

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND QUALITY DIVISION

CHAPTER 1

AUTHORITIES AND DEFINITIONS FOR COAL MINING OPERATIONS

Section 1. **Authority.** These rules and regulations are adopted by the Environmental Quality Council and the Administrator of the Land Quality Division pursuant to the authority granted the Council and the Administrator by the Wyoming Environmental Quality Act, Sections 35-11-101 through 35-11-1104, Wyoming Statutes, 1977, as amended. These rules and regulations are effective upon filing with the Secretary of State. They become an official part of Wyoming's coal regulatory program when approved by the U.S. Secretary of the Interior or his designee.

Section 2. **Definitions.** The definitions included in the Wyoming Environmental Quality Act, are hereby adopted by this reference. All references to the "Act" herein refer to the Wyoming Environmental Quality Act, as amended.

(a) "Acid drainage" means water with a pH of less than 6.0 and in which total acidity exceeds total alkalinity, discharged from an active or inactive mine or from an area affected by mining and reclamation operations.

(b) "Acid-forming materials" means earth materials that contain sulfide minerals or other minerals which exist in a natural state or if exposed to air, water or weathering processes, will cause acid conditions that may hinder plant establishment or create acid drainage.

(c) "Adjacent areas" means land located outside the permit area upon which air, surface water, groundwater, fish, wildlife, or other resources protected by the Act may reasonably be expected to be adversely impacted by mining or reclamation operations. Unless otherwise specified by the Administrator, this area shall be presumptively limited to lands within one-half mile of the proposed permit area.

(d) "Administrator" means the Administrator of the Division of Land Quality.

(e) "Amendment" means the addition of new lands to a previously approved permit area, as allowed by W. S. § 35-11-406(a)(xii).

(f) "Annual" means a plant which completes its life cycle in 12 months or fewer.

(g) "Applicant" means any "person" seeking a permit, permit revision, renewal, transfer, or other approval from the Administrator to conduct mining and

reclamation operations, or "person" seeking a license to explore, but does not include subsidiaries or parents of the "person," as "person" is defined in W.S. § 35-11-103(a)(vi).

(h) "Approximate original contour" means that surface configuration achieved by backfilling and grading of the mined areas so that the reclaimed land surface closely resembles the general surface configuration of the land prior to mining and blends into and complements the drainage pattern of the surrounding terrain.

(i) "Aquifer" is a zone, stratum or group of strata that stores and transmits water in sufficient quantities for a specific use.

(j) "Augmented seeding" means reseeding in response to the unsuccessful germination, establishment or permanence of revegetation efforts. Augmented seeding resets the applicable liability period. A synonym is reseeding.

(k) "Barren" means any land unit devoid of vegetation, or practically so.

(l) "Baseline vegetation inventory" means a vegetation sampling program executed prior to any significant surface disturbance cause by proposed mining activities. The inventory will quantitatively and qualitatively classify the different plant communities to the specification of Wyoming State Law.

(m) "Belt transect" means a rectangular sampling plot used for the estimation of shrub density (premining and postmining) and postmining species diversity and species composition, each belt transect shall be at least 100 square meters and shall be established by either offsetting on half meter on each side of the base transect or by consistently offsetting one meter from one side of the base transect.

(n) "Best practicable Technology" means a technology based on methods and processes that are both practicable and reasonably economic and is justifiable in terms of existing performance and achievability in relation to the establishment of shrubs in the required density, aerial extent and species.

(o) "Best technology currently available" means equipment, devices, systems, methods, or techniques which, as determined by the Administrator, are currently available and practicable, and will:

(i) Prevent, to the extent possible, additional contributions of suspended solids to streamflow or runoff outside the affected land or permit area. But in no case shall contributions exceed requirements set by applicable State or Federal laws, and

(ii) Minimize, to the extent possible, disturbances and adverse impacts on fish, wildlife and related environmental values, and achieve enhancement of those resources where practicable.

(p) "Biennial" means a plant that lives for two years, producing vegetative growth the first year and usually blooming and fruiting and senescing in the second year and then dying.

(q) "Bond" means a surety or self-bond instrument by which the permit applicant assures faithful performance of all requirements of the Act, all rules and regulations promulgated thereunder, and the provisions of the permit and license to mine. This term shall also include the following, which the operator has deposited with the Department of Environmental Quality in lieu of a Surety Bond or Self-Bond Instrument:

(i) Federal insured certificates of deposit;

(ii) Cash;

(iii) Government securities;

(iv) Irrevocable letters of credit;

(v) An alternative method of financial assurance that is acceptable to the Administrator and provides for a comparable level of assurance for performance of reclamation obligations. The alternative method of financial assurance must first be approved by the Office of Surface Mining; or

(vi) A combination of any of these bonding methods.

(r) "Bond responsibility period" means the minimum 10 year period during which the bond, in part or wholly, remains in effect.

(s) "Cactus" means any member of the Cactaceae plant family. Members of the Cactaceae plant family are in the lifeform category of succulent.

(t) "Coal exploration" means either:

(i) The field gathering of surface or subsurface geologic, physical, or chemical data by mapping, trenching, drilling, geophysical or other techniques necessary to determine the quality and quantity of overburden and coal of an area. If this activity results in the extraction of coal, the coal shall not be offered for commercial sale (except for test burns); or

(ii) The gathering of environmental data to establish the conditions of an area before beginning coal mining and reclamation operations.

(u) "Coal mine waste" means coal-processing waste and underground development waste.

(v) "Coal preparation plant" means a facility where coal is subjected to chemical or physical processing or cleaning, concentrating, or other processing or preparation. It includes facilities associated with coal preparation activities, including, but not limited to the following: loading facilities; storage and stockpile facilities; sheds, shops, and other buildings; water treatment and water storage facilities; settling basins and impoundments; and coal-processing and other waste disposal areas.

(w) "Coal-processing waste" means earthen materials which are wasted or otherwise separated from product coal during cleaning, concentrating or other processing or preparation of coal.

(x) "Combustible material" means organic material that is capable of burning.

(y) "Compaction" means the reduction of pore spaces among particles of soil or rock, generally done by controlled placement and running heavy equipment over the earthen material.

(z) "Cool season" means a plant which generally makes the major portion of its growth during late fall, winter, and early spring. Cool season species generally exhibit the C3 photosynthetic pathway.

(aa) "Cover" means the percent of the ground surface which is covered by the vertical projection of objects on or above that ground surface. The objects may include standing plant material and cryptogams, litter or rock. "Absolute cover" means the percent cover of a given category independent of other categories. The following cover categories or descriptions used are:

(i) "Absolute cover of litter" means the percent of the ground surface which is overlain by litter;

(ii) "Absolute cover of rock" means the percent of the ground surface which is covered by rock;

(iii) "Absolute cover of vegetation" means the percent of the ground surface which is covered by the vertical projections of all live vascular plants;

(iv) "Absolute cover of vegetation by species" means the percent of the ground surface covered by individual live vascular plants;

(v) "Absolute cover of cryptogams" means the percent of the ground surface which is covered by cryptogams.

(vi) "Absolute cover of total ground cover" means the sum of vegetation, cryptogams, litter and rock cover.

(vii) "Absolute cover of bare ground" means the percent of the ground surface which is not covered by the vertical projection of vascular plants and cryptogams, litter or rock.

(viii) "Relative cover" means the expression of any number of cover categories in relation to each other such that the sum of the chosen relative cover values total 100 percent.

(ab) "Cover crop" means a preparatory crop of one or more species seeded and grown prior to the seeding of the permanent seed mixture, for the chief purpose of protecting the soil from erosion and also for improving the soil fertility and structure. The term is synonymous with stubble crop and is considered a type of mulch.

(ac) "Critical habitat" means those areas essential to the survival and recovery of species listed by the Secretary of the Interior as threatened or endangered under the authority of 50 CFR, Part 17.

(ad) "Crucial habitat" means those areas, designated as such by the Wyoming Game and Fish Department, which determine a population's ability to maintain and reproduce itself at a certain level over the long term.

(ae) "Cryptogam" means a plant (vascular or non-vascular) that reproduces by spores rather than seeds. A plant in any of these groups: Lichens, Bryophytes (mosses, liverworts, hornworts), Pteridophytes (ferns, moonworts, horsetail, club mosses, spike mosses, quillworts, pepperwort) will be considered cryptogams.

(af) "Density means the number of individuals per unit area.

(ag) "Designated authorized representative" means, for the purposes of issuing a cessation order, either the Administrator, the district engineer, or other qualified inspector designated by the Director.

(ah) "Developmental drilling" means drilling down to and including the lowest coal seam to be mined which occurs in or within 500 feet of an active mine pit.

(ai) "Discoverer" means any person conducting or intending to conduct any exploration by drilling. This includes locator, owner or agent thereof who will drill or has drilled the hole.

(aj) "Diversion" means a channel, embankment, device, or other man-made structure constructed for the purpose of diverting water from one area to another.

(i) "Permanent diversion" means a diversion remaining after bond release.

(ii) "Temporary diversion" means a diversion utilized during mining or reclamation operations, which must be removed and reclaimed prior to bond release.

(ak) "Dominant" means for the purpose of calculating Chapter 4 shrub restoration performance standard, the full shrub or subshrub species with the greatest relative density.

(al) "Drill site" means all areas of land that are or will be disturbed or utilized by exploration drilling. This area includes drill holes or other drilled excavations, drilling pads, and areas disturbed by mud pits, and any land over which drilling mud mixtures overflow or may disturb.

(am) "Eligible land" means all land to be affected by a mining operation after August 6, 1996 which carries the grazingland land use designation and all affected pastureland land use units which have a full shrub density greater than one full shrub per square meter. Pastureland is eligible only if the land units are included in a new permit or permit amendment application which is submitted to the Administrator after approval of this rule by the Office of Surface Mining.

(an) "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 other similar purposes.

(ao) "Endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range and which has been listed under the federal Endangered Species Act.

(ap) "Enhancement wetland" means a reclaimed postmining wetland which exceeds the minimum required mitigation wetlands acreage required by the Army Corps of Engineers under Section 404 of the Federal Clean Water Act.

(aq) "Ephemeral stream" means a stream which flows only in direct response to precipitation in the immediate watershed or in response to snow melt, and which has a channel bottom that is always above the prevailing water table.

(ar) "Essential hydrologic functions" means with respect to alluvial valley floors, those conditions of surface and groundwater hydrology that make water of a suitable quality and quantity usefully available for subirrigation or flood irrigation agricultural activities. These conditions may include, but are not limited to, the erosional state of the stream, the surface water balance, the groundwater balance, the physical and chemical properties of the soils, water and substrata, and topographic configuration.

(as) "Establishment practices" means practices used to facilitate actual establishment of targeted plants and are not intended to continue throughout the bond

responsibility period. These practices are acceptable practices, but delay the start of the bond responsibility period until they are discontinued.

(at) "Excess spoil" means spoil material disposed in a location other than the mined-out area, except that spoil material used to achieve the approximate original contour or to blend the mined-out area with the surrounding terrain.

(au) "Existing structure" means a structure or facility used in connection with or to facilitate coal mining and reclamation operations for which construction begins prior to the approval of a State program pursuant to Section 503 of P.L. 95-87.

(av) "Exploration area" means, for bonding purposes, one or more drill sites, comprising an integrated project conducted by a discoverer within one of the three districts presently established by the Land Quality Division of the Department of Environmental Quality.

(aw) "Exploration by drilling" means any exploration drilling for the purpose of gathering subsurface geologic, physical or chemical data to determine the location, quantity or quality of the natural mineral deposit of an area, excluding holes drilled for use as water wells.

(ax) "Farm" means, with respect to alluvial valley floors, one or more land units on which agricultural activities are conducted. A farm is generally considered to be the 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 surface coal mining operations.

(ay) "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.

(az) "Forb" means any herbaceous plant species other than the members of the grass (Poaceae [Gramineae]), sedge (Cyperaceae) or rush (Juncaceae) plant families.

(ba) "Full shrub" means a perennial woody plant which differs from a tree by normally being shorter in height and by often having several stems arising near the base.

(bb) "Gel strength" means the minimum shear stress which results in permanent deformation of a gel.

(bc) "General area" means, with respect to hydrology, the topographic and groundwater basin surrounding a permit area which is of sufficient size, including areal extent and depth, to allow assessment of the impacts resulting from the mining operation

on the quality and quantity of surface water and groundwater systems in the basins, including consideration of the interaction of the impacts with adjacent mines.

(bd) "Graminoid" means a plant species of the grass (Poaceae [Gramineae]), sedge (Cyperaceae) or rush (Juncaceae) plant families.

(be) "Grass" means a plant species of the Poaceae (Gramineae) plant family.

(bf) "Grass-like" means a plant species of the sedge (Cyperaceae) or rush (Juncaceae) plant families that vegetatively resemble members of the grass family Poaceae (Gramineae).

(bg) "Grazing exclosure" means a land unit surrounded and/or covered by fencing or other materials which prevents livestock grazing in order to more accurately estimate the current year's herbaceous production on the land unit.

(bh) "Groundwater" means subsurface water that fills available openings in rock or soil materials such that they may be considered water-saturated.

(bi) "Hazardous materials" means any material or substance which results from or is encountered in a mining operation which could reasonably be expected to cause physical harm if not controlled in an approved manner.

(bj) "Highest previous use" means a sustainable use of the land which has the greatest economic and social values to the people of the area prior to the commencement of the mining operation.

(bk) "Highwall" means the face of exposed overburden or coal in an open cut of a surface mine or entry to an underground mine.

(bl) "History of intensive agricultural use" means those lands which, if nonirrigated, have had a cultivated crop, small grains or hay crops harvested for five out of any ten year period, or if irrigated has water of sufficient quantity to sustain production of cultivated crops, small grain, or hay crops for eight out of ten years and have had a cultivated crop, small grain, or hay crop harvested for any one year.

(bm) "Husbandry practice" means, when preceded by the word "normal", those management practices that may be used to achieve revegetation success without restarting the bond responsibility period.

(bn) "Hydrologic balance" means the relationship between the quality and quantity of inflow to, outflow from, and storage in a hydrologic unit such as a drainage basin, aquifer, soil zone, lake or reservoir. It encompasses the quantity and quality relationships between precipitation, runoff, evaporation, and the change in ground and surface water storage.



(bo) "Hydrologic regime" means the entire state of water movement in a given area. It is a function of the climate and includes the phenomena by which water first occurs as atmospheric water vapor, passes into a liquid or solid form and falls as precipitation, moves thence along or into the ground surface, and returns to the atmosphere as vapor by means of evaporation and transpiration.

(bp) "Imminent danger to the public" means the existence of any condition or practice, or any violation of a permit or other requirements of the Act in a coal mining and reclamation operation, which could reasonably be expected to cause substantial physical harm to persons outside the permit area before the condition, practice, or violation can be abated. A reasonable expectation of death or serious injury before abatement exists if a rational person, subjected to the same condition or practice giving rise to the peril, would avoid exposure to the danger during the time necessary for abatement.

(bq) "Important habitat" means that habitat which, in limited availability, supports or encourages a maximum diversity of wildlife species or fulfills one or more living requirements of a wildlife species. Examples of important habitat include, but are not limited to, wetlands, riparian areas, rimrocks, areas offering special shelter or protection, reproduction and nursery areas, and wintering areas.

(br) "Impoundment" means a closed basin formed naturally or artificially built which is dammed or excavated for the retention of water, slurry or other liquid or semi-liquid material. A permanent impoundment is a structure that will remain after final bond release.

(bs) "Inclusion" means, with respect to vegetation, an area no more than two acres in size, which is distinctly different from the surrounding vegetation community due to substantial, visible differences in species composition, cover, or production.

(bt) "Intermittent stream" means a stream or part of a stream that is below the local water table for some part of the year, but is not a perennial stream.

(bu) "Interseed" means a secondary seeding into established vegetation in order to improve composition, diversity or seasonality. Interseeding is done to enhance revegetation rather than to augment the revegetation that is unsuccessful in terms of germination, establishment, or permanence.

(bv) "Introduced" means a plant species that is not a component of the original flora of North America.

(bw) "Irreparable harm to the environment" means, for the purpose of W.S. § 35-11-406(o), any damage to the environment in violation of the Act or regulations, that cannot be corrected by actions of the applicant.

(bx) “Joint agency approval” means, for coal mining operations, the approval of mining or reclamation plans that would adversely affect any publicly owned park or any place included in the National Register of Historic Places by the federal, state, or local agency with jurisdiction over the park or place.

(by) “Land use” means for coal mining operations, specific uses or management-related activities, rather than the vegetation or cover of the land. Land uses may be identified in combination when joint or seasonal uses occur. Changes of land use or uses from one of the following categories to another shall be considered as a change to an alternative land use which is subject to approval by the Administrator. Land used for mine facilities in support of the operations which are adjacent to or an integral part of these operations are also included. Support facilities include, but are not limited to, parking, storage or shipping facilities.

(i) “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.

(ii) “Pastureland” means 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. In addition, for the purpose of determining premining land use, the relative cover of introduced perennial forage species must be greater than 40% of the relative cover of total vegetation in order for the land to be pastureland. If the full shrub density is greater than one shrub per square meter on those lands, the land use is still pastureland but the land is also “eligible land” in terms of shrub reclamation.

(iii) “Grazingland” means rangelands and forest lands where the indigenous native vegetation is actively managed for grazing, browsing, and occasional hay production, and occasional use by wildlife.

(iv) “Forestry” means land used or managed for the long-term production of wood, wood fiber, or wood-derived products.

(v) “Residential” means land used for single and multiple-family housing, mobile-home parks, and other residential lodgings.

(vi) “Industrial commercial” means land used for:

(A) 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 and such short-term uses as petroleum refining and oil and gas production.

(B) Retail or trade of goods or services, including hotels, motels, stores, restaurants, and other commercial establishments.

(vii) “Recreational” means land used for public or private leisure 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.

(viii) “Fish and wildlife habitat” means land dedicated wholly or partially to the production, protection or management of species of fish or wildlife.

(ix) “Developed water resources” means land used for storing water for beneficial uses such as stockponds, irrigation, fire protection, flood control, and water supply.

(x) “Undeveloped land of no current use or land management” means land that is undeveloped or, if previously developed, land that has been allowed to return naturally to an undeveloped state or has been allowed to return to forest through natural succession.

(xi) “Treated grazingland” means grazingland which has been altered to reduce or eliminate shrubs provided such treatment was applied at least five years prior to submission of the state program permit application. However, grazingland altered more than five years prior to submission of the state program permit application on which full shrubs have reestablished to a density of at least one per nine square meters does not qualify as treated grazingland.

(bz) “Lichen” means those organisms formed by the symbiotic relationship between fungal and algal species. For the purpose of estimating ground cover lichens are cryptogams.

(ca) “Life form” means the structure, form, habit, life history and physiology of an organism that display an obvious relationship to important environmental factors in its native or current habitat. For data presentation the preferred life form categories are: annual/biennial forb, annual grass, cryptogam, grass-like, native cool season perennial grass, native warm season perennial grass, introduced perennial grass, perennial forb, shrub, subshrub, succulent and tree.

(cb) “Litter” means, for the purposes of estimating ground cover, the uppermost layer of organic debris, usually considered to be the standing dead, freshly fallen or slightly decomposed vegetal material on the soil surface. Decomposing plant material which has lost its structural integrity or which is no longer recognizable as plant tissue is not litter.

(cc) “Major species” means a plant species whose relative cover value equals or exceeds two percent as estimated by a quantitative sampling program.

(cd) “Material damage to the hydrologic balance” means a significant long-term or permanent adverse change to the hydrologic regime.

(ce) “Materially damage the quantity or quality of water” means, with respect to alluvial valley floors, changes in the quality or quantity of the water supply to any portion of an alluvial valley floor where such changes are caused by coal mining and reclamation operations and result in changes that significantly decrease the capability of the alluvial valley floor to support subirrigation or flood irrigation agricultural activities.

(cf) “Mine facilities” means those structures and areas incidental to the operation of the mine, including mine offices, processing facilities, mineral stockpiles, storage facilities, shipping, loadout and repair facilities, and utility corridors.

(cg) “Mitigation wetland” means a type of reclaimed, postmining wetland authorized and approved by the Army Corps of Engineers as replacement for jurisdictional wetlands whose disturbance was authorized by the Army Corps of Engineers under Section 404 of the Federal Clean Water Act.

(ch) “Monitor well” means a well constructed or utilized to measure static water levels or to obtain liquid, solid, or gaseous analytical samples or other physical data that would be used for controlling the operations or to indicate potential circumstances that could affect the environment.

(ci) “Monitoring” means the collection of environmental and hydrological data by either continuous or periodic sampling methods.

(cj) “Moss” means a member of the Bryophyte plant group, including liverworts and hornworts, which have a comparatively small, simple growth form and which lack true xylem and phloem tissue. For the purposes of estimating ground cover, mosses are cryptogams.

(ck) “Mulch” means plant residue or other suitable materials placed upon the soil surface to aid in soil stabilization and soil moisture conservation.

(cl) “Native” means a plant species which is a component of the original flora of North America.

(cm) “Noxious weed” means an undesirable, troublesome, aggressive or difficult to control plant species whose seeds are severely limited in or totally excluded from commercial seed sales. The Wyoming Department of Agriculture exclusively makes the noxious weed designation, which includes both “designated” and “prohibited”

noxious weeds, under the Wyoming Weed and Pest Control Act. This definition does not include “declared weeds” published by individual Wyoming counties.

(cn) “Outslope” means the face of the spoil or embankment sloping downward from the highest elevation to the toe.

(co) “Perennial” means a plant which takes at least three years to complete its life cycle and usually persists after flowering and producing seed.

(cp) “Perennial stream” means a stream or part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface runoff.

(cq) “Permit area” means the area of land and water within the boundaries of the approved permit or permits during the entire life of the operation and includes all affected lands and water.

(cr) “Permit transfer” means a change in ownership or control over the right to conduct mining operations under a permit or license to mine.

(cs) “Plant species inventory” means a list of plant species, organized by life form and scientific binomial, obtained by conducting a field reconnaissance of a specific land unit.

(ct) “Plotless Sampling” means estimation of vegetation without the use of two-dimensional areal reference units.

(cu) “Point intercept” means a cover estimation method based upon the vertical projection of a point through the vegetation. The point may be an ocular sighting device, a sharpened rod or a series of sharpened rods on a point frame or a handheld sharpened rod. The ocular sighting devices may be either crosshairs or a laser source and shall be mounted on a frame which ensures that each estimation point is projected from above the canopy (maximum of one meter) to the ground surface without bias. Each pin shall be a rod with a sufficiently small or sharpened point which ensures unbiased visual determination of each object intercepted by the pin’s vertical movement from above the canopy to the ground surface. Under the point intercept method, absolute cover at each sample point is determined as follows:

$$\% \text{ absolute cover of A} = \frac{\text{number of hits on A}}{\text{total number of hits}} \times 100$$

(cv) “Potentiometric surface” means the surface that coincides with the static level of water in an aquifer. The surface is represented by the levels to which water from a given aquifer will rise under its full head.

(cw) “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 and duration.

(cx) “Primary shrub species” means, in relation to the shrub standard Option IV, each full shrub and each subshrub species which has a relative density equal to or greater than 0.1 (10 percent). Furthermore, under Option IV, the relative density of fringed sagewort (*Artemisia frigida*) must be equal to or exceed 0.2 (20 percent) of the relative density to qualify as a primary shrub species. Under shrub stand Options I, II, and III, a primary shrub species means each full shrub species which has a relative density equal to or greater than 0.1 (10 percent).

(cy) “Principal shareholder” means any person who is the owner of record of ten percent or more of any class of voting stock.

(cz) “Probable hydrologic consequences” means the projected impacts or changes to the hydrologic regime caused by the proposed coal mining and reclamation operation including the effects of adjacent mining operations.

(da) “Production” means an estimate of the total quantity of herbaceous matter produced within a growing season. The estimate includes all plant parts which remain attached to the current growing season plant and includes only above ground herbaceous material.

(db) “Property to be mined” means, for coal mining operations, both the surface estates and mineral estates within the area covered under the term of the permit and the area covered by underground workings.

(dc) “Public building” means any structure that is owned or leased, and principally used by a governmental agency for business or meetings.

(dd) “Public Parks” means an area designated by a federal, state or local agency for public recreational use.

(de) “Public road” means a road:

(i) Which has been designated as a public road pursuant to the laws of the jurisdiction in which it is located;

(ii) Which is maintained with public funds in a manner similar to other public roads of the same classification within the jurisdiction;

(iii) For which there is substantial (more than incidental) public use;  
and

(iv) Which meets road construction standards for other public roads of the same classification in the local jurisdiction.

(df) “Quadrat” means a two-dimensional, rectangular, square or circular unit which is superimposed on the ground surface for the purpose of estimating cover or production. The quadrat shall be side appropriately for the sampled vegetation community and shall be at least one half square meter but no larger than one square meter.

(dg) “Qualitative” means, in the context of a vegetation sampling program and/or evaluation of sampling data, that the program and/or evaluation process are conducted using non-numerical information derived from defined sources and/or defined field reconnaissance regimes.

(dh) “Quantitative” means, in the context of a vegetation sampling program and/or evaluation of sampling data, that the program and/or evaluation processes are conducted using statistical analyses of numerical data derived from defined sampling regimes.

(di) “Random” means every point or location in an area has an equal chance of being chosen for sampling as any other point in that area.

(dj) “Recharge capacity” means the ability of the soils and underlying materials to allow precipitation and runoff to infiltrate and reach the zone of saturation.

(dk) “Reclaimed land surface” means affected land which has been backfilled, graded, contoured, and revegetated in accordance with an approved reclamation plan.

(dl) “Reference area” means a land unit established to evaluate revegetation success. A “Reference area” is representative of a vegetation community or communities that will be affected by mining activities, in terms of physiography, soils, vegetation and land use history. The “Reference area” and its corresponding postmine vegetation community (or communities) must be approved by LQD and shall be defined in the approved Reclamation Plan. All “Reference areas” shall be managed to not cause significant changes in the vegetation parameters which will be used to evaluate Chapter 4 revegetation success performance standards. A “Reference area” can be a “Comparison area”, “Control area”, “Extended reference area”, or “Limited reference area”, depending on how it is established and used, in accordance with the following provisions:

(i) “Comparison area” means a type of “Reference area” that is established after a vegetation community has been affected. A qualitative determination shall be used to evaluate if the proposed “Comparison area” adequately represents the affected vegetation community. A “Comparison area” may be used when other types of “Reference areas” are not available for measuring revegetation success or when other types of “Reference areas” will not be representative of revegetation success.

“Comparison areas” shall be approved by the Administrator prior to their establishment. When evaluating Chapter 4 revegetation success performance standards, data from the “Comparison areas” are directly compared by statistical procedures to data from the reclaimed area.

(ii) “Control area” means a type of “Reference area” that is established during baseline sampling. Quantitative comparisons of vegetation cover, total ground cover, and production between the proposed “Control area” and the vegetation community to be affected are used to demonstrate the representative nature of the “Control area”. When evaluating revegetation success, baseline data are climatically adjusted using equations. These adjusted data are directly compared by statistical procedures to vegetation data from the reclaimed area. The Administrator may determine to make a direct comparison without the climatic adjustment between the “Control area” and the reclaimed area. Each “Control area” shall be at least two acres.

(iii) “Extended reference area” means a type of a “Reference area” that includes a major portion of one or more premine vegetation communities within the permit area. During baseline sampling, the “Extended reference area” includes areas proposed to be affected and areas that will be unaffected. Postmine, the unaffected areas constitute the “Reference area” for revegetation success evaluation. “Extended reference areas” should be established during baseline sampling, but in some circumstances, may be established after mining begins. The representative nature of the vegetation community within the “Extended reference area” is demonstrated by vegetation community mapping procedures, sampling data, soil data, physiography and land use history. To evaluate revegetation success, data from the “Extended reference area” are directly compared by the statistical procedures to data from the reclaimed area. Each “Extended reference area” will be as large as possible.

(iv) “Limited reference area” is one type of a “Reference area” that is established during baseline sampling to represent one vegetation community to be reestablished. The representative nature of the “Limited reference area” is determined by quantitative comparisons of vegetation cover, and production between the “Limited reference area” and proposed affected areas at the 90 percent confidence level. To evaluate revegetation success, data from the “Limited reference area” are directly compared by statistical procedures to data from the reclaimed area. Each “Limited reference area” shall be at least five acres.

(dm) “Regulatory categories” means the following time frames that encompass the major regulatory periods from which the different performance standards and reclamation standards for specified lands within the permit area are established:

(i) “Category 1” means those lands which were affected to conduct and/or support mining operations and were completed or substantially completed prior to May 24, 1969 (the implementation date of the Open Cut Land Reclamation Act).



(ii) “Category 2” means those lands which were affected on or after May 24, 1969 (the implementation date of the Open Cut Land Reclamation Act) in order to conduct and/or support mining operations and were completed or substantially completed prior to or on June 30, 1973 (day prior to the effective date of the Wyoming Environmental Quality Act).

(iii) “Category 3” means those affected lands and support facilities if those lands supported operations which were not completed or substantially completed prior to July 1, 1973 (the effective date of the Wyoming Environmental Quality Act) and any affected lands or support facilities taken out of use on or after July 1, 1973 and before May 25, 1975 (the effective date of the Division’s 1975 Rules and Regulations).

(iv) “Category 4” means those affected lands if coal was removed from those land prior to May 3, 1978 and which do not qualify for any of the previous categories. It also means those affected lands and support facilities if they were taken out of use on or after May 25, 1975 (the effective date of the Division’s 1975 Rules and Regulations) and before May 3, 1978 (the effective date of the Office of Surface Mining’s (OSM) Initial Regulatory Program).

(v) “Category 5” means those affected lands and support facilities if coal was not removed from those lands prior to May 3, 1978 (the effective date of OSM’s Initial Regulatory Program) or those lands were used on or after May 3, 1978 to facilitate mining (including support facilities and associated lands constructed before May 3, 1978 but still in use on or after May 3, 1978.)

(dn) “Revised mining or reclamation operations” means mining and/or reclamation operations conducted during the term of a permit which differ from those operations described in the original mine permit application and approved under the original permit.

(do) "Road(s)" means a surface corridor of affected land associated with travel by land vehicles used in coal mining and reclamation operations or coal exploration. A road consists of the roadbed, shoulders, parking and side areas, approaches, structures, ditches, and surface. The term includes access and haulroads constructed, used, reconstructed, improved, or maintained for use in coal mining and reclamation operations or coal exploration, including use by coal hauling vehicles to and from transfer, processing, or storage areas. The term does not include ramps and routes of travel within the immediate mining area or within spoil or coal mine waste disposal areas. Immediate mining area refers to areas subject to frequent surface changes. This includes areas where topsoil and overburden are being moved and areas undergoing active reclamation.

(dp) “Rock” means, for the purposes of estimating ground cover, mineral or rock fragments which are one square centimeter in size or larger and occur on or in the soil. A synonym is coarse fragments.

(dq) “Rough Backfilling” means replacement of sufficient material in the pit or pits including special disposal practices for toxic and acid-forming materials, special handling and placement of materials for stream reconstruction or alluvial valley floors, and compaction as required so as to render the affected area in a condition whereby the reclaimed land surface generally resembles the approved postmining contours.

(dr) "Safety factor" means the ratio of the available shear strength to the developed shear stress on a potential surface of sliding determined by accepted engineering practice.

(ds) “Sample unit” means for the purposes of verifying certain Chapter 4 performance standards and applying for Chapter 15 incremental bond release, a permanently reclaimed land unit established by mutual agreement between the permittee and the Administrator. The unit constitutes the fundamental unit for revegetation success verification. The unit may contain portions of one or more vegetation communities.

(dt) “Seasonal variety” means the characteristic or normal season of growth of a plant species where season of growth is described as cool-season or warm-season.

(du) “Sedimentation pond” means a sediment control structure designed, constructed, and maintained to slow down or impound precipitation runoff to reduce sediment concentrations in a point source discharge, including dams or excavated depressions. The term does not include straw dikes, riprap, check dams, mulches, collection ditches, toe ditches, vegetative buffers, gabions, contour furrows and other traditional soil conservation techniques and non-point source runoff controls.

(dv) “Self-renewing” means a plant species which has a demonstrated capacity to germinate, establish, grow, flower and produce viable seed and/or mature and produce vegetative reproductive structures under the climatic regime which prevails on the reclaimed lands.

(dw) “Semi-quantitative” means, in the context of a vegetation sampling program and/or evaluation of sampling data that the program and/or evaluation process is/are conducted using a non-statistical assessment of numerical data derived from a defined field reconnaissance regime.

(dx) “Shrub” means a perennial plant with persistent, woody stems and which produces several basal shoots instead of a single main stem. Shrubs have a relatively low growth form and differ from trees by their low stature and lack of arborescent form. A synonym is full shrub.

(dy) “Shrub mosaic” means a pattern of shrub patches. The boundary of a mosaic unit encompasses the areal extent of the individual shrub patches and the reclaimed community occupying the land among the shrub patches.

(dz) “Shrub patch” means a mapable concentration of postmining shrubs which is at least 0.05 acres in extent and which intends to fulfill the shrub density and shrub composition required by Chapter 4 shrub restoration performance standard.

(ea) “Significant, imminent environmental harm to land, air or water resources” means:

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

(ii) An environmental harm is imminent, if a condition, practice, or violation exists which:

(A) Is causing such harm; or

(B) May reasonably be expected to cause such harm at any time before the end of the reasonable abatement time.

(iii) An environmental harm is significant if the harm is appreciable, not contemplated in the approved permit application, and not immediately repairable.

(eb) “Soil Horizons” means contrasting layers of soil material approximately parallel to the land surface and differing from adjacent layers in physical, chemical and biological properties or characteristics.

(i) “A Horizon” means the uppermost mineral or organic layer, often referred to as the surface soil. It is the part of the soil in which organic matter is most abundant and leaching of soluble or suspended particles is typically the greatest.

(ii) “E Horizon” means the layer commonly near the surface below the A Horizon and above the B Horizon. An E Horizon is the most commonly differentiated from an overlying A Horizon by lighter color and generally, has measurably less organic matter, and from the underlying B Horizon in the same sequum by color of higher value or lower chroma, by coarser texture, or by a combination of these properties.

(iii) “B Horizon” means the layer that typically is immediately beneath the E Horizon and often called the subsoil. This middle layer commonly contains more clay, iron, and aluminum than the A, E or C Horizons.

(iv) “C Horizon” means the deepest layer of soil profile. It consists of loose material or weathered rock that is relatively unaffected by biological activity, and is often called the subsoil.

(ec) “Soil survey” means a field and other investigation which results in a map showing the geographic distribution of different kinds of soils based on taxonomic

characteristics and includes a report that describes, classifies and interprets such soils for use in reclamation.

(ed) “Species composition” means number, kinds and amount of species.

(ee) “Species diversity” means number of species per unit area.

(ef) “Species lacking creditable value” means the cover and production of these species will be estimated but will not be credited or counted towards meeting the revegetation success standards for cover, production or species diversity and composition. Species lacking creditable value include noxious weeds listed under the Wyoming Weed and Pest Control Act, *Bromus japonicus*, *Bromus tectorum*, *Taeniatherum caput-medusae*, *Halogeton glomeratus*, *Kochia scoparia* and *Salsola tragus* and all synonyms for these species as listed in the Natural Resources Conservation Service’s Plants Database.

(eg) “Species of Special Concern” means those plant species required to be surveyed by the U.S. Fish and Wildlife Service, U.S. Forest Service, and Bureau of Land Management.

(eh) “Spoil” means overburden removed during the mining operation to expose the mineral and does not include the marketable mineral, subsoil or topsoil.

(ei) “Stabilize” means to control movement of spoil, spoil piles, or areas of disturbed earth by modifying the geometry of the mass, adding control structures, or by otherwise modifying physical or chemical properties.

(ej) “Stagnant water” means naturally or artificially impounded water which, because of its poor quality or shallow depth, is unusable for livestock or wildlife watering, wildlife habitat, or recreational uses.

(ek) “Steep slope” means any slope of more than 20 degrees or such lesser slope as may be designated by the Administrator after consideration of soil, climate, and other characteristics of the area.

(el) “Study area” means the land surface area which was mapped and quantitatively sampled during the baseline vegetation inventory. The study area generally coincides with the permit area (or amendment area) but may exceed those boundaries with prior approval from the Administrator.

(em) “Subirrigation” means, with respect to alluvial valley floors, the supplying of water to plants from underneath or from a semi-saturated or saturated subsurface zone where water is available for use by vegetation.

(en) "Subirrigation or flood irrigation agricultural activities" means the past

and present use of any tract of land for the successful production of animal or vegetable life, based on regional agricultural practices, where the use is enhanced or facilitated by subirrigation or flood irrigation. These uses include, but are not limited to, the pasturing, grazing, and the cropping, cultivation, or harvesting of agriculturally useful plants whose production is enhanced or facilitated by the availability of water from subirrigation or flood irrigation. These uses do not include agricultural practices which do not benefit from the availability of water from subirrigation or flood irrigation.

(eo) “Subshrub” means a perennial plant with a persistent, woody base and which produces several basal shoots or stems. The upper stems die back at the end of each growing season. Half-shrub is a synonym.

(ep) “Subsidence” means the measurable lowering of a portion of the earth's surface or substrata.

(eq) “Subsoil” means the B and C Horizons excluding consolidated bedrock material.

(er) “Substantially affect” means to conduct activity which, in the determination of the Administrator will significantly impact land, air or water resources so as to disturb the natural land surface.

(es) “Substantially complete” means, for the purposes of determining the appropriate regulatory category of affected lands, the overburden was removed above the coal and some recoverable tons were removed from those lands.

(et) “Substantially disturb” means, for purposes of coal exploration, to significantly impact land or water resources by blasting; by destruction of the vegetative cover or removal of topsoil, subsoil or overburden; by drilling coal exploratory holes; by digging pits; by construction of roads or other access routes; by placement of excavated earthen or waste material on the natural land surface or by other such activities; or to remove more than 250 tons of coal.

(eu) “Succulent” means a plant species with one or more of its morphological parts exhibiting fleshy or juicy characteristics.

(ev) “Surface water” means water, either flowing or standing, on the surface of the earth.

(ew) “Suspended solids” means organic or inorganic material carried or held in suspension in water which are retained by a standard glass fiber filter in the procedure outlined by Environmental Protection Agency's regulations for waste water analyses (40 CFR 136).

(ex) “Systematic sampling” means a sampling design where sample locations

are selected using uniform spatial pattern, such as a grid, that covers the entire sample population area, and where all locations are sampled. The first sample point is randomly selected, and the locations of all other sample points are determined by the initial location. Calculations for systematic sampling may be done by assuming the sample is random.

(ey) "Technical revegetation success standard" means a set of quantitative data which are representative of the absolute cover of total vegetation and annual herbaceous production of one or more premining vegetation communities affected by the mining operation. Each technical standard shall be assembled from quantitative data collected from vegetation communities within a permit area and/or from adjacent lands and shall be based upon a minimum of five independent sampling programs executed over a minimum of five years. The Administrator shall approve the specific data sets and the quantitative treatment of the data sets used to establish each technical standard.

(ez) "Threatened species" means any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and which has been listed under the Federal Endangered Species Act.

(fa) "Topsoil" means the A and E Horizons or any combination thereof.

(fb) "Toxic materials" means earthen materials or refuse which, if acted upon by air, water, weather, or microbiological processes, are likely to produce chemical or physical conditions in soils or water that are detrimental to biota or would restrict the common uses of water.

(fc) "Toxic mine drainage" means water that is discharged from active or abandoned mines and other areas affected by coal mining operations and which contains a substance which 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.

(fd) "Trade secret" means, for purposes of coal mining or exploration operations:

(i) Information pertaining to the analyses of the chemical and physical properties of the coal (excepting information regarding such mineral or elemental content which is potentially toxic in the environment) may be kept confidential in accordance with W.S. § 35-11-1101(a);

(ii) Information pertaining to the coal seam itself, except as to any person who demonstrates to the satisfaction of the Director an interest which is or may be adversely affected by the decision to hold such information confidential; and

(iii) Information relating to coal exploration operations which concerns privileged commercial or financial information relating to the competitive rights of the

person intending to conduct the coal exploration operations.

(fe) “Transect” means a sampling method which involves the establishment of a long, continuous line or strip. The starting point and orientation of the line should be randomly established.

(ff) “Tree” means a woody, perennial plant which usually has a single trunk or stem and a defined crown shape and which has the potential to reach a mature height of at least four meters in optimal conditions.

(fg) “Unconsolidated streamlaid deposits” means earthen material transported and deposited within a body of water flowing downslope along a definite path. Flood plains and terraces located in the lower portions of topographic valleys are generally composed of unconsolidated streamlaid deposits.

(fh) “Underground development waste” means earthen materials excavated, moved, and disposed of from underground workings in connection with mining activities.

(fi) “Underground mining activities” means a combination of:

(i) Underground operations necessary for the extraction of solid minerals by man-made excavations underneath the surface of the earth; and

(ii) For the extraction of coal, surface operations incident to the underground operation such as construction, use, maintenance, and reclamation of roads, surface repair shops, storage areas, etc., and areas on which materials incident to underground operations are placed.

(fj) “Undeveloped rangeland” means unimproved land, the use of which is generally limited to grazing of livestock. Undeveloped rangeland does not include areas within the alluvial valley floor where cultivated crops, small grains, and hay crops have been successfully grown, the land has been improved by the introduction of certain vegetation for enhanced agricultural utility, or native vegetation on the alluvial valley floor contributes substantially to the carrying capacity of a specifically controlled or managed grazing unit.

(fk) “Upland areas” means those geomorphic features located outside the area of unconsolidated streamlaid deposits and may include 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 debris deposited by sheetwash, rillwash, or windblown material.

(fl) "Valid existing rights" means:

(i) Except for haul roads, that a person possesses valid existing rights on August 3, 1977, if the application of any of the prohibitions contained in Chapter 12, Section 1(a)(v) to the property interest that existed on that date would effect a taking of the person's property which would entitle the person to just compensation under the fifth and fourteenth amendments to the United States Constitution;

(ii) For haul roads, valid existing rights means:

(A) A recorded right-of-way, recorded easement or a permit for a coal haul road recorded as of August 3, 1977, or

(B) Any other road in existence as of August 3, 1977.

(iii) A person possesses valid existing rights if the person proposing to conduct coal mining operations can demonstrate that the coal is both needed for, and immediately adjacent to, an ongoing coal mining operation which existed on August 3, 1977. A determination that coal is "needed for" will be based on a finding that the extension of mining is essential to make the coal mining operation as a whole economically viable;

(iv) Where an area comes under the protection of Chapter 12, Section 1(a)(v) after August 3, 1977, valid existing rights shall be found if:

(A) On the date the protection comes into existence, a validly authorized coal mining operation exists on that area; or

(B) The prohibition, if applied to the property interest that exists on the date the protection comes into existence would effect a taking of the person's property which would entitle the person to just compensation under the fifth and fourteenth amendments to the United States Constitution.

(v) Interpretation of the terms of the document relied upon to establish valid existing rights shall be based either upon applicable Wyoming case law concerning interpretation of documents conveying mineral rights or, where no applicable case law exists, upon the usage and custom at the time and place where it came into existence.

(fm) "Vegetation community" means a recognizable group of species growing together.

(fn) "Warm season" means a plant, which makes most or all its growth during the spring, summer, or fall and is usually dormant during the winter. Warm season plants usually exhibit the C-4 photosynthetic pathway.

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



### Section 3. **Applicability.**

(a) All mining operations or operations by which solid minerals are intended to be extracted from the earth, which are commenced or conducted after the effective date of these rules and regulations, shall comply with the requirements hereof, except as specific exemptions are allowed by the Act.

(b) The discretionary exemptions shall be limited as follows:

(i) W.S. § 35-11-401(g), (h) and (j) shall not apply to coal mining operations.

(ii) In order to qualify for the exemption provided for in W.S. § 35-11-401(e)(ii), approval must be obtained from the Administrator for the extraction of any coal after a finding that:

(A) The extraction is necessary to enable the construction to be accomplished and occurs within the right-of-way or boundary of the area directly affected by the construction;

(B) The construction is funded 50 percent or more by funds appropriated or obtained from a government financing agency's budget or general revenue bonds; and

(C) The person agrees to possess on-site documents which show a description of the project, its exact location, and information showing the source, kind and amount of public financing, including the percentage of the entire construction costs represented by the government financing.

(c) If any provision of these regulations or the applicability thereof to any person or circumstances related to coal mining operations is held invalid, the provision or its applicability to other mining operations or circumstances shall not be affected thereby.