

# Chapter 7. Glossary

## A

**Acid Rock Drainage**—The formation of sulfuric acid due to the oxidation of sulfide minerals assisted by naturally occurring bacteria that is in excess of the capacity of the rock to neutralize the acid. The produced acid may liberate contaminants and, if assisted by infiltrating precipitation or other sources of water, transport the acid and contaminants to the surrounding environment.

**Acid-Base Accounting**—A screening test for potential acid rock drainage that relies on a comparison between the theoretical amount of sulfuric acid that could be produced from the sulfur contained in the rock and the amount of acid neutralization available in the rock.

**Affected Environment**—The resource values potentially affected by the proposed action and alternatives, analyzed in a National Environmental Policy Act document.

**Acre-Foot or Acre-Feet**—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).

**Active Mining**—The project phase in which pit development, mineral processing and construction continues. Note that this time period includes time after mining has stopped, and stockpiled ore is still under process. Length of time for this project is 20 to 25 years.

**Allotment**—See *Grazing Allotment*.

**Alluvial**—Pertaining to or composed of alluvium, or deposited by a stream or running water.

**Ambient Air**—The portion of the atmosphere, external to buildings, to which the public has general access (40 Code of Federal Regulations 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.

**Ambient Standards**—The absolute maximum level of a pollutant allowed to protect either public health (primary) or welfare (secondary).

**Ammonium Nitrate and Fuel Oil**—Primary blasting agent used in open-pit mining; a mixture of solid ammonium nitrate and liquid fuel oil.

**Andesite**—A dark-colored, fine-grained extrusive rock.

**Angular Unconformity**—A break or gap in the geologic record where two groups of rocks have non-parallel bedding surfaces or in which the underlying rocks are inclined at an angle different from that of the overlying rocks (Gary et al. 1974:27,765).

**Animal Unit Month**—Amount of forage required to sustain a cow/calf unit (one cow and one calf) or equivalent for 1 month.

**Aplite**—Light-colored igneous rock characterized by a fine-grained texture.

**Arenite**—A general name for sedimentary rocks composed of sand-sized fragments, irrespective of composition.

**Argillaceous**—Containing clay-sized particles or clay minerals.

- 1 **Arkosic**—Having the character of arkose, feldspar-rich sandstone.
- 2 **Attainment Area**—Geographic area identified in regulations as being in compliance with National  
3 Ambient Air Quality Standards (Arizona Revised Statutes 49-401.01.6).
- 4 **Aquifer**—A water-bearing body of permeable rock, sand, or gravel. A formation, group of  
5 formations, or part of a formation that contains sufficient saturated permeable material to conduct  
6 groundwater and yield quantities of water to wells and springs.
- 7 **Azurite**—A monoclinic mineral,  $2[\text{Cu}_3(\text{OH})_2(\text{CO}_3)_2]$ , vitreous azure crystals, supergene mineral in  
8 oxidized parts of copper deposits associated with malachite.

9 **B**

- 10 **Background Concentration**—The existing levels of air pollutant concentration in a given region.  
11 In general, it includes natural and existing emission sources but not future emission sources.

- 12 **Barren Solution**—Solution applied to ore to dissolve mineral commodities. Leaching operations in  
13 arid climates such as Arizona are usually a closed-loop, recirculating system in which the barren  
14 solution is reconstituted from pregnant solution after processing, with make-up water added as  
15 necessary. See *Raffinate*.

- 16 **Basin-fill**—Unconsolidated material such as sand, gravel, and silt eroded from surrounding  
17 mountains and deposited in a valley.

- 18 **Beach**—The sloping surface of hydraulically deposited tailings material.

- 19 **Best Available Demonstrated Control Technology (BADCT)**—Processes, structures, operating  
20 methods, or other alternatives developed by the U.S. Environmental Protection Agency and, in  
21 Arizona, Arizona Department of Environmental Quality, used to design, construct, and operate a  
22 facility in such a way that ensures the greatest degree of discharge reduction achievable, including,  
23 where practicable, a technology permitting no discharge of pollutants.

- 24 **Best Management Practices**—Measures that are installed on the land to reduce erosion and  
25 sedimentation before undertaking and during ground-disturbing activities. Measures used are those  
26 demonstrated to be the best available for the site that apply controls, technology, processes, measures,  
27 and operating methods that are socially, economically, and technically feasible for controlling soil  
28 loss and protecting water quality.

- 29 **Bevill Amendment**—The 1980 amendment to the Resource Conservation and Recovery Act that  
30 excludes “solid waste from the extraction, beneficiation, and processing of ores and minerals” from  
31 regulation as hazardous waste under Subtitle C of the Resource Conservation and Recovery Act.

- 32 **Bioturbated**—Sediments that have been disturbed by animals or plant roots while still in the soft  
33 sediment phase of their formation.

- 34 **Blasting Delay**—A device used to sequence the detonation in a series of blast holes to reduce the  
35 instantaneous energy release.

- 36 **Bornite**—An isometric mineral,  $1[\text{Cu}_5\text{FeS}_4]$ , brownish bronze, tarnishing to iridescent blue and  
37 purple.

- 1 **Brachiopod**—Mollusk-like marine animal.
- 2 **C**
- 3 **Calcsilicate Hornfels**—Fine-grained metamorphic rock containing a high percentage of calcsilicate  
4 minerals.
- 5 **Candidate species**— Sensitive wildlife species currently under consideration for inclusion in the  
6 federal list of threatened or endangered species.
- 7 **Carbonate**—A compound containing CO<sub>3</sub>.
- 8 **Cathode**—The result of the electrowinning process is cathode copper (or a cathode) that is generally  
9 99.99 percent copper or higher in grade. The cathode starter sheet (either stainless steel or a copper  
10 blank) is placed into the electrowinning solution and a DC charge is passed through the system.  
11 The cathodes are negatively charged and attract the positively charged cathode ions, causing them to  
12 adhere to the starter sheet and create a copper cathode.
- 13 **Cave**—Any naturally formed void, cavity, recess, or system of interconnected passages that occurs  
14 beneath the surface of the earth or within a cliff or ledge, including natural subsurface water and  
15 drainage systems, and that is large enough to permit a person to enter, whether or not the entrance is  
16 naturally formed or manmade. The term “cave” shall also include any natural pit, sinkhole, or other  
17 feature that is an extension or component of a cave.
- 18 **Cave Life**— All life forms, including plants and vertebrate or invertebrate animals endemic to caves  
19 or that commonly use caves during the completion of their life cycles.
- 20 **Cave Resource**— The cave itself and any material occurring naturally in caves, including sediments,  
21 paleontological deposits, minerals, speleothems, water, cave life, and other natural resources.
- 22 **Cenozoic**—Pertaining to the present era, beginning 65 million years ago.
- 23 **Cienega**—A marshy area where the ground is wet due to the presence of seeps or springs, often with  
24 standing water and abundant vegetation. The term is commonly used in arid regions of the  
25 southwestern United States.
- 26 **Chalcocite**—An orthorhombic mineral, Cu<sub>2</sub>S, metallic gray with blue to green tarnish, important  
27 source of copper (Gary et al. 1974:117).
- 28 **Chert**—Hard, dense, dull to semivitreous, microcrystalline, or cryptocrystalline sedimentary rock of  
29 predominantly siliceous composition (Gary et al. 1974:122).
- 30 **Chrysocolla**—Monoclinic mineral, (Cu,Al)<sub>2</sub>H<sub>2</sub>Si<sub>2</sub>O<sub>5</sub>(OH)<sub>4</sub>.nH<sub>2</sub>O, soft, bluish green to emerald green.
- 31 **Clasts**—Fragments of preexisting rock.
- 32 **Clast-Supported**—Clasts in sediment, i.e., pebbles, rocks, etc., are touching and supporting each  
33 other.

- 1 **Clean Air Act of 1972, as amended**—Federal legislation governing air pollution. The Clean Air Act  
2 established National Ambient Air Quality Standards for carbon monoxide, nitrogen dioxide, ozone,  
3 particulate matter, sulfur dioxide, and lead (42 United States Code 7401 et seq.).
- 4 **Clean Closure**—Implementation of all actions specified in an aquifer protection permit, if any, as  
5 closure requirements, as well as elimination to the greatest degree practicable of any reasonable  
6 probability of further discharge from the facility and of exceeding aquifer water quality standards at  
7 the applicable point of compliance. Clean closure can also mean postclosure monitoring and  
8 maintenance are determined to be unnecessary to meet regulatory requirements (Arizona Revised  
9 Statutes 49-201.5).
- 10 **Closure**—The project phase in which all mineral processing has been completed and plant site  
11 facilities, fences, utility lines are removed and reclamation is finalized. Length of time for this project  
12 is 3 years. Also known as *Final Reclamation and Closure*.
- 13 **Code of Federal Regulations**—The compilation of Federal regulations adopted by Federal agencies  
14 through a rule-making process.
- 15 **Concentrator**—Facility where ore is crushed, ground, and separated to produce a highly  
16 concentrated ore.
- 17 **Concern Level**—Measure of degree of public importance placed on landscapes (scenery) viewed  
18 from travel ways and use areas. There are three categories: 1 (High), 2 (Moderate), and 3 (Low).
- 19 **Contact Metamorphism**—Process taking place in rocks at or near their contact with a body of  
20 igneous rock. Metamorphic changes are affected by the heat and materials emanating from the  
21 magma.
- 22 **Contact Water**—Storm water, or potable wash water, that has come into contact with process  
23 materials or mining areas.
- 24 **Contrast Analysis**—A method for assessing potential project related changes to the landscape.  
25 A project could produce visual contrasts on the existing landscape. These imposed contrasts can be  
26 measured by comparing the project’s features with the major features and existing contrasts in the  
27 landscape. The measured differences between the existing landscape contrasts and those created by a  
28 project are used to determine the level of landscape change and whether the additional project  
29 contrasts meet or exceed acceptable levels.
- 30 **Control Network**—A group or series of interconnected survey lines and monuments that provide  
31 position data for fixing the position of corners and monuments that control property boundaries  
32 between National Forest System land and private lands or that are needed for current and future  
33 administrative or management purposes.
- 34 **Cordillera**—A comprehensive term for an extensive series of more or less parallel ranges, systems,  
35 and chains of mountains.
- 36 **Corner**—A point on the surface of the earth, determined by the surveying process, that defines an  
37 extremity on a boundary of the public lands (Glossaries of Bureau of Land Management Surveying  
38 and Mapping Terms).

1 **Corner Accessories**—Nearby physical objects to which corners are referenced for their future  
 2 identification or restoration. Accessories include bearing trees, mounds, pits, ledges, rocks, and other  
 3 natural features to which distances or directions (or both) from the corner or monument are known.  
 4 Such accessories are actually a part of the monumentation.

5 **Council on Environmental Quality**—An advisory council to the President of the United States  
 6 established by the National Environmental Policy Act of 1969. It reviews Federal programs for their  
 7 effect on the environment, conducts environmental studies, and advises the President on  
 8 environmental matters.

9 **Criteria Pollutants**—Air pollutants for which the U.S. Environmental Protection Agency has  
 10 established State and National Ambient Air Quality Standards. These include particulate matter,  
 11 nitrogen oxides, sulfur dioxide, carbon monoxide, and volatile organic compounds.

12 **Cultural Resources**—Areas, properties, or sites of importance to cultural groups. In addition to areas  
 13 of importance for traditional uses or products, they include the remains of human activity, occupation,  
 14 or endeavor, as reflected in districts, sites, buildings, objects, artifacts, ruins, works of art,  
 15 architecture, and natural features important in human events.

16 **Cumulative Effects**—The impacts to the environment that would result from the incremental effect  
 17 of the proposed action when added to other past, present, and reasonably foreseeable future actions,  
 18 regardless of who undertakes such actions. Cumulative effects can result from individually minor but  
 19 collectively significant actions taking place over a period of time.

20 **Cut-Off Grade**—The lowest grade of mineralized material considered economic; used in the  
 21 calculation of the ore reserves in a given deposit.

22 **Cyclone**—A cone-shaped device used to separate granular solids by size in a water slurry.

## 23 **D**

24 **Decommissioned Road**—A road that is or may have been part of the National Forest Service road  
 25 (NFSR) network but that is proposed for decommissioning or has been decommissioned by  
 26 abandoning the road and removing it from the NFSR database. Decommissioning activities may  
 27 range from simply closing the road administratively, to actively closing and scarifying the-road  
 28 surface, to recontouring the road.

29 **Dependent Resurvey**—A retracing and reestablishment of the lines of the original survey in their  
 30 true original positions according to the best available evidence of the positions of the original corners.  
 31 It includes the restoration of lost corners in accordance with procedures described in the *Manual of*  
 32 *Surveying Instructions* (Glossaries of Bureau of Land Management Surveying and Mapping Terms).

33 **Devonian**—The fourth period, in order of decreasing age, of the periods making up the Paleozoic era.

34 **Dewatering**—Process of removing water from a slurry.

35 **Diopside Skarn**—A monoclinic mineral,  $\text{CaMgSi}_2\text{O}_6$ , white to light green, in metamorphic rocks.  
 36 A calc-silicate rock derived from limestone and dolomite with the introduction of large amounts of  
 37 silica (Gary et al. 1974:663), and containing significant amounts of diopside, which is a  
 38 clinopyroxene mineral,  $\text{CaMgSi}_2\text{O}_6$ , that is white to green in color (Gary et al. 1974:198).

1 **Diorite**—Group of plutonic rocks intermediate in composition between acidic and basic,  
2 characteristically composed of dark-colored amphibole, acid plagioclase, pyroxene, and sometimes a  
3 small amount of quartz.

4 **Direct Impacts**—Impacts that are definitively a result of an action and that occur at the same time  
5 and place. Synonymous with *direct effect*.

6 **Discovery**—In mining, defined as knowledge of the presence of the valuable minerals within the  
7 lines of a location.

8 **Distance Zones**—Landscape areas defined as specified distances from an observer and used as a  
9 reference to describe landscape character, scenic, quality, scenic integrity, and potential impacts to the  
10 landscape, as follows:

- 11 • Foreground – The distance zone within which landscape is viewed from the observation point  
12 to 0.5 mile away.
- 13 • Middle ground – The landscape distance zone between the foreground and background, from  
14 0.5 mile to 4 miles from the observer.
- 15 • Background – The landscape distance zone located at 4 miles to the horizon from the  
16 observer.

17 **Dolomite**—A rhombohedral, carbonate mineral,  $\text{CaMg}(\text{CO}_3)_2$ , that is white to pink to gray in color  
18 (Gary et al. 1974:206).

19 **Dolomitic**—Dolomite bearing.

20 **Dolostone**—Rock consisting primarily of the mineral dolomite.

21 **Dry-Stack Tailings**—Term referring to the disposal of mineral processing tailings with a water  
22 content less than saturation. In general, the water is removed from the tailings with mechanical filters,  
23 creating a tailing the consistency of moist, fine-grained sand that can be transported on conveyor belts  
24 and placed using conventional earth-moving machinery.

## 25 **E**

26 **Ecotone**—The transition zone between two major ecological communities in which one does not  
27 merge gradually into the other; for example, that between grassland and woodland.

28 **Electronic Blasting**—A method of detonating a mine blast that uses sequencing to reduce  
29 instantaneous energy release.

30 **Electrowinning (Electrometallurgy)**—Process by which electrical current is passed through a  
31 metal-bearing aqueous solution resulting from leaching. The current causes metal ions to deposit on a  
32 salable, almost pure, metal cathode.

33 **Emission**—Effluent discharge into the atmosphere, usually specified by mass per unit time.

34 **Endangered Species**—Any animal or plant species in danger of extinction throughout all or a  
35 significant portion of its range, identified by the U.S. Fish and Wildlife Service or the National  
36 Marine Fisheries Service.

1 **Environmental Impact Statement**—A document prepared to analyze the impacts to the  
 2 environment of a proposed action and released to the public for review and comment. An  
 3 environmental impact statement must meet the requirements of the National Environmental Policy  
 4 Act and Council on Environmental Quality, as well as the directives of the lead Federal agency  
 5 responsible for the proposed action.

6 **Ephemeral Stream**—In a typical year, an ephemeral stream has flowing water only during, and for a  
 7 short duration after, precipitation events. Ephemeral stream beds are located above the water table  
 8 year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary  
 9 source of water for stream flow.

10 **Existent Corner**—A corner whose position can be identified by verifying the evidence of the  
 11 monument, or its accessories, by reference to the description that is contained in the field notes, or  
 12 where the point can be located by an acceptable supplemental survey record, some physical evidence,  
 13 or testimony (Glossaries of Bureau of Land Management Surveying and Mapping Terms).

14 **Extension**—Part of and physically associated with a known mineral deposit, but outside the  
 15 identified parts.

## 16 **F**

17 **Feldspathic**—Rock or other mineral aggregate containing feldspar.

18 **Flotation**—The general term for the system of achieving separation of metallic mineral grains from  
 19 ground-up ore using the mineral's tendency to adhere to air bubbles in a water bath. Air is bubbled  
 20 through the ground ore slurry; metallic mineral grains adhere to the air bubbles and are skimmed off  
 21 the surface of the slurry. Various chemicals (called reagents) are used to enhance the process.

22 **Forage**—All browse and herbaceous foods available to grazing animals for feeding.

23 **Fragmentation**—See *Habitat Fragmentation*.

24 **Fugitive Dust**—Airborne particles emitted from any source other than through a stack or vent.

## 25 **G**

26 **Geotechnical**—The application of scientific methods and engineering principles to the acquisition,  
 27 interpretation, and use of knowledge of materials of the Earth's crust for the solution of engineering  
 28 problems; the applied science of making the Earth more habitable. Embraces the fields of soil  
 29 mechanics and rock mechanics and many of the engineering aspects of geology, geophysics,  
 30 hydrology, and related sciences.

31 **Granodiorite**—A group of coarse-grained plutonic rocks intermediate in composition between quartz  
 32 diorite and quartz monzonite.

33 **Grazing Allotment**—An area designated for the use of a prescribed number and kind of livestock  
 34 under a plan of management developed by an authorized agency.

35 **Grazing Permittee**—An individual who has been granted written permission to graze a specified  
 36 number, kind, and class of livestock for a specific period on a grazing allotment.

1 **Grazing Season**—A period of grazing to obtain optimum use of the forage resource; an established  
2 period for which grazing permits are issued.

3 **Grinding Media**—Material used to more finely grind ore material to a size that allows recovery of  
4 the desired contained material(s).

5 **Gypsum**—Monoclinic mineral,  $8[\text{CaSO}_4 \cdot 2\text{H}_2\text{O}]$ , colorless to white in crystals, most common natural  
6 sulfate.

## 7 **H**

8 **Habitat**—A specific set of physical conditions in which a single species, a group of species, or a  
9 large community lives. In wildlife management, the major components of habitat are considered to be  
10 food, water, cover, and living space.

11 **Habitat Fragmentation**—The disruption (by division) of habitats into smaller habitat patches.  
12 The effects of habitat fragmentation include loss of habitat area, increased edge area, and the creation  
13 of smaller, more isolated patches of remaining habitat.

14 **Habitat Type**—A habitat type is the basis of a forest ecosystem classification system. It is an  
15 aggregation of all land areas potentially capable of producing similar plant communities at climax.  
16 Habitat types are usually named for the most shade-tolerant tree species that will grow on the site and  
17 an understory plant that is represented with a high degree of constancy.

18 **Haul Truck**—Extremely large dump truck used to transport ore and waste rock from the mine pit.  
19 Haul trucks are too large to operate on public highways and only operate on mine property.

20 **Heap Leach**—The process of recovering metals from predominantly oxide ores by leaching ore that  
21 has been mined and placed on a specially prepared pad. A chemical solution is applied through low-  
22 volume emitters, and the metal-bearing leachate solution percolates downward and is collected.

23 **Heritage Resources**—See *Cultural Resources*.

24 **Hornfels**—A fine-grained rock composed of a mosaic of equidimensional grains without preferred  
25 orientation and typically formed by contact metamorphism.

26 **Hydraulic or Hydrologic Sink**—Typically used to describe a passive containment created by an  
27 open pit that is hydrologically isolated to the extent that it does not allow migration from the capture  
28 zone. The sinks operate without continuous maintenance.

## 29 **I**

30 **Ichnofossils (Trace Fossils)**—Geological records of biological activity, such as burrows, borings,  
31 footprints, or feeding marks.

32 **Igneous Rock**—Rock formed from the cooling and solidification of molten or partially molten  
33 material, such as magma (plutonic) or lava (extrusive) (Gary et al. 1974:353).

34 **Impact**—A modification of the existing environment caused by an action (such as construction or  
35 operation of facilities).



- 1 **Indirect Impacts**—Impacts that are caused by the action and are later in time or farther removed in  
 2 distance but are still reasonably foreseeable (40 Code of Federal Regulations 1508.8). Synonymous  
 3 with *indirect effects*.
- 4 **Infrastructure**—The basic framework or underlying foundation of a community or project,  
 5 including road networks, electric and gas distribution, and water and sanitation services and facilities.
- 6 **Interdisciplinary Team**—A team composed of specialists in different disciplines. An  
 7 interdisciplinary team is assembled because no single scientific discipline is sufficient to adequately  
 8 identify and resolve issues and problems. Team member interaction provides necessary insight to all  
 9 stages of the assessment.
- 10 **Intermediate**—Igneous rock that is transitional between basic and silicic, generally having a silica  
 11 content of 54 to 65 percent.
- 12 **Intermittent Stream (or Channel)**—An intermittent stream has flowing water during certain times  
 13 of the year, when groundwater provides water for stream flow. During dry periods, intermittent  
 14 streams may not have flowing water. Runoff from rainfall is a supplemental source of water for  
 15 stream flow.
- 16 **Intrusive**—Of or pertaining to an intrusion, which is the process of magma emplacement in  
 17 preexisting rock (Gary et al. 1974:370). (Note: this form of the word is an adjective only and does not  
 18 mean the actual rock that is formed by the process: the noun form of the word, meaning the rock  
 19 produced by this process, is “Intrusion.”)
- 20 **Irretrievable**—Applies to the loss of production or commitment of renewable natural resources.
- 21 **Irreversible**—Applies primarily to the use of nonrenewable resources, such as minerals, cultural  
 22 resources, or wetlands, or to those factors that are renewable only over long time spans, such as soil  
 23 productivity. Also includes loss of future options.
- 24 **Issue**—A subject or question of widespread public interest relating to management of the National  
 25 Forest System (36 Code of Federal Regulations 219.3).
- 26 **J**
- 27 **Jurassic**—The name of or pertaining to the Period of the Mesozoic Era spanning the time between  
 28 201.6 million to 145.5 million years before present (Walker et al. 2012).
- 29 **Jurisdiction**—The legal right to control or regulate use of land or a facility. Jurisdiction requires  
 30 authority but not necessarily ownership.
- 31 **K**
- 32 **Karst**—Type of topography that is formed on limestone, gypsum, and other rocks by dissolution and  
 33 that is characterized by sinkholes, caves, and underground drainage.

1 **L**

2 **Landscape**—An area of repeating and similar geology, soils, land use, climate, biological systems,  
3 human influences, and interacting ecosystems.

4 **Landscape Character**—The combination of physical, biological, and cultural features that makes  
5 each landscape visually identifiable and unique.

6 **Landscape Color**—The colors and hues of a landscape or object.

7 **Landscape Form**—The structure, mass, or shape of a landscape or object.

8 **Landscape Line**—The path, real or imagined, that the eye follows where there are abrupt differences  
9 in landscape form, color, or texture, or when objects are aligned in a sequence.

10 **Landscape Texture**—The regular and irregular variations or patterns visible on the landscape  
11 surface.

12 **Latite**—A porphyritic extrusive rock having phenocrysts of plagioclase and potassium feldspar in  
13 near-equal amounts.

14 **Leaching**—The process by which a soluble metallic compound is extracted from ore by dissolving  
15 the metals in a solvent.

16 **Leakage**—The discharge of water or process solution from a facility or engineered containment.

17 **Lithic Scatter**—An archaeological site type characterized by a surface scatter of artifacts that  
18 consists entirely of lithic (i.e., stone) tools and chipped stone debris.

19 **Limestone**—A sedimentary rock consisting chiefly (more than 50 percent by weight) of calcium  
20 carbonate, primarily in the form of the mineral calcite.

21 **Locatable Mineral**—High-value, rare minerals, including metals and uncommon varieties of  
22 nonmetallic minerals such as calcium carbonate suitable for cement manufacturing. Locatable  
23 minerals are public domain (free to anyone and not allowed to be sold or leased) and are subject to  
24 mining claim location for sole ownership of the rights to the mineral.

25 **Lost Corner**—A corner whose position cannot be determined, beyond reasonable doubt, either from  
26 traces of the original marks or from acceptable evidence or testimony that bears on the original  
27 position, and whose location can be restored only by reference to one or more interdependent corners  
28 (Glossaries of Bureau of Land Management Surveying and Mapping Terms).

29 **Lower Cretaceous**—A time stratigraphic (chronostratigraphic) term pertaining to rocks that were  
30 deposited in the time interval of 145.5 million to 99.6 million years before present (the Early  
31 Cretaceous Epoch). Not to be confused with the Early Cretaceous Epoch, which is the time interval  
32 during which Lower Cretaceous rocks were formed (Gary et al. 1974:370; North American  
33 Commission on Stratigraphic Nomenclature 2005:1557).

34 **M**

35 **Mafic**—Composed predominantly of ferromagnesian rock-forming silicates.

- 1 **Malachite**—A monoclinic mineral,  $\text{Cu}_2\text{CO}_3(\text{OH})_2$ , bright green, occurs with azurite in oxidized zones  
2 of copper.
- 3 **Management Indicator Species**—A wildlife species whose presence in a certain location or  
4 situation at a given population level indicates a particular environmental condition. Population  
5 changes are believed to indicate effects of management activities on a number of other wildlife  
6 species.
- 7 **Megafauna**—Large land animals.
- 8 **Mesozoic**—The era of geologic time spanning 251 million to 65.5 million years before present  
9 (Walker et al. 2012).
- 10 **Metamorphic**—An adjective describing or pertaining to any solid rock that has been subjected to  
11 mineralogical and structural modification by physical and chemical conditions (different from the  
12 conditions of origin) below the surface zones of weathering and cementation (Gary et al. 1974:446).
- 13 **Micritic**—Limestone consisting dominantly of a micrite matrix.
- 14 **Migratory Birds**—Species that migrate north each spring to breeding grounds in the United States  
15 and Canada, then fly south to spend the bulk of the year in Central or South America. Many common  
16 songbirds are neotropical birds.
- 17 **Mine Plan of Operations**—A description of proposed mineral exploration or mining, including  
18 name and address of the operator, location of the operation, access to the operation, the period in  
19 which the operation would take place, and other information as required by the U.S. Forest Service in  
20 accordance with agency regulations at 36 Code of Federal Regulations 228.4.
- 21 **Mineral Entry**—Authority to enter public lands for the purpose of developing minerals in an orderly,  
22 organized manner.
- 23 **Mineral Reserves**—Known mineral deposits that are recoverable under present conditions but are as  
24 yet undeveloped.
- 25 **Mineral Rights**—An ownership interest in minerals that may or may not be owned by the person or  
26 party having title to the surface estate.
- 27 **Mineral Survey**—A cadastral survey of a lode claim, placer claim, or millsite with all its notes and  
28 plats. This type of survey is executed by a U.S. mineral surveyor for the purpose of marking the legal  
29 boundaries of mining claims on the public domain prior to conveyance of by patent. The location and  
30 estimated value of mining improvements are returned by the survey but no reference is made to  
31 mineral deposits (Glossaries of Bureau of Land Management Surveying and Mapping Terms).
- 32 **Mineral Survey Fractions**—Small parcels of National Forest System lands interspersed with or  
33 adjacent to lands transferred out of Federal ownership under the mining laws (36 Code of Federal  
34 Regulations 254.31, Definitions).
- 35 **Mineral Withdrawal**—An action that withdraws Federal public domain land from any mining and  
36 mineral development activity or staking of a mining claim within the boundaries of the designated  
37 area, excluding areas with valid prior existing rights.

- 1 **Mississippian**—The interval of time (Mississippian Epoch) in the Carboniferous Period of the  
2 Paleozoic Era spanning 359 million to 318 million years before present (Walker et al. 2012).
- 3 **Mitigate, Mitigation**—To cause to become less severe or harmful; actions to avoid, minimize,  
4 rectify, reduce, eliminate, or compensate for impacts to environmental resources.
- 5 **Molybdenite**—A hexagonal mineral, MoS<sub>2</sub>, that is soft, is gray in color, and is the principal ore of  
6 molybdenum (Gary et al. 1974:460).
- 7 **Monument**—A physical structure, such as an iron post, marked stone or tree in place, that marks the  
8 location of a corner point established by a cadastral survey. Objects to be ranked as monuments  
9 should have certain physical properties such as visibility, durability, and stability, and they must  
10 define location without resorting to measurements. *Monument* and *corner* are not synonymous,  
11 although the two terms are often used largely in the same sense (Glossaries of Bureau of Land  
12 Management Surveying and Mapping Terms).
- 13 **Monzonite**—A granular plutonic rock containing approximately equal amounts of orthoclase and  
14 plagioclase.
- 15 **Multiple Use**—The concepts under which the National Forest System lands are administered and that  
16 involve managing resources in combinations that will best serve the public.
- 17 **N**
- 18 **National Ambient Air Quality Standards**—The allowable concentrations of pollutants in the air as  
19 specified by the Federal Government. The air quality standards are divided into primary standards  
20 (based on the air quality criteria and allowing an adequate margin of safety required to protect the  
21 public health) and secondary standards (based on the air quality criteria and allowing an adequate  
22 margin of safety and requisite to protect the public welfare) from any unknown or expected adverse  
23 effects of air pollutants.
- 24 **National Environmental Policy Act of 1969**—The national charter for protecting the environment.  
25 The National Environmental Policy Act establishes policy, sets goals, and provides means for  
26 carrying out the policy. Regulations from 40 Code of Federal Regulations 1500 to 1508 implement  
27 the act.
- 28 **National Forest Management Act**—A law passed in 1976 that amends the Forest and Rangeland  
29 Renewable Resources Planning Act and requires the preparation of forest plans.
- 30 **National Register of Historic Places**—A listing of architectural, historical, archaeological, and  
31 cultural sites of local, state, or national significance. The list of sites was established by the National  
32 Historic Preservation Act of 1966 and is maintained by the National Park Service.
- 33 **No Action Alternative**—The most likely condition expected to exist in the future if current  
34 management direction were to continue unchanged.
- 35 **Notice of Intent**—A notice published in the Federal Register to announce the intent to prepare an  
36 environmental impact statement.
- 37 **Noxious Weed**—An undesirable weed species that can crowd out desirable species.

1 **O**

2 **Obliterated Corner**—An obliterated corner is one at whose point there are no remaining traces of  
3 the monument, or its accessories, but whose location has been perpetuated, or the point for which  
4 may be recovered beyond reasonable doubt, by the acts and testimony of the interested landowners,  
5 competent surveyors, or other qualified local authorities, or witnesses, or by some acceptable record  
6 evidence (Glossaries of Bureau of Land Management Surveying and Mapping Terms).

7 **Open-Authorized-Restricted (OAR) Roads**—An NFSR that is available for administrative use, and  
8 for use by permitted users, such as grazing lessees. OAR roads are closed to motorized use unless  
9 specifically authorized and permitted by the Forest Service.

10 **Ore**—Naturally occurring material from which a valuable mineral or minerals can be economically  
11 extracted.

12 **Orogeny**—The process or specific interval of mountain formation, including thrust faulting, folding,  
13 metamorphism, and plutonic intrusion (Gary et al. 1974:500).

14 **Overburden**—Rock and soil cleared away prior to mining.

15 **Oxide**—A compound of oxygen with another element.

16 **P**

17 **Packstone**—Grain-supported carbonate rocks.

18 **Paleozoic**—The era of geologic time spanning 542 million to 251 million years before present  
19 (Walker et al. 2012).

20 **Particulate Matter**—Particulate matter is regulated under the Clean Air Act. Particulate matter 10 is  
21 particulate matter that is 10 microns or less in effective diameter (also called fine particulate matter).  
22 Particulate matter 2.5 is particulate matter that is 2.5 microns or less in diameter.

23 **Patent**—A document by which the United States conveys, to those entitled thereto, legal title to some  
24 portion of the public lands (Glossaries of Bureau of Land Management Surveying and Mapping  
25 Terms).

26 **Patented Claims**—Private land that has been secured from the U.S. Government by compliance with  
27 laws relating to such lands.

28 **Pennsylvanian**—The interval of time (Pennsylvanian Epoch) in the Carboniferous Period of the  
29 Paleozoic Era spanning 318 million to 299.0 million years before present (Walker et al. 2012).

30 **Percent Slope (Gradient)**—A measurement of the steepness of a slope determined by dividing the  
31 vertical difference in elevation by the horizontal distance traveled. A 100 percent slope is equal to a  
32 45-degree slope.

33 **Perennial Stream**—During a typical year, a perennial stream has flowing water year-round.  
34 The water table is located above the stream bed for most of the year. Groundwater is the primary  
35 source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream  
36 flow.

- 1 **Permian**—The period of time in the Paleozoic Era spanning 299 million to 251 million years before  
2 present (Walker et al. 2012).
- 3 **Petroglyph**—Literally, a rock carving; petroglyphs usually exclude writing and are of prehistoric or  
4 protohistoric age.
- 5 **Phanerozoic**—The eon comprising the Paleozoic, Mesozoic, and Cenozoic Eras.
- 6 **Pit Lake**—Temporary or permanent body of water that may accumulate in the bottom of an open-pit  
7 mine; typically present only after mine closure.
- 8 **Plan of Operations**—See *Mine Plan of Operations*.
- 9 **Planolites**—Feeding or burrowing marks made by a worm-like animal.
- 10 **Porphyry**—An igneous rock of any composition that contains conspicuous phenocrysts in a fine-  
11 grained ground mass.
- 12 **Premining**—The project phase in which vegetation is cleared, soil is stockpiled, and construction of  
13 facilities, access roads, utility lines, and fencing takes place. Length of time for this project is 18 to 24  
14 months.
- 15 **Preferred Alternative**—The alternative recommended for implementation by the proponent based on  
16 the evaluation completed in the planning process.
- 17 **Pregnant Leach Solution**—An acidic copper-laden solution recovered from a leaching operation.  
18 The copper is recovered from the solution by electrowinning.
- 19 **Prevention of Significant Deterioration**—A regulatory program based not on the absolute levels of  
20 air pollution allowable in the atmosphere but on the amount by which a legally defined baseline  
21 condition will be allowed to deteriorate in a given area. Under this program, geographic areas are  
22 divided into three classes, each allowing different increases in nitrogen dioxide, particulate matter,  
23 and sulfur dioxide concentrations. Prevention of significant deterioration above legally established  
24 levels includes the following, used to classify a region:
- 25 • Class I—minimal additional deterioration in air quality (certain national parks and wilderness  
26 areas).
  - 27 • Class II—moderate additional deterioration in air quality (most lands).
  - 28 • Class III—greater deterioration for planned maximum growth (industrial areas).
- 29 **Prill**—Ammonium nitrate in bead form; used in the ore blasting process.
- 30 **Primary Crusher**—The first-stage crusher used to reduce the size of the run-of-mine ore prior to  
31 entering the milling circuit.
- 32 **Primacy State**—A State of the United States authorized by the U.S. Environmental Protection  
33 Agency to administer portions of the Clean Water Act; Arizona is a primacy State.
- 34 **Process Water**—Water used to process ore.

1 **Property Boundary**—A landownership division line between two parcels of land. A separation of  
2 real property rights (Forest Service Manual 7151.05, “Definitions”).

3 **Property Controlling Corner**—A survey corner that is not on a property boundary but that  
4 influences or fixes the location of one or more property corners (Forest Service Manual 7151.05,  
5 “Definitions”).

6 **Proposed Plan of Operations**—See *Mine Plan of Operations*.

7 **Propylitic**—Hydrothermally altered andesite resembling a greenstone.

8 **Process Solution Pond**—A pond that contains pregnant, barren, or recycling process solutions.  
9 An overflow pond that continually contains process solution as a normal function of facility  
10 operations is also considered a process solution pond.

11 **Process Water**—Water that has been used in the processing of an ore and that may, in varying  
12 degrees, contain chemicals used in processing or constituents derived from the ore.

13 **Project Alternatives**—Alternatives to the proposed project developed through the National  
14 Environmental Policy Act process.

15 **Proterozoic**—The eon of time in the Precambrian Era spanning 1,600 million to 542 million years  
16 before present (Walker et al. 2012).

17 **Pushback**—The slice of earth and rock removed to horizontally expand an open-pit mine.

## 18 **Q**

19 **Quarter-Section Corner**—A corner at an extremity of a boundary of a quarter section. Written as  
20 quarter-section corner, not as one-fourth section corner.

21 **Quaternary**—The second period of time in the Cenozoic Era spanning 2.6 million years before  
22 present to the present (Walker et al. 2012).

23 **Quartzite**—A metamorphic rock consisting mainly of quartz and formed by recrystallization of  
24 sandstone.

25 **Quartzose**—Of, pertaining to, or consisting of quartz. Containing quartz as a principal constituent.

## 26 **R**

27 **Radial Stacker**—Used to describe a conveyor system that radiates out from a fixed position to  
28 distribute material.

29 **Raffinate**—Barren process solution used in the leaching process. Raffinate solutions are generally  
30 refortified before being used in the leaching process. In Arizona, these solutions generally come from  
31 the solvent extraction process and are produced when the mineral to be recovered has been removed  
32 from solution.

33 **Rangeland**—Land used for grazing by livestock and big-game animals on which vegetation is  
34 dominated by grasses, grass-like plants, forbs, or shrubs.

- 1 **Ranger District**—Administrative subdivisions of the forest supervised by a district ranger, who  
2 reports to the forest supervisor.
- 3 **Reagent**—A reactant; a substance consumed in a chemical reaction (International Union of Pure and  
4 Applied Chemistry 2012).
- 5 **Reclamation**—The process of contouring, stabilizing, and/or revegetating to convert disturbed land  
6 to its former use or other productive uses. “Concurrent” reclamation refers to revegetating the surface  
7 of the land while other disturbance is ongoing, thereby reclaiming disturbance in one area while new  
8 disturbance happens in another.
- 9 **Reconstruction**—Road or trail construction activities that take place on an existing road or trail,  
10 usually to raise the standard of the road or trail.
- 11 **Record of Decision**—A document separate from, but associated with, an environmental impact  
12 statement that publicly and officially discloses the responsible official’s decision on the proposed  
13 action. In addition to the decision, the record of decision states the alternatives considered, the  
14 environmentally preferable alternative or alternatives, factors considered in the agency’s decision, and  
15 mitigation measures that will be implemented and identifies any applicable enforcement and  
16 monitoring programs.
- 17 **Rectangular System of Surveys**—A system inaugurated by the Continental Congress on May 20,  
18 1785, for the survey of the public lands of the United States. Its distinguishing characteristic is that in  
19 the main, and in all cases where practicable, its units are in rectangular form.
- 20 **Region 3**—A Forest Service organizational unit—the Southwestern Region—consisting of all  
21 national forests in New Mexico and Arizona, plus four national grasslands in Texas, Oklahoma, and  
22 New Mexico.
- 23 **Right-of-Way**—The legal right for use, occupancy, or access across land or water areas for a  
24 specified purpose or purposes.
- 25 **Riparian Area**—Land areas that are directly influenced by water. They usually have visible  
26 vegetative or physical characteristics showing water influence. Stream sides, lake borders, and  
27 marshes are typical riparian areas.
- 28 **Road Closure**—Not allowing motorized vehicles on a road by physically blocking access and/or  
29 posting notices and/or signs. The road remains on the forest transportation inventory system with the  
30 intent of reusing the road at a future time.
- 31 **Road Density**—The number of miles of road per square mile.
- 32 **Road Effect Zone**—The area of influence on edge environments parallel to roads.
- 33 **Road Obliteration**—Eliminating an unneeded road and returning the land it occupies to production  
34 or to another use. The road is removed from the forest transportation system. When needed for  
35 resource protection or to adhere to the forest plan, additional measures such as scarification, seeding,  
36 or possibly elimination of all roadway features will be done.
- 37 **Run-of-Mine Ore**—Uncrushed ore in its natural state, after being first blasted and then removed  
38 from the mine.



1 **Runoff**—Precipitation that is not retained on the site where it falls and that is not absorbed by the  
2 soil.

### 3 **S**

4 **Safety Bench**—The horizontal benching cut in the slope of an open-pit mine. Safety benches are  
5 required by Federal mine safety law to help catch falling rock and promote worker safety.

6 **Safety Berm**—Earth berm along haul and other mine roads used to prevent vehicles from  
7 accidentally leaving the road. Safety berms are required by Federal mine safety law and must be at  
8 least half the height of the largest tire operating on the road.

9 **Scenic Integrity**—The degree to which the landscape character is, or appears to be, intact, unaltered,  
10 and natural appearing. High scenic integrity means the human activities and impacts are not  
11 obviously visible in the landscape; low scenic integrity means that the landscape has been obviously  
12 altered and impacted by human activity.

13 **Scenic Quality**—The attributes of a landscape that, when viewed by individuals, can elicit a sense of  
14 the beauty of nature and a sense of pleasure. This response to the landscape can help to produce and  
15 maintain psychological and physical health.

16 **Scoping**—A term used to identify the process for determining the range of issues related to a  
17 proposed action and for identifying significant issues to be addressed in an environmental impact  
18 statement. Scoping may involve public meetings, field interviews with representatives of agencies  
19 and interest groups, discussions with resource specialists and managers, and comments received by  
20 the lead Federal agency in response to news releases, direct mailings, articles, and Internet postings  
21 about the proposed action.

22 **Secondary Crusher**—The second-stage crusher used to reduce the size of the ore from the primary  
23 crusher prior to entering the semiautogenous grinding mill.

24 **Section Corner**—A corner at the extremity of a section boundary.

25 **Sediment**—Soil or mineral particles transported by moving water, wind, gravity, or glaciers and  
26 deposited in streams or other bodies of water or on land.

27 **Sediment Yield**—The amount of sediment reaching a stream or other drainage way, expressed in  
28 tons, acre-feet, or cubic yards of sediment.

29 **Sedimentary Rock**—Rock formed from consolidation of loose sediment that has accumulated in  
30 layers.

31 **Seepage**—The discharge of water from an unlined facility.

32 **Semiautogenous Grinding Mill**—A mill in which rock is reduced to smaller particles by grinding  
33 against other pieces of rock as well as a grinding media (generally steel balls).

34 **Sensitive Species**—Any taxon on the Regional Forester's Sensitive Species list (2007 is the latest  
35 version) or Sensitive Species List for the Bureau of Land Management.

- 1 **Significant**—As used in National Environmental Policy Act determination of significance, requires  
2 consideration of both context and intensity. *Context* means that the significance of an action must be  
3 analyzed in several contexts, such as society as a whole and the affected region, interests, and  
4 locality. *Intensity* refers to the severity of the impacts (40 Code of Federal Regulations 1508.27).
- 5 **Siliceous**—Containing abundant silica (Gary et al. 1974:659).
- 6 **Skarn**—A metamorphic calc-silicate rock, formed by the infiltration and diffusion of metasomatic  
7 fluids into carbonate rocks from an adjacent intrusive body.
- 8 **Slope**—The degree of deviation of a surface from the horizontal.
- 9 **Soil Loss Tolerance**—See *Tolerance, Soil Loss*.
- 10 **Soil Productivity**—The capacity of a soil to produce a plant or sequence of plants under a system of  
11 management.
- 12 **Soil Texture**—The relative proportions of sand, silt, and clay particles in a mass of soil. Basic  
13 textural classes, in order of increasing proportions of fine particles, are: sand, loamy sand, sandy  
14 loam, loam, silt loam, silt, sandy clay loam, silty clay loam, clay loam, sandy clay, and clay.
- 15 **Solvent Extraction**—A process for separating the components of a liquid solution.
- 16 **Spiculite**—A spindle-shaped, minute body of undetermined minerals that represent the initial stage of  
17 crystallization of a magma (Gary et al. 1974:68, 171, 302, 681). Alternatively, a sedimentary rock or  
18 sediment composed largely of sponge spicules.
- 19 **Stand**—A community of trees possessing sufficient uniformity of composition, constitution, age,  
20 spatial arrangement, or condition, to be distinguishable from adjacent communities, forming a  
21 silvicultural management entity.
- 22 **Stock**— An igneous intrusion that is less than 40 square miles in exposed surface area; alternatively,  
23 a rarely used term for a chimney-like ore body (Gary et al. 1974:693–694).
- 24 **Stratigraphy**—The arrangement of rock strata, especially as regards geographic position and  
25 chronological order of sequence.
- 26 **Subarkosic**—Sandstone that does not contain enough feldspar to be considered arkose.
- 27 **Sulfide**—A mineral or compound in which sulfur is linked with a metal cation (Gary et al. 1974:710).
- 28 **Supergene**—Said of a mineral deposit or enrichment formed near the surface, commonly by  
29 descending solutions.
- 30 **T**
- 31 **Tailings**—Waste material remaining after crushing, grinding and floating ore to create a metals  
32 concentrate.
- 33 **Tectonic**—Pertaining to forces involved in, or the resulting structures or features of, regional,  
34 structural deformation (Gary et al. 1974:725–726).

1 **Tenorite**—Monoclinic mineral, CuO, occurs in gray scales, black powder or earthy masses, in  
2 oxidized zones of copper deposits.

3 **Terrestrial Ecosystem Survey**—A systematic inventory based on the concept that within the  
4 landscape there are naturally occurring ecosystems with unique sets of properties. These terrestrial  
5 ecosystems form a continuum and can be recognized at different levels in classification systems.  
6 The soils component of the ecosystem is inventoried through the use of “Soil Taxonomy,”  
7 U.S. Department of Agriculture Soil Conservation Service Handbook No. 436, and the “Terrestrial  
8 Ecosystem Vadose and Phreatic Survey Procedure,” a Forest Service handbook. The vegetation  
9 component of the ecosystem is inventoried through use of the International Classification and  
10 Mapping of Vegetation, United Nations Educational, Scientific, and Cultural Organization, and the  
11 above-mentioned Forest Service handbook.

12 **Tertiary**—The first period of time in the Cenozoic Era spanning 65.5 million to 2.6 million years  
13 before present (Walker et al. 2012).

14 **Threatened and Endangered Species**—Animal or plant species afforded protection under the 1973  
15 Endangered Species Act (federally listed). An “endangered” species is one that is in danger of  
16 extinction throughout all or a significant portion of its range. A “threatened” species is one that is  
17 likely to become endangered in the foreseeable future.

18 **Thrust Fault**—A fault in which the hanging wall has moved over the foot wall (reverse fault) and in  
19 which the dip of the fault surface is less than 45° to the horizontal (Gary et al. 1974:739).

20 **Tolerance, Soil Loss**—The maximum rate of soil loss that can occur while sustaining inherent soil  
21 productivity.

22 **Ton**—A short ton (2,000 pounds).

23 **Tonne**—A metric tonne (2,204.6 pounds).

24 **Total Exclusion Area**—The area of the mine site within which only authorized personnel are  
25 permitted entry.

26 **Total Suspended Particulates**—All particulate matter less than 70 microns in effective diameter that  
27 is suspended in water resources.

## 28 **V**

29 **Viable Populations**—A population that has the estimated numbers and distribution of reproductive  
30 individuals to ensure the continued existence of the species throughout its existing range (or range  
31 required to meet recovery for listed species) within the planning area.

32 **Viewpoint**—A carefully selected point of view from which, using contrast analysis, existing  
33 landscape character and existing landscape contrasts are documented and potential project related  
34 impacts are assessed.

35 **Viewshed**—The total visible area as seen from a single observation point or from multiple  
36 observation points.

- 1 **Visual Contrast**—The obvious differences and effects in form, color, line, and texture of a  
2 landscape.
- 3 **Visual or Scenic Resources**—Used to describe the landscapes and scenery in a given area. Visual  
4 resources encompass all the visible natural features in the landscape, such as mountains, forests,  
5 rocks, open water, estuaries, and streams. Visual resources also include the existing man-made  
6 structures on the landscape, such as cabins, houses, commercial buildings, utility corridors, and roads.
- 7 **Visual Priority Routes and Use Areas**—Locations where the U.S. Forest Service places the greatest  
8 emphasis on selecting viewpoints to assess visual character.
- 9 **Visual Quality Objectives**—The degree of acceptable alteration of the characteristic landscape.
- 10 **Visual Resources**—The visible physical features of a landscape (topography, water, vegetation,  
11 animals, structures, and other features) that constitute the scenery of an area.
- 12 **Visual Sensitivity**—Areas or landscapes that are most interesting and appealing to the public and  
13 whose changed scenic values would be of concern to the public.
- 14 **Volcaniclastic**—Pertaining to a clastic rock consisting of volcanic material or fragments without  
15 regard to depositional method or environment (Gary et al. 1974:781).
- 16 **Vuggy**—Pertaining to a vug or having numerous vugs. A vug is a small cavity in a rock, usually lined  
17 with crystals of a different mineral composition than the enclosing rock.

18 **W**

- 19 **Wackestone**—Matrix-supported carbonate rock.
- 20 **Waste Rock**—Non-ore rock that is extracted to gain access to ore. It contains no ore metals or  
21 contains ore metals at levels below the economic cutoff value and must be removed to recover the  
22 ore.
- 23 **Watershed**—The entire land area that contributes water to a drainage or stream.
- 24 **Waters of the United States**—These are defined as follows:
- 25 1) All waters that are currently used, or were used in the past, or may be susceptible to use in  
26 interstate or foreign commerce, including all waters that are subject to the ebb and flow of the  
27 tide;
- 28 2) All interstate waters, including interstate wetlands;
- 29 3) All other waters, such as intrastate lakes, rivers, streams (including intermittent streams),  
30 mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural  
31 ponds, the use, degradation or destruction of which could affect interstate or foreign  
32 commerce, including any such waters:
- 33 a. That are or could be used by interstate or foreign travelers for recreational or other  
34 purposed; or
- 35 b. From which fish or shell fish are or could be taken and sold in interstate or foreign  
36 commerce; or

- 1                   c. That are used or could be used for industrial purposes by industries in interstate  
 2                   commerce;
- 3           4) All impoundments of waters otherwise defined as waters of the United States under this  
 4           definition
- 5           5) Tributaries of waters identified in paragraph(s) (1) through (4) of the section;
- 6           6) The territorial sea;
- 7           7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in  
 8           paragraph(s) (1) through (6) of this section.
- 9           8) Waters of the United States do not include prior converted cropland. Notwithstanding the  
 10           determination of an area's status as prior converted cropland by any other federal agency,  
 11           for the purposes of the Clean Water Act, the final authority regarding Clean Water Act  
 12           jurisdiction remains with the U.S. Environmental Protection Agency.

13           Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of  
 14           Clean Water Act (other than cooling ponds as defined in 40 Code of Federal Regulations 423.11(m)  
 15           that also meet the criteria of this definition), are not waters of the United States. See 33 Code of  
 16           Federal Regulations 328.3(a) for more information.

17           **Water Table**—The elevation of water at saturation in subsurface materials, whether permeable,  
 18           porous, or not. Typically, it is the level of the groundwater in a given location.

19           **Wetlands**—Areas that are inundated or saturated by surface or groundwater at the timing, frequency,  
 20           and duration sufficient to support a prevalence of vegetation typically adapted to saturated soil  
 21           conditions.

22           **Wildfire**—Any fire on wildlands that was not intentionally set for management purposes and  
 23           confined to a predetermined area.

24           **Wind Rose**—Any one of a class of diagrams designed to illustrate the distribution of wind direction  
 25           experienced at a given location over a given period of time. Wind roses may also give information  
 26           concerning distribution of wind speed, stability, or other meteorological parameters.