

1. Groundwater Monitoring: Appendix IX Sampling and Off-site Releases

The groundwater monitoring regulations at 40 CFR Part 264, Subpart F, require owners or operators of facilities with permitted regulated units (i.e., hazardous waste landfills, waste piles, surface impoundments, or land treatment units) to establish a detection monitoring program. During detection monitoring, owners or operators observe indicator parameters to determine if there has been statistically significant evidence of a release of waste constituents from their regulated unit(s) (Section 264.98(a)). Upon determining that such evidence of a release exists, the owner or operator is required to notify the Regional Administrator in writing within seven days and immediately sample the groundwater for the constituents listed in Part 264, Appendix IX (Section 264.98(g)(1) and (2)). According to Section 264.98(g)(6), an owner or operator may demonstrate that the contamination originated from a source other than the facility's regulated unit(s). If an owner or operator were planning to demonstrate that the source of the release was off-site would he/she still be required to conduct sampling for Appendix IX constituents?

If the statistical methods specified in the facility's permit validate evidence of a release to groundwater, Section 264.98(g)(2) requires the owner or operator to immediately sample for Part 264, Appendix IX, constituents. However, a single failure of a statistical test does not necessarily constitute evidence of a release from a regulated unit because of the high false positive rates associated with single test methods. Yet while complete Appendix IX sampling would be required after the specified statistical method (the initial test and any retests) indicates a release of waste constituents from regulated units, the owner/operator may specify a statistical method which features test and retest phases and background levels that can indicate whether or not the release is from the facility's regulated unit(s). In some situations, a facility may be able to demonstrate that the contamination came from an off-site source before declaring evidence of a release statistically significant. For assistance, owners or operators can look to their implementing agency or groundwater statistics documents such as Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, PB89-151 047, and Statistical Training Course for Groundwater Monitoring Data Analysis, EPA530-R-93-003.