



ADMINISTRATIVE RULES OF MONTANA

17.50.1306 DETECTION MONITORING PROGRAM

- (1) The owner or operator of a Class II or Class IV landfill unit shall conduct detection monitoring for the unit at all ground water monitoring wells defined under ARM 17.50.1304(1)(a) and (b). At a minimum, that detection monitoring must include monitoring for each constituent in Appendix I to 40 CFR Part 258 (July 1, 2008), set forth below, unless exempted in (2), and each parameter in any alternative list established under (3) for which the department has mailed notification to the owner or operator.
- (2) The department may exempt an owner or operator of a Class II or Class IV landfill unit from monitoring a constituent in Appendix I to 40 CFR Part 258 (July 1, 2008) if the owner or operator makes a written demonstration, approved by the department, that the exempted constituent is not reasonably expected to be in, or derived from, the waste contained in the unit.
- (3) The department may establish an alternative list of inorganic indicator parameters for a Class II or Class IV landfill unit, in lieu of some or all of the heavy metals that comprise constituents 1 through 15 in Appendix I to 40 CFR Part 258 (July 1, 2008), if the department determines that the parameters in the alternative list provide a reliable indication of inorganic releases from the Class II or Class IV landfill unit to the ground water. In determining parameters in the alternative list, the department shall consider the following factors:
 - (a) the types, quantities, and concentrations of constituents in wastes managed at the Class II or Class IV landfill unit;
 - (b) the mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the Class II or Class IV landfill unit;
 - (c) the detectability of indicator parameters, waste constituents, and reaction products in the ground water; and
 - (d) the concentration or values and coefficients of variation of indicator parameters or constituents in the background ground water.
- (4) An owner or operator of a Class II or Class IV landfill unit required to conduct ground water monitoring under this subchapter shall monitor for all constituents and parameters required in this rule at least semiannually during the active life of the facility, including closure and the post-closure period. During the first semiannual sampling event, a minimum of four independent samples from each background and downgradient well must be collected and analyzed for all constituents and parameters for which monitoring is required in this rule. At least one sample from each background and downgradient well must be collected and analyzed during subsequent semiannual sampling events. The department may specify an appropriate alternative frequency for repeated sampling and analysis for constituents and parameters for which monitoring is required in this rule during the active life of the unit, including closure and the post-closure care

period. An alternative frequency during the active life of the unit, including closure, may be no less frequent than annual. An alternative frequency must be based on consideration of the following factors:

- (a) lithology of the aquifer and unsaturated zone;
 - (b) hydraulic conductivity of the aquifer and unsaturated zone;
 - (c) ground water flow rates;
 - (d) minimum distance between upgradient edge of the Class II or Class IV landfill unit and downgradient monitoring well screen (minimum distance of travel); and
 - (e) resource value of the aquifer.
- (5) If the owner or operator of a Class II or Class IV landfill unit, or the department, determines, pursuant to ARM 17.50.1305(8), that there is a statistically significant increase over the background level for a constituent or parameter other than pH required to be monitored in this rule, at any monitoring well at the boundary specified under ARM 17.50.1304(1)(b), the owner or operator shall:
- (a) within 14 days after this determination, or notification by the department of the department's determination, place a notice in the operating record indicating each constituent that has shown a statistically significant change from a background level, and notify the department that this notice was placed in the operating record; and
 - (b) submit for department approval, and implement, an assessment monitoring program meeting the requirements of ARM 17.50.1307, within 90 days after the determination was made, or notice from the department was received, except as provided for in (7).
- (6) If pH is a parameter of an alternative list established under (3), and if the department determines that there has been a statistically significant decrease from background in pH, at a monitoring well at the boundary specified under ARM 17.50.1304(1)(b), and that assessment monitoring is necessary to protect human health or the environment, the department shall notify the owner or operator of the Class II or Class IV landfill unit of the determination, and the owner or operator shall give notice and establish assessment monitoring as required in (5).
- (7) An owner or operator required to establish an assessment monitoring program under (5) or (6) may submit for department approval a demonstration that a source other than a Class II or Class IV landfill unit caused the statistically significant change described in (5) or (6) or that it resulted from error in sampling, analysis, or statistical evaluation, or from natural variation in ground water quality. A report documenting this demonstration must be certified by a qualified ground water scientist and placed in the operating record. If the department approves the demonstration, the owner or operator is not required to commence assessment monitoring, but shall continue detection monitoring as specified in this rule. If the department has not approved a demonstration, within 90 days after the determination described in (5) or (6) has been made, the owner or operator shall establish an assessment monitoring program as required in ARM 17.50.1307.

Appendix I to 40 CFR Part 258 (July 1, 2008)
Constituents for Detection Monitoring

Common name ¹	CAS RN ²
Inorganic Constituents:	
(1) Antimony	
(2) Arsenic	
(3) Barium	
(4) Beryllium	
(5) Cadmium	
(6) Chromium	
(7) Cobalt	
(8) Copper	
(9) Lead	
(10) Nickel	
(11) Selenium	
(12) Silver	
(13) Thallium	
(14) Vanadium	
(15) Zinc	

Organic Constituents:	
(16) Acetone	67-64-1
(17) Acrylonitrile	107-13-1
(18) Benzene	71-43-2
(19) Bromochloromethane	74-97-5
(20) Bromodichloromethane	75-27-4
(21) Bromoform; Tribromomethane	75-25-2
(22) Carbon disulfide	75-15-0
(23) Carbon tetrachloride	56-23-5
(24) Chlorobenzene	108-90-7
(25) Chloroethane; Ethyl chloride	75-00-3
(26) Chloroform; Trichloromethane	67-66-3
(27) Dibromochloromethane; Chlorodibromomethane	124-48-1

(28) 1,2-Dibromo-3-chloropropane; DBCP	96-12-8
(29) 1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
(30) o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
(31) p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
(32) trans-1, 4-Dichloro-2-butene	110-57-6
(33) 1,1-Dichlorethane; Ethylidene chloride	75-34-3
(34) 1,2-Dichlorethane; Ethylene dichloride	107-06-2
(35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75-35-4
(36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156-59-2
(37) trans-1, 2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5
(38) 1,2-Dichloropropane; Propylene dichloride	78-87-5
(39) cis-1,3-Dichloropropene	10061-01-5
(40) trans-1,3-Dichloropropene	10061-02-6
(41) Ethylbenzene	100-41-4
(42) 2-Hexanone; Methyl butyl ketone	591-78-6
(43) Methyl bromide; Bromomethane	74-83-9
(44) Methyl chloride; Chloromethane	74-87-3
(45) Methylene bromide; Dibromomethane	74-95-3
(46) Methylene chloride; Dichloromethane	75-09-2
(47) Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
(48) Methyl iodide; Iodomethane	74-88-4
(49) 4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1
(50) Styrene	100-42-5
(51) 1,1,1,2-Tetrachloroethane	630-20-6
(52) 1,1,2,2-Tetrachloroethane	79-34-5
(53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4
(54) Toluene	108-88-3
(55) 1,1,1-Trichloroethane; Methylchloroform	71-55-6
(56) 1,1,2-Trichloroethane	79-00-5
(57) Trichloroethylene; Trichloroethene	79-01-6
(58) Trichlorofluoromethane; CFC-11	75-69-4
(59) 1,2,3-Trichloropropane	96-18-4
(60) Vinyl acetate	108-05-4
(61) Vinyl chloride	75-01-4
(62) Xylenes	1330-20-7

¹ Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals

² Chemical Abstract Service registry number

Authorizing statute(s): 75-10-204, MCA

Implementing statute(s): 75-10-204, 75-10-207, MCA

History: NEW, 2010 MAR p. 317, Eff. 2/12/10.