

ENVIRONMENTAL QUALITY

CHAPTER 50

SOLID WASTE MANAGEMENT

Sub-Chapter 16

Landfarm License and Operation Standards

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17.50.1601 LANDFARM FACILITY APPLICABILITY AND SCOPE

(1) This subchapter applies to:

(a) landfarm facilities as defined under ARM 17.50.403.

(2) Landfarm facilities located within the property boundary of a licensed Class II landfill facility do not require a separate landfarm license, but must be noted in the department-approved Operation and Maintenance Plan and be operated according to the requirements of this subchapter.

(3) Existing licensed landfarm facilities must comply with the provisions of the landfarm rules within six months of March 11, 2017.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1602 DEFINITIONS In this subchapter, the following terms shall have the meanings, interpretations, or acronyms provided below:

(1) "1,2 DCA" means 1,2-dichloroethane.

(2) "1,2 EDB" means 1,2-dibromoethane.

(3) "Below treatment zone" or "BTZ" means the undisturbed natural soil within the treatment cell of a landfarm facility that directly underlies the treatment zone to a depth of 3 feet.

(4) "Bioremediation" is the treatment of pollutants or waste (as in an oil spill, contaminated ground water, or an industrial process) by the use of microorganisms (as bacteria) to break down undesirable substances.

(5) "BTEX" means benzene, toluene, ethylbenzene, and xylene.

(6) "C:N:P" means carbon to nitrogen to phosphorus ratio.

(7) "Contaminated soil" has the meaning specified in ARM 17.50.502.

(8) "EPH" means extractable petroleum hydrocarbon.

(9) "Intermediate landfarm facility" has the meaning specified in ARM 17.50.403.

(10) "Landfarm facility" has the meaning specified in ARM 17.50.403.

(11) "Major landfarm facility" has the meaning specified in ARM 17.50.403.

(12) "Minor landfarm facility" has the meaning specified in ARM 17.50.403.

(13) "MTBE" means methyl tert-butyl ether.

(14) "One-time landfarm" has the meaning specified in ARM 17.50.403.

(15) "Remediation" means the act of reducing contamination to a level that is protective of human health and the environment.

(16) "TCLP" means toxicity characteristic leaching procedure.

(17) "TPH" means total petroleum hydrocarbon.

(18) "Treatment cell" means the prepared area of a landfarm facility where contaminated soil is undergoing remediation.

(19) "Treatment season" means April through October unless otherwise specified by the department.

(20) "Treatment zone" or "TZ" means the total space within a treatment cell that contains the contaminated soils that are being remediated. The treatment zone includes the contaminated soils applied to the treatment cell and any material incorporated into them.

(21) "Unstable area" has the meaning specified in ARM 17.50.1002.

(22) "Uppermost aquifer" has the meaning specified in ARM 17.50.1102.

(23) "VPH" means volatile petroleum hydrocarbon.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1603 LANDFARM FACILITY LICENSE APPLICATION (1) A person may not construct, expand, or operate a landfarm facility after March 11, 2017 without a landfarm license from the department, except as provided in 17.50.1601(2).

(2) An applicant for a landfarm facility license shall submit an application to the department on a form provided by the department.

(3) An applicant for a landfarm facility license shall submit the following application materials:

(a) name and mailing address of the proposed facility owner/operator;

(b) name and mailing address of the landowner where the facility will be located;

(c) documentation of the applicant's ownership of the property or documentation demonstrating that the applicant has the right to operate a solid waste management system on the property;

(d) applicant must provide signed documentation granting access to the property by the department, private contractors, and the facility owner/operator to perform activities associated with approved facility operations of the landfarm;

(e) proposed facility name, mailing address, legal location, and property geocode;

(f) total acreage of the proposed facility and acreage to be used for treatment cells;

(g) location of any lakes, rivers, streams, springs, or bogs, on-site or within one mile of the facility boundary;

(h) hydrogeological, and soils characterization information required in ARM 17.50.1311(2);

(i) present uses of property within one mile of the proposed facility boundary and the property owners' names and current addresses;

(j) certification that there are no local government zoning restrictions or ordinances that prohibit the proposed activity at the proposed site;

(k) regional map(s), with a minimum scale of 1:62,500 and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following:

(i) the location of the closest population centers; and

(ii) the local transportation systems, including highways, airports, bridges, and railways;

(l) vicinity map(s), with a minimum scale of 1:24,000 and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within one mile of the facility boundaries:

(i) zoning, existing, and allowed land use;

(ii) property boundaries and residences within one mile of the proposed site;

(iii) surface waters;

(iv) floodplain map;

(v) historic sites; and

(vi) other existing and proposed artificial or natural features relating to the project;

(m) site plan(s), with a minimum scale of 1:24,000 with five-foot contour

intervals and a recommended minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within, or associated with, the facility:

- (i) proposed waste management areas and license boundaries;
- (ii) the location of existing and proposed:
 - (A) soil borings;
 - (B) monitoring wells;
 - (C) buildings and appurtenances;
 - (D) fences;
 - (E) gates;
 - (F) roads;
 - (G) parking areas;
 - (H) drainages;
 - (I) culverts;
 - (J) storage facilities or areas;
 - (K) loading areas;
 - (L) existing and proposed elevation contours;
- (M) the location, within one mile of the proposed licensed boundary, of potable wells, surface water bodies, and drainage swales;
- (N) direction of prevailing winds;
- (O) other maps and drawings related to the design or environmental impact of the proposed facility if requested by the department;
- (P) name and address of individual operator;
- (Q) proposed operation and maintenance plan;
- (R) closure and post-closure care plans;
- (S) other information necessary for the department to comply with the Montana Environmental Policy Act or "MEPA," Title 75, chapter 1, parts 1 through 3, MCA;

(4) An applicant shall submit with the application a copy of a proposed policy of general liability insurance to cover bodily injury or property damage to third persons caused by sudden accidental occurrences at the facility that meet the requirements of ARM 17.50.1114.

(5) In addition to the materials required in (2) through (4), an applicant for a minor, intermediate, or major landfarm facility license shall also submit:

- (a) technical design specifications;
- (b) construction plans; and
- (c) a detailed site plan that includes:
 - (i) information concerning any material that will be used to construct a liner or berm, including but not limited to:
 - (A) type, quantity, and source;
 - (B) compaction density;
 - (C) moisture content;
 - (D) design permeability; and
 - (E) liner construction quality assurance and quality control (QA/QC) plans;
 - (ii) design and location of any proposed storage or treatment areas;
 - (iii) design and location of any liquid containment or storage structures; and
 - (iv) design, location, and grades of any surface water diversion and drainage structures.

(6) In addition to the materials required in (2) through (4), an applicant for a

one-time landfarm facility license shall submit the following application materials:

- (a) name and address of the proposed facility owner/operator;
- (b) name and address of the landowner where the facility will be located;
- (c) documentation of the applicant's ownership of the property or

documentation demonstrating that the applicant has the right to operate a solid waste management system on the property;

- (d) total acreage of the proposed facility and dimensions of the treatment cell;
- (e) location of any surface water bodies, including intermittent drainages and floodplains, on-site or within one mile of the facility boundary;

- (f) legal description of the site to the nearest quarter-quarter section;
- (g) depth to ground water, source of ground water information, and copies of logs from ground water wells within one-mile of the proposed facility;

- (h) location of public water supplies within five miles of the proposed facility;

- (i) results of background soil sampling;

- (j) estimated volume and characterization of soils to be landfarmed at the proposed facility including:

- (i) cause of soil contamination;

- (ii) analytical results;

- (iii) proposed date soils will be applied to landfarm site;

- (iv) current use of proposed landfarm site; and

- (v) proposed use of site after treatment is completed;

- (k) summary of the proposed facility operations and maintenance plan that includes the following:

- (i) soil tilling schedule;

- (ii) number and frequency of soil sampling activities;

- (iii) proposed fertilizer, moisture, or other remediation-enhancing product additions; and

- (iv) propose site reclamation and closure activities;

- (l) vicinity map(s), with a minimum scale of 1:24,000 and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within one mile of the facility boundaries:

- (i) zoning, existing, and allowed land uses;

- (ii) residences;

- (iii) surface waters;

- (iv) access roads;

- (v) bridges;

- (vi) railroads;

- (vii) airports;

- (viii) historic sites; and

- (ix) other existing and proposed artificial or natural features relating to the project;

- (m) site plan(s), with a minimum scale of 1:24,000 with five-foot contour intervals and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within, or associated with, the facility:

- (i) proposed waste and licensed boundaries;

- (ii) the location of existing and proposed buildings and appurtenances,

including:

- (A) fences;

- (B) gates;

- (C) roads;

- (D) parking areas;
- (E) drainages;
- (F) culverts;
- (G) storage facilities or areas; and
- (H) loading areas; and
- (n) closure and post-closure care plan.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1607 SITING STANDARDS FOR LANDFARM FACILITIES

(1) The owner or operator of a landfarm facility that is not a one-time landfarm facility shall meet the following siting requirements. Treatment cells must be located:

- (a) more than 1,000 feet from domestic water wells;
- (b) more than 500 feet from any residential property boundary;
- (c) at least 150 feet from the high water mark of surface water, including an intermittent drainage and floodplain;
- (d) with at least 25 feet of vertical separation between the base of the treatment zone and the seasonally high water level of the uppermost aquifer beneath the facility; and
- (e) at least 200 feet (60 meters) from an unstable area, unless the owner or operator of a landfarm facility makes a written demonstration to the department that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the treatment unit and will be protective of human health and the environment.

(2) The owner or operator of a landfarm facility that is not a one-time landfarm facility may not, without written approval by the department, construct a facility at a site where the depth to the uppermost aquifer's seasonally high water level is less than or equal to 25 feet.

(3) If the owner or operator is proposing to construct a landfarm facility that is not a one-time landfarm facility at a site where the depth to the uppermost aquifer's seasonally high water level is greater than 25 feet, but less than 50 feet, the owner or operator shall submit a ground water sampling and analysis plan that includes:

- (a) design and location of the monitoring wells;
- (b) sampling procedures;
- (c) potential contaminants to be analyzed in the ground water samples; and
- (d) any other information determined by the department to be necessary to protect human health or the environment.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 666, Eff. 3/11/17.

17.50.1607 SITING STANDARDS FOR ONE-TIME LANDFARMS

(1) The owner or operator of a one-time landfarm facility shall meet the following siting requirements. Treatment cells must be located:

- (a) more than 1,000 feet from domestic water wells;
- (b) more than 500 feet from any residential property boundary; and

(c) at least 150 feet from the high water mark of surface water, including an intermittent drainage and floodplain; and

(d) with at least 25 feet of vertical separation between the base of the treatment zone and the seasonally high water level of the uppermost aquifer beneath the facility.

(2) A one-time landfarm facility may not be constructed at a site where the depth to the uppermost aquifer's seasonally high water level is less than or equal to 25 feet without prior written approval by the department.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1608 DESIGN CRITERIA FOR LANDFARM FACILITIES (1) An owner or operator may not use a soil treatment cell at a landfarm facility unless it meets the standards provided in 17.50.1613.

(2) The owner or operator of a landfarm facility shall ensure that:

(a) the basal slope for any treatment cell does not exceed two percent; and

(b) storm water run-on and run-off controls are provided for flow volume up to the 24-hour, 25-year storm event.

(3) The owner or operator of a minor, intermediate, or major landfarm facility may accept wastes that fail the paint filter liquids test, as described in 17.50.1612, if:

(a) the owner or operator has obtained department approval;

(b) the liquid wastes are immediately placed in a lined treatment cell designed and constructed pursuant to (1)(b); and

(c) the liner has a hydraulic conductivity less than or equal to 1×10^{-5} cm/sec.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1611 OPERATION AND MAINTENANCE PLAN FOR LANDFARM FACILITIES (1) Prior to accepting contaminated soils, the owner or operator of a soil treatment facility shall submit to the department for approval an operation and maintenance plan that includes the following information:

(a) background soil sampling results for the BTZ soils;

(b) for the TZ and BTZ soil:

(i) sample collection procedures;

(ii) sample collection frequency;

(iii) analytical parameters and procedures;

(iv) chain-of-custody control; and

(v) quality assurance and quality control plan;

(2) Prior to application of any stockpiled or stored contaminated soils in a treatment cell, the owner or operator of a landfarm facility shall submit to the department for approval the contaminated soil analytical data collected and analyzed for TPH, EPH, VPH, TCLP metals, BTEX, MTBE, and any other contaminants determined by the department to be necessary to protect human health and the environment.

(3) The owner or operator of a landfarm facility shall place contaminated soils that do not have the required documentation in (2) in a bermed treatment cell or in an approved designated stockpile or storage area for sampling and analysis to determine the characteristics of the soil contamination and physical soil properties.

(4) A designated stockpile or storage area for contaminated soils located outside of a treatment cell must:

- (a) be approved by the department prior to the stockpiling or storage of any contaminated soils;
- (b) meet the requirements of 17.50.1608; and
- (c) provide for surface water run-on and run-off controls to collect and control at least the water volume resulting from a 24-hour, 25-year storm event.

(5) The owner or operator of a landfarm facility using a stockpiling or storage area that is unlined shall, upon removal of the stockpiled or stored soil, sample the BTZ of the area for contaminant infiltration.

(6) Pursuant to the sampling required in (5), the owner or operator shall:

- (a) collect and analyze, for the contaminants listed in 17.50.1613, one composite sample per 1/2 acre of the stockpile or storage area; and
- (b) produce each composite sample by combining five subsamples.

(7) For contaminated soils that are newly applied on a treatment cell, the owner or operator shall:

- (a) collect at least one composite sample consisting of five subsamples per composite for each 200 cubic yards of contaminated soil from the same contaminant source; and
- (b) analyze the composite samples for contaminants suspected to be in the soil and the contaminants listed in 17.50.1613.

(8) After departmental approval has been granted, the owner or operator of a landfarm facility may place newly accepted contaminated soils in a treatment cell with similar types of contaminants (i.e., gasoline, diesel), if:

- (a) newly accepted contaminated soils are segregated from the existing contaminated soils; and
- (b) each distinct treatment zone in the treatment cell can be easily identified.

(9) The owner or operator of a landfarm facility shall manage each treatment zone, as follows:

- (a) contaminated soil must be applied in lifts less than or equal to one foot depending on the capability of the tilling equipment;
- (b) contaminated soil must be tilled (when soils are not frozen) twice during the first month on the treatment cell, and at least monthly thereafter;
- (c) tillage must occur at the full depth of the treatment zone; and
- (d) cobbles, boulders, rocks, debris, or other consolidated materials that impede soil mixing and passage of air or water through the soil or damage tillage equipment must be removed.

(10) The owner or operator of a landfarm facility shall monitor the remediation of contaminated soil by:

(a) collecting representative soil samples from the TZ during April, July, and October, or according to an alternative schedule approved by the department, in the following manner:

- (i) one composite sample must be collected per one-half acre from the TZ of each treatment cell;
- (ii) each composite sample must be composed of five subsamples;
- (iii) all subsamples must be from the same treatment cell;
- (iv) at least one composite sample must be collected from each treatment cell; and

(v) sampling activities must protect the liner of the treatment cell, and must not open a contaminant migration pathway;

(b) analyzing the soil samples for TPH, EPH, VPH, TCLP metals, BTEX, MTBE, naphthalene and for gasoline releases before 1996 sample for lead scavengers 1,2 DCA & 1,2 EDB and any other contaminants determined by the department to be necessary to protect human health and the environment;

(c) in addition to the sampling required in (10)(a), analyzing the representative soil samples collected from the TZ during April and making adjustments to maintain optimum bioremediation conditions for all types of contaminated soils under treatment for the following parameters:

(i) organic carbon to available nitrogen to phosphorous ratio (C:N:P);

(ii) moisture content;

(iii) soil pH;

(iv) temperature; and

(d) while sampling, protecting the liner of the treatment cell and preventing the creation of a contaminant migration pathway;

(e) analyzing the soil samples using the analytical methods in 17.50.1612 or other methods approved by the department; and

(f) conducting sampling at a greater frequency or conducting treatability studies if the department determines it is necessary to protect human health or the environment.

(11) At the end of each treatment season, the owner or operator of a minor, intermediate, or major landfarm facility shall collect and analyze BTZ soil samples for the contaminants listed in (10)(b). BTZ sampling must be conducted in the following manner:

(a) one composite sample must be collected per 1/2 acre from the BTZ of each treatment cell;

(b) each composite sample must be composed of five subsamples;

(c) all subsamples must be from the same treatment cell;

(d) at least one composite sample must be taken for each treatment cell; and

(e) sampling must protect the liner of the treatment cell and not create a contaminant migration pathway.

(12) If the results of the BTZ sampling indicate the migration of contaminants from the TZ into the BTZ, the owner or operator shall:

(a) notify the department within seven calendar days of receipt of the analytical results;

(b) consult with the department to determine appropriate corrective measures;

(c) collect BTZ soil samples at a rate of five samples per acre and analyze the samples for the contaminants listed in (10)(b);

(d) within 90 calendar days of receipt of the analytical results required in (13), submit to the department an assessment of corrective measures, and the results of the analysis conducted pursuant to (13);

(e) implement the corrective measures within 30 calendar days of department approval, or another time period approved by the department; and

(f) cease the acceptance of additional contaminated soils at the facility until the department approves the resumption of the receipt of contaminated soils.

(13) If ground water monitoring is required for the facility, the owner or operator of a landfarm facility shall:

(a) analyze ground water samples collected pursuant to 17.50.1606; and

(b) submit to the department the contaminated soil analytical data collected and analyzed for TPH, EPH, VPH, TCLP metals, BTEX, MTBE, and any other contaminants determined by the department necessary to protect human health and the environment. Based upon the soil analytical results, the department will determine the analytical requirements necessary for ground water monitoring.

(14) Whenever ground water monitoring indicates the presence of contaminants listed in (13), the owner or operator of the landfarm facility shall notify the department in writing within 14 calendar days of receipt of the analytical results. The notification must include the concentration of the contaminant(s) and the location of the well.

(15) Whenever ground water monitoring indicates contaminants listed in (13) in the ground water in two consecutive sampling events, the owner or operator of the landfarm facility shall consult with the department in the manner provided in ARM 17.50.1308. The assessment of corrective measures must be submitted within 90 calendar days from the date of the receipt of the analytical results from second sampling event.

(16) If the owner or operator of a landfarm facility cannot remedy contaminant migration, the department may require the owner or operator of the landfarm facility to close the treatment cell and remediate any contamination.

(17) The owner or operator of a landfarm facility may apply liquid waste on the treatment cells only if:

(a) the soils undergoing treatment will not be saturated above the field capacity of the soil;

(b) the liquid wastes meet the requirements of 17.50.1612; and

(c) liquid wastes will be applied only to soils containing similar contaminants.

(18) The owner or operator of a landfarm facility may not use bioremediation agents unless approved by the department prior to application to the treatment zone.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1612 ANALYTICAL METHODS (1) For purposes of this subchapter, the department adopts and incorporates by reference:

(a) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015), which may be obtained at <https://www.epa.gov/hw-sw846/sw-846-compendium> or by contacting the National Technical Information Service, 5301 Shawnee Road, Alexandria, VA 22312 or 1 (800) 553-687;

(b) Montana Risk-based Corrective Action Guidance for Petroleum Releases, (September 2016) as the analytical methodology landfarms must utilize and Table 1 of the Montana Risk-based Corrective Action Guidance for Petroleum Release as the standards for compliance with remediation requirements outlined in 17.50.1617. A copy of the Montana Risk-based Corrective Action Guidance for Petroleum Releases, (September 2016) may be obtained at <http://deq.mt.gov/Land/lust> or by contacting MDEQ at P.O. Box 200901, Helena, MT 59620-0901 or 1 (406) 444-6435.

(2) For purposes of this subchapter, the following analytical methods, which

are contained in the document referenced in (1) must be used:

- (a) arsenic concentrations "Method 7061, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (b) barium concentrations "Method 6010, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (c) benzene, toluene, ethylbenzene, and xylene (BTEX), naphthalene, MTBE, and Lead Scavengers 1, 2 DCA and EDB concentrations "Method 8021 or 8260, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (d) cadmium concentrations "Method 6010, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (e) chromium concentrations "Method 6010, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (f) extractable petroleum hydrocarbon (EPH) concentrations Montana modified "Method for Determination of Extractable Petroleum Hydrocarbons, Massachusetts Department of Environmental Protection";
- (g) lead concentrations "Method 7421, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (h) mercury concentrations "Method 7421, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (i) paint filter liquids test "Method 9095B, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (j) selenium concentrations "Method 7741, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (k) silver concentrations "Method 7761, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (l) total petroleum hydrocarbon (TPH) concentrations "Method 8015, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";
- (m) volatile petroleum hydrocarbon (VPH) concentrations Montana modified "Method for Determination of Volatile Petroleum Hydrocarbons, Massachusetts Department of Environmental Protection"; and
- (n) any other analytical method approved by the department.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 666, Eff. 3/11/17.

17.50.1613 LANDFARM FACILITY STANDARDS (1) The owner or operator of a landfarm facility:

- (a) may not place in a treatment cell contaminated soils when the BTZ soils have a hydraulic conductivity less than 1×10^{-5} cm/sec. The owner or operator shall determine hydraulic conductivity by a department-approved method;
- (b) may not place in a treatment cell contaminated soils that contain over five percent petroleum hydrocarbons by weight or with concentrations of TPH or VPH and EPH greater than 50,000 ppm without prior approval from the department.

(2) The following table from Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) lists the maximum allowable Toxicity Characteristic Leaching Procedure (TCLP) metals concentration allowed in the treatment zone and BTZ of the treatment cell. The analytical methods listed in Table 4 are defined in

17.50.1612.

TABLE 4

<u>ELEMENT</u>	<u>MAXIMUM TCLP METALS CONCENTRATION (ppm)</u>	<u>ANALYTICAL METHOD</u>
Arsenic	<5.0	7061
Barium	<100	6010
Cadmium	<1.0	6010
Chromium	<5.0	6010
Lead	<5.0	7421
Mercury	<0.2	7421
Selenium	<1.0	7741
Silver	<5.0	7761

(3) Whenever ground water monitoring is required at a landfarm facility, the owner or operator shall construct monitoring wells in accordance with ARM 17.50.1304.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 666, Eff. 3/11/17.

17.50.1616 RECORDKEEPING AND REPORTING REQUIREMENTS (1)

The owner or operator of a landfarm facility shall:

(a) maintain an operating record at the facility or at an alternate location approved by the department;

(b) make the operating record available for department inspection during normal business hours. The operating record must contain the following information as it becomes available:

(i) BTZ and ground water sample collection details and analytical results, if required;

(ii) the source, volume, type, and concentration of contaminants for incoming contaminated soils;

(iii) treatment zone information, as follows:

(A) application dates and contaminated soil volume applied;

(B) dates of tillage activities;

(C) quantities and dates applied of carbon to nitrogen to phosphorous (C:N:P) ratio and nutrient addition;

(D) moisture content and irrigation;

(E) soil pH and pH adjustments, if necessary;

(F) quantities and dates of bulking agents added;

(G) addition of bioremediation enhancers or amendments;

(H) information concerning treatment zone maintenance;

(iv) date and volume of treated soils removed from treatment cell; and

(v) any other information determined by the department to be necessary to protect human health or the environment; and

(c) record the following information in the operating record as it becomes

available and submit it to the department as part of the annual report required under ARM 17.50.412:

- (i) dates and results of all remediation sampling events for each separate volume of contaminated soil under treatment including generator tracking code, type of contaminant, test methodology, baseline concentration, volume being treated, and months under treatment;
- (ii) dates, types, and results of all treatment maintenance activities such as BTZ sampling, C:N:P monitoring, tilling, irrigation, nutrient or bulking supplementation; and
- (iii) changes to the site map and operational plan.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1617 LANDFARM FACILITY REMEDIATION STANDARDS

- (1) Contaminated soils are considered remediated when:
 - (a) contaminant concentrations listed in Montana Risk-based Corrective Action Guidance for Petroleum Releases, Table 1 (September 2016) are permanently reduced to the residential RSBL concentrations.
 - (2) When contaminated soil remediation in a treatment zone is complete, the owner or operator of a landfarm facility may:
 - (a) remove the remediated material and replace it with additional contaminated soils for treatment;
 - (b) apply an additional lift to the treatment zone for treatment if:
 - (i) the maximum depth of remediated soil within the treatment cell, including the additional lift, does not exceed a depth of five feet; and
 - (ii) BTZ sampling is conducted pursuant to 17.50.1613; or
 - (c) close and reclaim the treatment cell.
 - (3) If the contaminant concentration standards in (1) cannot be attained, the department may approve post-remediation uses for these contaminated soils if the owner or operator of a landfarm facility submits a request to the department that:
 - (a) demonstrates through analytical results that contaminant degradation has reached a maximum using the analytical methods and standards outlined in 17.50.1612 and 17.50.1613; and
 - (b) verifies the treatment cell and treatment zone are in compliance with this subchapter.
 - (4) The owner or operator of a landfarm facility may not supply or use soils for any purpose exceeding the contaminant concentrations specified in Montana Risk-based Corrective Action Guidance for Petroleum Releases, Table 1 (September 2016).
 - (5) The owner or operator of a landfarm facility may not supply, and a person may not use, remediated soils in any location that threaten human health and the environment, for residential topsoil, or for any purpose in school playgrounds or daycare centers.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1618 CLOSURE PLAN (1) For purposes of closure of a landfarm facility, the owner or operator of a landfarm facility shall submit a closure plan that

documents the following:

- (a) all contaminated soils were remediated pursuant to 17.50.1617 standards;
- (b) concentrations of TCLP metals in all remediated soils remaining at the facility are below the limits specified in 17.50.1613, Table 4 and concentrations of nitrates or phosphorous are below the annual agronomic uptake rate for the established vegetation;
- (c) one of the following requirements was satisfied:
 - (i) all contaminated soils were remediated and removed in accordance with 17.50.1617 standards;
 - (ii) all contaminated soils were remediated to 17.50.1617 standards and were subsequently spread and contoured in place; or
 - (iii) all contaminated soils were remediated to Table 1 residential RSBL concentrations in the Montana Risk-based Corrective Action Guidance for Petroleum Releases, (September 2016) and are capable of supporting native vegetation;
- (d) all facility structures, such as cell, berms, and ditches, were reclaimed to pre-operation conditions;
- (e) disturbed areas were revegetated with native plant growth or other department-approved species;
- (f) final surface grades prevent ponding and erosion; and
- (g) any ground water wells not intended for post-closure use were abandoned pursuant to ARM 17.50.1305.

(2) The owner or operator of a landfarm facility shall complete all closure activities within 180 days after commencing closure. Extension of the closure period may be granted by the department if the owner or operator demonstrates that closure will take longer than 180 days and that measures necessary to protect human health and the environment are maintained.

(3) Upon completion of all activities in the closure plan, the owner or operator of the landfarm facility shall provide written notification to the department that the facility has closed. Final closure is not complete until the department has completed final site inspection verifying the provisions of (1).

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1621 POST-CLOSURE CARE REQUIREMENTS (1) The owner or operator of a landfarm facility shall:

- (a) monitor the reclaimed site for vegetative growth for a minimum of two years after closure. If the revegetation is unsuccessful as determined by the department, the owner or operator shall re-seed and monitor the reclaimed site until the department determines the revegetation is successful;
- (b) for a landfarm facility required to monitor ground water, ground water monitoring must be conducted at least semi-annually for a minimum of two years after closure as pursuant to 17.50.1611(13);
- (c) place documentation of the monitoring in the operating record requirements of ARM 17.50.1106.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 285, Eff. 3/11/17.

17.50.1622 FINANCIAL ASSURANCE (1) The owner or operator of a landfarm facility required to conduct ground water monitoring during active life and post-closure care period pursuant to 17.50.1608, 17.50.1611, and 17.50.1612, shall obtain financial assurance to ensure adequate financial resources are available for closure and post-closure monitoring.

(2) The financial assurance mechanism must comply with the requirements of ARM 17.50.540.

History: 75-10-204, MCA; IMP, 75-10-204, MCA; NEW, 2017 MAR p. 666, Eff. 3/11/17.