



ADMINISTRATIVE RULES OF MONTANA



17.24.325 COAL MINING OPERATIONS ON AREAS OR ADJACENT TO AREAS INCLUDING ALLUVIAL VALLEY FLOORS: SPECIAL APPLICATION REQUIREMENTS

- (1) This rule applies to each applicant who conducts or intends to conduct coal mining and reclamation operations in, adjacent to or under a valley holding a stream in the arid or semi-arid regions.
- (2)
 - (a) Permit applicants who propose to conduct coal mining and reclamation operations within a valley holding a stream or in a location where the proposed permit area or adjacent area includes any stream in the arid or semi-arid region of Montana, may request the department to make an alluvial valley floor determination with respect to that valley floor, as an initial step in the permit application process. The applicant shall demonstrate, and the department shall determine, based on available data, or field studies submitted by the applicant, or a combination thereof, the presence or absence of an alluvial valley floor. Studies must include sufficiently detailed geologic, hydrologic, land use, soils, and vegetation data and data analyses to demonstrate the presence or absence of an alluvial valley floor in the area. The department may require additional data collection and analyses or other supporting documents, maps, and illustrations in order to make the determination. Studies performed during the investigation by the applicant or subsequent studies as required of the applicant by the department, must include an appropriate combination, adapted to site-specific conditions, of:
 - (i) mapping of unconsolidated streamlaid deposits holding streams including, but not limited to, geologic maps of unconsolidated deposits and streamlaid deposits, maps of streams, delineation of surface watersheds and directions of shallow ground water flows through and into the unconsolidated deposits, topography showing local and regional terrace levels, and topography of terraces, flood plains and channels showing surface drainage patterns;
 - (ii) mapping of all lands included in the area in accordance with (2) of this rule and subject to agricultural activities, showing the area in which different types of agricultural lands, such as flood irrigated lands, croplands and undeveloped rangelands exist and accompanied by measurements of vegetative productivity and type;
 - (iii) mapping of all lands that are currently or were historically flood irrigated, showing the location of each diversion structure, ditch, dam and related reservoir, irrigated land, and topography of those lands;
 - (iv) documentation that areas identified in this subsection are, or are not, subirrigated, based on ground water monitoring data, representative water quality, soil moisture

measurements, and measurements of rooting depth, soil mottling, and water requirements of vegetation;

- (v) documentation, based on representative sampling, that areas identified in (2) of this rule are, or are not, flood irrigable, based on streamflow water quality, water yield, soils measurements, and topographic characteristics;
 - (vi) analysis of a series of aerial photographs, including color infrared imagery flown at a time of year to show any late summer and fall differences between upland and valley floor vegetative growth and of a scale adequate for reconnaissance identification of areas that may be alluvial valley floors.
- (b) Based on the investigations conducted under (a) above, the department shall make a written determination of the extent of any alluvial valley floors within the study area and whether any stream in the study area may be excluded from further consideration as lying within an alluvial valley floor. The department shall determine that an alluvial valley floor exists if it finds that:
- (i) unconsolidated streamlaid deposits holding streams are present; and
 - (ii) there is sufficient water to support agricultural activities as evidenced by:
 - (A) the existence of current flood irrigation in the area in question;
 - (B) the capability of the area to be flood irrigated, based on typical regional agricultural practices, historical flood irrigation, stream-flow, water yield, soils, water quality, and topography; or
 - (C) subirrigation of the lands in question, derived from the ground water system of the valley floor; and
 - (iii) the valley does not meet the definition of upland areas in ARM 17.24.301.
- (c) If the department determines in writing that an alluvial valley does not exist pursuant to (b) above, no further consideration of this rule is necessary;

(3)

- (a) i) Whenever an alluvial valley floor is identified pursuant to (2)(b) of this rule, and the proposed coal mining operation may affect this alluvial valley floor or waters that supply the alluvial valley floor, the applicant may request the department, as a preliminary step in the permit application process, to separately determine the applicability of the statutory exclusions set forth in (ii) below. The department may make such a determination based on the available data, may require additional data collection and analyses in order to make the determination, or may require the applicant to submit a complete permit application and not make the determination until after the complete application is evaluated.
- (ii) An applicant need not submit the information required in (3)(c)(ii)(B) and (C) below, and the department is not required to make the findings of (3)(f)(ii)(A) and (B) below when the department determines that 1 of the following circumstances, heretofore called statutory exclusions, exist:
 - (A) the premining land type is undeveloped rangeland that is not significant to farming;

(B) any farming on the alluvial valley floor that would be affected by the coal mining operation is of such small acreage as to be of negligible impact on the farm's agricultural production. Negligible impact of the proposed operation on farming is based on the relative importance of the affected vegetation and water of the developed grazed or hayed alluvial valley floor area to the farm's production over the life of the mine; or

(C) the circumstances set forth in ARM 17.24.802(3) exist.

(iii) For the purposes of this section, a "farm" is 1 or more land units on which agricultural activities are conducted. Agricultural activities or farming are generally considered to occur on a combination of land units with acreage and boundaries in existence prior to August 3, 1977, or, if established after August 3, 1977, with those boundaries based on enhancement of the farm's agricultural productivity and not related to coal mining operations.

- (b) If the department determines that the statutory exclusions are not applicable and that any of the required findings of (3)(f)(ii) below cannot be made, the department may, at the request of the applicant:
 - (i) determine that mining is precluded on the proposed permit area and deny the permit without the applicant filing any additional information required by this section; or
 - (ii) prohibit coal mining and reclamation operations in all or parts of the area to be affected by mining.
- (c)
 - (i) If land within the permit area or adjacent area is identified as an alluvial valley floor and the proposed coal mining and reclamation operation may affect an alluvial valley floor or waters supplied to an alluvial valley floor, the applicant shall submit a complete application for the proposed coal mining and reclamation operation to be used by the department together with other relevant information as a basis for approval or denial of the permit. If an exclusion in (3)(a)(ii) above applies, then the applicant need not submit the information required in (3)(c)(ii)(B) and (C) below.
 - (ii) The complete application must include detailed surveys and baseline data required by the department for a determination of:
 - (A) the characteristics of the alluvial valley floor that are necessary to preserve the essential hydrologic functions throughout the mining and reclamation process;
 - (B) whether the operation will avoid during mining and reclamation the interruption, discontinuance, or preclusion of farming on the alluvial valley floor;
 - (C) whether the operation will cause material damage to the quantity or quality of surface or ground waters that supply the alluvial valley floor;
 - (D) whether the reclamation plan is in compliance with requirements of the Act, this chapter, and regulatory program; and
 - (E) whether the proposed monitoring system will provide sufficient information to measure compliance with ARM 17.24.801, 17.24.802, and 17.24.804 through 17.24.806, during and after mining and reclamation operations.
- (d) Information required under this section must include, but not be limited to:

- (i) geologic data, including geologic structure, surficial geologic maps, and geologic cross-sections;
 - (ii) soils and vegetation data, including a detailed soil survey and chemical and physical analyses of soils, a vegetation map and narrative descriptions of quantitative and qualitative surveys, and land use data, including an evaluation of crop yields;
 - (iii) for surveys and data required under this section (3) for areas designated as alluvial valley floors because of their flood irrigation characteristics, at a minimum, surface hydrologic data, including streamflow, runoff, sediment yield, and water quality analyses describing seasonal variations over at least 1 full year, field geomorphic surveys and other geomorphic studies;
 - (iv) for surveys and data required under this section (3) for areas designated as alluvial valley floors because of their subirrigation characteristics, at a minimum, geohydrologic data including observation well establishment for purposes of water level measurements, ground water contour maps, testing to determine aquifer characteristics that affect waters supplying the alluvial valley floors, well and spring inventories, and water quality analyses describing seasonal variations over at least 1 full year, and physical and chemical analysis of overburden to determine the effect of the proposed mining operations on water quality and quantity;
 - (v) plans showing how the operation will avoid, during mining and reclamation, interruption, discontinuance or preclusion of farming on the alluvial valley floors unless the premining land type has been undeveloped rangeland which is not significant to farming and will not materially damage the quantity or quality of water in surface and ground water systems that supply alluvial valley floors;
 - (vi) maps showing farms and ranches that could be affected by the mining and, if any farm or ranch includes an alluvial valley floor, statements of the type and quantity of agricultural activity performed on the alluvial valley floor and its relationship to the farm or ranch's total agricultural activity including an economic analysis; and
 - (vii) such other data as the department may require.
- (e) The surveys required by this section (3) must identify those geologic, hydrologic, and biologic characteristics of the alluvial valley floor necessary to support the essential hydrologic functions of an alluvial valley floor. Characteristics that support the essential hydrologic functions and that must be evaluated in a complete application include, but are not limited to:
- (i) characteristics supporting the function of collecting water which include, but are not limited to:
 - (A) the amount and rate of runoff and a water balance analysis, with respect to rainfall, evapotranspiration, infiltration and ground water recharge;
 - (B) the relief, slope, and density of the network of drainage channels;
 - (C) the infiltration, permeability, porosity and transmissivity of unconsolidated deposits of the valley floor that either constitute the aquifer that is hydraulically connected to the stream or the unsaturated valley fill below the stream and above the alluvial aquifer; and

- (D) other factors that affect the interchange of water between surface streams and ground water systems, including the depth to ground water, the direction of ground water flow, the extent to which the stream and associated alluvial ground water aquifers provide recharge to, or are recharged by bedrock aquifers;
- (ii) characteristics supporting the function of storing water which include, but are not limited to:
 - (A) slope, and vegetation of the channel, flood plain, and low terraces that retard the flow of surface waters;
 - (B) porosity, permeability, waterholding capacity, saturated thickness and volume of aquifers associated with streams, including alluvial aquifers, perched aquifers, and other water bearing zones found beneath the valley floor; and
 - (C) moisture held in soils or the plant growth medium within the alluvial valley floor, and the physical and chemical properties of the subsoil that provide for sustained vegetation growth or cover during extended periods of low precipitation;
- (iii) characteristics supporting the function of regulating the flow of water which include, but are not limited to:
 - (A) the geometry and physical character of the valley, expressed in terms of the longitudinal profile and slope of the valley and the channel, the sinuosity of the channel, the cross-section, slopes and proportions of the channels, flood plains and low terraces, the nature and stability of the streambanks and the vegetation established in the channels and along the streambanks and flood plains;
 - (B) the nature of surface flows as shown by the frequency and duration of flows of representative magnitude including low flows and floods; and
 - (C) the nature of interchange of water between streams, their associated alluvial aquifers and any bedrock aquifers as shown by the rate and amount of water supplied by the stream to associated alluvial and bedrock aquifers (i.e., recharge) and by the rates and amounts of water supplied by aquifers to the stream (i.e., baseflow) ;
- (iv) characteristics which make water available and which include, but are not limited to the presence of land forms including flood plains and terraces suitable for agricultural activities.

(f)

- (i) The findings of (ii)(A) and (B) below are not required with regard to alluvial valley floors which meet any of the exclusions of (3)(a)(ii) of this rule.
- (ii) No permit or permit revision application for coal mining and reclamation operations may be approved by the department unless the application demonstrates in compliance with ARM 17.24.801, 17.24.802, and 17.24.804 through 17.24.806, and all other applicable requirements of the Act and rules and the department finds, in writing, on the basis of information set forth in the application, that:

- (A) the proposed operations will not interrupt, discontinue, or preclude farming on an alluvial valley floor;
- (B) the proposed operations will not materially damage the quantity or quality of water in surface and underground water systems that supply alluvial valley floors.

Authorizing statute(s): 82-4-205, MCA

Implementing statute(s): 82-4-222, MCA

History: NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; AMD, 1990 MAR p. 936, Eff. 5/18/90; TRANS, from DSL, 1996 MAR p. 3042; AMD, 2024 MAR p. 255, Eff. 2/10/24.