



ADMINISTRATIVE RULES OF MONTANA



36.25.415 OPERATIONS

- (1) All operations will conform to the best practice and engineering principles in use in the industry. Operations shall be conducted in such manner as to protect the natural resources on the leased lands, including without limitation geothermal resources, and to result in the maximum ultimate recovery of geothermal resources with a minimum of waste, and be consistent with the principles of the use of the land for other purposes and of the protection of the environment.
 - (a) Lessee shall use all reasonable means at his disposal to prevent:
 - (i) waste;
 - (ii) damage to any natural resource including trees and other vegetation, fish and wildlife and their habitat;
 - (iii) injury and damage to person, real or personal property; and
 - (iv) any environmental pollution or damage.
 - (b) The department shall have the right to enter upon the property at any time to:
 - (i) inspect the lessee's operation and issue such orders as are necessary to accomplish the purposes of these rules;
 - (ii) enter on the property to repair damages or prevent waste at the lessee's expense.
- (2) A geothermal lessee shall reclaim any and all lands disturbed by operations conducted under his lease. At the completion of the operations, and upon the final abandonment and completion of plugging of any well, the lessee shall restore the surface of the location to its original contours as near as reasonably possible, redistribute the topsoil, and reseed the land with native grasses and/or plants as prescribed by the department.
 - (a) All available topsoil on land involved in an operation shall be removed before further disturbance occurs. Topsoil removal shall precede each step of the operation.
 - (b) Stockpiles of salvaged topsoil shall be located in an area where they will not be disturbed by ongoing operations and will not be lost to wind erosion or surface runoff. All unnecessary compaction and contamination of the stockpiles shall be eliminated and once stockpiled the topsoil shall not be rehandled until replaced on regraded disturbances. The department may require immediate planting of an annual and/or perennial crop on topsoil stockpiles for the purposes of stabilization.
 - (c) Stockpiled topsoil shall be replaced on all areas to be seeded within a 90 days period prior to revegetative seeding or planting. Extreme care shall be exercised to guard against erosion during application and thereafter.

- (d) A suitable permanent diverse vegetative cover shall be established on all areas of land affected. Areas shall be planted or seeded during the first appropriate season following completion of grading, topsoil redistribution, and remedial soil treatments.
 - (i) An operator shall establish a permanent diverse vegetative cover or predominantly native species by drill seeding or planting, by seedling transplants, by establishing sod plugs, and/or by other methods. All methods must have prior approval by the department.
 - (ii) The operator shall utilize locally grown genotypical seed and seedlings when available in sufficient quality and quantity.
 - (iii) The operator shall plant seed of a pure and viable nature. Unless otherwise approved by the department, seed shall be at least 90% pure. Seeding rates shall reflect germination percentages.
 - (e) The operator may propose alternative plans for revegetation including, but not limited to, agriculture crops. Alternative plans must have prior written approval from the department.
 - (f) The operator shall consider soil, climate, and other relevant factors when planting and/or seeding to provide for the best seed germination and plant survival.
- (3) If development of lands leased pursuant to these rules and regulations requires the utilization of water, the lessee may at any time prior to 1 year before the expiration of his lease, make written application to the board of land commissioners for permission to secure a water right to the leased land. The application shall show the permanency of the water supply and the estimated costs of utilizing it. If permission is granted, the water right shall be secured in the name of the state of Montana. Any existing water rights purchased by the lessee shall be the property of the lessee.
- (4) On or before the last day of each month each holder of a producing geothermal resources lease shall make a report to the department for the preceding calendar month on a form prescribed by the department. The report shall show the amount of geothermal resources or by-products produced, saved, sold or utilized during the preceding month, the prices obtained, the total amount of all sales and additional information as may be required on the reporting form. The reports shall be signed by the lessee or some responsible person having knowledge of the facts reported, and shall be accompanied by payment of the amount due the state as royalty for the month covered by the report.
- (5) Prior to initiation of operations to drill a well to 1,000 feet or deeper, lessee shall submit to the director for his approval, a plan of operations. Such plan shall include both in narrative form and on a map of suitable scale:
- (a) the proposed location of each well including a layout showing the position of the mud tanks, reserve pits, cooling towers, pipe racks, etc.;
 - (b) existing and planned access, access controls, and lateral roads;
 - (c) location and source of water supply and road building materials;
 - (d) location of camp sites, air-strips, and other supporting facilities;
 - (e) other areas of potential surface disturbance;
 - (f) the topographic features of the land and the drainage patterns;

- (g) methods of disposing of waste material;
- (h) a narrative statement describing the proposed measures to be taken for protection of the environment, including but not limited to the prevention or control of fires, soil erosion, pollution of the surface and groundwater, damage to fish and wildlife or other natural resources, air and noise pollution, and hazards to public health and safety during the lease activities;
- (i) all pertinent information or data which the director may require to support the plan of operations for the utilization of geothermal resources and the protection of the environment.

(6)

- (a) All wells drilled on state lands leased for geothermal purposes shall be identified by a conspicuous sign placed near the well, showing the name of the person drilling the well, the name of the lessee, the number of the lease, and the number of the well, if any.
- (b) This sign shall remain until the well has been abandoned and all requirements of this rule have been satisfied.

(7)

- (a) The objectives of abandonment are to block interzonal migration of fluids so as to:
 - (i) prevent contamination of fresh waters or other natural resources;
 - (ii) prevent damage to geothermal reservoirs;
 - (iii) prevent loss of reservoir energy; and,
 - (iv) protect life, health, environment and property.
- (b) Notice of intent to abandon any geothermal resources well, prospect well or injection well must be filed with the department at least 5 days before abandonment begins. After notice has been given, the lessee shall submit additional information concerning the well as is requested by the department.
- (c) Upon prior approval by the department, a well may be left intact for development and use of water if the objectives of (7) (a) are met.

(8)

- (a) Good quality heavy drilling fluids shall be used to replace any water in the hole and to fill all portions of the hole not plugged with cement.
- (b) All cement plugs with the possible exception of the surface plug shall be pumped into the hole through drill pipe or tubing.
- (c) All open annuli shall be filled solid with cement to the surface.
- (d) A minimum of 100 feet of cement shall be emplaced straddling the interface or transition zones at the base of ground water aquifers.
- (e) One hundred feet of cement shall straddle the placement of the shoe plug on all casings including conductor pipe.

- (f) A surface plug of either neat cement or concrete mix shall be in place from the top of the casing to at least 50 feet below the top of the casing.
 - (g) All casing shall be cut off at least 5 feet below land surface.
 - (h) Cement plugs shall extend at least 50 feet over the top of any liner installed in the well.
 - (i) Other abandonment procedures may be approved by the department if the lessee or operator can demonstrate that the geothermal resources, ground waters and other natural resources will be protected. Such approval must be given in writing prior to the beginning of any abandonment procedures.
 - (j) A history of geothermal resource wells, prospect wells and injection wells shall, at the request of the department, be filed with the department within 60 days after completion of abandonment procedures.
 - (i) Pertinent history data shall be for the exclusive use of the department and other state agencies involved in geothermal research and regulation, and shall remain confidential for a period of 2 years following submission of the history unless approved in writing earlier by the person who submitted such data.
 - (k) Within 30 days after the completion of the abandonment of any geothermal resources well, prospect well, or injection well, the lessee or operator of the abandoned well shall report in writing to the department on all work done with respect to the abandonment.
- (9) Any person engaged in operating a well wherein high pressures are known to exist and any person drilling for geothermal resources in any geothermal area wherein the pressures are unknown shall equip such well with casing of sufficient strength seated in competent rock formation and cemented in place and with such other safety devices as may be necessary in accordance with approved methods, and shall use every reasonable effort to prevent blow-outs, explosions, and fires from such well operation.
- (10) These rules in no way excuse the lessee of the obligation to comply with and be subject in all aspects to the conditions, limitations, penalties, and provisions of the laws of the state of Montana and the rules of the board, the department of natural RESOURCES, the department of environmental quality, and all other applicable federal, state and local laws, now existing or hereinafter enacted.

Authorizing statute(s): 77-4-103, MCA

History: NEW, Eff. 12/31/72; AMD, Eff. 3/7/75; TRANS, 1996 MAR p. 2384.