

Assessment Monitoring- for Chapter 173-351 WAC Landfills

Q: What is assessment monitoring?

A: Assessment monitoring is a groundwater monitoring program that may be required if detection monitoring shows increasing concentrations of constituents. It includes sampling for additional constituents as discussed below. Assessment monitoring is a provision of chapter 173-351 WAC, Criteria For Municipal Solid Waste Landfills.

Q: When is assessment monitoring required?

A: Assessment monitoring is required if analyses indicate there is a statistically significant increase over background for one or more of the constituents listed in Appendix I of chapter [173-351 WAC](#). Analysis of samples for constituents listed in Appendix I and Appendix II of the regulation is part of detection monitoring at the landfill.

Q: What is a statistically significant increase?

A: Statistical analysis of groundwater data is required with each sampling event under the regulation. Recent constituent values are compared with background values using statistical procedures specified in the operating permit and/or sampling and analysis plan. A statistically significant increase means that the value of a constituent is larger than what would be expected from past data variability. The statistical procedure will determine if the increase is statistically significant. Refer to the second paragraph in section 4.3 of the EPA's Unified Guidance. (Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance, EPA 530-R-09-007, March 2009).

MORE INFORMATION

Information on this topic can be accessed through Ecology's Web site. The address is: <http://www.ecy.wa.gov/programs/swfa/>.

You can access the regulation at: <http://www.ecy.wa.gov/biblio/wac173351.html>.

Contact information

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Special accommodations

If you need this document in a format for the visually impaired, call the Waste 2 Resources Program at (360) 407-6900.

Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

Q: Can I avoid going to assessment monitoring even if my results show a statistically significant increase?

A: Yes, if it can be demonstrated that a source other than the landfill caused the contamination or that the statistically significant increase resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Consult the EPA's Unified Guidance if resampling is part of the demonstration.

Q: What are the time limits associated with starting assessment monitoring?

A: A groundwater report must be submitted to Ecology and the jurisdictional health department within 60 days after receipt of analytical data from detection monitoring. The statistical analysis is a component of the report, so it must be completed within the 60-day period.

From the time that a statistically significant increase is noted, you have:

- 14 days to send a notice of a statistically significant increase to the jurisdictional health department and put a notice in the operating record.
- 90 days to demonstrate that a source other than the landfill caused the contamination, or to establish an assessment monitoring program.

Q: What does the assessment monitoring program require?

A: Assessment monitoring includes sampling for the full set of constituents listed in Appendix III of chapter 173-351 WAC.

For the assessment monitoring program, the following is required:

- Sample each downgradient well for the full set of Appendix III constituents within 90 days of noting a statistical increase.
- If any Appendix III constituents are detected, sample all wells four times within a 180-day period. At least one month must pass between each sampling event. Analyze for just the Appendix III constituents that were detected during the initial Appendix III sampling to establish background levels. Notify the JHD constituents have been detected and place the notice in the operating record.
- Within 90 days of the last Appendix III background sampling event, and quarterly thereafter, resample all wells for all Appendix I and II constituents and any previously detected Appendix III constituents.
- As long as the facility remains in Assessment Monitoring, resample for the full set of Appendix III constituents annually in all downgradient wells or an approved subset of wells. [Note: the wording in WAC 173-351-430 (2) contains an error and incorrectly states that resampling for the full set of Appendix III constituents has to occur quarterly].

Q: What happens next?

A: The constituent values and statistical results determine the next steps:

- If concentrations for all Appendix III constituents are at or below background values for two consecutive events, you can return to detection monitoring if you receive approval from the jurisdictional health department.
- If Appendix III constituents are above background but below groundwater-protection standards ([chapter 173-200 WAC](#)), you must continue to include previously detected Appendix III constituents in the quarterly sampling.
- If one or more Appendix III constituents are detected at statistically significant levels above the protection standard, the site is in corrective action. You must notify the jurisdictional health district, Ecology, and all appropriate local government officials within 14 days and do the following:
 - Install additional monitoring wells and characterize the chemical composition, fate and transport, and rate and extent of contamination in all groundwater flow paths. At least one new well must be installed at the facility boundary in the direction of contaminant migration. This well must be sampled four times within a 180-day period to establish a background for Appendix III contaminants as discussed above.
 - Notify land owners or people who reside on the land that overlies the contaminant plume if any contaminants have migrated off-site.
 - Initiate an assessment, selection, and implementation of corrective measures as required by the Model Toxics Control Act ([chapter 173-340 WAC](#)).
 - Continue assessment monitoring as usual.

Q: Can the assessment monitoring program be modified?

A: The owner can propose deleting or changing groundwater monitoring constituents or an appropriate subset of wells to be sampled. In order for the modification to be considered you must demonstrate suitable hydrogeology and chemical characteristics, in accordance with [173-351-450 WAC](#). There is no provision in the regulation to change the frequency of the assessment monitoring. It remains quarterly.

Q: Who should I contact if I have other questions?

A: Talk to the environmental compliance person with your jurisdictional health department or the hydrogeologist with the Waste 2 Resources Program in the regional Department of Ecology office.

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