

7.0 GLOSSARY

aboriginal – Related to early or primitive cultures in a region. Being the first or earliest known of its kind in a specific region.

ad valorem tax – A tax paid as a percentage of the assessed value of property.

adverse impact – An apparent direct or indirect detrimental effect.

air stagnation event – When air is trapped by poor ventilation due to persistent light or calm winds, and by the presence of inversions.

aliquot – An exact portion.

alkalinity – The degree to which the pH of a substance is greater than 7 (on a scale of 1 to 14).

alluvial deposit – Deposits of clay, silt, sand, gravel, and/or other materials carried by moving surface water, such as streams, and deposited at points of weak water flow; alluvium.

alluvial valley floor (AVF) – An area of unconsolidated stream-laid deposits holding streams with water availability sufficient for subirrigation or flood irrigation agricultural activities (see 30 CFR 701.5).

alluvium – Sorted or semi-sorted sediment consisting of clay, silt, sand, gravel, or other unconsolidated rock material deposited in comparatively recent geologic time by a stream or other body of running water in the bed of that stream or on its flood plain or delta.

alternative – In terms of the National Environmental Policy Act, one of several substitute or alternate proposals that a federal agency is considering in an environmental analysis.

ambient – Surrounding conditions (or environment) in a given place and time.

annual precipitation – The quantity of water that falls yearly in the form of rain, hail, sleet, and snow.

approximate original contour – Postmining surface configuration achieved by backfilling and grading of mined-out areas so that the reclaimed land surface resembles the general surface configuration of the land prior to mining (see 30 CFR 701.5).

aquatic – Living or growing in or on the water.

aquifer – A layer of permeable rock, sand, or gravel that stores and transmits water in sufficient quantities for a specific use.

aquitard – A confining bed that retards but does not totally prevent the flow of water to or from an adjacent aquifer; a leaky confining bed.

area source – A plant site that does not emit any single HAP (Hazardous Air Pollutant) at a rate of 10 tons or greater per year, or any combination of HAPs at a rate of 25 tons or greater per year.

arithmetic mean – The sum of the values of n numbers divided by n. It is usually referred to as simply the “mean” or “average”.

ash – The residual non-combustible matter in coal that comes from included silt, clay, silica, or other substances. The lower the ash content, the better the quality of the coal.

avian – Of, relating to, or derived from birds.

backfill – The operation of refilling an excavation. Also, the material placed in an excavation when it is refilled.

baseline – Conditions, including trends, existing in the human environment before a proposed action is begun; a benchmark state from which the environmental consequences of an action are forecast; the no-action alternative.

beneficial impact – An apparent direct or indirect advantageous effect.

bentonite – A clay formed by the decomposition of volcanic ash which has the ability to absorb large amounts of water and to expand to several times its normal volume; used in adhesives, cements and ceramic fillers.

bonus – That value in excess of the rentals and royalties that is paid to the United States as part of the consideration for receiving a lease for publicly owned minerals [see 43 CFR 3400.0-5(c)].

braided stream – A stream flowing in several dividing and reuniting channels resembling the strands of a braid.

buffer zone – An area between two different land uses that is intended to resist, absorb, or otherwise preclude development or intrusion between the two use areas.

bypass coal – An isolated part of a coal deposit that is not leased and that can only be economically mined in an environmentally sound manner as a part of continued mining by an existing adjacent operation [see 43 CFR 3400.0.5(d)].

clinker (scoria) – Baked and fused rock resulting from in-place burning of coal deposits.

coal bed natural gas (CBNG) – Natural gas (methane) that is generated during the coal-forming process.

coal combustion products (CCPs) – the materials produced primarily from the combustion of coal in coal-fired power plants.

colluvium – Rock fragments, sand, or soil material that accumulates at the base of slopes; slope wash.

confluence – The point at which two or more streams meet.

conglomerate – A rock that contains rounded rock fragments or pebbles cemented together by another mineral substance.

contiguous – Lands or legal subdivisions having a common boundary point.

cooperating agency – An agency which has jurisdiction by law in an action being analyzed in an environmental document and who is requested to participate in the NEPA process by the agency that is responsible for preparing the environmental document [see 40 CFR 1501.6 and 1508.5].

crucial wildlife habitat – Parts of the habitat necessary to sustain a wildlife population during periods of their life cycle. It may be a limiting factor on the population, such as nesting habitat or winter habitat.

cultural resources – The remains of human activity, occupation, or endeavor reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that reveal the nature of historic and prehistoric human events. These resources consist of (1) physical remains, (2) areas where significant human events occurred, and (3) the environment immediately surrounding the resource.

cumulative impact – The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

decertification process – During the 1970s and early 1980s, the PRB emerged as a major coal production region, and coal leasing in the PRB operated as a certified federal coal production region during that period. Under this process, coal leases were sold in parcels of sufficient size to open a new mine or make significant contributions to expanding existing mine operations, as described under 43 CFR 3420. Leasing was developed through this regional process through the 1980s.

In 1982, the BLM temporarily halted coal leasing in the PRB. However, the existing mines continued producing coal, which depleted their leased federal coal reserves. As a result, interest in leasing federal coal to extend mining operations at existing mines in the PRB increased in the late 1980s, but little to no interest in a regional sale to obtain sufficient reserves to open new mines was expressed during that period. The PRB had reached a point where sufficient mining operations had been established to meet expected coal demand.

This “maintenance” lease approach by the operators resulted in an insufficient interest in coal leasing to justify a continued regional leasing approach. In 1990, based on the advice of the Powder River Regional Coal Team (PRRCT), the BLM decertified the region for coal leasing. That decertification process allowed the BLM to begin processing applications by existing mines to lease smaller, individual maintenance tracts of federal coal using the lease by application (LBA) process under the rules of 43 CFR 3425. Many of the federal coal production regions were decertified in the later 1980s, in large part because of a decline of interest in leasing federal coal throughout the country.

decibel – A unit of sound measurement. In general, a sound doubles in loudness for every increase of 10 decibels.

deciview (dv) – A general measure of view impairment (13 deciview equals a view of approximately 60 miles) caused by pollution. A 10 percent change in extinction corresponds to 1.0 dv.

Desorb/desorption – A phenomenon whereby a substance is released from or through a surface.

dip – The angle at which a rock layer is inclined from the horizontal.

direct (or primary) impact – An impact caused by an action that occurs at the same time and place as the action (see 40 CFR 1508.8).

discharge – Any of the ways that ground water comes out of the surface, including through springs, creeks, or being pumped from a well.

dissected upland – An upland or high area in which a large part of the original surface has been deeply cut into by streams.

Dragline – A type of excavating crane that consists of a large bucket and cable ropes suspended out over a long boom arm. The bucket of this apparatus collects the targeted material by pulling the bucket toward itself on the ground with a second rope or cable, elevates the bucket, and dumps the material either on a backfill bank, pile or various mode of transport such as a transport truck. A dragline operation is typically used to remove overburden above coal or for tar-sand mining.

drawdown – The reduction in groundwater quantity in the aquifers as a result of seepage into and dewatering from mine excavations.

eolian/aeolian deposit – Sand and other loose materials carried, formed, or deposited by the wind.

ephemeral stream – A stream or portion thereof that flows occasionally because of surface runoff, and is influenced nominally by natural springs and is not influenced by continuous permanent ground water flow from snow melt or other sources.

erosion – The wearing away of the land surface by running water, wind, ice or other geologic agents.

evapotranspiration – The sum total of water lost from the land by evaporation and plant transpiration.

excavation (archeological) – The scientifically controlled recovery of subsurface materials and information from a cultural site. Recovery techniques are relevant to research problems and are designed to produce maximum knowledge about the site's use, its relation to other sites and the natural environment, and its significance in the maintenance of the cultural system.

fair market value – The amount in cash, or terms reasonably equivalent to cash, for which a coal deposit would be sold or leased by a willing seller to a willing buyer.

fixed carbon – In coal, the solid combustible material remaining after removal of moisture, ash, and volatile matter. It is expressed as a percentage.

floodplain – The relatively flat area or lowland adjoining a body of flowing water, such as a river or stream, that is covered with water when the river or stream overflows its banks.

forage – Vegetation used for food by wildlife, particularly big game wildlife, and domestic livestock.

formation (geologic) – A rock body distinguishable from other rock bodies and useful for mapping or description. Formations may be combined into groups or subdivided into members.

fossil – The remains or traces of an organism or assemblage of organisms that have been preserved by natural processes in the earth's crust. Many minerals that may be of biologic origin that are not considered to be fossils (e.g. oil, gas, asphalt, limestone).

fugitive dust – Small particles that become airborne as a result of natural factors (i.e., wind blowing across unvegetated areas) or in response to surface disturbance (e.g., vehicles, wildlife and livestock movements).

geometric mean – The nth root of the product of the values of n positive numbers.

ground water – Subsurface water that fills available openings in rock or soil materials to the extent that they are considered water saturated.

habitat – A place where a plant or animal naturally or normally lives and grows.

habituation – The process of becoming accustomed to, or used to, something; acclimation similar to acclimation.

hazardous materials – Substance which, because of its potential for corrosivity, toxicity, ignitability, chemical reactivity, or explosiveness, may cause injury to persons, damage to property or the environment.

hazardous waste – Those materials defined in Section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, and listed in 40 CFR § 261.

heterogenous – Made up of dissimilar constituents.

human environment – The natural and physical environment and the relationship of people with that environment (see 30 CFR 1508.14).

hydraulic conductivity – The capacity of a medium to transmit water when a hydraulic gradient is present; permeability coefficient. Expressed as the volume of water at the prevailing temperature that will move in unit time under a unit hydraulic gradient through a unit area. Units include gallons per day per square foot, centimeters per second.

hydraulic – Pertaining to fluid in motion, or to movement or action caused by water.

hydric soil – A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic (water-loving) vegetation. Hydric soils that occur in areas having positive indicators of hydrophytic vegetation and wetland hydrology are wetland soils.

hydrocarbon – Any organic compound, gaseous, liquid, or solid, consisting solely of carbon and hydrogen.

hydrogeology – The science that deals with movement and disturbance of any groundwater along with its interaction with the soil and rocks of the earth's crust.

hydrology – The science dealing with the behavior of water as it occurs in the atmosphere, on the surface of the ground, and underground.

hydrophytic vegetation – The plant life growing in water or on an area of soil that is frequently inundated or saturated with moisture (aka water). This area periodically is deficient in oxygen as a result of the excessive moisture content of the soil. When hydrophytic vegetation comprises a community where indicators of hydric soils and wetland hydrology also occur, the area has wetland characteristics.

impermeable – Not capable of transmitting fluids or gasses in appreciable quantities.

incised – Having a margin that is deeply and sharply notched/cut.

indirect (or secondary) impact – A reasonably foreseeable impact resulting from an action but occurring later in time than or removed in distance from that action (see 40 CFR 1508.8).

in-place coal reserves – The estimated volume of all of the coal reserves in a lease without considering economic or technological factors that might restrict mining.

in-situ leach mining – Removal of the valuable components of a mineral deposit through chemical leaching without physical extraction of the rock.

interbedded – Layers of one type of rock, typically thin, that are laid between or that alternate with layers of another type of rock.

interburden – A layer of sedimentary rock that separates two mineable coal beds.

interdisciplinary – Characterized by participation or cooperation among two or more disciplines or fields of study.

intermittent stream – A stream that does not flow year-round but has some association with ground water for surface or subsurface flow.

laminated – Consolidated or unconsolidated sediment that is characterized by thin (less than 1 centimeter thick) layers.

land and resource management plan (LRMP) – A land use plan that directs the use and allocation of U.S. Forest Service lands and resources.

lead agency – The agency or agencies preparing or having taken primary responsibility for preparing an environmental document (see 40 CFR 1508.16).

lease (mineral) – A legal document executed between a mineral owner or lessor and another party or lessee which grants the lessee the right to extract minerals from the tract of land for which the lease has been obtained [see 43 CFR 3400.0-5(r)].

lek – A traditional breeding area in or adjacent to sagebrush dominated habitat where five or more males engage in competitive mating displays of strutting to obtain a mate for the purpose of breeding.

lek complex – A grouping of individual leks that are in close proximity to each other that the male sage-grouse may move between on a daily basis. At the present time a criteria to determine the distance between leks within a lek complex does not exist.

lek count – A lek count is a way of documenting the actual number of breeding male-grouse within a particular lek or lek complex. The criteria to conduct a lek count are available from the WGFD.

lek survey – Lek surveys are conducted when a lek count is infeasible to complete due to location or weather deterrents. Lek surveys are not nearly as thorough as lek counts and can be done via a plane or helicopter when time, weather and or terrain prohibits a comprehensive lek count. Lek surveys do not take exact count of the number of grouse within a lek but are meant as an overall snapshot of a lek or lek complex to determine if a lek is active or inactive as well as to monitor the population and to see if a lek count is needed. This survey can require as little as one visit to a suspected lek. Lek surveys are conducted from early March to early to mid May based on terrain and weather.

lek annual status – Lek annual status is determined by the following:

- **Active** – Any lek where there have been male grouse seen strutting or there are recent signs of strutting by male sage-grouse during the mating season.
- **Inactive** – There are insufficient indicators of a site being used by grouse during the strutting season. A minimum of 2 surveys separated by 7 days need to be completed in optimum strutting conditions. The results of the survey must be devoid of any evidence of strutting in other words no birds, droppings, feathers or scratch marks can be present. The survey to determine that a lek is inactive cannot be completed aurally.
- **Unknown** – Where the status of a lek has not been determined/documented during a strutting season as active or inactive.
- **management status** – The management status is determined based on what the annual status is determined to be, once the management status is determined a lek is placed in one of the following categories for management.

- **Occupied lek** – As stated by the Wyoming DEQ and FWS an occupied lek is “a lek that has been active during at least one strutting season within the prior ten years. Occupied leks are protected through prescribed management actions during surface disturbing activities”.
- **Unoccupied lek**- An unoccupied lek falls under one of the following and are not protected during any surface disturbing activities.
 - **Destroyed lek** – A destroyed lek is an area that had once been an active lek site including appropriate habitat that is no longer suitable for sage-grouse breeding. A destroyed lek area is not monitored unless the site has been reclaimed and the habitat is considered once again considered suitable for sage-grouse mating.
 - **Abandoned lek** –An area of habitat that would be considered appropriate habitat for breeding but has not see any measurable activity for a period of 10 consecutive years. During the 10 consecutive years a lek has to be considered “inactive” for a minimum of four non- consecutive strutting seasons. The area in which a lek is labeled as abandoned must be surveyed a minimum of once every ten years to maintain the abandoned lek status and to ensure that no new grouse activity has begun.
 - **Undetermined lek** – An undetermined lek is a lek in which there is insufficient data over the preceding 10 years to determine its actual status as either unoccupied or active. An undetermined lek will be protected as if it is active during all surface disturbance activity or until such time enough data has been compiled to determine its status as inactive.

lenticular – Term describing a body of rock or earth that thins out in all directions from the center like a double convex optical lens.

limb (geologic) – One of the two parts of a fold (syncline or anticline) on either side of an axis.

limestone – A sedimentary rock consisting chiefly of calcium carbonate (CaCO₃).

lineament – A linear topographic feature of regional extent that is believed to reflect the hidden architecture of the rock structure below the surface.

loadout facilities – The mine facilities used to load the mined coal for transport out of the mine.

loam – A rich, permeable soil composed of a mixture of clay, silt, sand, and organic matter.

maintenance tract – A federal coal tract that would continue or extend the life of an existing coal mine.

major federal action – An action with effects that may be major and which is potentially subject to federal control and responsibility (see 40 CFR 1508.18).

major sources – Those sources that emit more than 10 tons per year of any single hazardous air pollutant, or 25 tons of all hazardous air pollutants combined. The determination of major is based on all sources of hazardous air pollutants at the site, and not just the equipment affected by the MACT standard.

maximum economic recovery (MER) – The requirement that, based on standard industry operating practices, all profitable portions of a leased federal coal deposit must be mined. MER determinations will consider existing proven technology; commercially available and economically feasible equipment; coal quality, quantity, and marketability; safety, exploration, operating, processing, and transportation costs; and compliance with applicable laws and regulations [see 43 CFR 3480.0-5(a)(24)].

meteorological – Related to the science dealing with the atmosphere and its phenomena, especially as relating to weather.

methane – A colorless, odorless, and inflammable gas; the simplest hydrocarbon; chemical formula = CH₄. It is the principal constituent of natural gas and is also found associated with crude oil and coal.

mineable coal – Coal that can be economically mined using present day mining technology.

mineral rights – The rights of one who owns the mineral estate (subsurface).

mining permit – A permit to conduct surface coal mining and reclamation operations issued by the state regulatory authority pursuant to a state program or by the Secretary pursuant to a federal program (see 30 CFR 701.5).

mitigation – An action to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a management practice.

mudstone – A hardened sedimentary rock consisting of clay, silt, siltstone, claystone, shale and argillite. It is similar to shale but lacks distinct layers. This term is also used when there is doubt as to the precise identification of a deposit.

National Register of Historic Places – A list of districts, sites, buildings, structures and objects significant in American history, architecture, archeology and culture maintained by the Secretary of the Interior. Expanded as authorized by Section 2(b) of the Historic Sites Act of 1935 (16 U.S.C. 462) and Section 101(a)(1) (A) of the National Historic Preservation Act.

natural gas – Combustible gases (such as hydrocarbons) or mixtures of combustible gases and non-combustible gases (such as helium) that are in a gaseous phase at atmospheric conditions of temperature and pressure.

NEPA process – All measures necessary for compliance with the National Environmental Policy Act of 1969 (see 40 CFR 1508.21).

No Action Alternative – An alternative where no activity would occur. The development of a no action alternative is required by regulations implementing the National Environmental Policy Act (40 CFR 1502.14). The No Action Alternative provides a baseline for estimating the effects of other alternatives.

operationally limited – Lands around or between those features that are inaccessible for mining within a lease area.

outcrop – A rock formation that appears at or near the surface; the intersection of a rock formation with the surface.

overburden – Material of any nature, consolidated or unconsolidated, that overlies a coal or other useful mineral deposit, excluding topsoil.

paleontological resource – A site containing evidence of plant or non-human animal life of past geological periods, usually in the form of fossil remains.

peak discharge or flow – The highest discharge of water recorded over a specified period of time at a given stream location; also called maximum flow. Often thought of in terms of spring snowmelt, summer, fall or winter rainy season flows.

perennial species (vegetation) – Vegetation that lives over from season to season.

perennial stream – A stream or part of a stream that flows continuously during the calendar year as a result of groundwater discharge or surface runoff.

permeability – The ability of rock or soil to transmit a fluid.

permit application package – A proposal to conduct surface coal mining and reclamation operations on federal lands, including an application for a permit, permit revision, or permit renewal and all the information required by SMCRA, the applicable state program, any applicable cooperative agreement, and all other applicable laws and regulations including, with respect to federal leased coal, the Mineral Leasing Act and its implementing regulations.

permit area – The area of land, indicated on the approved map submitted by the operator with his or her application, required to be covered by the operator's performance bond under the regulations at 30 CFR Part 800 and which shall include the area of land upon which the operator proposes to conduct surface coal mining and reclamation operations under the permit, including all disturbed areas (see 30 CFR 701.5).

physiography – Physical geography the systematic classification and description of natural physical features.

piezometer – A well, generally of small diameter, that is used to measure the elevation of the water table.

playa – The sandy, salty, or mud-caked flat floor of a basin with interior drainage, usually occupied by a shallow ephemeral lake during or after rain or snow storms.

point source (pollution) – A point at which pollution is added to a system, either instantaneously or continuously. An example is a smokestack.

pore volume – The amount of fluid necessary to fill the void space in an unsaturated porous medium (i.e., mine backfill).

porosity – The percentage of the bulk volume of rock, sediment or soil that is not occupied by sediment or soil particles; the void space in rock or sediment. It may be isolated or connected.

postmining topography – The relief and contour of the land that remains after mining has been completed.

potentiometric surface – 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 hydraulic head.

prime or unique farmland – Those lands which are defined by the Secretary of Agriculture in 7 CFR part 657 (*Federal Register* Vol. 4 No. 21) and which have historically been used for cropland (see 30 CFR 701.5).

proposed action – In terms of National Environmental Policy Act, the project, activity, or action that a federal agency proposes to implement or undertake and which is the subject of an environmental analysis.

qualified surface owner – The natural person or persons (or corporation, the majority stock of which is held by a person or persons otherwise meeting the requirements of this section) who:

- 1) Hold legal or equitable title to the surface of split estate lands;
- 2) Have their principal place of residence on the land, or personally conduct farming or ranching operations upon a farm or ranch unit to be affected by surface mining operations; or received directly a significant portion of their income, if any, from such farming and ranching operations; and
- 3) have met the conditions of (1) and (2) above for a period of at least three years, except for persons who gave written consent less than three years after they met the requirements of both (1) and (2) above [see 43 CFR 3400.0-5(gg)].

raptor – Bird of prey, such as an eagle, falcon, hawk, owl, or vulture.

recharge – The processes by which groundwater is absorbed into a zone of saturation.

reclamation – Rehabilitation of a disturbed area to make it acceptable for designated uses. This normally involves regrading, replacement of topsoil, revegetation and other work necessary to restore the disturbed area for postmining use.

record of decision (ROD) – A document separate from, but associated with, an environmental impact statement that publicly and officially discloses the responsible official's decision on the proposed action (see 40 CFR 1505.2).

recoverable coal – The amount of coal that can actually be recovered for sale from the demonstrated coal reserve base.

recreational river areas – Rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

rental payment – Annual payment from a lessee to a lessor to maintain the lessee’s mineral lease rights.

resource management plan (RMP) – A land use plan, as prescribed by FLPMA, that directs the use and allocation of public lands and resources managed by BLM. Prior to selection of the RMP, different alternative management plans are compared and evaluated in an environmental impact statement (EIS) to determine which plan will best direct the management of the public lands and resources.

revegetation – The reestablishment and development of self-sustaining plant cover following land disturbance. This may occur through natural processes, or the natural processes may be enhanced by human assistance through seedbed preparation, reseeding, and mulching.

right-of-way – The right to pass over property owned by another. The strip of land over which facilities such as roadways, railroads, or power lines are built.

riparian – The area adjacent to rivers and streams that lies between the stream channel and upland terrain and that supports specific vegetation influenced by perennial and/or intermittent water.

royalty (mineral) – A share of production that is free of the expense of production. It is generally paid by a lessee to a lessor of a mineral lease as part of the terms of the lease.

runoff – That portion of rainfall that is not absorbed; it may be used by vegetation, lost by evaporation, or it may find its way into streams as surface flow.

salinity – Refers to the solids, such as sodium chloride (table salt) and alkali metals, that are dissolved in water. Often in non-saltwater areas, total dissolved solids is used as an equivalent term.

sandstone – A common sedimentary rock primarily composed of sand grains, mainly quartz, that are cemented together by other mineral material.

scoping – A public informational process required by the National Environmental Policy Act to determine private and public concerns, scope of issues, and/or questions regarding a proposed action to be evaluated in an environmental impact analysis.

scoria (clinker) – Baked and fused rock resulting from in-place burning of coal deposits.

sedimentation pond – An impoundment used to remove solids from water in order to meet water quality standards or effluent limitations before the water leaves the permit area (see 30 CFR 701.5).

selenosis – Selenium poisoning; chronic (long-term) exposure to high levels of selenium in food and water.

semi-arid – A climate or region characterized by little yearly rainfall and by the growth of a number of short grasses and shrubs.

severance tax – A tax imposed by the government on the extraction of minerals and other natural resources from the ground.

shale – A very fine-grained clastic rock or sediment consisting predominately of clay-sized particles that is laminated; lithified, layered mud.

significant impact – A qualitative term used to describe the anticipated importance of impacts to the human environment as a result of an action.

siltstone – A fine-grained clastic rock consisting predominately of silt-sized particles.

slope wash – A general term to refer to colluvium found along the bottom slopes of hills and in channel bottoms as a result of soil erosion and the down-slope movement of sediment; reworked sediment deposited by flow over the ground surface (e.g., runoff).

socioeconomics – The social and economic situation that might be affected by a proposed action.

soil survey – The systematic examination, description, classification, and mapping of soils in an area, usually a county. Soil surveys are classified according to the level of detail of field examination. Order I is the most detailed and Order V is the least detailed.

spontaneous combustion – The heating and slow combustion of coal and coaly material initiated by the absorption of oxygen.

stipulations – Requirements that are part of the terms of a mineral lease. Some stipulations are standard on all Federal leases. Other stipulations may be applied to specific leases at the discretion of the surface management agency to protect valuable surface resources or uses existing on those leases.

storage coefficient – The volume of water that can be released from storage per unit surface area of a saturated confined aquifer, per unit decline in the component of hydraulic head normal to the surface. It is calculated by taking the product of the specific storage and the aquifer thickness.

stratigraphic – Of, relating to, or determined by stratigraphy, which is the branch of geology dealing with the study of the nature, distribution, and relations of layered rocks in the earth's crust.

stream-laid deposits – A loose mix of sand, gravel, and silt deposited by stream flow within a stream channel.

stripping ratio – The unit amount of overburden that must be removed to gain access to a similar unit amount of coal.

subirrigation – In 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 (see 30 CFR 701.5).

subbituminous – A lower rank of coal (35-45 percent carbon) with a heating value between that of bituminous and lignite, usually 8,300-11,500 Btu per pound. Subbituminous coal contains a high percentage of volatile matter and moisture.

surface disturbance – Any disturbance by mechanical actions that alters the soil surface.

surface rights – Rights to the surface of the land, does not include rights to oil, gas, or other subsurface minerals or subsurface rights.

suspended solids – The very fine soil particles that remain in suspension in water for a considerable period of time without contact with the stream or river channel bottom.

tectonic fracture – Fractures caused by deformation of the earth's crust.

threatened and endangered species – These species of plants or animals classified as threatened or endangered pursuant to Section 4 of the Endangered Species Act. Any species which is in danger of extinction, or is likely to become so within the foreseeable future.

- Category 1 – Substantial biological information on file to support the appropriateness of proposing to list as endangered or threatened.
- Category 2 – Current information indicates that proposing to list as endangered or threatened is possibly appropriate, but substantial biological information is not on file to support an immediate ruling (U.S. Fish and Wildlife Service).

topography – Physical shape of the ground surface; the configuration of land surface including its relief, elevation, and the position of its natural and manmade features.

topsoil – The surface layer of a soil, generally the top two to six inches and generally having more organic material and nutrients.

total dissolved solids (TDS) – The total quantity in milligrams per liter of dissolved materials in water.

transmissivity – The rate at which water is transmitted through a unit width of an aquifer under a unit hydraulic gradient. Equals the hydraulic conductivity multiplied by the aquifer thickness. Values are given in units of gallons per day per foot.

transpiration – The discharge of water vapor by plants.

truck & shovel – A mining method used to remove overburden and coal in a strip mining operation. Truck and shovel operations use large bucket-equipped digging and loading machines (shovels) and large dump trucks to remove overburden instead of using a dragline for overburden removal.

typic – Typical.

unconfined aquifer – An aquifer where the water table is exposed to the atmosphere through openings in the overlying materials.

unsuitability criteria – The 20 criteria described in 43 CFR 3461, the application of which results in an assessment of federal coal lands as suitable or unsuitable for surface coal mining.

uranium – A very hard, heavy, metallic element that is crucial to development of atomic energy.

vegetation type – A kind of existing plant community with distinguishable characteristics described in terms of the present vegetation that dominates an area.

vertebrate fossils – The remains of animals that possessed a backbone; examples are fish, amphibians, reptiles, dinosaurs, birds, and mammals.

vesicular – Rock containing many small cavities that were formed by the expansion of a bubble of gas or steam during the solidification of the rock.

visual resources – The physical features of a landscape that can be seen (e.g., land, water, vegetation, structures, and other features).

Visual Resource Management (VRM) – The systematic means to identify visual values, establish objectives which provide the standards for managing those values, and evaluate the visual impacts of proposed projects to ensure that objectives are met.

volatile matter – In coal, those substances, other than moisture, that are given off as gas or vapor during combustion.

waterfowl – A bird that frequents water, especially a swimming bird.

wetlands – Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient, under normal circumstances, to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands include marshes, bogs, sloughs, potholes, river overflows, mud flats, wet meadows, seeps, and springs [see 33 CFR 328.3(a)(7)(b)].

wild and scenic river – Rivers or sections of rivers designated by Congressional actions under the 1968 Wild and Scenic Rivers Act as wild, scenic, or recreational by an act of the Legislature of the state or states through which they flow. Wild and scenic rivers may be classified and administered under one or more of the following categories:

- **wild river areas** – Rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- **scenic river areas** – Rivers or sections of rivers that are free of impoundments, with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

wilderness – An area of undeveloped Federal land designated wilderness by Congress, retaining its primeval character and influence, without permanent improvements or human habitation, protected and managed to preserve its natural conditions and that (1) generally appears to have been affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable, (2) has outstanding opportunities for solitude or primitive and unconfined recreation, (3) has at least 5,000 acres or is of sufficient size to make practical its preservation and use in an unimpaired condition, and (4) also may contain features that are of ecological, geological, scientific, educational, scenic, or historical value. These characteristics were identified by Congress in the Wilderness Act of 1964.

winter concentration area – Areas of winter habitat consistently used by sage-grouse. The determination of a winter concentration area is based on repeated observations of an area including the number of sage-grouse (typically 25 or more) and the quantity/quality of winter habitat characteristic. Coordination with the WGFD is necessary prior to any area being listed as a winter concentration area.

winter habitat – Areas where the sagebrush consistently provides forage (leaves and buds) for sage-grouse under any winter conditions. Sagebrush stands in this habitat are either tall enough (at least 10 to 14 inches) to maintain some branches above snow level, or they are located in windblown areas that are not regularly buried or drifted over by snow.