



Exempt Soil Management: A Self-Implementing Option for Soil Excavated During a Response Action under Wis. Admin. Code chs. NR 700 through NR 750

Applicability

This guidance is intended solely for use by responsible parties (RPs), as defined in Wis. Admin. Code § NR 700.03(51), who are managing soil excavated as part of a response action¹ pursuant to Wis. Stats. ch. 292 and Wis. Admin. Code chs. NR 700 - 754. This guidance does not apply to soil excavated as part of a construction project, utility project or transportation project unless those projects also involve an NR 700 response action. For projects that involve an NR 700 response action, this guidance only applies to the soil excavated as a direct result of the response action, and the levels are such that it does not require management in a licensed operating facility or a site-specific, department-issued exemption to be managed. This guidance only applies to “soil” as that material is defined in Wis. Admin. Code § NR 700.03.

Purpose

Environmental cleanups occur throughout Wisconsin on a daily basis. Often, these cleanups involve management of soil that may or may not have been impacted by a hazardous substance discharge or by the presence of environmental pollution. The management of soil at cleanups sites often results in segregating soil into different management categories, such as those soils that must be managed as: (1) a hazardous waste; (2) those that may be managed as a solid waste at a licensed facility or require a site-specific, department exemption; (3) federally regulated waste (e.g., TSCA PCBs); or (4) as soil that does not require department approval prior to managing and placing that material.

This document provides a self-implementing and optional approach for responsible parties² and their environmental consultants to use when soil is characterized and excavated as part of a response action (i.e., cleanup action), and the soil does not need to be managed at a licensed solid waste facility or through a site-specific exemption – referred to throughout this guidance as “exempt soil” for purposes of explanation only.

Related Guidance

The following documents may be useful to responsible parties and their consultants when determining the proper protocol for managing soil, contaminated soil, and other solid wastes, during response actions:

- Exempting Low-Hazard Wastes from Solid Waste Regulations, [WA-1645](#)
- Obtaining DNR Approval Prior to Use of Imported Soil and Other Fill Materials on Voluntary Party Liability Exemption Sites, Wis. Stats. § 292.15, [RR-041](#)
- Waste Determinations & Recordkeeping, [WA-1152](#)
- PCB Remediation in Wisconsin under the One Cleanup Program Memorandum of Agreement, [RR-786](#)
- Guidance for Hazardous Waste Remediation, [RR-705](#)
- Management of Contaminated Soil and Other Solid Wastes, Wis. Admin. Code §§ NR 718.12 and NR 718.15, [RR-060](#)
- Immediate Reporting Required for Hazardous Substance Spills, [RR-560](#)
- Soil Residual Contaminant Level Determinations Using the U.S. EPA Regional Screening Level Web Calculator, [RR-890](#)
- Risk Assessment Approach for Calculating cPAH Non-Industrial Direct Contact RCLs - Wis. Admin. Code § NR 722.11 (1), [RR-079](#)
- Calculating Soil RCLs for PAHs Wis. Admin. Code § NR 722.11 (1), [RR-087](#)
- Compliance Averaging of Soil Contaminant Concentration Data under Ch. NR 720, Wis. Admin. Code, [RR-091](#)

¹ “Response” or “response action” means any action taken to respond to a hazardous substance discharge or to environmental pollution, including emergency and non-emergency immediate actions, investigations, interim actions and remedial actions.

² “Responsible party” or “responsible parties” means any of the following: (a) Any person who is required to conduct a response action under ch. 292, Stats. (b) Persons liable to reimburse the department for the costs incurred by the department to take response action under chs. 289 and 292, Stats. (c) Owners and operators of solid waste facilities that are subject to regulation under ch. NR 508. [NR 700.03(51)]

This document provides RPs clarity on what types of substances – if identified in soil - could generally be managed in accordance with state law without the department’s pre-approval or tracking so long as the person placing or accepting the soil complies with the performance and locational criteria in Wis. Admin. Code § NR 500.08(2). The department believes that providing this guidance will help responsible parties and their environmental consultants to save money and make more timely and consistent decisions on how to manage this type of excavated soil during a Wis. Admin. Code ch. NR 700 cleanup action.

Overview

RPs are required to determine the nature and extent of any discharges of hazardous substances and environmental pollution (the “contamination”) in accordance with the site investigation requirements in Wis. Admin. Code ch. NR 716. Based on the characterization of the contamination at the site investigation phase, the RP will develop response actions to address the contamination. When soil will be excavated as part of a selected response action, it must be managed in accordance with local, state and federal laws. Soils excavated as part of a Wis. Admin. Code ch. NR 700 response action by RPs generally is managed as:

- Solid waste under the Wis. Admin. Code chs. NR 500-538 rule series, at an operating facility licensed to accept the solid waste;
- Hazardous waste under Wis. Admin. Code chs. NR 600 rule series;
- Toxic Substance Control Act (TSCA) material;
- Under a site-specific exemption in Wis. Admin. Code § NR 500.08(6) or NR 718.12; or
- “Exempt soil” at a location exempt from licensing under Wis. Admin. Code § 500.08(2)a.

There may be response action sites or facilities where a soil determination renders some of the soil excavated as “exempt soil,” some as “contaminated soil” having to be managed, for example, under a site-specific exemption or at a licensed facility, and other soil as having to be managed as a hazardous waste. As contemplated by this guidance, there may be soil that does not contain the type or amount of hazardous substances or environmental pollution that requires the soil to be managed at a licensed solid or hazardous waste facility or through a site-specific exemption determination. Such situations may use this self-implementing option in those situations where the excavated material meets the “exempt soil” guidelines in this document. Otherwise, an RP may ask for a site-specific “exempt soil” determination from the department in accordance with Wis. Stats. § 292.55 and Wis. Admin. Code ch. NR 749.

This guidance provides RPs and their consultants with the following information:

- Site discovery and notification of a discharge in relation to exempt soil concentrations;
- NR 700 soil determinations and documentation as part of a response action;
- Self-Implementing option for managing response action soils as exempt soil; and
- Requirements for facilities accepting exempt soil.

Definitions for Types of Soil or Other Materials

“**Exempt soil**” is a term used in this guidance to designate a type of soil that is by rule exempt from having to be managed at an operating, licensed solid waste site or facility or as a site-specific exemption under Wis. Admin. Code chs. NR 718.12 or 500 to 538. “Exempt soil” does not require department pre-approval or tracking for the material to be excavated and managed if it’s managed in compliance with Wis. Admin. Code §§ NR 500.08(2) and 2(a).

The remaining definitions listed below are from Wis. Stat. ch. 292 and Wis. Admin. Code ch. NR 700 rule series, as noted:

“**Contaminated soil**” means soil which contains one or more hazardous substances or environmental pollution and which is not a hazardous waste as defined in s. NR 660.10 (52) or 42 USC. [Wis. Admin. Code § NR 718.03(5)].

“**Soil**” means unsaturated organic material, derived from vegetation and unsaturated, loose, incoherent rock material, of any origin, that rests on bedrock other than foundry sand, debris and any industrial waste. [Wis. Admin. Code § NR 700.03(58)].

Site Discovery and Notification of a Discharge

Responsible parties are required to immediately report hazardous substance discharges to the department pursuant to Wis. Stats. §292.11 and Wis. Admin. Code ch. NR 706, unless an exemption applies in Wis. Admin. Code § NR 706.07. The concentration levels associated with the “exempt soil” guidelines described in this guidance and the Wis. Admin. Code ch. NR 720 Residual Contaminant Levels (RCLs) developed for soil cleanup standards should not be used as “reportable quantities” or “de minimis exemptions” for determining when to notify the department of a discharge of a hazardous substance. All discharges of hazardous substances, except those specifically exempted in Wis. Admin. Code § NR 706.07, are to be reported immediately to the department so that the department may determine whether a site investigation will be required to define the overall extent of contamination.

Information on how to immediately report a discharge of a hazardous substance, either a spill that needs an immediate response or a historic discharge discovered through sampling, can be found at dnr.wi.gov and search “spills”. Also refer to [*Immediate Reporting Required for Hazardous Substance Spills, RR-560*](#), for further details regarding reporting requirements.

NR 700 Soil Determinations and Documentation as Part of a Response Action

When there is confirmation of a discharge of a hazardous substance to soil or environmental pollution has impacted soil at a response action site, analytical testing of soil pursuant to Wis. Admin. Code NR ch. 708, 716 and 718 will be conducted to determine how the excavated soil will be managed. There may be response action sites or facilities where a soil determination renders some of the soil as: (1) “exempt soil” to be managed under Wis. Admin. Code § NR 500.08(2); (2) “contaminated soil” to be managed under Wis. Admin. Code § NR 718.12; (3) contaminated soil to be managed at an operating facility licensed to accept the solid waste; or (4) as soil contaminated with a characteristic waste or listed waste that must be managed under Wis. Admin. Code ch. NR 600 rule series.

An accurate delineation of the types of soil, based on all available information regarding the material, is necessary to ensure that all soil excavated as part of conducting a response action will be managed in a manner required by applicable law. “Indirect indicators of contamination”, including odors, visual staining, positive detections on field screening instruments, observed free product, or the detection of non-compound specific parameters in soil sample (e.g., GRO or DRO) must be considered when deciding how excavated soil will be managed. Soil that exhibits one or more of the indirect indicators typically may not be managed as “exempt soil” without laboratory analysis that confirms that the criteria listed under [Self-Implementing Option for Managing Exempt Soil at a Response Action Site](#) (see below) are met.

In most instances, if soil exhibits “indirect indicators of contamination” the department recommends the soil not be managed as “exempt soil” under the self-implementing option even if it meets the analytical criteria summarized below. The known or suspected sources of contamination must be considered when determining whether an analytical result indicates the presence of a naturally occurring element, or the presence of contamination (as in the case of arsenic concentrations measured at a former apple orchard or lead concentrations measured at a former battery plant).

Professional judgement should be used to determine how soil excavated as a result of a response action is to be characterized and whether the proposed management of the excavated soil will require department review and approval. This is generally referred to as making a “soil determination” and is typically based on the RP and consultant’s knowledge of the material and the location being excavated. Prior to conducting a response action involving soil excavation, a responsible party may request that the department review their soil determination/soil management plan to ensure that the material will be properly segregated for management as exempt soil, contaminated soil, solid waste, special waste (e.g., PCBs) or hazardous waste under applicable laws. Assistance from the department may be requested by submitting a [Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request \(Form 4400-237\)](#) form to the department, along with the appropriate Wis. Admin. Code ch. NR 749 review fee.

If excavated contaminated soil will be managed on a site or facility other than a facility licensed to accept the contaminated soil, the sampling frequency outlined in Wis. Admin. Code § NR 718.12 (1)(e) should be followed. Generally, the sampling frequency is one sample for every 100 cubic yards of contaminated soil for the first 600 cubic yards with a minimum of 2 samples being collected and for volumes of contaminated soil that exceeds 600 cubic yards, one sample for each additional 300 cubic yards. Samples are to be obtained from areas most likely to be contaminated and analyzed for all contaminants likely to be present.

Specific analysis conducted on the samples should consider what compounds, products, and hazardous substances or environmental pollution may have been used, mixed, generated, stored, spilled, or disposed on the site. Records such as safety data sheets, hazardous waste reports, and toxic release inventory data may also provide useful information to select analytical tests. Please refer to department guidance RR-060, *Management of Contaminated Soil and Other Solid Waste*, for further information on Wis. Admin. Code §§ NR 718(1) and (2) with respect to management of contaminated soils. RPs may be able to characterize and segregate a portion of the material excavated as “exempt soil”. In doing so, they may elect to use the self-implementing exempt soil management option in this guidance.

The department recommends that RPs document and maintain a record of their contaminated soil determinations. For response action sites, documentation of contaminated soil management is required under Wis. Admin. Code chs. NR 708, 718, 722, 724 and 726, as applicable. In addition, Wis. Admin. Code ch. NR 662 requires the generator to maintain documentation of a waste determination involving hazardous waste. Wis. Stat. § 291.21 requires that “any person generating solid waste shall determine if the solid waste is a hazardous waste.” Thus, where it is reasonably expected that the solid waste may be a hazardous waste, documentation of the hazardous waste determination is required in accordance with Wis. Admin. Code § NR 661.02.

Self-Implementing Option for Managing Exempt Soil at a Response Action Site

The department’s Remediation and Redevelopment Program has the authority pursuant to Wis. Stats. § 292.55, when requested to provide written, technical assistance on a site-specific basis to RPs. Often, RPs request department review and approval of soil management plans and determinations at response sites. The department may require RPs to wait for department approval prior to managing any of the soil excavated at a response action site. Thus, the approach outlined in this guidance will allow RPs to use this “self-implementing option” to properly manage excavated soil if the soil concentrations meet the criteria in this guidance. Soil that does not meet the criteria listed below for being managed as “exempt soil” may be managed at a site or facility if an exemption under Wis. Admin. Code § NR 718.12 is obtained by the RP.

Responsible parties may manage soil that is excavated as part of an environmental response action as “exempt soil” at a location meeting the criteria in Wis. Admin. Code § NR 500.08(2) if:

- **Non-Naturally Occurring Compounds:** The soil does not contain non-naturally occurring compounds, such as volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), pesticides, and other non-naturally occurring contaminants at concentrations:
 - above the LOD if the NR 720 RCL is less than the LOD (i.e., ‘J’ flagged data would not be considered exempt); or
 - measured above the laboratory limit of quantification (LOQ) levels [as defined in Wis. Admin. Code § NR 149.03(42)] if the NR 720 RCL is greater than the detection (LOD) (i.e., ‘J’ flagged data would be considered exempt).
- **Polycyclic aromatic hydrocarbons (PAHs):** If the soil contains polycyclic aromatic hydrocarbons (PAHs), which may or may not be naturally occurring, and the soil concentrations:
 - do not do not attain or exceed the groundwater protective RCLs in Wis. Admin. Code ch. NR 720; and
 - do not pose a direct contact risk if all PAH concentrations do not attain or exceed compound-specific and cumulative, non-industrial direct contact RCLs in Wis. Admin. Code ch. NR 720; or

- Are approved by the department as part of a Wis. Admin. Code § NR 722.11 risk assessment approach for carcinogenic PAHs on a cumulative basis (as described in DNR publications RR-079 and RR-087); the PAH concentrations may not pose a non-industrial, direct contact risk when assessed on a cumulative basis.
- **Naturally Occurring Compounds:** Concentrations of naturally occurring metals with established Wisconsin background threshold values (BTVs as referenced in DNR publication RR-890 referenced below), such as arsenic, barium, cadmium and lead, are less than the maximum allowable concentration for that contaminant determined by the following process:
 - 1) Compare the non-industrial direct contact NR 720 soil RCL to the groundwater pathway NR 720 soil RCL and determine which is the *smaller* (i.e., lower concentration) value.
 - 2) Compare the value determined in step (1) to the BTV. The *larger* (i.e. the high concentration) of these two values is the maximum allowable concentration for the given contaminant.

If other naturally occurring compounds, including metals or other inorganics without BTVs, are present, soil may be managed as “exempt soil” under this approach if concentrations do not exceed the Wis. Admin. Code ch. NR 720 non-industrial, direct contact and groundwater pathway NR 720 RCLs. In all cases, RCLs are to be calculated using default parameters as specified in Wis. Admin. Code ch. NR 720. Department guidance document RR-890, “[Soil Residual Contaminant Level Determinations Using the U.S. EPA Regional Screening Level Web Calculator](#)”, provides guidance to RPs and consultants on how to comply with Wis. Admin. Code ch. NR 720. If the RCL for a naturally occurring compound is between the limit of detection and the LOQ, the soil cleanup standard is considered to be attained or exceeded only if the soil contaminant concentration is reported at or above the limit of quantitation. Refer to the “Default Exempt Soil Concentrations Table” below for a list of common, naturally occurring compounds detected in soil and the maximum allowable concentration allowed for utilizing the self-implementing option in this guidance.

Default Exempt Soil Concentrations Table:			
Maximum Allowable Concentrations (mg/kg) of Specific Metals in Soil Excavated at Response Action Sites			
Metal	Non-industrial direct contact RCL (mg/kg)	RCL for the protection of groundwater (mg/kg)	Background Threshold Value (mg/kg)
Aluminum			29,000
Arsenic			8
Barium			360
Cadmium			1
Chromium III	100,000		
Cobalt			22
Copper		92	
Iron	54,800		
Lead			52
Manganese			2,900
Nickel			31
Strontium	46,900		
Vanadium			85
Zinc	23,500		

Requirements for Management of Exempt Soils

Soil excavated as part of an NR 700 response action is considered “exempt soil” if the levels are below the concentrations listed in the Default Exempt Soils Concentrations Table above, and satisfy the narrative standards described above for naturally occurring compounds, non-naturally occurring compounds or PAH soils. “Exempt soil” can generally be reused on the NR 700 response action site or at another facility without prior department review or approval if the soil is used in a nuisance-free and aesthetic manner and is in compliance with the location and performance standards in Wis. Admin. Code § NR 500.08(2). The locational criteria prohibit placement of the soil within a floodplain (Wis. Adm. Code § NR 504.04(3)(c)). However, impacts to wetlands or the placement of soil in floodplains may be addressed through applicable permitting processes, such as a US Army Corps of Engineering permits (ACOE) and other wetlands permits. Wis. Admin. Code § NR 504.04(4) prohibits placement of soil where there is a reasonable probability that the soil will cause:

- Significant adverse impacts to wetlands.
- A take of an endangered or threatened species.
- A detrimental effect on surface water.
- A detrimental effect on groundwater quality or cause or exacerbate a groundwater quality standard exceedance (Wis. Admin. Code ch. NR 140 (enforcement or preventive action limit)).
- Migration and concentration of explosive gases.
- Emission of any hazardous air contaminant.

Other Considerations

Other rules and regulations may also apply to the management of “exempt soil”, “contaminated soil”, or other solid waste material at locations other than operating, licensed solid waste facilities. These may include, but are not limited to, the requirement to obtain storm water permits, U.S. Army Corp of Engineers permits, and wetland permits. Impacts to wetlands or effects on floodplains or surface water may be addressed through the applicable permitting processes.

It is in the best interest of any property owner who accepts soil and the RP to ensure that an acceptable soil determination has been made and that the soil is managed in accordance with applicable law. The RP and the receiving property owner could be held responsible for cleaning up any contamination in accordance with Wis. Stat. ch. 292 if the material would result in a discharge of a hazardous substance or environmental pollution. The department can aid RPs through our technical assistance request under Wis. Stats. § 292.55.

RR Program Contacts

General questions regarding managing waste excavated at response action sites should be made to:

- Statewide: Paul Grittner, Paul.Grittner@wisconsin.gov, (608) 266-0941
- Northeast Region: Tauren Beggs, Tauren.Beggs@wisconsin.gov, (920) 662-5178
- Northern Region: John Hunt, JohnT.Hunt@wisconsin.gov, (715) 392-3126
- South Central Region: Mike Schmoller, Michael.Schmoller@wisconsin.gov, (608) 275-3303
- Southeast Region: Nancy Ryan, Nancy.Ryan@wisconsin.gov, (414) 263-8533; Linda Michalets, Linda.Michalets@wisconsin.gov, (414) 263-8757
- West Central Region: Matt Thompson, MatthewA.Thompson@wisconsin.gov, (715) 839-3750

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