
Appendixes

Appendix A

Glossary

The terms below are defined as they are used in this report and supporting OTA working papers. Some may have additional connotations deriving from their usage in mining and land management. In this report, however, their meaning is limited to these definitions.

Access: Generally means a right to cross lands for a given use.

Deposits—

Mineral: A surface or underground area where sufficient quantities of minerals occur to warrant exploration. A mineral deposit may or may not be economically or technically feasible to develop, depending on its size, the concentration of its minerals, and the ease with which one or more useful components can be extracted.

Placer: A deposit of alluvial material, which has the minerals scattered through it. These deposits are found along and in riverbanks, streambanks, and in beach sands. Ore reserves are calculated on the basis of physical, economic, and technical criteria.

Porphyry: A large body of rock in or associated with a porphyry, which is an igneous rock with the ore minerals dissem-

inated throughout. For ore reserve calculations, the boundaries are defined on the basis of economic criteria.

Ultramafic: A particular type of igneous rock that is low in silica but high in magnesium and iron, and occasionally also contains concentrations of nickel, chromium, and asbestos.

Vein: Ordinarily a small deposit consisting of massive fissure fillings of ore minerals. Ore reserves are calculated on the basis of physical boundaries and economic-technical criteria.

Easement: One person's right to make use of another's land. It is a right to use rather than a right to possess. A right-of-way is one kind of easement.

Federal Domain: Federally owned lands or interests in lands.

Federal Land Management Laws: Laws passed by Congress that directly relate to the management of Federal lands, including access. (See also: policies, regulations, statutes.)

Federal Land Management Systems: As used in this report, Federal land management systems refer to the major management categories for Federal lands. These include: (a) Public Lands, which are managed

by the Bureau of Land Management of the Department of the Interior; (b) National Park System, which is managed by the National Park Service of the Department of the Interior; (c) National Wildlife Refuge System, which is managed by the Fish and Wildlife Service of the Department of the Interior; (d) National Forest System, which is managed by the Forest Service of the Department of Agriculture; (e) National Wilderness Preservation System, components of which are managed by the land management agency designated by Congress in specific legislation (e.g., the Bureau of Land Management, the Park Service, the Forest Service, and the Fish and Wildlife Service); and (f) National Wild and Scenic Rivers System, components of which are managed by a congressionally designated land management agency.

Lands—

Acquired: Means lands which the United States obtains by deed through purchase or gift, or through condemnation proceedings. They are distinguished from public domain lands in that acquired lands may or may not have been originally owned by the Government. If originally owned by the Government, such lands have been disposed of (patented) under the public land laws and thereafter reacquired by the United States.

d-1 lands: Under section 17(d)(1) of the Alaska Native Claims Settlement Act, the Secretary of the Interior is authorized to withdraw public lands for classification in order to ensure that the public interest in these lands is adequately protected. Approximately 60 million acres not covered by other classifications or withdrawals have been withdrawn under section 17(d)(1) as public interest lands for further study and classification. No time limit was placed on the d-1 lands withdrawals. In addition to the lands under this section, considerable other acreage including d-2 land withdrawals as well as Native village and regional deficiency withdrawals

(lands withdrawn to allow Native selections) have also been covered by section 17(d)(1) withdrawals. The State of Alaska may not select lands under the Alaska Statehood Act entitlements in most areas covered by the d-1 lands withdrawals.

d-2 lands: Under section 17(d)(2) of the Alaska Native Claims Settlement Act, the Secretary of the Interior was authorized to withdraw up to 80 million acres of public lands for study and recommendation to Congress for possible additions to National Park, Forest, Wildlife Refuge, and Wild and Scenic Rivers Systems. These lands are called d-2 or national interest lands. The withdrawals will retain this classification until December 18, 1978, the congressional deadline for action on the proposals. The term d-2 lands is also loosely used to refer to the lands that will be set aside under the final d-2 proposals enacted by the Congress as parks, forests, refuges, and wild and scenic rivers whether or not the specific parcels were included in the original d-2 lands withdrawals. The 80-million-acre limitation in section 17(d)(2) does not impose any limitation on the total number of acres that eventually may be included in d-2 lands legislation, or on the number of acres the Secretary may withdraw under other authority for congressional consideration or classification. The d-2 lands are closed to entry under the public land laws and the mining and mineral leasing laws; they are also closed to State and most Native selections under the land grants of the Alaska Statehood Act and the Alaska Native Claims Settlement Act.

Federal: Any land or interest in land owned or managed by the Federal Government.

Non-Federal: Includes private, State, and local government lands but excludes Indian lands, i.e. tribal reservations and other lands held in trust by the Federal Government for a tribe or Indian. In Alaska, it refers specifically to Native and State lands. (For information on In-

dian lands, see Federal Trade Commission, Bureau of Competition, Staff Report on Mineral Leasing on Indian Lands, 1975; U.S. General Accounting Office, Management of Indian Natural Resources; Senate Comm. on Interior and Insular Affairs, 94th Cong., 2d sess. (Comm. Print 1976); American Indian Policy Review Commission, Task Force Seven Report on Reservation and the Resource Development and Protection, 1976.]

Other: Means: (1) “Withdrawn lands”—lands that have been withdrawn and dedicated to public purposes; (2) “Reserved lands”—lands that have been withdrawn from disposal and dedicated to a specific public purpose; (3) “Segregated lands”—lands included in a withdrawal, or in an application or entry, or in a proper classification that segregates them from the operation of the public land laws. [38 F.R. 35082, Dec. 21, 1973]

Public: Only those federally owned lands or interests in lands that are managed by the Bureau of Land Management of the Department of the Interior. Public lands are divided into public domain lands, which have never left Federal ownership; and acquired lands, which are lands in Federal ownership, are not in public domain, and have been obtained by the Government through purchase, condemnation, gift, or exchange. “Lands” include all interest in land, such as surface ownership, mineral rights, timber rights, and easements.

Public Domain: Means original public domain lands that have never left Federal ownership; also, lands in Federal ownership that were obtained by the Government in exchange for public lands or for timber on such lands; also original public domain lands that have reverted to Federal ownership through operation of the public land laws.

As defined in the Federal Land Policy and Management Act of 1976, the term “public lands” means any land and in-

terest in land owned by the United States within the several States and administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except—(1) lands located on the Outer Continental Shelf; and (2) lands held for the benefit of Indians, Aleuts, and Eskimos. Public Law 94-579, 90 Stat. 2743, 43 U.S.C. 1702(e) (1977 supp.).

Long Term: A projection into the post-1990 period. In Alaska, it is based on the year immediately before Native Corporations become public corporations.

Lower-48: A colloquial expression used by Alaskans to refer to the contiguous 48 States.

Metals—

Additive: These include antimony, bismuth, mercury, tungsten, tin, the rare earths, and molybdenum. Their primary use is as special alloy components.

Base: These include copper, lead, zinc, and aluminum.

Ferrous: These include the three most important metallic elements, chromium, iron, and nickel, used in the manufacture of various types of steel.

Precious: These are gold, silver, and platinum. They have specialized industrial applications for communications electronics, for photography, and for catalysis in automobile pollution control devices, respectively.

Mine Development: The process of acquiring detailed metallurgical, engineering, geological, technical, and economic data necessary to justify mine planning, construction, and initial startup. For purposes of this report mine development begins with closely spaced drilling and bulk sampling that requires surface logistical support for evaluation of large deposits.

Mine Size:

Underground Mine
(short tons of ore mined/day)

Small	less than 1,000
Medium	1,000 to 5,000
Large	more than 5,000

Open Pit Mine	
(short tons of ore mined/day)	
Small	less than 5,000
Medium	5,000 to 30,000
Large	more than 30,000
Placer Mine	
(yd ³ mined/year)	
Small	less than 600,000
Medium	600,000 to 3,600,000
Large	more than 3,600,000

Minerals—

Availability: In the broad sense in which this term is commonly used by mining personnel, availability is construed as the right of the public and the mining industry to prospect for and develop mineral resources. This includes all steps in the process of mineral resources development.

Concentrate: The product that results from milling the ore and segregating the valuable minerals. Mineral concentrates are smelted to extract the metals from the ore minerals.

Energy or Fuel: Oil and other energy minerals including geothermal, natural gas, coal, and uranium. Uranium is an energy mineral but is treated as a hardrock mineral because of the similarity in its occurrence characteristics.

Exploration: Activities leading to ore deposit identification including: regional mapping, geochemical sampling, geophysical surveying, detailed mapping, and widespaced drilling. Exploration, as defined in this study, can be adequately supported by air so that surface transportation access is not necessary until mine development appears to be warranted.

Hardrock: Refers generally to the locatable minerals. These include the metals and certain industrial nonmetallic minerals including uranium.

Leasable: The leasable minerals are essentially the fuel minerals (e.g., oil, gas, and coal, but excluding uranium), phosphate, potash, sodium salts, sulfur, which are disposed of through the Federal leasing laws.

Locatable: The locatable minerals, in contrast to the leasable and salable commodities, have been characterized as “hard to find” metallic minerals. Deposits of these minerals are often geologically obscured. They are claimed under provisions of the Mining Act of 1872, as amended in 1955.

Nonfuel: Those minerals not included in the fuels mineral group.

Occurrence: The presence of ore minerals in a rock outcropping. In some instances ore minerals may be present in sufficient quantities to be classified as a deposit. Mineral occurrences are often surface indications of underlying mineral deposits.

Production: The output of a working mine, i.e., the value or amount of its concentrate and bullion production.

Resources: Naturally occurring substances that have properties which can be put to man’s use. Mineral resources include nearly all of the elements and many compounds; most are solids, but some are liquids, and a few are gases; and most are inorganic, but some of the most important (oil, coal, and natural gas) were derived from organic sources.

Salable: Certain common variety materials such as sand, gravel, and stone that are handled under the commodities disposal system.

Native: A person who is by blood relation one-fourth degree or more Alaska Indian, Aleut, or Eskimo, or any combination of the three. This includes those whose adoptive parents may not be Natives, or a person who is recognized as a Native by the Native village of which he claims to be a member or whose father or mother is or has been a member. Such a person is qualified for enrollment in a Native Regional Corporation under the Alaska Native Claims Settlement Act.

Near Term: Projection through 1990; in Alaska, it is based on the year immediately before Native Corporations become public corporations.

Non-Federal Mineral or Mining Interests:

Public and private mining interests including private mining businesses, State groups involved in mineral leasing or the promotion of mineral development, and county-owned quarry operations.

Ore Grade: The quantity of a specific metal or nonmetal mineral commodity in the ore, by weight. Grade is usually expressed as percent, e.g., 3 percent copper ore. The grade of precious metal deposits is normally stated as troy ounces of metal per ton of ore.

Policies: The interpretation by different Government agencies of regulations implementing the land management and disposal laws.

Practices: The actions of Federal officials when implementing and enforcing Federal laws, policies, and regulations.

Regulation—An administrative rule issued by a Federal agency or department implementing or interpreting a statute or policy. Regulations are published in the Federal Register (F. R.) and compiled yearly in the Code of Federal Regulations (CFR). There are two types of regulation, interpretive and substantive.

Interpretive; Regulations that are issued to advise the public of an agency's interpretation or construction of the statutes and rules it administers. Interpretive regulations are not binding on those affected by them and may be presented to a court for judicial determination.

Substantive: Regulations other than those describing organizational, procedural, or practice requirements that are issued by an agency pursuant to statutory authority, and that implement a statute. Such regulations have the force and effect of law.

Right-of-way: A right of to cross the land of another. As used in this report, a right-of-way means the right to cross Federal lands by obtaining a "right-of-way" permit. The authority to grant this permit maybe found in a specific right-of-way statute or in the

general discretionary management authority. Title V of the Federal Land Policy and Management Act of 1976 provides: the term "right-of-way" as used in the Act includes "an easement, lease, permit, or license to occupy, use, or traverse public lands" granted for certain purposes. (43 U.S.C. 1702(f).)

Small mining business: Small mining business or the small miner is here defined as an individual, partnership, or corporation, that is engaged in prospecting or mining as a full- or part-time business. If incorporated, it is closely held, not advertised in a major stock exchange, and is capitalized for under \$1 million. In Alaska, the small miner employs less than 20 persons; and annually mines less than 600,000 yards of alluvial material (clay, sand, silt, gravel, or other material deposited by running water) or less than 50,000 tons of metallic hard-rock ore, or less than 200,000 tons of coal, industrial materials, or sedimentary materials (other than placer alluvium), which require further processing.

Statute: A bill passed by Congress and signed by the President. Statutes of the United States are published in the Statutes-at-Large (Stat.) and are codified in the United States Code (U. S.C.).

Surface or Transportation Access: This term refers specifically to the right to use lands for the purpose of developing a transportation system. This includes roads and railroads.

Barrier: An obstacle that prevents surface access, e.g. the loss of access to the only mountain pass through which a region can be reached.

Restriction: A deterrent to surface access, e.g., standards set by multiple jurisdictions that require substantial legal resources, time, and costs; or a detour around a topographic obstruction such as a mountain range.

Restraint: A limitation that makes it difficult to gain surface access, e.g., a Federal permit requirement involving an indi-

vidual, local, or Federal agency that causes delays.

Market Access: An aspect of transportation access that specifically concerns the movement of minerals and their products from the mine or processing site to market.

Western United States/Eastern United

States: The Western United States includes Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California; the Eastern United States includes the other 37 contiguous States in the United States.