

WAC 173-351-430 Detection monitoring program. (1) Detection monitoring must be conducted at MSWLF units at all groundwater monitoring wells required under WAC 173-351-405. At a minimum, a detection monitoring program must include monitoring for the constituents listed in Appendix I and II of this regulation.

(2) Background data.

(a) Background data development for new MSWLF units.

(i) A minimum of eight independent samples must be collected from each monitoring well and analyzed for Appendix I constituents for the first year of groundwater monitoring unless background data already exists for Appendix I constituents and performance criteria of WAC 173-351-400 are met.

(ii) Each independent sampling event must be no less than one month apart from the previous independent sampling event.

(iii) Sampling for Appendix II parameters must be done quarterly.

(b) Total metals background data development for existing MSWLF units.

(i) An owner or operator must follow the permit modification process in WAC 173-351-720(6) to amend the sampling and analysis program to address (b)(ii) and (iii) of this subsection by May 31, 2013. Amendments must meet the standards of WAC 173-351-410 (1) and (2).

(ii) Beginning at the first sampling event after jurisdictional health department approval of amendments to the sampling and analysis program in (b)(i) of this subsection, independent samples must be collected from each monitoring well and analyzed for the parameters in (ii)(A) and (B) of this subsection. Samples must be collected and analyzed over eight sampling periods, which may be quarterly or semi-annually to coincide with routine monitoring as approved by the jurisdictional health department.

(A) Total metals from Appendix I Inorganic Constituents 1-15.

(B) Dissolved metals:

Antimony (Dissolved).
Arsenic (Dissolved).
Barium (Dissolved).
Beryllium (Dissolved).
Cadmium (Dissolved).
Chromium (Dissolved).
Cobalt (Dissolved).
Copper (Dissolved).
Lead (Dissolved).
Nickel (Dissolved).
Selenium (Dissolved).
Silver (Dissolved).
Thallium (Dissolved).
Vanadium (Dissolved).
Zinc (Dissolved).

(iii) After collecting and analyzing samples for total and dissolved metals for eight sampling periods, collection and analysis of Appendix I Inorganic Constituents 1-15 (total metals) must continue and collection and analysis of dissolved metals under (b)(ii)(B) of this subsection can cease.

(3) Routine sampling. Except as allowed under WAC 173-351-450, the monitoring frequency for all constituents listed in Appendix I and II must be quarterly in each well during the active life of the MSWLF unit including the closure and the post-closure period and begins after background data development.

(4) If the owner or operator determines, pursuant to WAC 173-351-420, that there is a statistically significant increase over background for one or more of the constituents listed in Appendix I, at any monitoring well at the boundary specified under WAC 173-351-405, the owner or operator:

(a) Must, within fourteen days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and send the same notice to the jurisdictional health department and the department; and

(b) Must establish an assessment monitoring program meeting the requirements of WAC-173-351-440 within ninety days except as provided for in (c) of this subsection; or

(c) May demonstrate that a source other than a MSWLF unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be prepared by a geologist or other licensed professional in accordance with the requirements of chapter 18.220 RCW, Geologists, and approved by the jurisdictional health department and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after ninety days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in WAC 173-351-440.

(5) A geochemical evaluation of Appendix II parameters must be conducted at each well on a quarterly basis and include all of the following methods:

(a) A cation-anion balance evaluating the difference between the cation and anion sums expressed in milliequivalents per liter. If the following threshold limits are exceeded, the owner or operator must provide a summary explanation and examine whether the difference is due to a laboratory error, poor well conditions, or other ions not accounted for in natural or impacted groundwater conditions. A ten percent difference threshold is used if the total cation-anion sums are less than 5.0 meq/liter. A five percent difference threshold is used if the total cation-anion sums are greater than or equal to 5.0 meq/liter.

(b) A plot of cations and anions for each well on a trilinear diagram, as recommended in hydrogeologic texts and/or the department guidance documents.

[Statutory Authority: RCW 70.95.020(3), 70.95.060(1), and 70.95.260(1), (6). WSR 12-23-009 (Order 07-15), § 173-351-430, filed 11/8/12, effective 12/9/12. Statutory Authority: Chapter 70.95 RCW and 40 C.F.R. 258. WSR 93-22-016, § 173-351-430, filed 10/26/93, effective 11/26/93.]