

Virginia DEQ

RCRA Corrective Action Fact Sheet #5

Inorganic Background Determinations for Soil During RCRA Corrective Action Investigations

If a facility determines during the risk-based concentration screening process of soil data that one or more naturally occurring constituents exceed the applicable soil screening levels, the facility may conduct an evaluation to determine whether the concentrations are representative of existing background conditions rather than indicative of a release.

When making determinations about soil background concentrations for inorganic naturally occurring constituents at a site, the following factors should be considered in a weight of evidence approach:

1. Is the constituent a site-related contaminant?
2. Does the constituent co-occur at the SMWU/AOC/sample location with other site-related contaminants?
3. What is the lateral and vertical distribution of the constituent across the site/SWMU/AOC?
4. What is the detected concentration range of the constituent across the site/SWMU/AOC?
5. Was site-specific background data collected for the constituent? If yes,
 - a. What is the detected concentration range of the background data?
 - b. Was a statistical analysis performed comparing background to site/SWMU/AOC data, and what do the results indicate?
6. Are local or regional background data available for the constituent? If yes,
 - a. What is the source of the background data?
 - b. What is the detected concentration range of the background data?
 - c. Was a statistical analysis performed comparing background to site/SWMU/AOC data, and what do the results indicate?

Facilities should provide information that is suitable and adequate to allow an evaluation of these factors in support of a determination that the detected concentrations of a constituent in surface and/or subsurface soil are consistent with concentrations that are naturally occurring in the local and regional area.

The RCRA CA Manager, site project manager, and DEQ Risk Assessor will meet to review and discuss the information provided by the facility. Once a determination has been made that the constituent concentrations in soil are representative of background conditions and not indicative of a release, the constituents may not need to be included in any quantitative risk calculations and may be eliminated from further evaluation in the Corrective Action process.