Chapter 7
Glossary

abandon: To cease producing oil or gas from a well when it becomes unprofitable. Usually, some of the casing is removed and salvaged, and one or more cement plugs placed in the borehole to prevent migration of fluids between formations.

acre-foot or acre-feet (acre-ft): The volume of water that covers an area of 1 acre to a depth of 1 foot (43,560 cubic feet or 325,851 gallons).

ad valorem: Tax levied according to assessed value.

affected environment: A section in an environmental assessment or environmental impact statement that succinctly describes the environment of the area to be affected by the alternatives. (Council on Environmental Quality Regulations - 40 CFR §1502.15)

air quality: The properties and degree of purity of air to which people and natural and heritage resources are exposed (National Park Service website <http://www2.nature.nps.gov/air/AQBasics/glossary.htm>).

alkaline: Having the quality of a base (pH of 8.0 or greater).

allotment: An area of land where one or more permittees graze their livestock. Generally consists of public land but may include parcels of private or state lands. The number of livestock and season of use are stipulated for each allotment. An allotment may consist of several pastures or be only one pasture.

alluvium: Clay, silt, sand, and gravel or other rock material transported by flowing water and deposited as sorted or semi-sorted sediments.

alternate fuels: Fuels that are substantially nonpetroleum and yield energy security and environmental benefits. As defined by the Energy Policy Act of 1993, the Department of Energy currently recognizes the following as alternative fuels: Mixtures containing 85% or more by volume of alcohol fuel, including methanol and denatured ethanol; natural gas (compressed or liquefied); Liquefied petroleum gas (propane); hydrogen; coal-derived liquid fuels, fuels derived from biological materials; electricity (including electricity from solar energy); 100% biodiesel (B100).

ambient: The environment as it exists at the point of measurement and against which changes or impacts are measured.

ambient air: The portion of the atmosphere, external to buildings, to which the public has general access (National Ambient Air Quality Standards - 40 CFR §50).

ambient concentration: The mass of a pollutant in a given volume of air, typically measured as micrograms of pollutant per cubic meter of air.

ancillary facilities: Facilities often required in an oil and gas field other than the wells and pipelines, such as compressor stations.

animal unit month (AUM): The amount of forage necessary to sustain one cow/calf pair for 1 month.

anticline: A geological formation described usually as a dome or inverted saucer. If covered by an impermeable layer of rock, the anticline is a potential oil or gas reservoir.

anticline crest: A fold with strata folding downward on both sides from a common ridge. The core area where most of the development would occur within the PAPA.

Application for Permit to Drill (APD): The Department of Interior's application permit form to authorize oil and gas drilling activities on federal land or mineral estate.

aquifer: A water-bearing bed or layer of permeable rock, sand, or gravel capable of yielding water.

archaeological: The scientific studies of past people and cultures by analysis of physical remains (artifacts).

background concentration: The existing levels of air pollutant concentration in a given region. In general, it includes natural and existing emission sources but not future emission sources.

badland: Steep or very steep, commonly non-stony barren land dissected by many intermittent drainage channels. Badland is most common in semi-arid and arid regions where streams are entrenched in soft geologic material. Runoff potential is very high, and geologic erosion is active in such areas.

berm: A raised area with vertical or sloping sides.

best available control technology (BACT): It is an emission limitation that considers the cost of energy, environment, and economics in developing a degree of emission reduction that is achievable through application of good production processes, control systems, and techniques. BACT is determined on a case-by-case basis, is applied to each pollutant regulated under the Federal Clean Air Act.

calcareous: Containing calcium carbonate.

CALMET: A diagnostic 3-dimensional meteorological model.

CALPUFF: An advanced non-steady-state meteorological and air quality modeling system.

casing: Steel pipe placed in an oil or gas well to prevent the hole from collapsing.

categorical exclusions: A category of project actions, which a federal agency identifies in its NEPA procedures, that do not individually or cumulatively have a significant effect on the environment. (Council on Environmental Quality Regulations - 40 CFR 1508.4)

cement: Cement is used to "set" casing in the well bore and to seal off unproductive formations and apertures.

central gathering facility: The flowline network and process facilities that transport and control the flow of oil or gas from the wells to a main storage facility, processing plant or shipping point. A gathering system includes pumps, headers, separators, emulsion treaters, tanks, regulators, compressors, dehydrators, valves and associated equipment.

collector roads: BLM roads that provide primary access to large blocks of land and connect with, or are extensions of, a public road system.

colluvium: A general term applied to loose and incoherent deposits, usually at the foot of a slope or cliff and brought there chiefly by gravity.

completion: The activities and methods to prepare a well for production. Includes installation of equipment for production from an oil or gas well.

compression: The ratio of the volume of an engine's cylinder at the beginning of the compression to its volume at the end of the compression process.

compressor facilities (stations): A facility consisting of many compressors, auxiliary treatment equipment and pipeline installations to pump natural gas under pressure over long distances.

condensate (gas condensate): Hydrocarbons (oil) contained in the natural gas stream, often removed by condensation.

conditions of approval (COAs): A set of restrictions, or conditions, included in the approval of a federal permit, including NEPA documents.

conglomerate: Rounded water-worn fragments of rock or pebbles cemented together by another mineral substance.

corridor: A narrow strip of land.

Council on Environmental Quality (CEQ): An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters.

criteria pollutants: Air pollutants for which the EPA has established state and national ambient air quality standards. These include particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon monoxide (CO), and volatile organic compounds (VOCs).

crucial winter range: A vital winter habitat that directly limits a community, population, or subpopulation, and restoration or replacement may not be possible by WGFD management.

crude petroleum: Either the direct or indirect liquid hydrocarbon product of natural gas production.

cultural resources: The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) and the conceptual content or context (as a setting for legendary, historic, or prehistoric events, such as a sacred area of native peoples, etc.) of an area of prehistoric or historic occupation.

culvert: A drain or conduit often under a road.

cumulative impact: The impact on the environment that 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 taken place over a period of time (Council on Environmental Quality Regulations - 40 CFR 1508.7).

cuttings: The material removed from the borehole by the drill bit and lifted to the surface.

decibel: A unit of measurement of noise intensity. The measurements are based on the energy of the sound waves and units are logarithmic. Changes of 5 decibels or more are normally discernible to the human ear.

deciduous: Trees or shrubs that lose their leaves each year during a cold or dry season.

deciview: The unit of measurement of haze developed to uniformly describe levels of monitored and modeled visibility impairment.

direct impacts: Impacts that are caused by an action and occur at the same time and place as the action.

directional drilling: The intentional deviation of a wellbore from vertical to reach subsurface areas off to one side from the surface drilling site.

discharge: The volume of water flowing past a point per unit time, commonly expressed as cubic feet per second (cfs), gallons per minute (gpm), or million gallons per day (mgd).

dispersion: The spreading out of pollutants. Generally used to show how much an air pollutant will spread from a particular point.

displacement: As applied to wildlife, forced shifts in the patterns of wildlife use, either in location or timing of use.

disposal well: A well into which produced water from other wells is injected into an underground formation for disposal.

dissolved solids: The total amount of dissolved material, organic and inorganic, contained in water or wastes.

diversity: The distribution and abundance of different plant and animal communities and species.

drainage: Natural channel through which water flows some time of the year. Natural and artificial means for effecting discharge of water as by a system of surface and subsurface passages.

drill rig: The mast, draw works, and attendant surface equipment of a drilling unit.

drought: Prolonged dry weather (precipitation less than 75% of average annual amount).

ecosystem: An interacting system of organisms considered together with their environment (e.g., forest, marsh, and stream ecosystems).

emergent vegetation: Erect, rooted, herbaceous plants that project out of or emerge from the water.

emission: Air pollution discharge into the atmosphere, usually specified by mass per unit time.

endangered species (animal): Any animal species in danger of extinction throughout all or a significant portion of its range. This definition excludes species of insects that the Secretary of the Interior determines to be pests and whose protection under the Endangered Species Act of 1973 would present an overwhelming and overriding risk to man.

endangered species (plant): Species of plants in danger of extinction throughout all or a significant portion of their ranges. Existence may be endangered because of the destruction, drastic change, or severe curtailment of habitat or because of over exploitation, disease, predation, or even unknown reasons. Plant taxa from limited areas (e.g., the type localities only) or from restricted fragile habitats usually are considered endangered.

environment: The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

environmental assessment (EA): A concise public document that analyzed the environmental impacts of a proposed federal action and provides sufficient evidence to determine the level of significance of the impacts. (Council on Environmental Quality Regulations - 40 CFR 1508.7).

environmental impact statement (EIS): A detailed written analysis of alternative actions and their predictable environmental impacts, including physical, biological, economic, and social consequences and their interactions; short-and long-term impacts; and direct, indirect, and cumulative impacts as required by Section 102(2)(c) of the National Environmental Policy Act.

Eocene: 1) The next to the oldest of the five major epochs of the Tertiary Period in the Cenozoic Era lasting from about 54.8 to 33.7 million years ago. 2) The series of strata deposited during that epoch.

epicenter: The portion of the earth's surface directly above the focus of an earthquake.

erosion: The removal, detachment, and entrainment of earth materials by weathering, dissolution, abrasion, and corrosion, later to be transported by moving water, wind, gravity, or glaciers.

fault: A fracture in bed rock along which there has been vertical and/or horizontal movement caused by differential forces in the earth's crust.

federal lands: All lands and interests in lands owned by the U.S., which are subject to the mineral leasing laws, including mineral resources or mineral estates reserved to the U.S. in the conveyance of a surface or non-mineral estate.

field: 1) A set of rocks containing hydrocarbons. 2) An oil and gas reservoir.

flare: Process that burns and evacuates unused gases.

flood plain: That portion of a river valley, adjacent to the channel, which is built of recently deposited sediments and is covered with water when the river overflows its banks at flood stages.

fluvial: Of or pertaining to rivers.

forage: Vegetation of all forms available for animal consumption.

forb: A broad-leafed flowering herb other than grass.

formation: A rock/mineral deposit or structure covering an area with the same physical properties.

fracing (fracturing): A method of stimulating well production by increasing the permeability of the producing formation. Under extremely high hydraulic pressure, the fracturing fluid (water, oil, dilute hydrochloric acid, or other fluid) is pumped into the formation that parts or fractures it. Proppants or propping agents such as sand or glass beads are pumped into the formation as part of the fracturing job. The proppants become wedged in the open fractures, leaving channels for oil or gas to flow into the well after the hydraulic fracture pressure is released. This process is often called a "frac job." When high concentrations of acid are used, it may be called an "acid frac job."

fugitive dust: Airborne particles emitted from any source other than through a controllable stack or vent.

gathering pipelines: Pipelines within a field that transport gas or oil from the well to a central production facility or to the point of sale.

groundwater: Water contained in the pore spaces of consolidated and unconsolidated material.

habitat: A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

habitat function: The arrangement of habitat features and capability of those features to sustain species, population, and diversity of wildlife over time.

herd unit: A unique big game population inhabiting a specific area that is managed by the Wyoming Game and Fish Department.

horizontal directional drilling (HDD): drilling directionally at a well bore inclination angle exceeding 85 degrees. Technique used for placing pipelines under stream channels.

human environment: The factors that include but are not limited to biological, physical, social, economic, cultural, and aesthetic factors that interrelate to form the environment.

hydrocarbon: A compound formed from carbon and hydrogen, for example oil and gas.

hydrology: A science that deals with the properties, distribution, and circulation of surface and subsurface water.

hydrostatic testing: Testing of the integrity of a newly placed but uncovered pipeline for leaks. The pipeline is filled with water and pressurized to operating pressures, and the pipeline is visually inspected.

impacts: These include a) direct impacts, which are caused by the action and occur at the same time and place and b) indirect impacts, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect impacts may include growth-inducing impacts and other impacts related to induced changes in the pattern of land use, population density, or growth rate and related impacts on air and water and other natural systems, including ecosystems. Impacts include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Impacts may also include those resulting from actions which may have both beneficial and detrimental impacts, even if on balance the agency believes that the impact will be beneficial (Council on Environmental Quality Regulations - 40 CFR 1508.8).

IMPLAN (Impact Analysis for Planning): The input-output model used to estimate economic effects by tracing the interrelationships between producers and consumers in an economy as measured by jobs and income.

impoundment: The accumulation of any form of water in a reservoir or other storage area.

increment: Incremental standards (prevention of significant deterioration [PSD]) are the maximum amounts of pollutants allowed above the baseline in regions of clean air.

indirect impacts: Impacts that are caused by an action and occur later in time, or at another location, yet are reasonably foreseeable in the future. (Council on Environmental Quality Regulations - 40 CFR 1508.8).

infiltration: The movement of water or some other liquid into the soil or rock through pores or other openings.

infrastructure: The basic framework or underlying foundation of a community including road networks, electric and gas distribution, water and sanitation services, and facilities.

interdisciplinary team (IDT): A group of BLM resource specialists and possibly those from cooperating agencies selected to work within the NEPA process in scoping, analysis, and document preparation. The selection and mix of the team's disciplinary specialists is generally based on the issues and concerns identified during scoping with the purpose of integrating their collective knowledge of the physical, biological, economic, and social sciences and the environmental design arts into the environmental analysis process. Interaction among team members often provides insight that otherwise would not be apparent.

interim reclamation: Temporary reclamation initiated to stabilize disturbed surfaces on well pads, roads, and pipelines prior to final reclamation.

intermittent stream: A stream or reach of a stream that is below the local water table for at least some part of the year and obtains its flow from both surface runoff and groundwater discharge.

key observation point (KOP): Established points from which viewshed analyses and visibility assessments can be made, and are an element of the BLM's visual resource management guidelines. Typically located on hilltops, popular stopping points on roads and trails, or near sensitive cultural or Native American sites.

land use: The types of activities allowed or evolved on a parcel of land (e.g., mining, agriculture, timber production, residential, industrial).

landslide: A perceptible downhill sliding or falling of a mass of soil and rock lubricated by moisture or snow.

lead agency: The agency that has primary regulatory authority and responsibility for preparing the environmental impact statement.

lease: 1) A legal document that conveys to an operator the right to drill for oil and gas. 2) The tract of land on which a lease has been obtained, where producing wells and production equipment are located.

lek: A traditional courtship display attended by male greater sage-grouse in or adjacent to sagebrush-dominated habitat. Leks are categorized as:

Active -Any lek that has been attended by male greater sage-grouse during the strutting season.

Inactive -Leks where it is known that there was no strutting activity through the course of a strutting season.

Unknown -Leks that have not been documented either active or inactive during the course of a strutting season.

Occupied -A lek that has been active during at least one strutting season within the last 10 years.

Unoccupied -There are two types of unoccupied leks: (1) Destroyed -a formerly active lek site and surrounding sagebrush habitat that has been destroyed and is no longer capable of supporting greater sage-grouse breeding activity. (2) Abandoned -a lek in otherwise suitable habitat that has not been active during a consecutive 10-year period.

Undetermined - Any lek that has not been documented as being active in the last 10 years but that does not have sufficient documentation to be designated unoccupied.

life-of-project (LOP): Begins with the first disturbance authorized under the ROD for this project and ends when all wells are plugged and abandoned and all surface disturbance (each disturbed site) meets the reclamation performance objectives.

lithic scatter: A surface scatter of cultural artifacts and debris that consists entirely of lithic (i.e., stone) tools and chipped stone debris. This is a common prehistoric site type that is contrasted to a cultural material scatter (which contains other or additional artifact types such as pottery or bone artifacts), or to a camp (which contains habitation features, such as hearths, storage features, or occupation features), or to other site types that contain different artifacts or features.

lithology: The description of the physical character of a rock as determined by eye or with a low-powered magnifier, based on color, structures, mineralogical components, and grain size.

loam: A mixture of sand, silt, and clay containing between 7% and 27% clay, 28% to 50% silt and less than 50% sand.

local roads: BLM roads that provide primary access to large blocks of land and connect with or are extensions of a public road system.

long-term impacts: For the purpose of this NEPA analysis, long-term impacts last for the life of the project or beyond.

management areas: Area with specific development restrictions and limitations for resource protection. Nine management areas, authorized by the PAPA ROD exist within the PAPA.

mesa: Broad, flat-topped hill rounded by cliffs and capped with a resistant rock layer.

migrate: To pass periodically from one region or climate to another.

mitigation: Avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree of magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or compensating for the impact by replacing or providing substitute resources or environments (Council on Environmental Quality Regulations - 40 CFR 1508.20).

mitigation measures: Actions taken to reduce or minimize potential impacts to the environment.

modeling: A mathematical or physical representation of an observable situation. In air pollution control, models afford the ability to predict pollutant distribution or dispersion from identified sources for specified weather conditions.

Modified Mercalli (MM) Intensity Scale of 1931: A scale designed to describe the effects of an earthquake, at a given place, on natural features, on industrial installations, and on human beings.

monitor: To systematically and repeatedly watch, observe, or measure environmental conditions in order to track changes.

mud: Mud is drilling fluid that consists mainly of a mixture of water, or oil distillate, and “heavy” minerals such as bentonite or barites.

mud system: A system used to manage suspended mud in the well-drilling process.

National Ambient Air Quality Standards (NAAQS): The allowable concentrations of air pollutants in the air specified by the federal government. The air quality standards are divided into primary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public health) and secondary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public welfare from any unknown or expected adverse effects of air pollutants).

National Environmental Policy Act of 1969 (NEPA): The federal law established in 1969, which went into effect on January 1, 1970, that 1) established a national policy for the environment, 2) requires federal agencies to become aware of the environmental ramifications of their proposed actions, 3) requires full disclosure to the public of proposed federal actions and a mechanism for public input into the federal decision-making process, and 4) requires federal agencies to prepare an environmental impact statement for every major action that would significantly affect the quality of the human environment.

National Register of Historic Places: A list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture.

native species: Plants or animals that originated in the area in which they are found (i.e., they naturally occur in that area); with respect to a particular ecosystem, a species that, other than as a result of an introduction, historically occurred or currently occurs in that ecosystem.

natural gas: Those hydrocarbons, other than oil and other than natural gas liquids separated from natural gas, that occur naturally in the gaseous phase in the reservoir and are produced and recovered at the wellhead in gaseous form.

No Action Alternative: The management direction, activities, outputs, and effects that are likely to exist in the future if the current plan would continue unchanged.

nonnative invasive species: Plant species that are introduced into an area in which they did not evolve, and in which they usually have few or no natural enemies to limit their reproduction and spread. These species can cause environmental harm by significantly changing ecosystem composition, structure, or processes, and can cause economic harm or harm to human health.

no surface occupancy (NSO): A stipulation in a lease that disallows any surface disturbance in the lease area at any time. Natural gas or oil from an NSO area, for instance, would have to be recovered by directional drilling.

Notice of Intent (NOI): A notice published in the Federal Register to announce the intent to prepare an EIS.

noxious weeds: Officially designated (State of Wyoming-designated, Sublette County-declared) undesirable or invading weedy species generally introduced into an area due to human activity.

off highway vehicle (OHV): is considered to be any type of vehicle which is capable of driving off any paved or gravel surface.

oil and gas lease: A federal oil and gas lease is a legal document that gives the lease holder the right to explore for and develop any oil and gas that may be present under the area designated in the lease while complying with any surface use conditions which may have been stipulated when the lease was issued.

operator: The company that (1) contracts to drill a well or (2) is responsible for maintaining a producing lease.

ozone (O_3): A molecule containing three oxygen atoms produced by passage of an electricalspark through air or oxygen (O_2).

paleontology: The science that deals with the history and evolution of life on earth.

particulate matter: A particle of soil or liquid matter (e.g., soot, dust, aerosols, fumes, and mist).

passerine: Passerines are the perching birds, and most are also songbirds.

perennial stream: A stream or reach of a stream that flows throughout the year.

permittee (grazing): A person who has livestock grazing privileges on an allotment or allotments within the resource area.

playa: The shallow central basin of a desert plain in which water gathers and is evaporated.

PM_{10}: Airborne suspended particles with an aerodynamic diameter of 10 microns or less.

$PM_{2.5}$: Airborne suspended particles with an aerodynamic diameter of 2.5 microns or less.

preferred alternative: The alternative identified in an EIS as the action favored by the responsible agency.

prevention of significant deterioration (PSD): A classification established to preserve, protect, and enhance the air quality in National Wilderness Preservation System areas in existence prior to August 1977 and other areas of national significance, while ensuring economic growth can occur in a manner consistent with the preservation of existing clean air resources.

PSD increments: The maximum allowable increase in pollutant concentrations permitted over baseline conditions as specified in the EPA Prevention of Significant Deterioration (PSD) regulations (40 CFR Part 52.21).

production: Phase of commercial operation of an oil field.

public land: Lands or interests in lands owned by the United States and in this case administered by the Secretary of Interior through the Bureau of Land Management, without regard to how the United States acquired ownership.

Quaternary: The latest period of time, from the present to 2 million years ago and represented by local accumulations of glacial and post-glacial deposits.

range: Land producing native forage for animal consumption and lands that are revegetated naturally or artificially to provide forage cover that is managed like native vegetation, that are amenable to certain range management principles or practices.

raptor: A group of carnivorous birds consisting of hawks, eagles, falcons, kites, vultures, and owls.

recharge: Replenishment of the water supply in an aquifer through the outcrop or along fracture lines.

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 it for use.

Record of Decision (ROD): A decision document for an EIS or Supplemental EIS that publicly and officially discloses the responsible official's decision regarding the actions proposed in the EIS and their implementation.

reserve pit: An excavated pit that may be lined with plastic that holds drill cuttings and waste mud.

reserves/recoverable reserves: Areas of mineral-bearing rock from which the mineral can be extracted profitably with existing technology and under present economic conditions.

Reservoir: The "pool" of oil or gas that is being tapped.

resource roads: Spur roads that provide point access, as to a well site, and connect to local or collector roads.

revegetation: The re establishment and development of self-sustaining plant cover. On disturbed sites, human assistance will speed natural processes by seedbed preparation, reseeding, and mulching.

rig: A collective term to describe the equipment needed when drilling a well.

right-of-way (ROW): The legal right for use, occupancy, or access across land or water areas for a specified purpose or purposes. riparian: Land areas which are directly influenced by water. They usually have visible vegetative or physical characteristics showing this water influence. Streamsides and lake borders are typical riparian areas.

roosting: To rest or sleep in a roost. A bird will typically use the same roost for an extended period of time.

runoff: That part of precipitation that appears in surface streams. Precipitation that is not retained on the site where it falls and is not absorbed by the soil.

salinity: 1) A measure of the amount of mineral substances dissolved in water; 2) salty.

scatter (archeological): Archaeological evidence of prior disturbance that is distributed about an area rather than concentrated in a single location.

scope: Extent or range of view.

scoping: An early and open process for determining the scope of issues to be addressed in an EIS and for identifying the significant issues related to a proposed action. Scoping may involve public meetings, field interviews with representatives of agencies and interest groups, discussions with resource specialists and managers, and written comments in response to news releases, direct mailings, and articles about the proposed action and scoping meetings.

sediment: Soil or mineral transported by moving water, wind, gravity, or glaciers, and deposited in streams or other bodies of water or on land.

sediment load: The amount of sediment (sand, silt, and fine particles) carried by a stream or river.

sensitive resource management zones (SRMZs): an area that contains resources that require specific surface disturbance limitations, seasonal construction constraints, monitoring, or other actions to assure that undue impacts to the resource do not occur. SRMZs occupy distinct spatial areas and in many cases, SRMZs for a number of resources overlap.

seismic: Pertaining to an earthquake or earth vibration, including those that are artificially induced.

seismic geophysical survey: A petroleum exploration method in which sound energy is put into the earth with a source. The sound energy reflects off subsurface sedimentary rock layers and is recorded by detectors on the surface of the earth. An image of the subsurface rock layers is made with seismic to find petroleum traps.

sensitive viewshed: Viewsheds that are visible from communities, public use areas, and travel corridors, including roadways and waterways, and any other viewpoint so identified through referral or planning processes.

shale: A laminated sediment in which the constituent particles are predominantly of the clay grade.

short-term impacts: For the purpose of this analysis, short-term impacts are generally defined as those that would last for 5 years or less.

shut-in: The process of stopping production at an otherwise producing well.

significant impact: A meaningful standard to which an action may impact the environment. Impact significance may be related to the context of the impact (such as society as a whole (human, national), the affected region, the affected interests, and the locality) and/or the intensity (severity) of the impact (Council on Environmental Quality Regulations - 40 CFR 1508.27).

silt Any earthy material composed of fine particles, smaller than sand but larger than clay, suspended in or deposited by water.

slope wash: Soil and rock material that is being or has been moved down a slope predominantly by the action of gravity assisted by running water that is not concentrated into channels.

socioeconomics: Study of an impact region on the current and projected population and relative demographic characteristics (housing, economy, government, etc.).

soil productivity: The capacity of a soil to produce a specific crop such as fiber and forage, under defined levels of management. It is generally dependent on available soil moisture, nutrients, and length of growing season.

spacing: The number of acres per given well in the subsurface. For instance, 160-acre spacing means that one well would be drilled in each quarter section (160 acres) or up to four wells per section (640 acres).

standard visual range (SVR): Farthest distance at which an observer can just see a black object viewed against the horizon sky. The larger the SVR, the cleaner the air.

stipulation: A legal requirement, specifically a requirement that is part of the terms of a mineral lease. Some stipulations are standard on all federal leases. Other stipulations may be applied to the lease at the discretion of the surface management agency to protect valuable surface resources. Stipulations are supported by the NEPA process; without NEPA support, a stipulation cannot be added to the lease.

strata: An identifiable layer of bedrock or sediment.

structural basin: A large depression of structural origin.

substrate: Material consisting of silts, sands, gravels, boulders, and/or woody debris found on the bottom of a stream channel.

supplemental environmental impact statement (SEIS): A supplement to either draft or final environmental impact statements prepared when 1) the agency makes substantial changes in the proposed action that are relevant to environmental concerns, and/or 2) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (Council on Environmental Quality Regulations - 40 CFR 1502.9(c)).

surface disturbing activities: Any authorized action that disturbs vegetation and surface soil, increasing erosion potential above normal site conditions. This definition typically applies to mechanized or mechanical disturbance. However, intense or extensive use of hand or motorized hand tools may fall under this definition. Examples of surface disturbing activities include construction of well pads and roads, pits and reservoirs, pipelines and power lines, mining, and vegetation treatments.

Tertiary: The older of the two geologic periods comprising the Cenozoic Era; also the system of strata deposited during that period.

Tier 1-3 Standards. Federal EPA standards for new non-road (or off-road) diesel engines adopted in 1998 for engines over 37 kW (50 hp).

threatened species: Any species (plant or animal) that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Threatened species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act.

thrust fault: A low angle fault in which the rocks above the fault plane move up relative to the rocks below. The rocks that move up are the thrust sheet.

topography: The features of the earth, including relief, vegetation, and waters.

topsoil: The uppermost layers of naturally occurring soils suitable for use as a plant growth medium.

total dissolved solids (TDS): Total amount of dissolved material, organic or inorganic, contained in a sample of water.

total suspended solids (TSS): The weight of particles that are suspended in water. Suspended solids in water reduce light penetration in the water column, can clog the gills of fish and invertebrates, and are often associated with toxic contaminants because organics and metals tend to bind to particles.

turbidity: A measurement of the total suspended solids.

two-track: A road that has not been constructed or maintained but that has been created by repeated use.

understory: A layer of vegetation underlying a layer of taller vegetation, such as brush and grass under trees.

vegetation type: A plant community with visually distinguishable characteristics, named for the apparent dominant species.

viewshed: The areas seen from any given point.

visibility: Refers to the visual quality of the view or scene in daylight, with respect to color, rendition, and contrast definition. The ability to perceive form, color, and texture.

visual range: The distance at which a black object just disappears from view.

visual resource: The composite of basic terrain, geologic features, water features, vegetation patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for viewers.

Visual Resource Management (VRM): A system of visual management used by the BLM. The program has a dual purpose—to manage the quality of the visual environment, and to reduce the visual impact of development activities while maintaining effectiveness in all BLM resource programs.

water recharge: The natural process whereby surface water enters a groundwater aquifer.

watershed: The total land area that drains to a given watercourse or body of water.

well or wellbore: The hole drilled from the surface to the gas-bearing formation, several of which may be developed from a single well pad.

wellfield: Area containing one or more wells that produce usable amounts of water or oil.

wellhead: The forged or cast steel fitting on the top of a well.

well pad: Relatively flat work area (surface location) that is used for drilling a well or wells and producing from the well once it is completed.

wetlands: Areas that are inundated by surface water or groundwater with a frequency sufficient to support—and under normal circumstances do or would support—a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

wilderness: A designated area defined in the Wilderness Act of 1964 in the following way: A wilderness, in contrast with those areas where man and his own works dominate the landscape,

is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which – (a) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (b) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (c) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (d) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

winter range: The place where migratory (and sometimes non-migratory) animals congregate during the winter season.

Wyoming Ambient Air Quality Standards (WAAQS): The allowable concentrations of air pollutants in the air specified by the State of Wyoming. The air quality standards are divided into primary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public health) and secondary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public welfare from any unknown or expected adverse effects of air pollutants).

zone: The area between two depths in a well containing reservoir or other characteristic.