

# ENVIRONMENTAL QUALITY

## CHAPTER 24

### RECLAMATION

#### Subchapter 3

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## Subchapter 3

Strip and Underground Mine Reclamation Act:  
Definitions and Strip Mine Permit Application Requirements

17.24.301 DEFINITIONS The following definitions apply to all terms used in the Strip and Underground Mine Reclamation Act and subchapters 3 through 13 of this chapter:

- (1) "Abandoned" is defined in 82-4-203, MCA.
- (2) "Acid drainage" means water with a pH of less than 6.0 and in which total acidity exceeds total alkalinity, and that is discharged from an active, inactive or abandoned strip or underground mining operation or from an area affected by such operations.
- (3) "Acid-forming materials" means earth materials that contain sulfide minerals or other materials which, if exposed to air, water, or microbiological or weathering processes, form acids.
- (4) "Act" means the Montana Strip and Underground Mine Reclamation Act (Title 82, chapter 4, part 2, MCA).
- (5) "Active mining operation" means an operation at which mining and reclamation activities are regularly occurring on an ongoing basis. See also "inactive mining operation."
- (6) "Adjacent area" is defined in 82-4-203, MCA, as "the area outside the permit area where a resource or resources, determined in the context in which the term is used, are or could reasonably be expected to be adversely affected by proposed mining operations, including probable impacts from underground workings."
- (7) "Administratively complete application" means an application that contains information addressing application requirements in 82-4-222 and 82-4-231, MCA, and subchapters 3 through 13, and all information necessary to initiate processing and public review.
- (8) "Agricultural activities or farming" means, with respect to alluvial valley floors, use of any tract of land for the production of plant or domestic animal life where the use is enhanced or facilitated by subirrigation or flood irrigation associated with alluvial valley floors. These uses include, but are not limited to, the pasturing, grazing, or watering of livestock, and the cropping, cultivation, or harvesting of plants whose production is aided by the availability of water from subirrigation or flood irrigation. Those uses do not include agricultural practices which do not benefit from the availability of water from subirrigation or flood irrigation.
- (9) "Agricultural use" means the use of any tract of land for the production of plant or domestic animal life. The uses include, but are not limited to, the pasturing, grazing, and watering of livestock, and the cropping, cultivation, and harvesting of plants.
- (10) "Alluvial valley floor" is defined in 82-4-203, MCA.
- (11) "Alternative postmining land use" is discussed in 82-4-232(7) and (8), MCA.

(12) "Amendment" means any change in the mine or reclamation plan that results in expansion or decrease of the operation's permitted boundaries, excluding incidental boundary changes. See also "major revision," "minor revision," and "incidental boundary change."

(13) "Applicant/violator system" or "AVS" means an automated information system of applicant, permittee, operator, violation, and related data that the Office of Surface Mining maintains to assist in implementing the Surface Mining Control and Reclamation Act of 1977.

(14) "Approximate original contour" is defined in 82-4-203, MCA.

(15) "Aquifer" is defined in 82-4-203, MCA.

(16) "Area of land affected" is defined in 82-4-203, MCA.

(17) "Arid and semiarid area" means, in the context of alluvial valley floors, an area experiencing water deficits, where water use by native vegetation equals or exceeds that supplied by precipitation.

(18) "Auger mining" means a method of mining coal at a cliff or highwall by drilling holes into an exposed coal seam from the highwall and transporting the coal along an auger bit to the surface.

(19) "Bench" is defined in 82-4-203, MCA.

(20) "Best technology currently available" or "BTCA" means equipment, devices, systems, methods, or techniques that will:

(a) prevent, to the extent possible, additional contributions of suspended solids to stream flow or runoff outside the permit area, but in no event will result in contributions of suspended solids in excess of requirements set by applicable state or federal laws; and

(b) minimize, to the extent possible, disturbances and adverse impacts on fish, wildlife and related environmental values, and achieve enhancement of those resources where practicable. The term includes equipment, devices, systems, methods, or techniques that are currently available anywhere as determined by the department, even if they are not in routine use. The term includes, but is not limited to, construction practices, siting requirements, vegetative selection and planting requirements, animal stocking requirements, scheduling of activities and design of sedimentation structures.

(c) within the constraints of the Act and subchapters 3 through 13, the department has the discretion to determine the BTCA on a case-by-case basis.

(21) "Cemetery" means any area of land where human bodies are interred.

(22) "Coal conservation plan" is defined in 82-4-203, MCA.

(23) "Coal preparation" and "coal preparation plant" are defined in 82-4-203, MCA.

(24) "Coal processing waste" means earth materials which are separated and wasted from the product coal during cleaning, concentrating, or other processing or preparation of coal.

(25) "Collateral bond" means an indemnity agreement in a sum certain that is payable to the department, executed by the permittee, and supported by deposit with the department of cash, negotiable bonds of the United States, state or municipalities, negotiable certificates of deposit or an irrevocable letter of credit of any bank organized or authorized to transact business in the U.S.

(26) "Combustible material" means organic material that is capable of burning, either by fire or through oxidation, accompanied by the evolution of heat and a significant temperature rise.

(27) "Community or institutional building" means any structure, other than a public building or a dwelling, which is used primarily for meetings, gatherings or functions of local civic organizations or other community groups; functions as an educational, cultural, historic, religious, scientific, correctional, mental-health or physical health care facility; or is used for public services including, but not limited to, water supply, power generation or sewage treatment.

(28) "Contour strip mining" is defined in 82-4-203, MCA.

(29) "Cover" is the area of ground covered by the aerial (above ground) plant parts. Cover is usually expressed as absolute cover, relative cover, foliar cover, canopy cover, and/or basal cover.

(30) "Cultural resources" means any historic, archaeological, or other cultural site. Significant sites, at a minimum, include all sites eligible for or listed on the National Register of Historic Places.

(31) "Cumulative hydrologic impacts" means the expected total qualitative and quantitative, direct and indirect effects of mining and reclamation operations on the hydrologic balance.

(32) "Cumulative hydrologic impact area" means the area, including, but not limited to, the permit and mine plan area within which impacts to the hydrologic balance resulting from the proposed operation may interact with the impacts of all previous, existing and anticipated mining on surface and ground water systems. "Anticipated mining" includes, at a minimum, the entire projected lives through bond release of all operations with pending applications and all operations required to meet diligent development requirements for leased federal coal for which there is actual mine-development information available.

(33) "Disturbed area" means an area from which vegetation, soil, spoil, overburden, fill, or mineral is removed or upon which vegetation, soil, overburden, spoil, fill, sediment, water, processing waste, underground development waste, or garbage or other debris is placed by strip or underground mining and reclamation operations. Those areas are classified as disturbed until reclamation is complete and the performance bond or other assurance is released.

(34) "Diversion" means a channel, embankment, or other manmade structure constructed to divert undisturbed runoff around an area of disturbance and back to an undisturbed channel.

(35) "Domestic water supply" means water received from a well or spring and any appurtenant delivery system that provides water for direct human consumption or household use. Wells and springs that serve only agricultural, commercial or industrial enterprises are not included except to the extent the water supply is for direct human consumption or sanitation or domestic use.

(36) "Downslope" means the land surface between the projected outcrop of the lowest coal seam being mined along each highwall and a valley floor.

(37) "Dwelling" means a building inhabited by or useful for habitation by a person or persons.

(38) "Embankment" means an artificial deposit of material that is raised above the natural surface of the land and used to contain, divert, or store water, support roads or railways, or for other similar purposes.

(39) "Ephemeral drainageway" is defined in 82-4-203, MCA, as "a drainageway that flows only in response to precipitation in the immediate watershed or in response to the melting of a cover of snow or ice and is always above the local water table."

(40) "Essential hydrologic functions" means, with respect to an alluvial valley floor, the collecting, storing, regulating, and making the natural flow of surface or ground water, or both, usefully available for agricultural activities by reason of the valley floor's topographic position, the landscape, and the physical properties of its underlying materials. A combination of these functions provides a water supply during extended periods of low precipitation.

(a) The role of the valley floor in collecting water includes accumulating runoff and discharge from aquifers in sufficient amounts to make the water available at the alluvial valley floor greater than the amount available from direct precipitation.

(b) The role of the alluvial valley floor in storing water involves limiting the rate of discharge of surface water, holding moisture in soils, and holding ground water in porous materials.

(c) The role of the alluvial valley floor in regulating the natural flow of surface water results from the valley geomorphic characteristics and physical configuration of the channel flood plain and adjacent low terraces.

(d) The role of the alluvial valley floor in regulating the natural flow of ground water results from the properties of the aquifers which control inflow and outflow.

(e) The role of the alluvial valley floor in making water usefully available for agricultural activities results from the existence of flood plains and terraces where surface and ground water can be provided in sufficient quantities to support the growth of agriculturally useful plants, from the presence of earth materials suitable for growth of agriculturally useful plants, from the temporal and physical distribution of water making it accessible to plants throughout the critical phases of the growth cycle either by flood irrigation or by subirrigation from the natural control of alluvial valley floors in limiting destructive extremes of stream discharge, and from the erosional stability of earth materials suitable for the growth of agriculturally useful plants.

(41) "Excess spoil" means spoil material disposed of in a location other than the mined-out area, provided that spoil material used to achieve the approximate original contour or to blend the mined-out area with the surrounding terrain, in accordance with ARM 17.24.313 and 17.24.501, in non-steep slope areas may not be considered excess spoil. See ARM 17.24.520.

(42) "Farm" is defined in ARM 17.24.325(3).

(43) "Federal coal regulatory authority" means the federal agency responsible for administration of the Surface Mining Control and Reclamation Act of 1977 (PL 95-87).

(44) "Flood irrigation" means, with respect to alluvial valley floors, supplying water to plants by natural overflow or the diversion of flows, so that the irrigated surface is largely covered by a sheet of water.

(45) "Fragile lands" is defined in ARM 17.24.1141(1).

(46) "Fugitive dust" means that particulate matter not emitted from a duct or stack which becomes airborne due to the forces of wind or strip or underground mining operations or both. During such operations it may include emissions from haul roads, wind erosion of exposed surfaces, storage piles and spoil piles, reclamation operations and other activities in which material is either removed, stored, transported, or redistributed.

(47) "Good ecological integrity" means that the complex of community of organisms and its environment functioning as an ecological unit possesses components and processes in good working order. Pastureland and cropland managed in accordance with county or local conservation district or state or federal best management practices (resource management strategies, such as normal husbandry practices, used to manage or protect a resource and promote ecological and economic sustainability) generally reflect good ecological integrity with regard to such land uses.

(48) "Ground water" means subsurface water or underground streams contained in the unsaturated and saturated zones.

(49) "Habit or characteristic pattern" means, with respect to ARM 17.24.634(1)(a), the particular reactions of drainage channels to general laws related to stream work, channel morphology and stability, whether or not the channels have attained the conditions of equilibrium.

(50) "Head-of-hollow fill" means a fill structure consisting of any material, other than non-coal organic material, placed in the uppermost reaches of a hollow or a naturally occurring drainage where side slopes of the existing hollow or drainage measured at the steepest point are greater than 20% or the average slope of the profile of the hollow or drainage from the toe of the fill to the top of the fill is greater than 10%. In head-of-hollow fills, the top surface of the fill, when completed, is at approximately the same elevation as the adjacent ridge line, and no significant area of natural drainage occurs above the fill draining into the fill area. (See ARM 17.24.520(14).)

(51) "Higher or better uses" is defined in 82-4-203, MCA, as "postmining land uses that have a higher economic value or noneconomic benefit to the landowners or the community than the premining land uses."

(52) "Highwall" means the face of exposed overburden and mineral in strip mining operations or for entry to underground mining operations.

(53) "Historic lands" is defined in ARM 17.24.1141(2).

(54) "Historically used for cropland" means:

(a) lands that have been used for cropland for any five years or more out of the 10 years immediately preceding the acquisition, including purchase, lease, or option, of the land for the purpose of conducting or allowing, through resale, lease or option, strip or underground coal mining and reclamation operations;

(b) lands that the department determines, on the basis of additional cropland history of the surrounding lands and the lands under consideration, that the permit area is clearly cropland but falls outside the specific five-years-in-10 criterion, in which case the regulations for prime farmland may be applied to include more years of cropland history only to increase the prime farmland acreage to be preserved; or

(c) lands that would likely have been used for cropland for any five or more years out of the 10 years immediately preceding such acquisition but for the same fact of ownership or control of the land as in (53)(a) unrelated to the productivity of the land.

(55) "Hydrologic balance" is defined in 82-4-203, MCA.

(56) "Hydrologic regime" means the entire state of water movement in a given area.

(57) "Imminent danger to the health and safety of the public" is defined in 82-4-203, MCA.

(58) "Impoundment" means a basin, naturally formed or artificially built, which is dammed or excavated for the retention of water, slurry, sediment, waste or other liquid or semi-liquid material.

(59) "Inactive mining operation" means an operation where:

(a) the permit has been suspended for a period of two or more months,

(b) neither mining nor reclamation activity has ever occurred,

(c) the department has been informed that operations are temporarily suspended pursuant to ARM 17.24.521, or

(d) permanent cessation of operations has occurred pursuant to ARM 17.24.522, but bond has not yet been released.

(60) "Incidental boundary revision" means a change in the permit boundary in which a few acres, generally less than 100, insignificant in impact relative to the entire operation, are added to or subtracted from the permit area for the purposes of associated disturbance, but not for mining. For administrative purposes, an incidental boundary revision is considered a minor revision.

(61) "Intermittent stream" means a stream or reach of a stream that is below the local water table for at least some part of the water year, and obtains its flow from both surface runoff and ground water discharge.

(62) "In situ processing" means activities conducted on the surface or underground in connection with in-place distillation, retorting, leaching, or other chemical or physical processing of coal or uranium. The term includes, but is not limited to, in situ gasification, in situ leaching, slurry mining, solution mining, borehole mining, and fluid recovery mining.

(63) "Irreparable damage to the environment" means any damage to the environment, in violation of the Act or sub-chapters 4 through 12 of this chapter, that cannot be corrected by actions of the applicant.

(64) "Knowingly," for purposes of ARM 17.24.1217, means that an individual knew or had reason to know in authorizing, ordering or carrying out an act or omission on the part of a corporate permittee that such act or omission constituted a violation, failure or refusal.

(65) "Land use" is defined in 82-4-203, MCA, as "specific uses or management-related activities, rather than the vegetative cover of the land. Land uses may be identified in combination when joint or seasonal uses occur and may include land used for support facilities that are an integral part of the land use. Land use categories include cropland, developed water resources, fish and wildlife habitat, forestry, grazing land, industrial or commercial, pastureland, land occasionally cut for hay, recreation, or residential."

(a) "Cropland" means land used for the production of adapted crops for harvest, alone or in a rotation with grasses and legumes, and includes row crops, small grain crops, hay crops, nursery crops, orchard crops, and other similar specialty crops. Land that is used for facilities in support of cropland farming operations and is adjacent to, or an integral part of, these operations is also included in this category.

(b) "Pastureland" is defined in 82-4-203, MCA, as "land used primarily for the long-term production of adapted, domesticated forage plants to be grazed by livestock or occasionally cut and cured for livestock feed."

(c) "Grazing land" is defined in 82-4-203, MCA, as "land used for grasslands and forest lands where the indigenous vegetation is actively managed for livestock grazing or browsing or occasional hay production."

(d) "Forestry" is defined in 82-4-203, MCA, as "land used or managed for the long-term production of wood, wood fiber, or wood-derived products."

(e) "Residential" means use of land for single- and multiple-family housing, mobile home parks, or other residential lodgings. Land that is used for facilities in support of residential operations and that is adjacent to, or an integral part of, these operations is also included. Support facilities include, but are not limited to, vehicle parking and open space that directly relate to the residential use.

(f) "Industrial/commercial" means use of land for:

(i) extraction or transformation of materials for fabrication of products, wholesaling of products or for long-term storage of products. This includes all heavy and light manufacturing facilities, such as lumber and wood processing, chemical manufacturing, petroleum refining, and fabricated metal products manufacture. Land that is used for facilities in support of these operations and is adjacent to, or an integral part of, such operations is also included. Support facilities include, but are not limited to, all rail, road, and other transportation facilities; or

(ii) retail or trade of goods or services, including hotels, motels, stores, restaurants, and other commercial establishments. Land that is used for facilities in support of commercial operations and is adjacent to, or an integral part of, these operations is also included. Support facilities include, but are not limited to, parking, storage or shipping facilities.

(g) "Recreation" is defined in 82-4-203, MCA, as "land used for public or private leisure-time activities, including developed recreation facilities, such as parks, camps, and amusement areas, as well as areas for less intensive uses, such as hiking, canoeing, and other undeveloped recreational uses."

(h) "Fish and wildlife habitat" is defined in 82-4-203, MCA, as "land dedicated wholly or partially to the production, protection, or management of species of fish or wildlife."

(i) "Developed water resources" means use of land for storing water for beneficial uses such as stockponds, irrigation, fire protection, flood control, and water supply.

(66) "Major revision" means any change in the mining or reclamation plan that:

(a) results in a significant change in the postmining drainage plan;

(b) results in a change in the postmining land use;

(c) results in a significant change in the bonding level within the permitted area; or

(d) results in a change that may affect the reclaimability of the area or the hydrologic balance on or off of the permitted area.

(67) "Material damage" means, with respect to subchapter 9 rules on underground mining operations:

(a) any functional impairment of surface lands, features, structures or facilities;

(b) any physical change that has an adverse impact on the capability of the affected land to support any current or reasonably foreseeable uses or causes loss in production or income; or

(c) any change in the condition, appearance or utility of any structure or facility from its pre-subsidence condition.

(68) "Material damage" is defined in 82-4-203, MCA, as "with respect to protection of the hydrologic balance, degradation or reduction by coal mining and reclamation operations of the quality or quantity of water outside of the permit area in a manner or to an extent that land uses or beneficial uses of water are adversely affected, water quality standards are violated, or water rights are impacted. Violation of a water quality standard, whether or not an existing water use is affected, is material damage."

(69) "Materially damage the quantity or quality of water" means, with respect to alluvial valley floors, to degrade or reduce by strip or underground coal mining or reclamation operations, the water quantity or quality supplied to the alluvial valley floor to the extent that resulting changes would significantly decrease the capability of the alluvial valley floor to support agricultural activities. The term "material damage" may be applied to values other than those associated with alluvial valley floors.

(70) "Mine plan area" means the area of land and water within the boundaries of all permit areas during the entire life of the strip or underground mining operation. At a minimum, it includes all areas that are or will be affected during the entire life of those operations. Other terms defined elsewhere in this subchapter which relate closely to mine plan area are:

(a) "permit area", which will always be within or the same as the mine plan area;

(b) "area of land affected", which will always be within or the same as the permit area; and

(c) "adjacent area", which may surround or extend beyond the area of land affected, permit area, or mine plan area. (See also 82-4-203, MCA.)

(71) "Mineral" is defined in 82-4-203, MCA.

(72) "Minor revision" means any change to the mine and reclamation plan not meeting the criteria for amendment or major revision.

(73) "Mulch" means vegetation residues or other suitable materials that aid in soil stabilization and soil moisture conservation, thus providing micro-climatic conditions suitable for plant germination and growth.

(74) "Natural hazard lands" is defined in ARM 17.24.1141(3).

(75) "Non-commercial building" means any building, other than an occupied residential dwelling, that, at the time subsidence occurs, is used on a regular or temporary basis as a public building or community or institutional building as those terms are defined in ARM 17.24.1132(1). Any building used only for commercial agricultural, industrial, retail or other commercial enterprises is excluded.

(76) "Noxious plants" means species that have been included on official state and county lists of noxious plants.

(77) "Occupied residential dwelling and structures related thereto" means, with respect to subchapter 9 requirements for underground mining operations, any building or other structure that, at the time any subsidence occurs, is used either temporarily, occasionally, seasonally, or permanently for human habitation. This term also includes any building, structure or facility installed on, above or below, or a combination thereof, the land surface if that building, structure or facility is adjunct to or used in connection with an occupied residential dwelling. Examples of such structures include, but are not limited to: garages; storage sheds and barns; greenhouses and related buildings; utilities and cables; fences and other enclosures; retaining walls; paved or improved patios, walks and driveways; septic sewage treatment facilities; lot drainage; and lawn and garden irrigation systems. Any structure used only for commercial agricultural, industrial, retail or other commercial purposes is excluded.

(78) "Operation" is defined in 82-4-203, MCA.

(79) "Operator" is defined in 82-4-203, MCA.

(80) "Other treatment facilities" means, with respect to ARM 17.24.639(23), any chemical treatments (such as flocculation or neutralization) or mechanical structures (such as clarifiers or precipitators) that have a point-source discharge and that are utilized to prevent additional contribution of suspended solids to streamflow or runoff outside the permit area and to provide compliance with all applicable state and federal water quality laws and rules.

(81) "Outslope" means the face of the spoil or embankment sloping downward from the highest elevation to the toe.

(82) "Overburden" is defined in 82-4-203, MCA.

(83) "Owned or controlled" and "owns or controls" mean any one or a combination of the following relationships:

(a) being a permittee of a strip or underground coal mining operation;

(b) based on instruments of ownership or voting securities, owning of record in excess of 50 percent of an entity;

(c) having any other relationship which gives one person authority, directly or indirectly, to determine the manner in which an applicant, operator, or other entity conducts strip or underground coal mining operations; or

(d) unless it is demonstrated that the person does not in fact have the authority, directly or indirectly, to determine the manner in which the relevant coal mining operation is conducted:

(i) being an officer or director of an entity;

(ii) being the operator of a coal mining operation;

(iii) having the ability to commit the financial or real property assets or working resources of an entity;

(iv) being a general partner in a partnership;

(v) based on the instruments of ownership or the voting securities of a corporate entity, owning of record ten through 50 percent of the entity; or

(vi) owning or controlling coal to be mined by another person under a lease, sublease, or other contract and having the right to receive such coal after mining or having authority to determine the manner in which that person or another person conducts this coal mining operation.

(84) "Perennial stream" means a stream or reach of a stream that flows continuously during all of the water year as a result of ground water discharge or surface runoff. The term does not include intermittent streams or ephemeral streams.

(85) "Permanent diversion" means a diversion that remains after a strip or underground mining and reclamation operation is completed and that has been approved for retention by the department and other appropriate state and federal agencies.

(86) "Permanent impoundment" means an impoundment that is approved by the department and other appropriate state and federal agencies for retention as part of the postmining land use.

(87) "Permit area" means the area of land and water within the boundaries of the permit which are designated on the permit application maps, as approved by the department. This area includes, at a minimum, all areas which are or will be affected by the strip or underground mining and reclamation operations during the term of the permit.

(88) "Person having an interest which is or may be adversely affected or person with a valid legal interest" includes any person:

(a) who uses any resource of economic, recreational, aesthetic, or environmental value that may be adversely affected by a prospecting or strip or underground mining operation or any related action of the department; or

(b) whose property is or may be adversely affected by a prospecting or strip or underground mining operation or any related action of the department.

(89) "Precipitation event" means a quantity of water resulting from drizzle, rain, snow, sleet, or hail in a limited period of time. It may be expressed in terms of recurrence interval. As used in these rules, "precipitation event" also includes that quantity of water emanating from snow cover as snow-melt in a limited period of time.

(90) "Previously mined area" means land on which coal mining operations were previously conducted, except those lands subject to the standards of the Montana Strip and Underground Mine Reclamation Act or of the Surface Mine Control and Reclamation Act of 1977.

(91) "Prime farmland" is defined in 82-4-203, MCA, as "land that:

(a) meets the criteria for prime farmland prescribed by the United States secretary of agriculture in the Federal Register; and

(b) historically has been used for intensive agricultural purposes."

(92) "Principal shareholder" means any person who is the record or beneficial owner of 10% or more of any class of voting stock.

(93) "Probable hydrologic consequences" means the projected results of proposed strip or underground mining operations that may reasonably be expected to alter, interrupt, or otherwise affect the hydrologic balance. The consequences may include, but are not limited to, effects on stream channel conditions and the aquatic habitat on the permit area and adjacent areas.

(94) "Productivity" means the vegetative yield produced by a unit area for a unit of time.

(95) "Prospecting" is defined in 82-4-203, MCA.

(96) "Public building" is defined in ARM 17.24.1132(1)(c).

(97) "Public office" means a facility under the direction and control of a governmental entity which is open to public access on a regular basis during reasonable business hours.

(98) "Public park" is defined in ARM 17.24.1132(1)(e).

(99) "Railroad loop" means any rail transportation system within the mine permit area, whether it is in the form of a loop or a straight rail line.

(100) "Rangeland" means, with respect to alluvial valley floors, land on which the natural potential (climax) plant cover is principally native grasses, forbs, and shrubs valuable for forage. This land includes natural grasslands and shrublands. Except for brush control, management is primarily achieved by regulating the intensity of grazing and season of use.

(101) "Recharge capacity" means the ability of the soils and other earth materials to allow precipitation and runoff to infiltrate and percolate to the zone of saturation.

(102) "Reclamation" is defined in 82-4-203, MCA.

(103) "Recurrence interval" means the average interval (in years) between events equaling or exceeding a given magnitude. For example, a ten-year, 24-hour precipitation event is a 24-hour precipitation event that is equalled or exceeded on the average once every ten years.

(104) "Reference area" is defined in 82-4-203, MCA, as "a land unit maintained under appropriate management for the purpose of measuring vegetation ground cover, productivity, and plant species diversity that are produced naturally or by crop production methods approved by the department. Reference areas must be representative of geology, soil, slope, and vegetation in the permit area."

(105) "Remining" is defined in 82-4-203, MCA.

(106) "Renewable resource lands" means aquifers and areas for the recharge of aquifers and other underground waters, areas for agricultural or silvicultural production of food and fiber, and grazing lands.

(107) "Replace adversely affected domestic water supply" means, with respect to protected water supplies contaminated, diminished, or interrupted by underground coal mining operations, to provide a water supply on both a temporary and permanent basis equivalent to premining quantity and quality. Replacement includes provision for an equivalent water delivery system and payment of operation and maintenance costs in excess of customary and reasonable delivery costs for premining water supplies.

(a) Upon agreement by the operator and the water supply owner, the obligation to pay such operation and maintenance costs may be satisfied by a one-time payment in an amount which covers the present worth of the increased annual operation and maintenance costs for a period agreed to by the operator and the water supply owner.

(b) If the affected water supply was not needed for the land use in existence at the time of loss, contamination, or diminution, and if the supply is not needed to achieve the postmining land use, replacement requirements may be satisfied by demonstrating that a suitable alternative water source is available and could feasibly be developed. If the latter approach is selected, written concurrence must be obtained from the water supply owner.

(108) "Road" means a surface right-of-way for purposes of travel by land vehicles used in prospecting or strip or underground mining or reclamation operations. A road consists of the entire area within the right-of-way, including the roadbed, shoulders, parking and side area, approaches, structures, ditches, surface, and such contiguous appendages as are necessary for the total structure. The term includes access, haul, and ramp roads constructed, used, reconstructed, improved, or maintained for use in prospecting or strip or underground mining operations, including use by coal-hauling vehicles leading to transfer, processing, or storage areas. Subcategories of roads are as follows:

(a) "Access road" means a road leading from a public roadway to the mine complex.

(b) "Haul road" means a road used for more than six months to transport coal, soil, or spoil.

(c) "Public road" is defined in ARM 17.24.1132(1)(g).

(d) "Ramp road" means a road leading from the pit to the haul road.

(109) "Safety factor" means the ratio of the available shear strength to the developed shear stress or the ratio of the sum of the resisting forces to the sum of the loading or driving forces, as determined by accepted engineering practices.

(110) "Sediment" means undissolved organic or inorganic material greater than 0.45 micrometers in size transported or deposited by water.

(111) "Sedimentation pond" means a sediment control structure, including a barrier, dam, or excavated depression, which slows down runoff water to allow sediment to settle out. The term does not include sedimentation control practices, such as straw dikes, riprap, check dams, mulches, dugouts, in-pit sumps, and other similar measures that reduce overland flow velocity, reduce runoff volume, or trap sediment.

(112) "Significant, imminent environmental harm to land, air or water resources" means:

(a) An "environmental harm" is an adverse impact on land, air, or water resources. These resources include, but are not limited to, plant and animal life.

(b) An environmental harm is "imminent", if a condition, practice, or violation exists that:

(i) is causing such harm; or

(ii) may reasonably be expected to cause such harm at any time before the end of the reasonable abatement time that would be set under 82-4-251, MCA.

(c) An environmental harm is "significant" if that harm is appreciable and not immediately repairable.

(113) "Soil" means "topsoil" as defined as 82-4-203, MCA.

(114) "Soil horizon" means contrasting layers of soil parallel or nearly parallel to the land surface. Soil horizons are differentiated on the basis of field characteristics and laboratory data. The major types of soil horizons are described in issue 1 - revision of chapter 4 (as revised in May 1981) of the 1951 Soil Survey Manual, U.S. Department of Agriculture, Soil Conservation Service, June 9, 1981, Washington, D.C. This manual is available for inspection at the Department of Environmental Quality, 1520 E. 6th Ave., Helena, MT 59601, and at the national, state, and local offices of the U.S. natural resources conservation service.

(115) "Soil survey" means field and related investigation, resulting in a map showing the geographic distribution of different kinds of soils and an accompanying report that describes, classifies, and interprets such soils for use. Soil surveys must meet the standards of the national cooperative soil survey, which is based on procedures and standards in the following U.S. department of agriculture, soil conservation service publications: National Soils Handbook, Soil Taxonomy (Handbook 436), and Soil Survey Manual. These documents are on file and available for inspection at the main office of the Department of Environmental Quality, 1520 E. 6th Ave., Helena, MT 59601, and at the national, state, and local offices of the U.S. natural resources conservation service.

(116) "Spoil" means overburden that has been removed during strip or underground mining operations.

(117) "Stabilize" means to control movement of soil, spoil piles, or areas of disturbed earth by modifying the configuration of the mass, or by otherwise modifying physical, biological, or chemical properties, such as providing a protective surface coating.

(118) "Subirrigation" means, with respect to alluvial valley floors, the supplying of water to plants from a sub-surface zone where water is available and suitable for use by vegetation. Subirrigation may be identified by:

(a) diurnal fluctuation of the water table, due to the differences in nighttime and daytime evapotranspiration rates;

(b) increasing soil moisture from a portion of the root zone down to the saturated zone, due to capillary action;

(c) mottling of the soils in the root zones;

(d) existence of an important part of the root zone within the capillary fringe or water table of an alluvial aquifer; or

(e) an increase in streamflow or a rise in ground water levels, shortly after the first killing frost on the valley floor.

(119) "Subsidence" is defined in 82-4-203, MCA.

(120) "Substantial legal and financial commitments" is defined in ARM 17.24.1141(4).

(121) "Substantially disturb" means, for purposes of prospecting, to significantly impact land or water resources by:

(a) drilling of uranium prospecting holes or blasting. Drilling of coal prospecting holes and installation and use of associated disposal pits or installation of ground water monitoring wells does not constitute substantial disturbance;

(b) removal of vegetation, topsoil, or overburden;

(c) construction of roads or other access routes;

(d) placement of excavated earth or waste material on the natural land surface; or

(e) other similar activities.

(122) "Successor in interest" means any person who succeeds to rights granted under a permit, by transfer, assignment, or sale of those rights.

(123) "Surety bond" means an indemnity agreement in a sum certain payable to the department executed by the permittee which is supported by the performance guarantee of a corporation licensed to do business as a surety in Montana.

(124) "Surface water" means water that is either flowing or standing on the surface of the earth.

(125) "Suspended solids or nonfilterable residue" (expressed as milligrams per liter), means organic or inorganic materials carried or held in suspension in water that are retained by a standard glass fiber filter in the procedure outlined by the environmental protection agency's regulations for waste water and analyses (40 CFR 136).

(126) "Temporary diversion" means a diversion of a stream or overland flow that is used during prospecting or strip or underground mining or reclamation operations and not approved by the department to remain after reclamation as part of the approved postmining land use.

(127) "Temporary impoundment" means an impoundment, including sedimentation pond, used during mining or reclamation operations, but not approved by the department to remain as part of the postmining land use.

(128) "Test pit" means an excavation for prospecting by means other than drilling. Materials obtained from a test pit are used for test purposes and not for direct economic profit.

(129) "Toxic-forming materials" means earth materials or wastes which, if acted upon by air, water, weathering, or microbiological processes, are likely to produce chemical or physical conditions in soils or water that are detrimental to biota or uses of water.

(130) "Toxic mine drainage" means water that is discharged from active or abandoned mines or other areas affected by prospecting or strip or underground mining operations and that contains a substance that through chemical action or physical effects is likely to kill, injure, or impair biota commonly present in the area that might be exposed to it.

(131) "Transfer, assignment, or sale of permit rights" means a change in ownership or other effective control over the right to conduct strip or underground mining operations under a permit issued by the department. See ARM 17.24.418.

(132) "Unconsolidated streamlaid deposits holding streams" means, with respect to alluvial valley floors, all flood plains and terraces located in the lower portions of valleys which contain perennial or other streams with channels.

(133) "Underground development waste" means waste rock mixtures of coal, shale, claystone, siltstone, sandstone, limestone, or related materials that are excavated, moved, and disposed of from underground workings in connection with underground mining activities.

(134) "Undeveloped rangeland" means, for purposes of alluvial valley floors, lands that have not been agronomically altered by farming, seeding, interseeding, or other means, to increase production over the native condition and that are not intensively managed as irrigated or subirrigated pastures.

(135) "Unwarranted failure to comply" is defined in 82-4-203, MCA.

(136) "Upland areas" means, with respect to alluvial valley floors, those geomorphic features located outside the floodplain and terrace complex, such as isolated higher terraces, alluvial fans, pediment surfaces, landslide deposits, and surfaces covered with residuum, mud flows or debris flows, as well as highland areas underlain by bedrock and covered by residual weathered material or material deposited by sheetwash, rillwash, or wind.

(137) "Valley fill" means a fill structure consisting of any material other than non-coal organic material that is placed in a valley where side slopes of the existing valley measured at the steepest point are greater than 20 percent or the average slope of the profile of the valley from the toe of the fill to the top of the fill is greater than 10 percent.

(138) "Valid existing rights" is defined in ARM 17.24.1132(1).

(139) "Violation notice" means any written notification from a governmental entity of a violation of law, whether by letter, memorandum, legal or administrative pleading, or other written communication.

(140) "Violation, failure, or refusal," for purposes of ARM 17.24.1217 means:

(a) a violation of a condition of a permit issued pursuant to 82-4-221 or 82-4-226, MCA; or

(b) a failure or refusal to comply with any order issued under 82-4-251, MCA, or any order incorporated into a final decision issued under Title 82, chapter 4, part 2, MCA, except an order incorporated in a decision issued under 82-4-254(3), MCA.

(141) "Waste" means earth materials that are generated as a result of mineral preparation or, in some cases, mining and are not marketed by the operator. The term includes earth materials resulting from physical or chemical processing, cleaning, or concentrating of the mineral. It also includes "coal processing waste" and "underground development waste" as defined in this rule and materials that contain reject mineral resulting from selective extraction of the mineral. "Waste" does not include "spoil, overburden, or soil" as those terms are defined in this rule.

(142) "Waste disposal structure" means a pile, hill, mound, or other similar surface feature for the disposal of underground development waste or coal processing waste outside the mine workings and the surface excavation area. The term does not include an impoundment or embankment.

(143) "Water table" means the upper surface of a zone of saturation, where the body of ground water is not confined by an overlying impermeable zone.

(144) "Wildlife habitat enhancement feature" is defined in 82-4-203, MCA, as "a component of the reclaimed landscape, established in conjunction with land uses other than fish and wildlife habitat, for the benefit of wildlife species including, but not limited to, tree and shrub plantings, food plots, wetland areas, water sources, rock outcrops, microtopography, or raptor perches."

(145) "Willful violation" means an act or omission that violates the Act, subchapters 3 through 13 of this chapter, or any permit condition and that is committed by a person who intends the result which actually occurs.

(146) "Willfully" for purposes of ARM 17.24.1217, means that an individual acted:

(a) either intentionally, voluntarily, or consciously; and

(b) with intentional disregard or plain indifference to legal requirements in authorizing, ordering, or carrying out a corporate permittee's action or omission that constituted a violation failure, or refusal. (History: 82-4-204, MCA; IMP, 82-4-203, MCA; 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; AMD, 1994 MAR p. 2957, Eff. 11/11/94; AMD, 1995 MAR p. 30, Eff. 1/13/95; AMD, 1995 MAR p. 31, Eff. 1/13/95; TRANS, from DSL, 1996 MAR p. 2852; AMD, 1996 MAR p. 3050, Eff. 11/22/96; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04; AMD, 2012 MAR p. 737, Eff. 4/13/12.)

17.24.302 FORMAT, DATA COLLECTION, AND SUPPLEMENTAL INFORMATION

(1) Information set forth in the application must be accurate, current, presented clearly and concisely, submitted in a format acceptable to the department, and supported by appropriate references to technical and other written material available to the department.

(2) All tests, analyses, surveys, and data collection carried out pursuant to these rules must be performed or certified by a qualified person using scientifically valid techniques approved by the department and must be carried out at appropriate times and under appropriate conditions.

(3) All chemical and physical laboratory analyses must be conducted by a laboratory using departmentally approved and standardized procedures. The operator shall make available to the department quality assurance information or duplicate or split samples, as required by the department.

(4) All technical data submitted in the application must be accompanied by:

(a) names and addresses of persons or organizations that collected and analyzed such data;

(b) dates of the collection and analyses; and

(c) descriptions of methodology used to collect and analyze the data.

(5) An application for a mining permit must be made on forms provided by the department.

(6) For applications to mine areas containing federal lands, an appropriate number of copies, as determined in consultation with the department, of all applications, maps, reports or other informational data must be submitted to the department and to the federal coal regulatory authority. For applications to mine areas not containing federal lands, two copies of all applications, maps, reports, and other informational data must be submitted to the department, unless otherwise approved by the department.

(7) All maps depicting detail must be at a scale of 400 feet to the inch, or other scale as approved by the department. Maps depicting general conditions such as property ownership, must be at a scale of 1,000 feet to the inch. Maps depicting the general surface conditions of large areas such as the location of prospecting drill holes must be on a current 7.5 minute U.S. geological survey map or equivalent.

(8) With the information on land uses, soils, geology, vegetation, fish and wildlife, water quantity and quality, air quality, and archeological, cultural and historic features, the applicant shall submit the name, address, and position of officials of each private or academic research organization or governmental agency consulted in obtaining that information.

(9) Whenever used in the application, referenced materials must either be provided to the department by the applicant or be readily available to the department. When provided, relevant portions of referenced published materials must be presented briefly and concisely in the application by photocopying or abstracting and with explicit citations. (History: 82-4-204, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 2852; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04; AMD, 2012 MAR p. 737, Eff. 4/13/12.)

17.24.303 LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION (1) Each application must contain, in any format prescribed by the department, the following information:

(a) the name, permanent and temporary post office addresses, telephone numbers, and, as applicable, social security numbers and employer identification numbers of the applicant, applicant's resident agent, and the person who will pay the abandoned mine reclamation fee pursuant to 30 USC 1232;

(b) the location and area of land to be affected by the operation, with a description of access to the area from the nearest public highway;

(c) the names and addresses of legal and equitable owners of record, lessees, and purchasers under contract for deed of the surface of the area of land to be affected by the permit and the owners of record and purchasers under contract for deed of all surface area within one-half mile of any part of the affected area;

(d) the names and addresses of the present owners of record and purchasers under contract for deed of all subsurface minerals in the land to be affected and land contiguous to the land to be affected;

(e) the names and addresses of any persons who are engaged in strip or underground mining on behalf of the applicant and any person who will conduct such operations should the permit be granted;

(f) a statement of whether the applicant is a corporation, partnership, single proprietorship, association or other business entity;

(g) for each person who owns or controls the applicant under the definition of "owned or controlled" and "owns or controls" in ARM 17.24.301, as applicable:

(i) the person's name, address, social security number, and employer identification number;

(ii) the person's ownership or control relationship to the applicant, including percentage of ownership and location in organizational structure;

(iii) the title of the person's position, date position was assumed, and, when submitted under ARM 17.24.413(4), date of departure from the position;

(iv) each additional name and identifying number, including employer identification number, federal or state permit number, and mine safety and health administration number with date of issuance, under which the person owns or controls, or previously owned or controlled, a coal mining and reclamation operation in the United States within the five years preceding the date of the application; and

(v) the application number or other identifier of, and the regulatory authority for, any other pending coal mining operation permit application filed by the person in any state in the United States;

(h) for any surface coal mining operations that the applicant or the applicant's operator owned or controlled within the five-year period preceding the date of the submission of the application, and for any surface coal mining operation the applicant or the applicant's operator owns or controls on that date, the applicant must provide the:

- (i) permittee's and operator's name and address;
  - (ii) permittee's and operator's taxpayer identification numbers;
  - (iii) federal or state permit number and corresponding Mine Safety and Health Administration number;
  - (iv) regulatory authority with jurisdiction over the permit; and
  - (v) permittee's and operator's relationship to the operation, including percentage of ownership and location in the organizational structure;
- (i) for any coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant, the operation's:
- (i) name; address; identifying numbers, including employer identification numbers, federal or state permit number, and mine safety and health administration number; date of issuance of the mine safety and health administration number; and the regulatory authority; and
  - (ii) ownership or control relationship to the applicant, including percentage of ownership and location in organizational structure;
  - (j) the name of the proposed mine and the mine safety and health administration identification number for the mine and all sections, if any;
  - (k) a list of all lands, interests in lands, options, or pending bids on interests held or made by the applicant for lands which are contiguous to the area to be covered by the permit;
  - (l) a statement of whether the applicant or any person associated with the applicant holds or has held any prospecting or uranium operating permits under the Act and an identification of those permits;
  - (m) a certified statement of whether the applicant, operator, any subsidiary, affiliate, or persons controlled by or under common control with the applicant or operator, is in compliance with 82-4-251, MCA, and, if known, whether any officer, partner, director, or any individual owning of record or beneficially, alone or with associates, ten percent or more of any class of stock of the applicant is subject to any of the provisions of 82-4-251, MCA, and whether any of the foregoing parties or persons have ever had a strip mining or underground mining license or permit issued by any other state or federal agency revoked or have ever forfeited a strip mining or underground mining bond or a security deposited in lieu of a bond and, if so, a detailed explanation of the facts involved in each case must be attached including:
    - (i) identification number and date of issuance of the permit and, when applicable, date and amount of bond or similar security;
    - (ii) identification of the authority that suspended or revoked a permit or forfeited a bond and the stated reasons for that action;
    - (iii) the current status of the permit, bond, or similar security involved;
    - (iv) the date, location, and type of any administrative or judicial proceedings initiated concerning the suspension, revocation, or forfeiture; and
    - (v) the current status of these proceedings;

(n) for any violation of a provision of 30 USC 1201, et seq., or of any law, rule, or regulation of the United States, or of any state law, rule, or regulations enacted pursuant to federal law, rules, or regulations pertaining to air or water environmental protection incurred in connection with any coal mining operation, a list of all violation notices received by the applicant during the three-year period preceding the application date, and a list of all unabated cessation orders and unabated air and water quality violation notices received prior to the date of the application by any coal mining and reclamation operation owned or controlled by either the applicant or by any person who owns or controls the applicant. For each violation notice or cessation order reported, the list must include the following information, as applicable:

- (i) any identifying numbers for the operation, including the federal or state permit number and mine safety and health administration number, the dates of issuance of the violation notice and mine safety and health administration number, the name of the person to whom the violation notice was issued, and the name of the issuing regulatory authority, department, or agency;
- (ii) a brief description of the violation alleged in the notice;
- (iii) the date, location, and type of any administrative or judicial proceeding initiated concerning the violation, including, but not limited to, proceedings initiated by any person identified in this section to obtain administrative or judicial review of the violation;
- (iv) the current status of the proceedings and of the violation notice; and
- (v) the actions, if any, taken by the person identified in this section to abate the violation;
- (o) copies of the documents upon which the applicant bases his or her legal right to enter and begin mining operations in the permit area and whether that right is the subject of pending litigation. The applicant may request confidentiality on any proprietary information within such documents;
- (p)(i) whenever the private mineral estate to be strip mined has been severed from the private surface estate, an applicant shall also submit:
  - (A) a copy of the written consent of the surface owner for the extraction of mineral by strip mining methods;
  - (B)(I) a copy of the conveyance that expressly grants or reserves the right to extract mineral by those methods; or
  - (II) if the conveyance does not expressly grant the right to extract the mineral by strip mining methods, documentation that under Montana law the applicant has the legal right to extract the mineral by those methods;
- (ii) nothing in this section may be construed to authorize the department to adjudicate property rights disputes;
- (q) a statement of available information on whether the proposed permit area is within an area designated unsuitable for coal mining operations or under study for designation in an administrative proceeding and if the applicant claims the exemption based on substantial legal and financial commitments made before January 4, 1977, and information supporting the applicant's claim;
- (r) if mining within 300 feet of an occupied dwelling is proposed, the waiver of the owner of the dwelling;

- (s) a statement of the anticipated or actual starting and termination date of each phase of mining and the anticipated number of acres of land to be affected for each phase of mining and over the total life of the permit;
- (t) either a certificate of liability insurance or evidence that the self-insurance requirements of 82-4-222(5), MCA, are satisfied (see also ARM 17.24.1125);
- (u) a list of all other licenses and permits needed by the applicant to conduct the proposed mining. This list must identify each license and permit by:
  - (i) type of permit or license;
  - (ii) name and address of issuing authority;
  - (iii) identification numbers of applications for those permits or licenses or, if issued, the identification numbers of the permits or licenses; and
  - (iv) if a decision has been made, the date of approval or disapproval by each issuing authority;
  - (v) the name and address of the public office where the applicant will file a copy of the application for public inspection;
  - (w) the name, address, and telephone number of the resident agent who will accept service of process on behalf of the applicant;
  - (x) a copy of the proposed newspaper advertisement of the application and proof of publication of the notice after it is published as required in ARM 17.24.401(3); and
  - (y) a map of the mine plan area showing the areas upon which strip or underground mining occurred:
    - (i) prior to August 3, 1977;
    - (ii) after August 3, 1977, and prior to May 3, 1978;
    - (iii) after May 3, 1978, and prior to April 1, 1980;
    - (iv) after April 1, 1980, and before January 13, 1989; and
    - (v) after January 13, 1989, and before October 22, 2004.
  - (z) The map of the mine plan area must also designate the areas from which coal removal had not commenced as of October 22, 2004. (History: 82-4-204, MCA; IMP, 82-4-222, MCA; 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; AMD, 1994 MAR p. 2957, Eff. 11/11/94; AMD, 1995 MAR p. 30, Eff. 1/13/95; TRANS, from DSL, 1996 MAR p. 2852; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 1999 MAR p. 2768, Eff. 12/3/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04; AMD, 2012 MAR p. 737, Eff. 4/13/12.)

17.24.304 BASELINE INFORMATION: ENVIRONMENTAL RESOURCES

(1) The following environmental resources information must also be included as part of an application for a strip or underground mining permit:

(a) the size, sequence, and timing of the subareas of the mine plan area for which it is anticipated that individual permits for mining will be requested over the estimated total life of the proposed mining activities;

(b) a listing, location and description of all archaeological, historical, ethnological and cultural resources and values of the proposed mine plan and adjacent area. Such resources and values must be located and identified on accompanying maps. Sites listed on, eligible for, or potentially eligible for the national register of historic places must be so identified. Published research or other information must be referenced and copies of referenced reports must be made available to the department upon request. The department may require the applicant to identify and evaluate important historic and archeological resources that may be eligible for listing on the national register of historic places through collection of additional information, conduct field investigations, or other appropriate analyses;

(c) a comprehensive listing, location and description of significant or unique scenic and/or geological formations or sites;

(d) a narrative explanation or other data showing whether the permit area possesses special, exceptional, critical, or unique characteristics as defined in 82-4-227, MCA, and whether surrounding land possesses special, exceptional, critical or unique characteristics that would be adversely affected by mining;

(e) all hydrologic and geologic data necessary to evaluate baseline conditions, to evaluate the probable hydrologic consequences and cumulative hydrologic impacts of mining, pursuant to ARM 17.24.314(3) and (5) and 82-4-222, MCA, and to develop a plan to monitor water quality and quantity to address the requirements of ARM 17.24.314;

(f) hydrologic and geologic descriptions pursuant to (1)(e) including:

(i) a narrative and graphic account of ground water hydrology including, but not limited to:

(A) the lithology, thickness, structural controls, hydraulic conductivity, transmissivity, recharge, storage and discharge characteristics, extent of aquifer, production data, water quality analyses and other relevant aquifer characteristics for each aquifer within the mine plan area and adjacent areas;

(B) the results of a minimum of one year of quarterly monitoring of ground water for total dissolved solids, specific conductance corrected to 25°C, pH, major dissolved cations (Ca, Mg, Na, K), major dissolved anions (SO<sub>4</sub>, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, NO<sub>3</sub>), concentrations of dissolved metals as prescribed by the department, and water levels. These data must be generated in accordance with the standards contained in ARM 17.24.645(2), (3), and (6); and

(C) a listing of all known or readily discoverable wells and springs and their uses located within three miles downgradient from the proposed permit area and within one mile in all other directions unless hydrologic conditions justify different distances;

(ii) a narrative and graphic account of surface water hydrology within the mine plan area and adjacent areas including, but not limited to:

(A) the name, location, use, and description of all surface water bodies such as streams, lakes, ponds, springs, and impoundments; and

(B) descriptions of surface drainage systems sufficient to identify, in detail, the seasonal variations in water quantity and quality including, but not limited to:

(I) minimum, maximum, and average discharge conditions which identify critical low flow and peak discharge rates of streams and springs; and

(II) water quality data to identify the characteristics of surface waters discharging into or receiving flows from the proposed mine plan area, including total suspended solids, total dissolved solids, specific conductance corrected to 25°C, pH, major dissolved cations (Ca, Mg, Na, K), major dissolved anions (SO<sub>4</sub>, CO<sub>3</sub>, HCO<sub>3</sub>, NO<sub>3</sub>, Cl), and concentrations of metals as prescribed by the department. Such data must be generated in accordance with the standards contained in ARM 17.24.646(1), (1)(a), (3), (5), and (6);

(iii) a description of alternative water supplies, not to be disturbed by mining, that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by mining activities so as not to be suitable for the approved postmining land uses; and

(iv) such other information that the department determines is relevant;

(g) a detailed description of all overburden and mineral materials (all materials other than soil) that will be handled during mining or backfilling operations. The description must include:

(i) those materials down to and including the deeper of either the stratum immediately below the lowest seam to be mined or any aquifer below the lowest seam to be mined that may be adversely impacted by mining;

(ii) all physical, chemical, water infiltration, artificial weathering, and plant growth data necessary to identify those materials that are potentially acid, acid-forming, sodic, saline, toxic, toxic-forming, unstable, erodible or otherwise undesirable with respect to use as plant rooting media, landscape stability, aquifer reestablishment, postmining ground and surface water quantity and quality both on and off site, and postmining land use;

(iii) lithologic and geophysical logs showing the lithologic characteristics including physical properties and thickness of each stratum and location of ground water where occurring. The requirement for geophysical logs may be waived if the applicant demonstrates, and the department finds in writing, that other equivalent information is available in an acceptable form and has been provided by the applicant;

(iv) a narrative addressing the suitability or unsuitability of the materials to be handled for reclamation purposes. This narrative must address or reference the data, characteristics of materials, and aspects of reclamation described in (1)(f), (1)(g)(ii) and (iii), and ARM 17.24.322(2)(a)(iii); and

(v) additional studies or information determined by the department to be useful or necessary to evaluate the application. All laboratory work conducted under (g) must be conducted in accordance with ARM 17.24.302(3);

(h) climatological information, including:

(i) the average seasonal precipitation;

(ii) the average direction and velocity of prevailing winds;

(iii) seasonal temperature ranges; and

(iv) such additional data as the department deems necessary to ensure compliance with the requirements of this subchapter;

(i) vegetation surveys as described in 82-4-222(2), MCA, of the Act, which must include:

(i) a vegetation map at a scale of 1" = 400' or as otherwise approved by the department, which delineates community types based on dominant species which by their structure, density, or coverage, have the greatest functional influence on the type. Other methods for delineating community types may be used with prior approval by the department; and

(ii) a narrative describing the community types within the proposed permit area and within any proposed reference areas, and listing associated species and discussing environmental factors controlling or limiting the distribution of species;

(j) a narrative of the results of a wildlife survey. The operator shall contact the department at least three months before planning the wildlife survey to allow the department to consult state and federal agencies with fish and wildlife responsibilities to determine the scope and level of detail of information required in the survey to help design a wildlife protection and enhancement plan. At a minimum, the wildlife survey must include:

(i) a listing of all fish and wildlife species;

(ii) population density estimates of each species insofar as practicable;

(iii) a description of season or seasons of use and habitat use by each species along with a description of habitats of unusually high value for fish and wildlife such as important streams, wetlands, riparian areas, cliffs supporting raptors, areas offering special shelter or protection, migration routes, reproduction and wintering areas, and other habitats identified through agency consultation as requiring special protection under state or federal law;

(iv) a wildlife habitat map for the entire wildlife survey area including habitat types that are discussed in (c), and ARM 17.24.751(2)(f) and (g); and

(v) coverage of the proposed permit area plus an area around it. The extent of the total area to be surveyed must be determined through consultation with the department and must be large enough to include those species whose home ranges extend beyond the permit boundary;

(k) a soil survey according to standards of the national cooperative soil survey and the department describing all soils on the proposed permit area and their suitability for reclamation purposes. The soil survey must include the following information:

(i) description, sampling, and analysis of soils in sufficient detail to identify the soil series, phases, and mapping units present including:

(A) series and phase descriptions;

(B) mapping unit (complex and consociation) descriptions;

(C) descriptions of representative soil pedons; and

(D) results of chemical and physical analyses of soil horizon samples. Each horizon sample must be analyzed in accordance with ARM 17.24.302(3) for pH, particle size distribution (texture), and other parameters that must be determined in consultation with the department;

(ii) a soils map acceptable to the department. The scale must be 1" = 400' unless otherwise altered or approved by the department. Enlarged aerial photographs may be used as a map base. The map or photograph must include:

(A) the soil mapping units, their boundaries, a legend of the soil mapping units and the estimated salvage depths of soils within each mapping unit, consistent with the information submitted under ARM 17.24.313(1)(f);

(B) soil sampling locations; and

(iii) further soil studies or information determined by the department to be useful or necessary to evaluate the application;

(l) the condition, capability, productivity, and history of use of the land and vegetation within the proposed permit area, including:

(i) a map and supporting narrative of the uses of the land existing at the time of the filing of the application. If the premining use of the land was changed within five years before the anticipated date of beginning the proposed operations, the historic use of the land must also be described;

(ii) a narrative of land capability and productivity that analyzes the land-use description under (a) in conjunction with other environmental resources information required under this subsection. The narrative must provide analyses of:

(A) the capability of the land before any mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover and the hydrology of the proposed permit area;

(B) the productivity of the proposed permit area before mining, expressed as average yield of food, fiber, forage, or wood products from such lands obtained under high levels of management. The productivity must be determined by yield data or estimates for similar sites based on current data from the U.S. department of agriculture, state agricultural universities, or appropriate state natural resources or agricultural agencies;

(C) a statement of whether the proposed permit area has been previously mined, and, if so, the following information, if available:

(I) the type of mining method used;

(II) the coal seams or other mineral strata mined;

(III) the extent of coal or other minerals removed;

(IV) the approximate dates of past mining; and

(V) the uses of the land;

(D) the existing land uses and land use classifications under local law, if any, of the proposed mine plan and adjacent areas. (History: 82-4-204, MCA; IMP, 82-4-222, MCA; 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; AMD, 1994 MAR p. 2957, Eff. 11/11/94; TRANS, from DSL, 1996 MAR p. 2852; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 1999 MAR p. 2768, Eff. 12/3/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04; AMD, 2012 MAR p. 737, Eff. 4/13/12.)

17.24.305 MAPS (1) The application must contain maps including the following information:

- (a) the owners of record of the surface of the land to be affected by the permit and the owners of record of all surface area within 1/2 mile of any part of the affected area;
- (b) the owners of record of all subsurface minerals in the land to be affected;
- (c) the boundaries of land within the proposed permit area upon which the applicant has the legal right to enter and begin mining activities;
- (d) the boundaries of all areas proposed to be affected over the estimated total life of the proposed mining operations, with a description of size, sequence, and timing of the mining of subareas for which it is anticipated that additional permits will be sought, and any cropline of the mineral to be mined;
- (e) the names and locations of roads, buildings, facilities, cemeteries, oil and gas wells, pipelines, utility lines and corridors, and strip or underground mines on the permit area and within 1,000 feet of such area;
- (f) the location and boundaries of any proposed reference areas for determining the success of revegetation;
- (g) the locations of water supply intakes for current users of surface water flowing into, out of, and within a hydrologic area and those surface waters which will receive discharges from affected areas in the proposed mine plan area;
- (h) the boundaries of any public park and locations of any cultural or historical resources listed or eligible for listing in the national register of historic places and known archeological sites within the mine plan or adjacent areas;
- (i) any land within the proposed mine plan area and adjacent area that is within the boundaries of any units of the national system of trails or the wild and scenic rivers system, including study rivers designated under section (5)(a) of the Wild and Scenic Rivers Act;
- (j) the lands proposed to be affected throughout the operation, including the pre-mine topography, and any change in a facility or feature to be caused by the proposed operations;
- (k) the area of land to be affected within the proposed mine plan area, according to the sequence of mining and reclamation;
- (l) each area of land for which a performance bond or other equivalent guarantee will be posted;
- (m) each mineral storage, cleaning or loading area and each soil, spoil, coal waste, garbage or other debris storage area;
- (n) elevations and locations of monitoring stations used to gather data for water quality and quantity, fish and wildlife, and air quality, if required, in preparation of the application;
- (o) each water diversion, collection, conveyance, treatment, storage, and discharge facility to be used;
- (p) each air pollution collection and control facility;
- (q) each source of waste and each waste disposal facility relating to processing or pollution control;
- (r) the location of proposed postmine revegetation communities and proposed fish, wildlife, and related environmental enhancement features;
- (s) each explosives storage and handling facility;

(t) the location of each sedimentation pond and permanent water impoundment in accordance with ARM 17.24.315 and the location of each fill area for the disposal of excess spoil in accordance with ARM 17.24.308;

(u) the date on which each map was prepared and the north point; a legend indicating the items shown on the map, the scale, and the contour interval; the township, range, and section numbers;

(v) grid coordinates based upon the 1000-meter universal transverse mercator system for maps, as determined by the department, that are necessary to do cumulative hydrologic impact assessments and alluvial valley floor determinations;

(w) the final surface and underground water drainage plan on and away from the area of land affected. This plan must indicate the direction and volume of flow of water, constructed drainways, natural waterways used for drainage, and the streams or tributaries receiving the discharge;

(x) the location of the test boring holes;

(y) the surface location lines of any geologic cross sections that have been submitted; and

(z) the location and extent of subsurface water, if encountered, and the names and location of surface water bodies, including springs, constructed or natural drains, and irrigation ditches, within the proposed mine plan and adjacent areas.

(2) Maps must be prepared in accordance with the following procedures:

(a) Each map containing information pursuant to (1) must be certified as follows: "I, the undersigned, hereby certify that this map is correct and shows to the best of my knowledge and belief all the information required by the mining laws of this state." The certification must be signed and notarized in affidavit form. If the certification is submitted as a document separate from the map(s), it must be in affidavit form. The department may reject a map as incomplete if its accuracy is not so attested.

(b) Maps, plans, and cross-sections required under (1)(d), (e), (j), (k), (l), (m), (o), (p), (q), (s), (t), (x), and (z) must be prepared by, or under the direction of, and certified by a qualified licensed professional engineer, with assistance from experts in related fields, except that:

(i) maps and cross-sections required under (1)(d), (l), (m), (o), (p), (s), (t), (x) and (z) may be prepared by, or under the direction of, and certified by a qualified licensed professional land surveyor with assistance from experts in related fields; and

(ii) maps, plans, and cross-sections for sedimentation ponds and spoil disposal facilities may be prepared only by a qualified licensed professional engineer.

(c) All detail on maps must be clearly legible.

(3) Maps other than those outlined in (1) and (2) necessary to meet the requirements of this rule or other rules adopted pursuant to the Act must also be certified as in (2)(a). (History: 82-4-204, MCA; IMP, 82-4-222, MCA; 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. 2852; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04.)

17.24.306 BASELINE INFORMATION: PRIME FARMLAND

INVESTIGATION (1) The application must contain the results of a prime farmland investigation developed in consultation with the U.S. natural resources conservation service to determine whether lands within the proposed permit area are prime farmlands as defined in ARM 17.24.301.

(2) If the lands in question have not "historically been used for cropland" as that term is defined in ARM 17.24.301, the applicant must submit a request for a negative determination for these lands with documentation supporting this request.

(3) If the lands in question have historically been used for cropland, the applicant shall, in consultation with the Montana state office of the U.S. natural resources conservation service, determine if any soils, characterized and described in accordance with ARM 17.24.304(1)(k), on these lands meet the criteria of prime farmlands as contained in 7 CFR 657;

(a) Whenever a determination is made that the soil survey of lands within the proposed permit area identifies soils that meet the criteria of prime farmlands, the applicant shall indicate the reasons for this determination and shall include materials in the application showing compliance with ARM 17.24.324.

(b) When the soil survey for lands within the proposed permit area does not identify soils that meet the criteria for designation as prime farmland, the applicant shall submit a request for negative determination for these lands with reasons supporting this conclusion. (History: 82-4-204, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 2852; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04.)

Rule 17.24.307 reserved

17.24.308 OPERATIONS PLAN (1) Each application must contain a description of the operations proposed to be conducted during the life of the mine including, at a minimum, the following:

- (a) a narrative description of the type and method of mining procedures and proposed engineering techniques, anticipated annual and total production of mineral, by tonnage, and the major equipment to be used for all aspects of those operations;
- (b) a narrative, with appropriate cross sections, design drawings, and other specifications sufficient to demonstrate compliance with ARM 17.24.609 and applicable rules of subchapter 10, explaining the construction, modification, use, maintenance, and removal of the following facilities (unless retention of such facilities is necessary for postmining land use as specified in ARM 17.24.762):
  - (i) dams, embankments, and other impoundments;
  - (ii) overburden and soil handling and storage areas and structures;
  - (iii) mineral removal, handling, storage, cleaning, and transportation areas and structures;
  - (iv) spoil, waste, garbage, and other debris removal, handling, storage, transportation, and disposal areas and structures;
  - (v) other support facilities as designated in ARM 17.24.609;
  - (vi) water and air pollution control facilities;
  - (vii) facilities or sites and associated access routes for environmental monitoring and data gathering activities or for the gathering of subsurface data by trenching, drilling, geophysical, or other techniques to determine the natures, depth, and thickness of all known strata, overburden, and coal seams; and
  - (viii) any additional information the department deems useful;
- (c) a description of measures to be employed to ensure that all debris, acid, toxic, acid-forming, and toxic-forming materials, materials constituting a fire hazard, and otherwise undesirable materials are properly disposed of; and
- (d) a description of the contingency plans which have been developed to extinguish a fire or sustained combustion of materials constituting a fire hazard;
- (e) a description of steps to be taken to comply with the requirements of the Clean Air Act (42 USC 7401, et seq.), the Clean Water Act (33 USC 1251, et seq.), the Resource Conservation and Recovery Act (42 USC 6901, et seq.), and other applicable air and water quality laws and regulations and health and safety standards, or a copy of a valid permit issued under these laws; and
- (f) a plan to prevent the establishment of, or to control, noxious weeds on all lands within the proposed permit area until phase IV bond release, in accordance with the Noxious Weed Management Act, 7-22-2102 through 7-22-2153, MCA, as amended. (History: 82-4-204, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; AMD, 1994 MAR p. 2957, Eff. 11/11/94; TRANS, from DSL, 1996 MAR p. 3042; AMD, 2004 MAR p. 2548, Eff. 10/22/04; AMD, 2012 MAR p. 737, Eff. 4/13/12.)

Rule 17.24.309 reserved

17.24.310 BLASTING PLAN (1) Each application must contain a blasting plan for the proposed permit area. The plan must explain how the applicant intends to comply with the requirements of ARM 17.24.621 through 17.24.626 and 17.24.1260 through 17.24.1263, and must include the following:

- (a) types and approximate amounts of explosives to be used for each type of blasting operation to be conducted;
- (b) description of procedures and plans generally used for:
  - (i) drilling patterns, including size, number, depths, and spacing of holes;
  - (ii) charge and packing of holes;
  - (iii) types of fuses and detonation controls;
  - (iv) sequence and timing of firing holes;
  - (v) a description of procedures and plans for recording of (i) through (iv) and retention of those records;
- (c) description of blasting warning and site access control equipment and procedures;
- (d) description of types, capabilities, sensitivities, and locations of use of any blast monitoring equipment and procedures proposed to be used;
- (e) description of plans for recording and reporting to the department the results of preblasting surveys, if required;
- (f) description of unavoidable hazardous conditions for which deviations from the blasting schedule will be needed; and
- (g) a general description of structures to be protected and a discussion of design factors to be used to protect the public and to meet the applicable airblast, flyrock, and ground vibration standards in ARM 17.24.624.

(2) For underground mines the department may, on a case-by-case basis, waive any of the requirements in (1) that do not apply to underground blasting operations. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

17.24.311 AIR POLLUTION CONTROL PLAN (1) For all strip mining operations with projected production rates exceeding 1,000,000 tons of mineral per year, the application must contain an air pollution control plan that includes the following:

- (a) an air quality monitoring program to provide sufficient data to evaluate the effectiveness of the fugitive dust control practices proposed under (b) to comply with federal and state air quality standards; and
  - (b) a plan for fugitive dust control practices as required by ARM 17.24.761.
- (2) For all other strip mining operations, the application must contain:
- (a) the requirements of (1)(a), if required by the department; and
  - (b) the plan required by (1)(b). (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

17.24.312 FISH AND WILDLIFE PLAN (1) Each application must contain a fish and wildlife plan, consistent with ARM 17.24.751 that provides:

(a) a description of how the plan will minimize disturbances and adverse impacts on fish, wildlife, and related environmental values during mining and reclamation operations, how enhancement of these resources will be achieved, where practicable, and how the plan will comply with the Endangered Species Act of 1973, as amended. The plan must apply, at a minimum, to species and habitats identified in ARM 17.24.304(1)(j)(i) and (iii), and must cover the permit area and portions of adjacent areas as determined by the department pursuant to ARM 17.24.304(1)(j)(v);

(b) a description of the wildlife habitat enhancement features that will be integrated with other land uses, pursuant to 82-4-232(9), MCA, and ARM 17.24.313;

(c) if the applicant states that it will not be practicable, in accordance with (1), to achieve a condition that clearly shows a trend toward enhancement of fish and wildlife resources at the time revegetation has been successfully completed, a statement documenting, to the satisfaction of the department, why it is not practicable to achieve such a condition; and

(d) a statement explaining how the applicant will utilize impact control measures, management techniques, and annual monitoring methods to protect or enhance the following, if they are to be affected by the proposed activities:

(i) threatened or endangered species of plants or animals listed by the U.S. secretary of interior under the Endangered Species Act of 1973, as amended (16 USC 1531, et seq.) and their critical habitats;

(ii) species such as eagles, migratory birds, other animals protected by state or federal law, and their habitats, and any other species identified through the consultation process pursuant to ARM 17.24.304(1)(j); and

(iii) habitats of unusually high value for fish and wildlife, such as wetlands, riparian areas, cliffs supporting raptors, areas offering special shelter or protection, reproduction and nursery areas, and wintering areas.

(2) Upon request, the department shall provide the fish and wildlife resource information required in ARM 17.24.304(1)(j), 17.24.312, and 17.24.751, as well as any other rule dealing with fish and wildlife, to the U.S. fish and wildlife service regional or field office for review. This information must be provided within 10 days of receipt of the request. (History: 82-4-204, MCA; IMP, 82-4-222, 82-4-232, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042; AMD, 2004 MAR p. 2548, Eff. 10/22/04.)

17.24.313 RECLAMATION PLAN (1) Each reclamation plan must contain a description of the reclamation operations proposed, including the following information:

- (a) the proposed postmining land use pursuant to ARM 17.24.762;
- (b) a detailed timetable for the estimated completion of each major step in the reclamation plan;
- (c) a detailed estimate of the cost of reclamation of the proposed operations that will be covered by a performance bond with supporting calculations for the estimate;
- (d) a plan for backfilling, stabilization, compacting, and grading of the proposed permit area. The plan for backfilling must contain:
  - (i) a description of the final location of all overburden and parting materials in the fill. Diagrams must be included, as necessary;
  - (ii) a narrative and cross-sections, or other means as approved by the department, showing the plan of highwall backfilling, reduction, or an alternative thereof, including the limits of buffer zone consistent with the performance standards of ARM 17.24.501 and 17.24.515;
  - (iii) a narrative description of the derivation of the bulking factor (swell) used by the applicant in calculation of spoil volumes and generation of postmining contour maps. Calculations used in the derivation must be included;
  - (iv) a map showing the postmining topography that the applicant proposes to meet at the time of final bond release. This map must be prepared to reflect the performance standards; and
  - (v) a demonstration that the proposed postmining topography can be achieved. This demonstration must include a cross-section or set of cross-sections, or other method as approved by the department, to depict the removal of overburden and mineral and the replacement of the swelled spoil;
- (e) a description of postmining drainage basin reclamation that ensures protection of the hydrologic balance, achievement of postmining land use performance standards, and prevention of material damage to the hydrologic balance in adjacent areas, including:
  - (i) a comparison of premining and postmining drainage basin size, drainage density, and drainage profiles as necessary to identify characteristics not distinguishable on the premining and postmining topographic maps;
  - (ii) a discussion of how, within drainage basins:
    - (A) the plan meets each performance standard in ARM 17.24.634;
    - (B) the requirements of 82-4-231(10)(k), MCA, and ARM 17.24.314 will be met where the postmining topography differs from the premining as allowed by ARM 17.24.301(13)(c);

(f) drainage channel designs appropriate for preventing material damage to the hydrologic balance in the adjacent area and to meet the performance standards of ARM 17.24.634, including:

(i) detailed drainage designs for channels that contain critical hydrologic, ecologic or land use functions not already addressed in this rule such as alluvial valley floors, wetlands, steep erosive upland drainages, drainages named on USGS topographic maps, or intermittent or perennial streams. Detailed drainage designs include fluvial and geomorphic characteristics pertinent to the specific drainages being addressed; and

(ii) for all other channels, typical designs and discussions of general fluvial and geomorphic habit, pattern, and other relevant functional characteristics;

(g) plans for removal, storage, and redistribution of soil, overburden, spoils, and other material in accordance with ARM 17.24.501, 17.24.502, 17.24.503, 17.24.504, 17.24.505, 17.24.507, 17.24.510, 17.24.514, 17.24.515, 17.24.516, 17.24.517, 17.24.518, 17.24.519, 17.24.520, 17.24.521, and 17.24.522, and 17.24.701 through 17.24.703;

(i) These plans must include or reference other narratives in the application documenting how the information on the characteristics of the overburden and coal (ARM 17.24.304(1)(g)) and soils (ARM 17.24.304(1)(k)) was utilized in developing the plans.

(ii) Using the soil survey information (see ARM 17.24.304 (1)(k)), the applicant shall propose estimated salvage depths for each lift of each soil component (series or phase) of each soil mapping unit.

(iii) The application must also include figures with supporting calculations showing:

(A) total acreages and volumes of salvageable soil of each lift from each soil component of each soil mapping unit; and

(B) the anticipated thickness(es) of soil redistribution for each lift, and in total, on the area of land affected after regrading;

(iv) The applicant must submit plans for any necessary monitoring of soils, overburden, spoils, or other materials;

- (h) a narrative of the method for revegetation including, but not limited to, a discussion of:
- (i) revegetation types, including acreage of each;
  - (ii) the schedule of revegetation;
  - (iii) species and amounts per acre of seeds and seedlings to be used, calculated as pure live seed;
  - (iv) introduced species to be used, if any, and documentation of the desirability and necessity of using the introduced species to achieve the approved postmining land use;
  - (v) methods to be used in planting and seeding;
  - (vi) approximate, normal, annual seeding and planting dates;
  - (vii) the use of nurse or cover crop and mulching techniques;
  - (viii) soil tillage, amendments or other management techniques to assist in vegetative establishment;
  - (ix) vegetation monitoring to be implemented to identify conditions during the period of liability;
  - (x) measures to be used to determine the success of revegetation, including the use of reference areas and/or technical standards in relation to the revegetation types pursuant to ARM 17.24.724 and 17.24.726;
  - (xi) plans for determining quality, fertility, and thickness of redistributed soil and for determining quality of regraded spoil. The purpose of these plans is to evaluate the results of the handling of soils, overburden, wastes, and other materials and to evaluate reclamation procedures related to revegetation; and
  - (xii) the types of major equipment to be used in the above operations.
- (i) a description, including appropriate cross-sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case, or manage prospecting holes, other bore holes, wells, and other openings within the proposed permit area in accordance with subchapter 9 and ARM 17.24.1005; and
- (j) a narrative explaining reclamation of facilities and sites identified under ARM 17.24.308(1)(b). (History: 82-4-204, MCA; IMP, 82-4-222, 82-4-231, 82-4-232, 82-4-233, 82-4-234, MCA; 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, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04; AMD, 2012 MAR p. 737, Eff. 4/13/12.)

17.24.314 PLAN FOR PROTECTION OF THE HYDROLOGIC BALANCE

(1) Each permit application must contain a detailed description, supported by appropriate maps, data, and other graphics, of the measures to be taken during and after the proposed mining activities to minimize disturbance of the hydrologic balance on and off the mine plan area and to prevent material damage to the hydrologic balance outside the permit area in accordance with subchapters 4 through 9. The measures must minimize disturbance of the hydrologic balance sufficiently to sustain the approved postmining land use and the performance standards of subchapters 5 through 12 and must provide protection of:

(a) the quality of surface and ground water systems, within both the proposed mine plan and adjacent areas, from the adverse effects of the proposed strip or underground mine operations;

(b) the rights of present users of surface and ground water; and

(c) the quantity of surface and ground water within both the proposed mine plan area and adjacent areas from adverse effects of the proposed mining activities, or to provide alternative sources of water in accordance with ARM 17.24.304 (1)(e) and (f) and 17.24.648, where the protection of quantity cannot be ensured.

(2) The description must include:

(a) a plan for the control, in accordance with ARM 17.24.631 through 17.24.652, of surface and ground water drainage into, through and out of the proposed mine plan area;

(b) a plan for the treatment, where required, of surface and ground water drainage from the area to be disturbed by the proposed operations, and proposed quantitative limits on pollutants in discharges subject to ARM 17.24.633 or other applicable state or federal laws. The plan must include design specifications, drawings, method of operation and control, and quality of discharge of the treatment facilities;

(c) a plan for the restoration of the approximate recharge capacity of the mine plan area in accordance with ARM 17.24.644; and

(d) plans for monitoring and semi-annual reporting of ground and surface water quality and quantity data collected and analyzed in accordance with ARM 17.24.304(1)(e) and (f), 17.24.645, and 17.24.646.

(3) The application must also include a determination pursuant to (1) and (2) of the probable hydrologic consequences of the proposed mining operation, on the proposed mine plan area and adjacent areas, with respect to the hydrologic balance. This determination must:

(a) be based on appropriate information on environmental resources addressed in ARM 17.24.304 and other relevant information;

(b) list and summarize all probable hydrologic consequences of the proposed mining operation including:

(i) whether adverse impacts may occur to the hydrologic balance;

(ii) whether acid-forming or toxic-forming materials that could result in the contamination of surface or ground water supplies are present;

(iii) whether the proposed operation may proximately result in contamination, diminution or interruption of an underground or surface source of water within the proposed permit or adjacent areas which is used for domestic, agricultural, industrial or other legitimate purpose; and

(iv) what impact the proposed operation will have on:

(A) sediment yields from the disturbed area;

(B) acidity, total suspended and dissolved solids, and other important water quality parameters of local impact;

(C) flooding or streamflow alteration;

(D) ground water and surface water availability; and

(E) other characteristics as required by the department; and

(c) explain to what extent each hydrologic consequence can be mitigated by measures taken pursuant to (1) and (2).

(4) Whenever this determination in (3) indicates that adverse impacts to the hydrologic balance on or off the permit area may occur, the department shall require submission of supplemental information to evaluate such impacts and to evaluate plans for remedial and long-term reclamation activities.

(5) The department shall provide an assessment of the cumulative hydrologic impacts of the proposed operation and all anticipated mining upon surface and ground water systems in the cumulative impact area. The cumulative hydrologic impact assessment must be sufficient to determine, for purposes of a permit decision, whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area. The department may allow the applicant to submit data and analyses relevant to the cumulative hydrologic impact assessment with the permit application. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; AMD, 1994 MAR p. 2957, Eff. 11/11/94; TRANS, from DSL, 1996 MAR p. 3042; AMD, 2012 MAR p. 737, Eff. 4/13/12.)

17.24.315 PLAN FOR PONDS AND EMBANKMENTS (1) Each application must include a general plan for each proposed sedimentation pond and water impoundment within the proposed mine plan areas.

(a) Each general plan must:

(i) be prepared by, or under the direction of, and certified by a qualified licensed professional engineer, experienced in designing impoundments;

(ii) contain a description, map, and cross-section of the structure and its location;

(iii) contain preliminary hydrologic and geologic information required to assess the hydrologic impact of the structure;

(iv) contain a survey describing the potential effect on the structure from subsidence of the subsurface strata resulting from past underground mining operations if underground mining has occurred; and

(v) contain a certification statement which includes a schedule setting forth the dates that any detailed design plans for structures that are not submitted with the general plan will be submitted to the department. The department must have approved, in writing, the detailed design plan for a structure before construction of the structure begins.

(b) Each detailed design plan for a structure that meets or exceeds the size or other criteria of the mine safety and health administration, 30 CFR 77.216(a), or meets the Class B or C criteria for dams in USDA soil conservation service Technical Release No. 60 (210-VI-TR60, October 1985, as revised through January 1991), "Earth Dams and Reservoirs", (TR-60) must:

(i) be prepared by, or under the direction of, and certified by a qualified licensed professional engineer with assistance from experts in related fields such as geology, surveying, and landscape architecture. The certifying engineer must have experience designing impoundments;

(ii) include any geotechnical investigation, design, and construction requirements for the structure;

(iii) include a stability analysis of the structure. The stability analysis must contain, but not be limited to, strength parameters, pore pressures, and long-term seepage conditions. It must contain a foundation investigation, as well as any necessary laboratory testing of foundation materials, to determine the design requirements necessary to meet and to show that the design will meet the standards of ARM 17.24.639(8) for foundation stability. The plan must also contain a description of each engineering design assumption and calculation with a discussion of each alternative considered in selecting the specific design parameters and construction methods;

(iv) describe the operation and maintenance requirements for each structure; and

(v) describe the timetable and plans to remove each structure, if appropriate.

(c) Technical Release No. 60 (TR-60) is available for inspection at the Department of Environmental Quality, 1520 East 6th Avenue, Helena, MT 59601.

(d) Each detailed design for a structure that does not meet the size or other criteria of 30 CFR 77.216(a) or the criteria for Class B or C dams in TR-60, must:

- (i) be prepared by, or under the direction of, and certified by a qualified licensed professional engineer. The certifying engineer must have experience in designing impoundments;
  - (ii) include any design and construction requirements for the structure, including any required geotechnical information;
  - (iii) include appropriate information on the foundation conditions of the structure to determine the design requirements necessary to meet and to show that the design will meet the standards of ARM 17.24.639(8) for foundation stability;
  - (iv) describe the operation and maintenance requirements for each structure;
- and

(v) describe the timetable and plans to remove each structure, if appropriate.

(2) Sedimentation ponds, whether temporary or permanent, must be designed in compliance with the requirements of ARM 17.24.639. Impoundments meeting the criteria of 30 CFR 77.216(a), must comply with the requirements of 30 CFR 77.216-1 and 77.216-2, and must be submitted to the mine safety and health administration.

(3) Permanent impoundments must be designed to comply with ARM 17.24.642, and the requirements of the mine safety and health administration, 30 CFR 77.216-1 and 77.216-2.

(4) Dams and reservoirs impounding 50 acre-feet or more either singly or in series within the same watershed, may require a construction and operating permit as required in the Dam Safety Act. For purposes of the Dam Safety Act, capacity is measured to the crest of the dam. Operators must contact the department of natural resources and conservation to determine what requirements must be met. (History: 82-4-204, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04.)

17.24.316 STRIP OR UNDERGROUND MINING NEAR UNDERGROUND MINING (1) For strip or underground mining operations within the proposed permit area to be conducted within 500 feet of an active or abandoned underground mine, the application must describe the measures to be used to comply with 82-4-227(8), MCA, and ARM 17.24.516. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

17.24.317 DIVERSIONS (1) Each application must contain descriptions, including maps and cross-sections, of stream channel diversions and other diversions to be constructed within the proposed permit area to achieve compliance with the Act and ARM 17.24.635 through 17.24.637. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

17.24.318 PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

(1) For any public parks, historic places, or other significant cultural resources identified in ARM 17.24.304(2) that may be adversely affected by the proposed operations, each plan must describe the measures to be used to minimize or prevent these impacts, the timing and tracking of these measures relative to the disturbance schedule, and how the applicant will obtain approval of the department and other agencies as required in ARM 17.24.1131. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

17.24.319 RELOCATION OR USE OF PUBLIC ROADS Each application must describe, with appropriate maps and cross-sections or other proof required by the department, the measures to be used to ensure that the interests of the public and landowners affected are protected if, under ARM 17.24.1134 and 17.24.1135, the applicant is seeking approval of:

- (1) conducting the proposed mining activities within 100 feet of the right-of-way line of any public road, except where mine access or haul roads join that right-of-way; or
- (2) relocating or closure of a public road. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

17.24.320 PLANS FOR DISPOSAL OF EXCESS SPOIL (1) Each application must contain descriptions, including appropriate maps and cross-section drawings, of the proposed disposal site and design of the spoil disposal structures according to ARM 17.24.520. These plans must describe the geotechnical investigation, design, construction, operation, maintenance, and removal (if appropriate) of the site and structures in accordance with state and federal statutes and rules (see also 30 CFR 816.71 and 816.73).

(2) Each application must contain the results of a geotechnical investigation of the proposed disposal site, including the following:

- (a) the character of bedrock and any adverse geologic conditions in the disposal area;
- (b) a survey identifying all springs, seepage and ground water flow observed or anticipated during wet periods in the area of the disposal site;
- (c) a survey of the potential effects of subsidence of the subsurface strata due to past and future mining operations;
- (d) a technical description of the rock materials to be utilized in the construction of those disposal structures containing rock chimney cores and underlain by a rock drainage blanket; and
- (e) a stability analysis including, but not limited to, strength parameters, pore pressures and long-term seepage conditions. These data must be accompanied by a description of all engineering design assumptions and calculations and the alternatives considered in selecting the specific design specifications and methods.

(3) If rock-toe buttresses or key-way cuts are required, the application must include the following:

- (a) the number, location, and depth of borings or test pits determined with respect to the size of the spoil disposal structure and subsurface conditions; and
- (b) engineering specifications utilized to design the rock-toe buttress or key-way cuts, which must be determined in accordance with (2)(e). (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

17.24.321 TRANSPORTATION FACILITIES PLAN (1) Each application must contain a description of each road, conveyor, and railroad loop to be constructed, used, or maintained within the proposed permit area. The description must include the following as appropriate for the type of construction:

- (a) a map, cross-sections, and specifications for each road including width, gradient, surface, cut, embankment, culvert, bridge, drainage ditch, and drainage structure;
- (b) a report of geotechnical analysis, where approval of the department is required for alternative specifications;
- (c) a description of measures to be taken to obtain approval of the department for alteration or relocation of a natural drainageway;
- (d) a description of measures, other than use of a rock headwall, to be taken to protect the inlet end of a ditch relief culvert for approval by the department under ARM 17.24.605(6);
- (e) demonstration of compliance with ARM 17.24.601 through 17.24.606;
- (f) demonstration of compliance with any design criteria established by the department; and
- (g) in accordance with standards of subchapters 5, 6, 7, and 8, a description of measures that will be used to reclaim any roads that will not be reclaimed as part of the reclamation activities of the mine excavations.

(2) Plans for low-water crossings of perennial and intermittent stream channels must be submitted and must demonstrate that protection of such stream channels will be maximized in accordance with ARM 17.24.602, 17.24.631, 17.24.633, 17.24.638, and any other applicable rules.

(3) The plans and drawings for each haul road, access road, conveyor, railroad loop, and low-water crossing of perennial and intermittent streams required under (1) and (2) must be prepared by, or under the direction of, and certified by a qualified licensed professional engineer with experience in the design and construction of such facilities. The certification must state that the designs meet the performance standards of ARM 17.24.601, 17.24.602, 17.24.603, 17.24.605, and current prudent engineering practices.

(4) Ramp roads must be shown and designated on the map(s) required in (1)(a). (History: 82-4-204, MCA; IMP, 82-4-222, MCA; 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; AMD, 1994 MAR p. 2957, Eff. 11/11/94; TRANS, from DSL, 1996 MAR p. 3042; AMD, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04.)

17.24.322 GEOLOGIC INFORMATION AND COAL CONSERVATION PLAN

- (1) An application for a permit to mine coal must include a coal conservation plan to allow determination of whether failure to conserve coal may occur.
- (2) The plan must include:
  - (a) the results of all test borings, evaluations, observations, and analyses, including the following:
    - (i) a narrative interpretation of the results of all test borings or core samplings conducted on the area to be mined or otherwise affected, including the nature, depth, and thickness of all known strata, overburden, and all coal seams encountered;
    - (ii) a narrative identifying the total reserves in the permit area along with a description of the method of calculation;
    - (iii) geologic cross-sections accurately depicting the known geologic makeup beneath the surface of the area to be mined or otherwise affected. The cross-sections must depict the thickness and geological character of all known strata, beginning with the soil and including the stratum immediately below the lowest of all the potentially economically minable coal seams or the stratum containing any aquifer below this seam that may be adversely impacted by mining, whichever is deeper. (See ARM 17.24.304(5) and (7));
    - (iv) a map showing elevations and locations of test borings and coal sampling;
    - (v) upon request by the department, isopach maps of overburden, interburden, and all coal seams proposed to be mined;
    - (vi) an analysis and summary of the chemical properties of all coal seams to be disturbed including the content of sulfur (organic and inorganic), trace mineral elements, sodium (as Na<sub>2</sub>O), moisture, and ash as well as the British thermal unit (BTU) content per pound;
    - (vii) all coal crop lines and the strike and dip of the coal to be mined within the proposed mine plan area;
    - (viii) location and extent of known workings of active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed mine plan and adjacent areas; and
    - (ix) location and extent of existing or previously strip mined areas within the proposed mine plan area;
  - (b) a description of the location, quantity, and quality of all coal to be left unmined, accompanied by a detailed explanation of the reasons why the coal will not be mined. This explanation must include coal that is to be left unmined in order to comply with the Act as well as that coal which is to be left unmined because of the method of operation or because the coal is not minable or marketable; and
  - (c) where applicable, a range diagram type drawing showing any coal fenders to be left in place, and a detailed narrative description of the changes in the mine plan that would be necessary to recover the same and any potential effects of such changes.

(3) If it is determined by the department, based on the information provided pursuant to the provisions of (1) and (2) that an operator is or will be mining all of the minable and marketable coal, no further information need be submitted. If, however, the department determines that it needs further information to make a determination, it may require the operator to submit the following:

(a) a description of the type of equipment and operations to be used including, but not limited to:

(i) the prime equipment model, year, size and capacity;

(ii) the initial and depreciated cost of the prime equipment, including all earth moving equipment;

(iii) the capability of the equipment to move earth at a fixed rate;

(iv) the plan for the excavation and placement of overburden materials;

(v) the plan for the removal and transportation of coal; and

(vi) the anticipated plan of mining for a two-year period;

(b) a detailed cost and revenue analysis on a per ton basis of coal mining and market conditions including, at a minimum:

(i) the estimated cost of mining;

(ii) the estimated cost of reclamation;

(iii) the estimated cost of transportation per ton;

(iv) the estimated annual taxes;

(v) the estimated market value of coal to be extracted;

(vi) the estimated total gross yield to be received for coal extracted;

(vii) the estimated mining cost of coal to be left unmined; and

(viii) the estimated market value of coal to be left unmined; and

(c) any other relevant information the department may require.

(4) For an operator with a federal resource recovery and protection plan, the department may review all applicable coal recovery information retained by the bureau of land management, in lieu of or in addition to the information requirements under (3).

(5) Any operator or aggrieved person who believes that the department's decision to either require or not require the submission of the information contained in this rule may petition the board for a public hearing pursuant to the provisions of the Montana Administrative Procedure Act. (History: 82-4-204, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042; AMD, 2004 MAR p. 2548, Eff. 10/22/04.)

17.24.323 GRAZING PLAN (REPEALED) (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042; REP, 2004 MAR p. 2548, Eff. 10/22/04.)

17.24.324 PRIME FARMLANDS: SPECIAL APPLICATION

REQUIREMENTS (1) If land within the proposed permit area is identified as prime farmland under ARM 17.24.306, the applicant shall submit a plan for the mining and restoration of the land. Each plan must contain the following:

- (a) the soil survey requirements listed under ARM 17.24.304(11), and also including:
  - (i) a description of the mapping unit(s) containing each prime farmland soil;
  - (ii) the depth and thickness of each of the soil horizons that collectively constitute the root zone of the locally adapted crops; and
  - (iii) the bulk densities of each soil horizon for each prime farmland soil;
- (b) the proposed method and type of equipment to be used for removal, storage, and replacement of the soil in accordance with ARM 17.24.811;
- (c) the location of areas to be used for the separate stockpiling of the soil and plans for stockpile stabilization;
- (d) plans for seeding or cropping the final graded disturbed land and the conservation practices to be used to adequately control erosion and sedimentation and to restore an adequate soil moisture regime, during the period from completion of regrading until release of the performance bond. Proper adjustments for seasons must be proposed so that final graded land is not exposed to erosion during seasons when vegetation or conservation practices cannot be established due to weather conditions;
- (e) plans that demonstrate that the proposed method of reclamation will achieve vegetation to satisfactorily comply with ARM 17.24.815;
- (f) available agricultural school studies or other scientific data for areas with comparable soils, climate, and management (including water management) that demonstrate that the proposed method of reclamation will achieve, within a reasonable time, equivalent or higher levels of yield after disturbance as existed before disturbance;
- (g) if the use of other soils or materials is proposed, documentation, such as agricultural school studies or other scientific data from comparable areas, demonstrating that the use of these soils or materials, instead of the A, E, B, or C horizons of the prime farmland soils, can achieve soil productive capacities in accordance with 82-4-232(3)(a) and (b), MCA. Any proposals to use said substitutes must document compliance with ARM 17.24.703, if applicable;
- (h) a description of the reference area(s) of prime farmland that lie outside of the area proposed for disturbance but in the vicinity of the proposed mining operation. If reference areas in the vicinity of the mining operation are not present, the applicant shall describe reference areas more distant from the proposed operation. In all cases, reference areas must be selected and used in accordance with ARM 17.24.815(2), in determining revegetative success of disturbed and reclaimed prime farmlands;
  - (i) if reference areas in accordance with (h) are not found at all, a demonstration as to how a target yield will be utilized in determining revegetation success in accordance with ARM 17.24.815(2); and
  - (j) vegetative productivity prior to disturbance in accordance with ARM 17.24.304(12)(b)(ii).

(2) Before any permit is issued for areas that include prime farmlands, the department shall consult with the Montana state office of the U.S. natural resources conservation service.

(3) A permit for the mining and reclamation of prime farmland may be granted by the department, if it first finds, in writing, upon the basis of a complete application, that:

(a) the permit incorporates as specific conditions the contents of the plan submitted under (1) after consideration of any revisions to that plan suggested by the Montana state office of the U.S. natural resources conservation service pursuant to (2);

(b) the applicant has the technological capability to restore the prime farmland, within a reasonable time, to equivalent or higher levels of yield as comparable non-mined prime farmland under equivalent levels of management;

(c) the postmining land use of the affected prime farmland will be cropland, special use pasture, grazing land, or wildlife habitat that is consistent with the restoration of the real or potential productivity of the prime farmland; and

(d) the proposed operations will be conducted in compliance with the applicable requirements of ARM 17.24.811 and 17.24.815 through 17.24.825.

(History: 82-4-204, MCA; IMP, 82-4-222, MCA; 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, 1999 MAR p. 811, Eff. 4/23/99; AMD, 2004 MAR p. 2548, Eff. 10/22/04.)

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) 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) 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), 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), no further consideration of this rule is necessary;

(3)(a)(i) Whenever an alluvial valley floor is identified pursuant to (2)(b), 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). 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), and the department is not required to make the findings of (3)(f)(ii)(A) and (B) 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) 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) applies, then the applicant need not submit the information required in (3)(c)(ii)(B) and (C).

(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 one 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 one 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) are not required with regard to alluvial valley floors which meet any of the exclusions of (3)(a)(ii).

(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. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; 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.)

#### 17.24.326 AUGER MINING: SPECIAL APPLICATION REQUIREMENTS

(1) Any application for a permit for operations using auger mining methods must contain, in the mining and reclamation plan, a description of the augering methods to be used and the measures to be used to comply with ARM 17.24.831 through 17.24.833. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042.)

#### 17.24.327 COAL PROCESSING PLANTS AND SUPPORT FACILITIES NOT LOCATED WITHIN A MINE PERMIT AREA: SPECIAL APPLICATION REQUIREMENTS

(1) This rule applies to any person who intends to operate a coal preparation plant, processing plant or support facility not located within a permit area of a specific mine. Any person who intends to operate such a processing plant or support facility shall obtain a permit from the department in accordance with the requirements of this subchapter.

(2) Any application for a permit for operations covered by this rule must contain in the mining and reclamation plan, specific plans, including descriptions, maps, and cross-sections of the construction, operation, maintenance, and removal of the preparation plant, processing plant and associated support facility. The plan must demonstrate that those operations will be conducted in compliance with all applicable rules. (History: 82-4-204, 82-4-205, MCA; IMP, 82-4-222, MCA; NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; TRANS, from DSL, 1996 MAR p. 3042; AMD, 1999 MAR p. 811, Eff. 4/23/99.)

