emptying, or dumping of petroleum products onto or beneath the land surface and that exhibits characteristics or concentrations of typical petroleum product constituents in quantities that exceed the soil-to-groundwater contaminant concentrations or the residential maximum soil contaminant concentrations, whichever is lower, as established in 15A NCAC 02L .0411.

Practical Quantitation Limit (PQL): the lowest concentration of a given material that can be reliably achieved among laboratories within specified limits of precision and accuracy by a given analytical method during routine laboratory analysis.

Receptor: any human, plant or animal, structure or surface water body that is or has the potential to be adversely effected by the release or migration of contaminants.

Release: any spilling, leaking, emitting, discharging, escaping, leaching or disposing into groundwater, surface water or subsurface soils. (Refer to statutes and regulations relevant to UST releases or to AST and surface releases.)

Responsible Party (RP): a UST owner, UST operator, and/or landowner seeking reimbursement from the State Trust Fund, or any person who is responsible for a discharge or release of petroleum or a hazardous substance. (Refer to statutes and regulations relevant to UST releases or to AST releases and spills.)

Smear Zone: the zone around a source area where LNAPL has been ‘smeared’ across different soil horizons due to water table fluctuations, with some LNAPL remaining trapped in pore spaces beneath the historic high water table.

7.3 Excavation of Contaminated Soil from Regulated Non-Petroleum UST Releases

Once a release has been confirmed, initial abatement actions for releases from regulated, non-petroleum USTs (including USTs containing hazardous substances such as halogenated solvents) are subject to the corrective action requirements of **15A NCAC 2N .0700**. Thus, contaminated soil must be excavated to the maximum extent practicable, and post-excavation confirmatory soil samples must be collected and analyzed using approved analytical methods, as specified in Table 5, p. 61. (A flowchart illustrating the requirements for regulated hazardous substance UST releases is presented as Figure 3 on p. 47.)

7.4 Disposal of Contaminated Soil and Groundwater from Excavations

Excavations may not be back-filled with contaminated soil. As of January 1, 2018, 15A NCAC 2T .1502(4), defines soil as contaminated with petroleum if analytical results from samples collected during the assessment or from the stockpile show the presence of contaminants at concentrations above the soil-to-groundwater or residential MSCCs, whichever is lower. Once contaminated soil is excavated, it is considered a waste and must be properly disposed of, even if the contaminant concentrations are below applicable risk-based cleanup levels. A permit issued by the DWM is required if excavated contaminated soil is to be treated on site, and a certificate of approval is required if excavated contaminated soil is to be temporarily stored on site (See *Guidelines for Ex Situ Petroleum Contaminated Soil Remediation*, current version.). If soil is to be hauled offsite for treatment/disposal, then disposal manifests are required.

Contaminated soil, impacted by non-petroleum contamination, may be considered hazardous waste and must be evaluated and disposed of accordingly.

Excavations must be filled with clean compacted fill that is similar to the native soil removed from the excavation. If gravel or some other permeable material is to be used, then a low permeability fill material must be used to cap the excavation. Segregated overburden, benching, or other marginal excavated soils that, when properly screened, are not indicative of 'petroleum-contaminated soils' as defined in 15A NCAC 02T .1504, and are not hazardous wastes as defined in 15A NCAC 13A, may be re-used as fill in the excavation from which that soil was removed.

If the tank pit or the excavation requires de-watering, the contaminated water must be properly treated to meet discharge levels allowed in a POTW or NPDES permit, or must be transported offsite for proper disposal at a permitted facility.

Groundwater from well development, as well as drilling mud and cuttings generated from monitoring wells installed as part of the Site Check or Initial Abatement Action confirmation sampling must be disposed of according to **15A NCAC 2T .0113**, as presented in Appendix E.

If State Trust Fund reimbursement is anticipated, please refer to the current version of the Reasonable Rate Document (which is available in electronic format from the UST Section's web page at <https://deq.nc.gov/about/divisions/waste-management/underground-storage-tanks-section/trust-fund-branch/reasonable-rate-documents>) for information about reimbursement.

TPH must be collected from the contaminated soil waste stream at appropriate intervals to document the claimed soil disposal volume accurately represents the volume of contaminated soil that required removal and disposal. Alternatively, mobile lab field screening (or prescreening) results may be substituted for TPH for this purpose.

State Trust Fund reimbursement for costs associated with managing clean soils removed for the purpose of accessing contaminated soils for excavation (e.g., benching, cover, etc.), managing and disposing of soils contaminated with non-petroleum hazardous wastes, and managing and disposing of dewatering or well construction/development liquids may be limited and/or require additional controls and justifications. Please contact the UST Section Trust Fund Branch at 919-707-8171 for additional information.

More comprehensive guidance on the proper disposal of contaminated soil and groundwater is presented in Appendix E – Disposal of Contaminated Soil and Groundwater.

8.0 Reporting Requirements

8.1 *Site Check Report*

As described in Section 4.3, the results of a site check required by the UST Section must be reported in a *Site Check Report* (Appendix A, p. 68) if the investigation results indicate that:

- soil contamination does not equal or exceed 50 mg/kg TPH GRO or 100 mg/kg TPH DRO for petroleum (or where tested, *such as for regulated hazardous substances*, does not exceed the soil-to-groundwater MSCC or the MDL if no MSCC is established),
- groundwater contamination does not equal or exceed the groundwater quality standard established in 15A NCAC 2L .0202, *and*
- NAPL is not present.

The *Site Check Report* must be submitted to the appropriate regional office of the Corrective Action Branch of the UST Section (as well as a separate copy to the Permits and Inspections Branch, if the site check was required by a UST inspector. The *Site Check Report* must be received by the UST Section within 30 days of the receipt of the *Notice of Regulatory Requirements* or the *Notice of Violation*.

If the removal of all or part of the UST system was necessary to allow access for site check sampling, then the required *UST Closure Report* elements, including the *UST-12 Format* with *UST-2 Form*, Appendix A, p. 82) should be submitted as part of the *Site Check Report*.

Per NCGS 143-215.94B(b)8, State Trust Fund reimbursement may be available for investigative costs if a site investigation is required by the Department to determine if a release has occurred. If State Trust Fund reimbursement is anticipated, please refer to the note in Section 4 and the current version of the Reasonable Rate Document (available in electronic format from the UST Section's web page at <https://deq.nc.gov/about/divisions/waste-management/underground-storage-tanks-section/trust-fund-branch/reasonable-rate-documents>) for more information.

Appendix E - Disposal of Contaminated Soil and Groundwater

1. Disposal of Contaminated Soil

As of January 1, 2018, 15A NCAC 2T .1502(4), defines soil as contaminated with petroleum if analytical results from samples collected during the assessment or from the stockpile show the presence of contaminants at concentrations above the soil-to-groundwater or residential MSCCs, whichever is lower. Once contaminated soil is excavated, it is considered a waste and must be properly disposed of, even if the contaminant concentrations are below applicable risk-based cleanup levels. NC General Statute 143-215.1 requires that the storage, disposal and/or *ex situ* treatment of contaminated soil be permitted by the Department of Environment and Natural Resources. If the responsible party intends that excavated petroleum contaminated soil is to be treated on site, they must apply to the DWM for a soil permit. If soil is to be hauled offsite for treatment/disposal, then disposal manifests are required. Comprehensive guidance on the disposal of contaminated soil is presented in the *Guidelines for Ex Situ Petroleum Contaminated Soil Remediation*, current version.

Soil excavations must be filled with clean compacted fill that is similar to the native soil removed from the excavation. If gravel or some other permeable material is to be used, then a low-permeability fill material must be used to cap the excavation. Excavations cannot be back-filled with contaminated soil. Segregated overburden, benching, or other marginal excavated soils that, when properly screened, are not indicative of 'petroleum-contaminated soils' as defined in 15A NCAC 02T .1504, and are not hazardous wastes as defined in 15A NCAC 13A, may be re-used as fill in the excavation from which that soil was removed.

1.A Temporary Storage or Limited Land Application of Petroleum Contaminated Soil

On-site temporary storage must be for a period less than 45 days. Authorization for **off-site** temporary storage requires the approval (through issuance of a "Certificate of Approval for Disposal" (UST-71)) of the appropriate regional office. Approval will not be given by the Department, unless:

- a) There is a health-based emergency, fire or explosion hazard, or
- b) The responsible party has an approved soil permit prior to excavating the soil.

Unauthorized storage of soil or storage in excess of 45 days may be considered a violation of GS 143-215.1.

For temporary storage, contaminated soil must be placed on 10 mils thick plastic sheeting and bermed. The contaminated soil must be covered by 10 mils-thick (at a minimum) plastic sheeting to prevent runoff and the generation of leachate. Any surface water runoff and/or leachate from the contaminated soil storage area must be collected and properly disposed to prevent leachate migration.

Alternatively, under 15A NCAC 2T, subject to approval (through issuance of a "Certificate of Approval for Disposal" (UST-71)) by the regional office, the land application of less than or equal to 50 cubic yards of petroleum contaminated soils or 50 to 100 cubic yards of petroleum contaminated soils at a minimum rate application is deemed permitted in accordance with NC General Statute 143-215.1(b), and no individual Division permit is required.

NOTE: *Applications for soil permits for petroleum contaminated soil originating from UST releases should be submitted to the UST Section regional office.*

1.B Disposal of Drill Cuttings and Mud

Drill cuttings and mud produced during field environmental investigation activities such as borehole and well construction are deemed permitted under 15A NCAC 2T .0113 [Waste Not Discharged to Surface Waters - Permitting by Regulation], in accordance with NC General Statute 143-215.1(b). Thus, no individual or general permit must be issued by DWM for the construction or operation of disposal systems for drill cuttings or mud, provided that the system does not result in violations of groundwater or surface water standards, there is no direct discharge to surface waters, and all criteria required for the specific system are met.

However, if the drill cuttings/mud has been contaminated by hazardous waste constituents, the DWM, Hazardous Waste Section) must be contacted, at (919) 707-8200, to determine the regulatory status of the contaminated material.

The flow diagram in Figure E-1 presents detailed guidance for the proper disposal of drill cuttings and mud.