Remediation and Redevelopment Program Listening Session – April 20, 2018

CLEAN SOIL GUIDANCE

RR-103

1978 Wisconsin Spill Law 2018

CLEAN SOIL GUIDANCE

- What is a "clean soil" exemption?
- When can we use the "clean soil" exemption option?
- What may be considered "Clean Soil" excavated during a response action?
- What is the process for managing "Clean Soil"?

CLEAN SOIL GUIDANCE

NR 500.08(2)(a) lists materials exempt from NR 500-538 requirements for management at an operating, licensed solid waste site or facility or subject to a site-specific exemption:

- clean soil,
- building stone,
- concrete or reinforced concrete not painted with lead-based paint,
- brick,
- broken pavement, and
- wood not treated or painted with preservatives or lead-based paint

- Locational requirements still apply (wetlands, Floodplains)

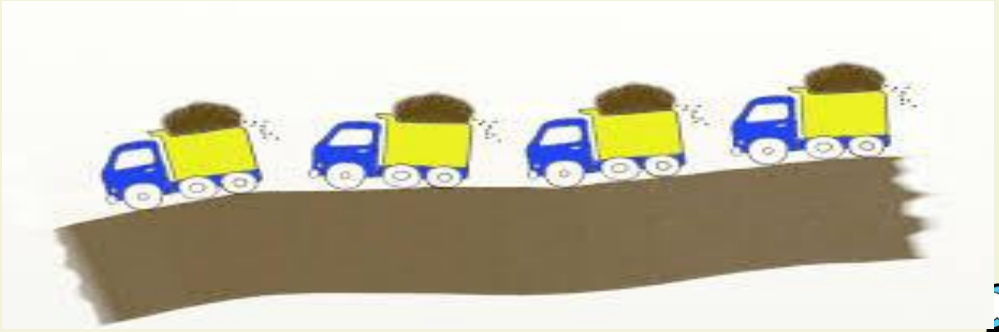
WISCONSIN DEPT. OF NATURAL RESOURCES

GUIDANCE APPLICABILITY

- Guidance is intended solely for use by RPs managing soil excavated as part of a response action pursuant to Wis. Stats. ch. 292 and Wis. Admin. Code chs. NR 700 - 754.

CLEAN SOIL GUIDANCE

- Guidance does not apply to soil excavated as part of:
  - a construction project,
  - utility project or
  - transportation project.
- If those projects also involve an NR 700 response action, this guidance applies only to the soil excavated as a direct result of the response action.



WISCONSIN DEPT. OF NATURAL RESOURCES

CLEAN SOIL GUIDANCE

- Optional approach for RPs when:

1. soil is characterized and excavated as part of a response action and
2. soil does not need to be managed at a licensed solid waste facility or through a site-specific exemption.

- "Clean soil" does not require Department pre-approval or tracking for the material to be excavated and managed.

CLEAN SOIL:SELF-IMPLEMENTING OPTON

Three categories

1. Non-Naturally Occurring Compounds
2. Naturally Occurring Compounds
3. Special Case Naturally Occurring Compounds - PAHs

CLEAN SOIL: SELF-IMPLEMENTING OPTION

1. Non-Naturally Occurring Compounds

- VOCs
- PCBs
- Pesticides
- Other non- naturally occurring compounds

"Clean" = below Limit of Quantification

WISCONSIN DEPT. OF NATURAL RESOURCES

CLEAN SOIL: SELF-IMPLEMENTING OPTION

2. Naturally Occurring Compounds
   - Metals
   - Other inorganic compounds

"Clean" = Below Background Threshold value
or
Less than the most restrictive of DC or GW RCLs

CLEAN SOIL: SELF-IMPLEMENTING OPTION

3. Special Case Naturally/Non-Naturally Occurring Compounds - PAHs

- "Clean" = Below GW Protective RCL and
- Either

a. Below Non-industrial DC RCL per NR720 or
b. Below Non-industrial DC risk levels on cumulative basis per NR 722.11

Default Clean Soil Concentrations Table: Maximum Allowable Concentrations (mg/kg) of Specific Metals in Soil Excavated at Response Action Sites

Metal	Non Industrial DC RCL (mg/kg)	GW Protective RCL (mg/kg)	Background Threshold Value (mg/kg)
Aluminum			28,721
Arsenic			8
Barium			364
Cadmium			1
Calcium			14,536*
Chromium III	100,000		
Cobalt			22
Copper		91.6	
Iron	54,800		
Lead			52
Magnesium			8,290*
Manganese			2,937
Nickel			31
Strontium	46,900		
Vanadium			85
Zinc	23,500		

* - no RCLs have been established for calcium or magnesium (background threshold values included for reference)

CLEAN SOIL PROCESS

- During NR 700 response action, characterize and segregate soil for appropriate management according to applicable laws.
- Sample according to § NR 716 & NR 718.12 (1)(e). Samples should be obtained and analyzed for all contaminants likely to be present.
- RPs may be able to characterize and segregate a portion of the material excavated as "clean soil" and may elect to use the self-implementing clean soil management option.

CLEAN SOIL GUIDANCE

- 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.
- The "clean soil" guidelines or RCLs developed for soil cleanup standards per NR 720 should not be used as "reportable quantities" or "de minimis exemptions".
- All discharges of hazardous substances are to be reported to the department.

EXAMPLE CASE – OVERVIEW

- Redevelopment site with 41,000 cubic yards of soil requiring relocation
- Soil segregated into 4 categories

1. Hazardous waste
2. Petroleum Impacted
3. PAHs in excess of non industrial direct contact RCLs
4. PAHs below non industrial direct contact RCLs and below groundwater protective RCLs

EXAMPLE CASE

1. Soil characterized as hazardous waste
- Disposed of at a landfill licensed to accept this material
- No continuing obligations related to this action

EXAMPLE CASE

2. Petroleum impacted soil
- Landfilled with Biopile treatment
- No continuing obligations related to this action

EXAMPLE CASE

3. PAHs in excess of non industrial direct contact RCLs

- Relocated on property and capped by new building and parking lot
- Continuing obligations imposed
- Listed on BRRTS data base
- Restricted future action/Requires DNR approval
- Requires cap maintenance

EXAMPLE CASE

4. PAHs below non industrial direct contact RCLs and below groundwater protective RCLs

- Requires relocation due to space restrictions on redevelopment property
- Does not require continuing obligations if kept on this property or moved to another property
- No listing on BRRTS data base/No tracking
- No restrictions on future action/use
- No DNR approval required

EXAMPLE CASE – COSTS

- Effect of "Clean Soil" Guidance on procedure and cost for implementation

1. Hazardous waste
   - No effect
2. Petroleum impacted soil
   - No effect
3. PAHs in excess of non industrial direct contact RCLs
   - No effect

EXAMPLE CASE - COST

4. PAHs below non industrial direct contact RCLs and below groundwater protective RCLs

- 22,600 CY at 1.5 ton/CY = 34,000 tons
- **$1,088,000** to use as landfill daily cover – includes transportation and disposal
- Placement at alternative site – reduced placement/management fee
- Closer to redevelopment site - lower transportation cost
- **$212,000** total cost as "Clean Soil"

EXAMPLE CASE - COST

4. PAHs below non industrial direct contact RCLs and below groundwater protective RCLs

$1,088,000 landfill/daily cover

- $ 212,000 clean soil mgmt

$ 876,000 cost reduction

CLEAN SOIL GUIDANCE

Questions?