
6.0 REFERENCES AND GLOSSARY

6.1 REFERENCES CITED

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6.2 GLOSSARY OF TERMS

2-D seismic exploration: Seismic exploration in which the sources and receivers are along the same line.

3-D seismic exploration: Seismic exploration in which the source lines and receiver lines are separate and aligned along different compass bearings.

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

aeolian deposits: Deposits that result from the wind.

affected environment: The area potentially affected by the proposed action and alternatives analyzed in a NEPA document.

air-drilling technology: Drilling without the use of a liquid or semi-liquid substance to aid in the drilling process.

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.

area of critical environmental concern (ACEC): An area within the public lands designated for special management attention to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.

Artiodactyla: An order of exclusively herbivorous mammals including the ox, sheep, antelope, hippopotamus, deer, giraffe, camel, and pig.

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.

biological soil crust: A complex community of bacteria, algae, lichens, mosses, and fungi that often populate the soil surface, especially on arid lands.

claystone: Hardened clay.

colluvium: Unconsolidated earth material that has been deposited on or at the base of slopes primarily by gravitational forces.

compaction: Generally refers to soils that are compressed because weight is applied to the ground surface, often by vehicles.

conglomerate: A sedimentary rock comprised of an unstratified mixture or stratified layers of cobbles, gravel, and sand.

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.

critical elements of the human environment: A list of 14 resource concerns that must be addressed in every NEPA document.

cross-bedded: The condition of having layers lying transverse to the main stratification planes of the strata.

cryptobiotic soil: See biological soil crust.

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.

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 taken place over a period of time (40 CFR 1508.7).

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

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.

dry holes: A gas or oil well that, after drilled, does not produce oil or gas.

ecosystem: An interacting system of organisms considered together with their environment; for example, marsh, watershed, and stream ecosystems.

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 very 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 impact statement (EIS): An analysis of alternative actions and their predictable environmental impacts, including physical, biological, economic, and social consequences and their interactions; short- and long-term impacts; direct, indirect, and cumulative impacts.

environmental justice: On February 11, 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Executive Order established environmental justice, for the first time, as a federal government priority and directed all federal agencies to make environmental justice part of their mission. The Executive Order had three goals:

- to focus federal agency attention on the environment and human health conditions in minority communities and low-income communities;
- to promote non-discrimination in federal programs that substantially affect human health and the environment; and
- to provide minority communities and low-income communities greater access to information on, and opportunities for public participation in, matters relating to human health and the environment.

eocone: The next to the oldest of the five major epochs of the Tertiary period in the Cenozoic era.

ephemeral drainage: A drainage area or a stream that has no base flow. Water flows for a short time each year but only in direct response to rainfall or snowmelt events.

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.

federal lands: All lands and interests in lands owned by the U.S. that 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.

floodplain: 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.

forage: Vegetation of all forms available for animal consumption.

fossiliferous: Rich in fossils.

geophone: A device that receives sound waves during geophysical surveys.

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.

heli-portable drill: A drill transported by a helicopter.

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.

igneous rocks: Rocks that have congealed from a molten mass.

impacts: These include: a) Direct impacts, which are caused by the action and occur at the same time and place; 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 (40 CFR 1508.8).

interdisciplinary team (IDT): A group selected to work within the NEPA process in scoping, analysis, and document preparation. The purpose of the team is to integrate its 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.

intertongue: Interlocking.

invasive non-native species: Undesirable plant or animal species that may invade an area and compete with native species.

lacustrine: Belonging to or produced by lakes.

Lagomorpha: The order of mammals including rabbits, hares, and pikas.

land use: Land uses determined for a given area that establish the types of activities allowed (e.g., mining, agriculture, timber production, residential, industrial).

lek: An assembly area for communal courtship display, usually in reference to greater sage-grouse or other grouse.

lenticular: Having the shape of a double convex lens.

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, 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.

long-term impacts: For the purpose of the South Piney Natural Gas Development Project NEPA analysis, long-term impacts that last for the life of the project or beyond.

marlstone: A consolidated rock composed principally of clay with magnesium and calcium carbonate.

metamorphic rock: Rock formed from preexisting rocks by mineralogical, structural, and chemical changes in response to extreme changes in temperature, pressure, and shearing stress.

mitigate: To lessen the severity.

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

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.

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

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 that originated in the area in which they are found, i.e., they naturally occur in that area.

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. Natural gas includes coal bed methane gas.

naturalness: An area that “generally appears to have been affected primarily by forces of nature, with the imprint of man’s work substantially unnoticeable” (from Section 2[c], the *Wilderness Act of 1964*).

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.

noxious weeds: Officially designated undesirable or invading weedy species generally introduced into an area due to human activity.

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.

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

Perissodactyla: An order of exclusively herbivorous mammals including the horse, tapir, and rhinoceros.

potassium-argon dating: Dating by measuring the amount of argon accumulated in the matrix rock through decay of radioactive potassium.

primitive and unconfined recreation: Non-motorized and non-developed types of outdoor recreational activities.

Proteutheria: A group of primate-like insectivores that contains the living tree shrews.

quaternary: The latest period of time, from zero 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, which are amenable to certain range management principles or practices.

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

reasonably foreseeable action scenario (RFAS): Those known future actions that would impact the same resources as the Proposed Action and alternatives.

receiver line: A line along which geophones are placed.

receiver point: The specific location of geophones along a receiver line.

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: To capture on a geophone vibrations created by the detonation of a shot hole or vibroseis buggy and to transmit it for storage on a computer for later interpretation.

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

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

right-of-way: 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.

Rodentia: The order of mammals commonly known as rodents.

roosting: To rest or sleep in a roost. A bird will typically use the same roost of 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.

sandstone: A sedimentary rock consisting of individual grains of sand-sized particles.

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

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.

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

seismic exploration: The practice of generating sound waves into the earth and recording those sound waves as they reflect the underground strata so as to image underground characteristics, such as oil- or gas-bearing strata.

shale: A fine-grained laminated sedimentary rock made up of silt- or clay-sized particles.

shoestring sands: A long, relatively straight and narrow body of sand having a width/thickness ratio of less than 5:1.

shooting: In seismic exploration, the detonation of explosives, usually buried, to create sound waves in the ground.

short-term impacts: For the purpose of the CW3DP NEPA analysis, short-term impacts are generally defined as those that would last for 5 years or less.

shot hole: A hole drilled in the ground, usually 20-60 ft deep, in which an explosive charge is placed for subsequent detonation.

significant impact: A meaningful standard to which an action may impact the environment. The impact may be beneficial, adverse, direct, indirect, or cumulative, and may have short-term or long-term impacts.

siltstone: Hardened silt having a shale-like texture and composition.

soil: Loose, unconsolidated surface material comprising topsoil and subsoil.

solitude: 1) The state of being alone or remote from others; isolation. 2) A lonely or secluded place.

source line: A line along which source points are located.

source point: The specific location of a shot hole, or where vibrations will be generated by other means, as with a vibroseis buggy.

species: (1) The classification level of biological nomenclature which categorized each group of related organisms potentially capable of interbreeding; (2) the accepted level of classification to differentiate one specific type of organism from another.

staging area: An area where materials or equipment are temporarily kept prior to their implementation.

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.

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

supplemental values: Ecological, geological, or other features of scientific, educational, scenic, or historical value. The *Wilderness Act* states that a wilderness "may also contain" these values. Supplemental values are not required for wilderness, but their presence is documented where they exist.

surface management agency (SMA): The agency that governs surface use of an area.

threatened species: Any species, plant or animal, which 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.

turbidity: A measure of the clarity of water expressed as nephelometric turbidity units (NTU).

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

vegetation: All of the plants growing in and characterizing a specific area or region; the combination of different plant communities found there.

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 Bureau resource programs. VRM also identifies scenic areas that warrant protection through special management attention. The system uses five classes for categorizing visual resources.

Class 1 - Natural ecological changes and very limited management activity are allowed. Any contrasts created within the characteristic landscape must not attract attention. This classification is applied to wilderness areas, wild and scenic rivers, and other similar situations.

Class 2 - Changes in any of the basic elements (form line, color, texture) caused by a management activity should not be evident in the characteristic landscape. Contrasts are seen, but must not attract attention.

Class 3 - Contrasts to the basic elements caused by a management activity are evident, but should remain subordinate to the existing landscape.

Class 4 - Any contrast attracts attention and is a dominant feature of the landscape in terms of scale, but it should repeat the form, line, color and texture of the characteristic landscape.

Class 5 - The classification is applied to areas where the natural character of the landscape has been disturbed to a point where rehabilitation is needed to bring it up to one of the four other classifications. The classification also applies to areas where unacceptable cultural modification has lowered scenic quality; it is often used as an interim classification until objectives of another class can be reached.

water bar: A ridge made across an incline to divert water to one side.

water-bearing zone: A formation or strata that, when penetrated, produces water.

water quality: Refers to a set of chemical, physical, or biological characteristics that describe the condition of a river, stream, or lake. The quality of water determines which beneficial uses it can support. Different instream conditions or levels of water quality are required to support different beneficial uses.

watershed: The total land area that drains to a given location.

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

wilderness characteristics: Any of the following: a) a general appearance having been affected primarily by the forces nature, with the imprint of man's work substantially unnoticeable; b) outstanding opportunities for solitude or a primitive and unconfined type of recreation; c) at least 5,000 acres of land or of sufficient size as to make practicable its preservation and use in an unimpaired condition, or d) ecological, geological, or other features of scientific, educational, scenic, or historical value.

Wilderness Inventory Unit (WIU): A portion of public land evaluated to determine its roadless character and the presence of wilderness characteristics as defined in Section 2(c) of the *Wilderness Act of 1964*.

Wilderness Study Area (WSA): A roadless area or island that has been inventoried and found to have wilderness characteristics as described in Section 603 of the *Federal Land Policy and Management Act* (FLPMA) and Section 2(c) of the *Wilderness Act of 1964* (78 Stat. 891) and that has been designated as a Wilderness Study Area.
