

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTE MANAGEMENT AND REMEDIATION DIVISION
SOLID WASTE SECTION
PO BOX 200901
HELENA, MT 59620-0901
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**GUIDELINES FOR LICENSING ONE-TIME LANDFARMS FOR THE REMEDIATION OF
HYDROCARBON CONTAMINATED SOILS***

The landfarming of hydrocarbon contaminated soil that is not hazardous waste is an activity regulated by DEQ's Solid Waste Program. Presently, the generators of less than 2,400 cubic yards of non-hazardous, hydrocarbon contaminated soils have the following options available or management of the soils:

- (1) Haul the contaminated soil to an existing licensed soil treatment facility.
- (2) Dispose of the material in a licensed Class II landfill.
- (3) Remediate the contaminated soils through one-time landfarm management techniques either in-situ, on the generator's property, or on property contracted through another owner. For remediation activities that occur on property offsite the point of generation, a one-time landfarm application must be completed and submitted with the license review fee to DEQ's Solid Waste Program.

For generators of less than 2,400 cubic yards (yd³) of hydrocarbon contaminated soil resulting from a single event who choose to remediate the contaminated soil at an off-site location, an application for a One-Time Landfarm license from the Solid Waste Program must be submitted for review and approval prior to the commencement of such an activity.

**This document discusses landfarming of hydrocarbon-contaminated soils that are not a hazardous waste. The Administrative Rules of Montana (ARM) 17.54.402 state that a person who generates a waste must determine if that waste is a hazardous waste. No waste that meets the definition of a hazardous waste, including conditionally exempt small quantity generators of hazardous waste, may be treated stored or disposed of at the site. For more information about hazardous wastes, please contact the HAZARDOUS WASTE PROGRAM at 444-5300.*

There are siting and operation criteria that the operator should adhere to when landfarming contaminated soils. Landfarm siting and operation must not cause a threat to human health or the environment. The landfarm operator is responsible for the proper sampling, operations, monitoring, and remediation of the contaminated material at the site. The landfarm operator and the landfarm property owner are liable for any environmental degradation resulting from the landfarm.

ONE-TIME LANDFARMS

What To Look For When Selecting a Landfarm Site

Landfarm Bioremediation uses a combination of oxygen, moisture content, temperature and naturally occurring soil microorganisms to break down contaminants. The best landfarm sites are isolated flat areas on high ground where wind can blow over the soils, where standing water cannot accumulate and where there are no surface water drainages. Sites where soils have high silt and clay content are preferred over sites where soils consist of sand and gravel. Generally, depending on soil type, the site should be at least 500 feet from any wells, and greater than 25 feet from the seasonally high ground water level. The location of nearby wells and the depth to ground water must be evaluated through a review of well logs or other available information; this information should be obtained from the Montana Bureau of Mines and Geology, Ground Water Information Center. Information on soils at the site should be obtained from the Natural Resources Conservation Service (NRCS).

No landfarming activity shall occur where petroleum wastes are likely to cause pollution of any state waters (Section 75-5-604, MCA).

Proper Landfarming Procedures

1. Collect the background samples of native soils at the approved landfarm site before spreading the contaminated soil. The samples should be analyzed for total petroleum hydrocarbons (TPH) or extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH), benzene, toluene, ethyl benzene and xylene (BTEX). Representative samples of the contaminated soil, consisting of five sub-samples per two hundred cubic yards (200 yds³), must also be collected and analyzed for BTEX, either TPH or EPH/VPH, and depending on the source of contamination, Total RCRA Metals.
2. Cobbles and rocks generated during excavation of the contaminated soils that may impede proper tilling or reclamation of the one-time registered landfarm should be removed prior to spreading soil at the landfarm site.
3. Spread the contaminated soil in a thin layer (less than 6 inches) at the landfarm site. Construct a berm around the site, or otherwise prevent surface water run-on and run-off. Mechanically till or turn over the soil periodically (approximately monthly) during the warm months (May to October) to promote soil exposure to air and sunlight.
4. Collect soil samples within and beneath the treatment area on a periodic schedule to verify that there is no significant leaching of constituents, and to determine when contaminant concentrations are low enough to stop treatment activities. Retain all sampling and monitoring results for your records, and send copies to the Solid Waste Program. Establish the necessary number and frequency of soil samples to be collected at each site in order to determine when treatment can be halted. In most cases, soil contaminated with gasoline should be relatively clean after a summer of proper landfarming. Soil contaminated with diesel fuel, waste oil, or a mixture of petroleum products may require longer treatment time.

5. Some landfarming technologies recommend the addition of mixtures of fertilizer, moisture, or other products to the soil to increase degradation of petroleum products. Refer to the landfarm guidelines for suggested nutrient and moisture contents. Landfarming soils contaminated with other materials, such as antifreeze or solvents, is prohibited.
6. When it can be documented that soils have been remediated, the site shall be reclaimed, using topsoil if necessary, and re-vegetated in order to provide for pre-landfarm or some other beneficial use of the land area.



ONE-TIME LANDFARM LICENSE APPLICATION

INSTRUCTIONS:

1. Fill out the form in its entirety – Incomplete applications will be returned.
2. Sign the completed application.
3. Enclose a check or money order for the application review fee.
4. Return the completed form, with all attachments to:
DEQ Fiscal Services Division, PO Box 200901, Helena, MT 59620-0901
 Once approved, the one-time landfarm license will be issued and mailed directly to the applicant.

**Section 1
 APPLICANT INFORMATION (Please Print)**

Applicant Full Name:	Applicant Mailing Address:
Property Owner Name:	Property Owner Mailing Address:

**Section 2
 LANDFARM SITE INFORMATION**

Landfarm Site Name:			
Site Location/Physical Address:	City:	State:	Zip:
Legal Description of Site: <i>(to nearest 1/4, 1/4 Section)</i> _____ 1/4 _____ 1/4	Section:	Township:	Range:
			County:
Dimensions of Landfarm Site: _____ feet by _____ feet		Total Acreage Proposed for One-Time Landfarm Site:	
Estimated Depth to Ground Water:	Copies of Well Logs Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No If no, why not?	Are any municipal water supplies located within 5-miles of the proposed landfarm? <input type="checkbox"/> Yes <i>If yes, attach location and description information</i> <input type="checkbox"/> No	
Source of Ground Water Information:			

Section 2 – continued

Have background Samples been taken at the Landfarm site?

Yes (*Attach copies of background sample results*)

No If no, why not?

Has Site Been Previously Used as a Landfarm Site? Yes No

(If yes, attach details on a separate page)

Soil is Contaminated With: (*check all that apply*)

Gasoline: _____

Diesel: _____

Waste oil: _____

Heating fuel oil: _____

Other (describe) _____

Estimated Volume of Soils to be Landfarmed:

_____ yds³

(attach copies of contaminated soil sample results)

Cause of Soil Contamination:

Date of Spill/Contamination:

Date soil will be spread at the Landfarm Site:

Will Soil be Stockpiled at Landfarm Site Before Being Tilled?

Yes No

If yes, for how long?

Will stockpiled soils be covered and/or bermed? (describe)

What is the Current Use of the Landfarm Site?

What is the Proposed Use of the Site after Soil Treatment is Completed?

Provide a summary of the proposed Operation and Maintenance activities of the landfarm that include:

- Soil tilling schedule
- Number and frequency of soil sampling activities
- Proposed fertilizer, moisture, or other remediation-enhancing product additions
- Proposed site reclamation and closure activities

Attach a copy of the Montana Natural Heritage Program's (NHP) database information on sensitive, threatened, or endangered species or habitats on and within one-mile of the facility boundary. The NHP database may be accessed at: <http://mtnhp.org/>

Section 2 – continued

Are there buildings on the property that are 50 years old or more? Yes No

If YES, will the building be modified cosmetically or structurally? Yes No

If YES, please contact the Montana Historical Preservation Office for guidance.

A cultural resource File Search Request Form must be submitted to the State Historic Preservation Office (SHPO); SHPO charges a fee for this search. Attach a copy of the completed cultural resource file search results for the site. The form may be accessed at: <http://mhs.mt.gov/Portals/11/shpo/docs/FSRF.xlsx>

Is the proposed site located in a Sage Grouse core, habitat, or connectivity area? Yes No

If yes, attach a copy of the recommendation letter from DNRC's Sage Grouse Habitat Conservation Program.

(To begin the evaluation process with the Sage Grouse Habitat Conservation Program, visit [https://sagegrouse.mt.gov/projects/.](https://sagegrouse.mt.gov/projects/))

**Section 3
ATTACHMENTS**

- Site map on a topographic map locating and labeling all geographic and cultural features found within 2-miles of the landfarm site (buildings, wells, drainages, and roads). Show scale or distance from features to the landfarm area.
- Background Sample Results
- Contaminated Soil Sample Results
- Information on Municipal Water Supply locations
- Copies of Ground Water Well Logs
- Site Operation and Maintenance Summary

**Section 4
SITE CERTIFICATION/APPROVAL**

LANDFARM OPERATOR CERTIFICATION

I, _____, certify that the information contained on this form is accurate to the best of my knowledge. I acknowledge the impacts to public health and the environment resulting from the landfarming of contaminated soil at this site are the responsibility of the landfarm operator, and potentially the owner of the landfarm site property.

Signature _____ Date _____

Title _____

PROPERTY OWNER SIGNATURE

By signing below, I state that I am the owner or the representative of the owner of the property described in this application (“the Property”) and that I am authorized to make the acknowledgements and consent as provided in this paragraph. I affirm that I or the owner that I represent obtained or had the opportunity to obtain the advice of independent legal counsel regarding the potential risks and liabilities from the use of the Property as a solid waste management system. I acknowledge that I or the owner I represent have been informed and are aware of the uses and activities that are ongoing or proposed for the Property and consent to those uses and activities. Furthermore, I understand that issuance by the State of Montana of a license to operate a solid waste management system on the Property and the terms and conditions of any such license do not relieve or insulate the owner of the Property from any liability, duty, or responsibility arising under the Montana Solid Waste Management Act, as that act may be amended from time to time, or any other environmental law.

Signature _____ Date _____

Title _____

HEALTH OFFICER CERTIFICATION

I, _____, am the Health Officer or Designated Representative of the County. I certify that this one-time landfarm location is suitable for this purpose.

Signature _____ Date _____

Title _____

A copy of this document MUST be retained for your records. Make a copy for your records and return the ORIGINAL signed document to the Department of Environmental Quality at the above listed address.