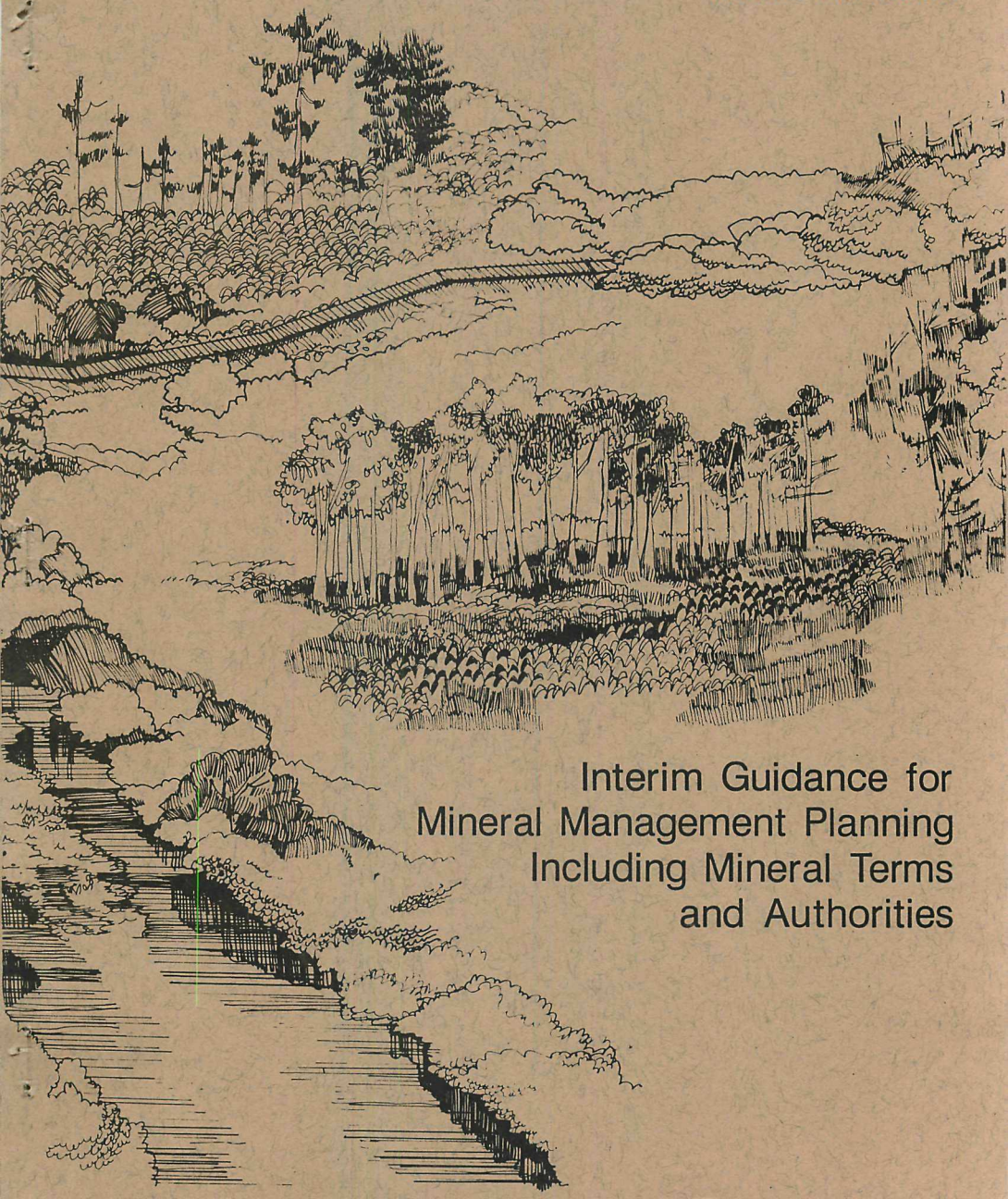


Energy, Mining and Minerals Division

National Park Service



Interim Guidance for Mineral Management Planning Including Mineral Terms and Authorities

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for
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I. SUMMARY OF THE TYPES OF MINERAL OWNERSHIP WITHIN PARKS

Mineral interests take many different forms, representing various levels of "rights" under the U.S. property laws. Each form of interest is protected by differing laws and regulations depending on the nature of the right. The ability of the NPS to control or regulate these interests also differs depending upon the right and should be known before management actions are proposed.

Originally, the federal government had title to both the surface and minerals on all public lands. As the federal government transferred title of these interests to states and private (nonfederal) owners under a variety of land disposal laws, complex surface and subsurface ownership patterns were created. Land status was further complicated when the federal government acquired lands that had previously left federal ownership but when so doing did not purchase the mineral rights.

All mineral rights with private interests within unit boundaries fall into one of the following categories:

- mining claims
- federal mineral leases
- nonfederal minerals

Together they account for 5.8 million acres of land in 223 separate park units.

Specific mineral rights exist within units of the national park system for the following reasons:

Mining claims were located prior to the creation of a unit or prior to a unit being closed to mineral entry. Mining claims convey to the claimant the right to extract federally owned minerals and, if taken to patent, fee title to the surface and subsurface.

Federal mineral leases were issued prior to creation of a unit or have been issued in one of the 4 NRAs where leasing is permitted under regulation. These federal mineral leases convey a leasehold mineral right to federally owned minerals.

Certain parcels of land (both surface and subsurface or subsurface only) within unit boundaries have not been acquired by the federal government; these particular lands, including the mineral rights, are owned by private parties.

FEDERAL MINERALS

Minerals owned by the federal government may be disposed of (the act or process of transferring control of the federal minerals to another) under the mining laws, the mineral leasing laws, and the mineral materials disposal laws. Federal minerals may be obtained by individuals or corporations in the following ways:

- mining claims filed under the Mining Law of 1872,
- mineral leases allowed under the Mineral Leasing Laws of 1920 and 1947, and
- mineral materials sold under the Minerals Materials Disposal Act of 1947.

All NPS units are closed to the location and filing of new mining claims, the selling of federal mineral materials and the leasing of federal minerals with the exception of four NPS managed national recreation areas (NRAs) where mineral leasing has been authorized by Congress and permitted under regulation. However, the holders of valid claims and leases that predate the establishment of a unit or exist in one of the four NRAs open to federal mineral leasing do possess rights to develop the minerals associated with their claims or leases. Their ability to exercise such rights will be wholly dependent on the nature of the potential impacts on park resources and values. If the potential resultant impacts are deemed unacceptable by the Service, the Service will need to extinguish the pertinent right through purchase, exchange, or donation.

Table 1 contains an overview of the laws and regulations for federally owned minerals.

Mining Claims

Under the Mining Law of 1872, as amended, individuals may file mining claims for federal minerals on federal lands open to mineral entry. Claimants have a possessory right on unpatented mining claims, which permit them to extract and remove federal minerals from claims but does not given them ownership of the land. Full title to the minerals from the federal government, and in most cases, the surface and all resources as well, may be obtained through the patent process.

Most units of the National Park System were closed to mineral entry under the Mining Law of 1872 by their enabling laws or proclamations. The Mining in the Parks Act of 1976 closed the last six NPS units that were still open to claim location.

Mining Claim Regulations (36 CFR 9A). In addition to closing the remaining open units to mineral location, the Mining in the Parks Act of 1976 authorized the Secretary of the Interior to prepare regulations governing mining activities in NPS areas to ensure that park resources would be protected while permitting claimants to exercise their valid mineral rights.

NPS mineral management regulations (36 CFR 9A) control all activities resulting from the exercise of valid mineral rights on mining claims within any unit of the system. The regulations require, among other things, that all operators submit a plan of operations for approval by the NPS, provide a reclamation plan, and are covered by a performance bond.

Mineral Leases

Leasing of federal minerals is another method of disposing of federal mineral rights. Unlike disposal under the general mining laws, leasing cannot convey ownership. A lease allows temporary occupancy of the surface of the land to the extent that such occupancy is required for extracting the minerals. When a lease is terminated, the lessee retains no rights. While a lease is in effect, the lessee may sell, assign, or otherwise convey the leasehold interest to others, but such conveyance does not include any permanent right to the surface. In the case of an oil and gas lease the right continues as long as there is production in paying quantities.

Table 1: Laws and Regulations for
Federally Owned Minerals Within NPS Units

LAWS	NOTES	APPLICABLE REGULATIONS
MINING CLAIMS		
Mining Law of 1872 (30 USC 21 et seq.)	<u>General</u> Allows claims on public domain lands; claimants have mineral rights to unpatented mining claims; claimants gain fee title to surface and subsurface only through patent process.	BLM 43 CFR 3800
	<u>NPS Units</u> All NPS units now closed to location of mining claims (mineral entry); three thousand unpatented and patented mining claims exist in over 30 units, mostly in Alaska.	
Mineral Oil Placer Claim Act of 1897 (30 USC 101)	<u>General</u> Allows placer claims for oil (law superseded by Mineral Leasing Act of 1920).	
	<u>NPS Units</u> Old oil claims may exist in some units.	NPS 36 CFR 9A ¹
	Some claims may be eligible for conversion to combined hydrocarbon leases only within special tar sand areas (STSAs), primarily in Utah.	BLM 43 CFR 3140.7
Mining in the Parks Act of 1976 (16 USC 1901)	<u>NPS Units</u> Authorizes Secretary of Interior to close last six units open to mineral location (Mount McKinley, Death Valley, Organ Pipe Cactus, Coronado, Crater Lake, Glacier Bay).	
	Authorizes Secretary of Interior to regulate unpatented and patented mining claims within all units of the National Park System.	NPS 36 CFR 9A

¹ 36 CFR 9A is Section 36, Code of Federal Regulations, Part 9 Minerals Management, Subpart A - Mining and Mining Claims.

LAWS	NOTES	APPLICABLE REGULATIONS
MINERAL LEASES		
General Laws		
Mineral Leasing Act of 1920 (30 USC 181) as amended in 1926 1927 1947 1960 1981	<u>General</u> Authorizes Secretary of Interior to issue leases for leasable minerals on public domain lands.	BLM 43 CFR 3100.0-3(a)(2)(i) (oil and gas) BLM 43 CFR 3400.2(a)(1) (coal) BLM 43 CFR 3500.8(a) (all solid leasable minerals except oil shale and coal)
	<u>NPS Units</u> No mineral leasing allowed in NPS units.	
Acquired Lands Mineral Leasing Act of 1947 (36 USC 351)	<u>General</u> Allows mineral leasing on acquired lands that were not covered by 1920 Mineral Leasing Act.	BLM 43 CFR 3100.0-3(b)(2)(1) (oil and gas) BLM 43 CFR 3400.2(a)(1) (coal) BLM 43 CFR 3501.2-1(3) (all solid leasable minerals except oil shale and coal)
	<u>NPS Units</u> No mineral leasing allowed in NPS units.	
Atomic Energy Act of 1954 (43 USC 2097)	<u>General</u> Allows Secretary of Energy to issue leases or permits for uranium on public domain lands.	None
	<u>NPS Units</u> Secretary of Energy may issue leases or permits in NPS areas only if President declares a national emergency.	None
Geothermal Steam Act of 1970 (380 USC 1001)	<u>General</u> Allows Secretary of Interior to issue leases for geothermal resources.	BLM 43 CFR 3201.1-6
	<u>NPS Units</u> Law prohibits leasing in all NPS units.	

LAWS	NOTES	APPLICABLE REGULATIONS
Federal Coal Leasing Amendments Act of 1976 (30 USC 201)	<p><u>General</u> Adds significant environmental protection measures to coal leases issued under the mineral leasing acts of 1920 and 1947.</p> <p><u>NPS Units</u> This act specifically prohibits coal leasing in NPS units and NRA's authorized by law.</p>	BLM 43 CFR 3400.2(a)(1) (coal)
Combined Hydrocarbon Leasing Act of 1981 (36 USC 181)	<p><u>General</u> Amends Mineral Leasing Act of 1920; owners of oil and gas leases or placer oil claims in special tar sand areas (STSA) may convert to combined hydrocarbon leases. In addition, authorizes the issuance of competitive tar sand leases.</p> <p><u>NPS Units</u> This act does not modify the general prohibition on leasing in NPS units; however, lease conversion can occur and competitive leases can be issued with NPS approval in NPS areas open to leasing by their enabling legislation and regulation. While 4 units are open to mineral leasing, only Glen Canyon National Recreation Area contains a STSA.</p>	<p>BLM 43 CFR 3140</p> <p>BLM 43 CFR 3140.4-1(b)</p> <p>BLM 43 CFR 3140.6(c)</p> <p>BLM 43 CFR 3140.7</p> <p>BLM 43 CFR 3141.4-2(b)</p>
Specific Enabling Laws		
Act of 10/8/64 (16 USC 460n)	<p><u>NPS Units</u> Created <u>Lake Mead</u> National Recreation Area; Secretary of Interior may issue mineral leases.</p>	Present regulations allow leasing of only the following minerals in 4 of these NRAs (all of Lake Chelan is an excepted area)
Act of 9/8/65 (16 USC 460q)	Created <u>Whiskeytown</u> National Recreation Area; Secretary of Interior authorized to permit removal of leasable minerals under mineral leasing acts of 1920 and 1947 and nonleasable minerals under the Reclamation Act of 1939.	<p>1. Oil and Gas</p> <p>43 CFR 3100.0-3(g)(4)</p> <p>43 CFR 3109.2</p>
Act of 10/2/68 (16 USC 90)	Created <u>Ross Lake</u> and <u>Lake Chelan</u> national recreation areas; Secretary of Interior authorized to permit removal of leasable minerals under mineral leasing acts of 1920 and 1947 and nonleasable minerals under the Reclamation Act of 1939.	<p>2. Solid Minerals (other than coal* and oil shale**)</p> <p>This includes hardrock minerals, otherwise locatable</p>

LAWS	NOTES	APPLICABLE REGULATIONS
Act of 10/27/72 (16 USC 460dd)	Created <u>Glen Canyon</u> National Recreation Area; Secretary of Interior authorized to permit removal of leasable mineral under mineral leasing acts of 1920 and 1947 and nonleasable minerals under the Reclamation Act of 1939.	43 CFR 3500.0-3(c)(3) 43 CFR 3582 *coal leasing is prohibited
Reclamation Act of 1939 ² (43 USC 387)	<u>General</u> Allows Secretary of Interior to permit removal of sand, gravel, and other minerals and building materials from federal lands in federal reclamation projects. <u>NPS Units</u> The phrase "other minerals" has been interpreted to include hardrock minerals or locatables in these NPS units.	
Leases on Indian Trust Lands ³		
Allotted Lands Leasing Act of 1909 (25 USC 396)	<u>General</u> Allows leases to be issued for any minerals by the Bureau of Indian Affairs or allottee in certain circumstances. <u>NPS Units</u> Allotted lands in NPS areas are subject to lease for any and all minerals.	25 CFR 172 (BIA)

² This Act is cited in the enabling legislation for each of the above units except Lake Mead.

³ Several NPS areas contain Indian trust lands within them. The Secretary of Interior, through the Bureau of Indian Affairs, administers the minerals in trust for the beneficiaries. Bureau of Indian Affairs issued leases exist in at least one unit--Chaco Culture National Historical Park.

LAWS	NOTES	APPLICABLE REGULATIONS
MINERAL MATERIALS		
Mineral Material Disposal Act of 1947 (30 USC 601) as amended in 1954 1955 1962	<p><u>General</u> Authorizes Secretary of Interior to sell sand, gravel, stone, pumice, pumicite, cinders, clay, and petrified wood.</p> <p>Prior to 1955, mineral materials were subject to claim; prior to 1962 petrified wood was subject to claim.</p> <p><u>NPS Units</u> Act prohibits such disposal in NPS units.</p> <p>Pre-1955 mining claims of these substances may exist in NPS units.</p>	<p>BLM 43 CFR 3600.0-3(a)(3)</p> <p>NPS 36 CFR 9A</p>

The following federal mineral leasing laws specifically allow for mineral leasing within parks:

Specific enabling acts of five NRAs - as long as mineral development has no significant effect on park resources
Combined Hydrocarbon Leasing Act of 1981 (within Glen Canyon only)

The following laws specifically exclude NPS units from consideration for leasing:

Mineral Leasing Act of 1920, as amended
Acquired Lands Mineral Leasing Act of 1947
Geothermal Steam Act of 1970
Federal Coal Leasing Amendments Act of 1976

Mineral Leasing Regulations (43 CFR 3100, 3500). The Secretary of the Interior has delegated to the Bureau of Land Management (BLM) responsibilities for leasing federal minerals under the mineral leasing laws. The BLM is responsible for receiving, processing, and evaluating mineral lease applications or prospecting permits and for issuing, monitoring, and enforcing leases or permits to conduct exploration, development, or production activities for mineral resources on federal lands.

Leasing of federally owned minerals is authorized by regulation within four NRAs only--Lake Mead, Glen Canyon, Whiskeytown, and Ross Lake. Although mineral leasing is authorized in Lake Chelan National Recreation Area, under current regulations the totality of Lake Chelan is an excepted area where mineral leasing may not occur. Where leasing of federally owned minerals is authorized in the four NRAs, no leasing may occur without the National Park Service consent to leasing and no activities respecting a lease or permit may be approved without NPS concurrence with proposed operations. NPS consent/concurrence must be based on a finding that no significant adverse effect will result to park resources or administration. In the four NRA's, in addition to NPS approval, the National Park Service can also require special lease and permit stipulations to protect the environment and other park resources. The National Park Service participates with the Bureau of Land Management in preparing environmental assessments for all proposed activities and in establishing reclamation requirements for units. Plans of operations must be submitted by lessees or permittees for NPS review and approval. These plans of operations include exploration plans, mining plans, surface use plans, drilling plans, and applications for permit to drill. A guideline entitled, "NPS Procedures for Managing Federal Mineral Leasing and Operations," has been developed to assist parks in appropriately addressing federal mineral leasing issues in the four NRAs where leasing is permitted by regulation and law. To obtain a copy, contact the Energy, Mining and Minerals Division.

Mineral Materials

The Mineral Materials Disposal Act of 1947, as amended, authorizes the Secretary of the Interior to sell sand, gravel, stone, pumice, pumicite, cinders, clay, and petrified wood. The act prohibits such disposal in NPS units.

NONFEDERALLY OWNED MINERALS

The expansion of the National Park System created a large backlog of unacquired lands. Most of these lands are in newer units, created since 1961, and are largely in the eastern part of the U.S. In many cases, the U.S. has not acquired the surface or subsurface estate, or has acquired the surface only. Lands and interests in lands owned by state and local governments are also considered to be nonfederal.

In a handful of unit enabling acts, Congress clearly provided for the continued existence of nonfederally owned minerals within unit boundaries. Congress allowed a reservation of the mineral rights but often added the proviso that if development of those rights posed a threat to a unit, they could be acquired without the consent of the owner. Individual unit legislation and legislative history should be read to determine if there are constraints on mineral right acquisition, and what the exceptions to such constraints might be.

Table 2 summarizes the laws and regulations for nonfederally owned minerals.

Oil and Gas

Outstanding nonfederally owned oil and gas interests exist in numerous units of the system, and some of these mineral interests are being developed. The nonfederal mineral rights may be leased or owned and are often completely separate from the surface ownership. Oil and gas rights include liquid and gas hydrocarbons, oil, natural gas, and carbon dioxide.

Coal

Outstanding coal interests exist in some NPS units and, in at least one case, coal has been recently mined. These interests existed prior to establishing a unit and have not been purchased.

Nonfederal Mineral Regulations (36 CFR 9B)

The NPS currently regulates the exploration and development only of nonfederally owned oil and gas if access to that oil and gas is on, through or across federally owned or controlled lands or waters. At this time, the Service lacks regulations for specifically controlling mineral development activities associated with nonfederally owned minerals other than oil and gas. Thus, the general NPS regulatory requirements contained in 36 CFR Parts 1 through 7 should be applied where applicable (e.g., §5.6(c) -- regulation of commercial vehicle use on park area roads).

Table 2: Nonfederally Owned Minerals in NPS areas
(by Mineral Type)

MINERAL TYPE	LAWS	NPS UNITS	APPLICABLE REGULATIONS
Oil and Gas	Enabling acts for several NPS areas NPS Organic Act (16 USC 1)	Some units' enabling laws or agreements explicitly permit existence of nonfederal (private or state) oil and gas rights or their development (e.g., Lake Meredith, Padre Island, Big Cypress, Big Thicket, Jean Lafitte, Fort Union N. Mex.) Nonfederally owned oil and gas exist in many other NPS units (e.g., Cuyahoga, Chickasaw).	NPS 36 CFR 9B, if access to oil or gas is on, through, or across federally owned or controlled lands or waters. If access can be obtained otherwise, 36 CFR 9B does not apply.
Coal	Surface Mine Control and Reclamation Act of 1977 (36 USC 1201)	This law prohibits surface mining for coal on any lands in any unit subject to valid existing rights. Valid existing rights are defined in regulation. For federal lands in NPS areas, the Office of Surface Mining (OSM) makes valid existing rights determination. For nonfederally owned lands in NPS areas, the regulatory authority, either the state under an OSM approved program or OSM, makes the determination of valid existing rights. NPS must be notified of requests for for valid existing rights determination within parks.	OSM 30 CFR 761.11 OSM 30 CFR 761.5 OSM 30 CFR 740.4(a)4 OSM 30 CFR 745.13(o) OSM 30 CFR 761.12(a) OSM 30 CFR 761.12(b)(2)
Nonfederal Minerals Other than Oil and Gas	Nonfederally owned minerals can be developed by owners or their lessees subject to federal, state and local laws.	Nonfederally owned mineral rights exist in many NPS units.	No NPS regulations exist. However, conditions may be attached to permits issued under 36 CFR 5.6 for commercial vehicles used in connection with developing these nonfederal minerals.

II. ADDRESSING MINERAL MANAGEMENT IN THE PLANNING PROCESS

In order to adequately address the issue of threats to NPS resources from mineral development proposals, the Service must gather and evaluate information regarding mineral rights and development activities within and adjacent to parks, and lay out strategies for handling minerals management concerns in the appropriate planning documents.

NPS PLANNING DOCUMENTS

Mineral management issues must be integrated into the overall NPS planning process at every major planning stage, including the Statement for Management (SFM), General Management Plan (GMP), Land Protection Plan (LPP), and major action plans such as the Resource Management Plan (RMP). In some cases a specific Minerals Management Plan (MMP) may be needed if the issues are significantly complex enough to require more detailed management direction.

For minerals management purposes, as outlined below, the first three steps in the planning process are perhaps the most important.

Statement for Management

The SFM provides an overview of the purpose, objectives, and conditions affecting the park. It is the first step for evaluating conditions and identifying major issues and information voids. As such, any mineral related concern either inside or adjacent to the park unit should be identified in the SFM as follows:

- Land Uses and Trends Section -- should identify existing and potential mineral development activities (leasing, exploration, development, etc.) and any outstanding mineral rights
- Major Issues and Concerns Section -- should discuss the problems and trends identified above in detail
- Status of Planning Section -- should identify any special studies needed for support of mineral related issues such as mineral ownership, inventory and status of existing mineral leases, mining claim location, mineral resource potential, technical and environmental reviews, etc.

These studies are important for future planning needs and must be conducted in a timely manner.

Outline of Planning Requirements/10-238s (OPR)

The OPR is the regularly updated list of tasks required to address the issues and objectives stated in the SFM. Used in conjunction with the development/study package proposals (form 10-238 and 10-237), the OPR is used as the basic programming tool for a park for a five-year period. The 10-238 and 10-237s are prepared to support funding requests of the tasks identified in the OPR. Any studies required to provide information on mineral issues should be listed and a determination made as to whether the task can be accomplished internally or warrants special consultation. This process is particularly important if information on the effects of mineral development on the critical resources of the unit is not currently known.

General Management Plans

The GMP outlines the basic management philosophy for a park and identifies the strategy adopted for addressing issues and achieving management objectives over a 5 to 10-year period. GMPs and accompanying environmental compliance documents require varying levels of resource information necessary for understanding and defining major issues, proposals, and alternatives; for assessing environmental effects; and for meeting legal and regulatory compliance needs. Pertinent issues include adjacent land use development; activities affecting air, water, and other park resources which together contribute to the purpose of the unit; and the efficacy of available regulatory controls.

The GMP usually identifies management zones which represent the management emphasis for the various areas of the park as defined in NPS-2. Information on mineral rights, development, locations of abandoned mineral lands, and data on mineral occurrence should be considered in demarcating management zones for administrative purposes. However, an area should not be zoned based on its mineral resource potential or the existence of an outstanding mineral right. In NPS units, the protection of resource values takes precedence over the mineral resource.

The "Special Use Zone - Minerals" should only be used for mineral purposes in those few units where Congress authorized consideration of federal mineral leasing, as long as the potential activity does not cause significant adverse impacts to park resources and administration. For those units with nonfederal oil and gas where Congress said they can be developed as long as development is compatible, the park should be zoned on the basis of surface resources and management objectives clearly defined for each zone. Operating standards to meet the management objectives should then be defined in a separate Minerals Management Plan (MMP).

Land Protection Plans

LPPs are required for each unit in the National Park System containing nonfederal lands, including nonfederal mineral interests, within the unit's authorized boundaries. "The LPP identifies what lands or interests in lands need to be acquired to meet objectives established by Congress for protecting resources and making them available for public use" (NPS-2, Chapter 8, Page 8). Thus, the LPP identifies problems and impacts to park resources that may arise from specific nonfederal mineral interests within a unit and the LPP assesses alternative methods of protecting the unit from such impacts.

In May 1982, the Department of the Interior adopted a policy on the use of the Federal portion of the Land and Water Conservation Fund. In May 1983, the NPS published instructions on how to develop LPPs. The heart of those instructions states that the LPP must consider all reasonable methods of land protection, including not only land acquisition in fee or less than fee, but also regulations, or cooperative agreements with private, state, and other federal land owners.

The instructions on developing LPPs direct that the NPS give particular attention to cost-effective actions and acquire only the minimum property interest necessary to protect the Congressionally prescribed purposes of the NPS unit. Thus, LPPs prescribe a priority and strategy for each nonfederal interest

within an NPS unit, including nonfederal mineral interests. LPPs evaluate the timing of mineral interest acquisition to avoid unnecessary purchases and to permit the U.S. to obtain the minimum necessary interest in the minerals at an opportune time and at the most favorable price to the United States.

Local government zoning, or cooperative agreements with the mineral owner, may protect unit resources and values from mineral development impacts. However, land protection methods short of acquisition, while usually less costly, may be generally ineffective in protecting park purposes for activity in connection with mining claims, pre-existing federal mineral leases and nonfederal mineral rights within NPS units. Acquisition in fee may often be the minimum property interest necessary to afford protection to a unit.

Extraction of minerals is a resource consumptive activity; an activity that is often disruptive to natural and cultural resources and visitor enjoyment. A LPP may well find that mineral activity in general, or in particular forms, may likely be in derogation of park values and purposes and thus must be precluded from occurring in the unit. While mineral development is an activity that occurs in NPS units, there are no units for which mineral development is a purpose.

Minerals Management Plans

In most units of the National Park System, mineral management issues can be adequately addressed in the GMP. However, in some units a separate minerals management plan (MMP) may be needed. In determining whether an MMP is necessary the park should consider the following conditions:

- ° Has Congress specifically authorized federal mineral activity in the unit and directed the NPS to consent to such activity only when the NPS can determine that the activity will not adversely effect park resources and administration?
- ° Has Congress clearly contemplated the continued exercise of private mineral rights in the unit and limited the NPS ability to extinguish them?
- ° Is there significant mineral activity occurring within the unit boundary as the result of pre-existing mineral rights established before the unit was authorized (this condition usually involves the extraction of minerals on valid mining claims in such units as Death Valley, Denali and Wrangell-St. Elias)?

If a unit meets any one of these conditions, an MMP may be justified. However until more specific guidance is developed and incorporated into NPS-2 and NPS-12, parks and regions should consult with the Energy, Mining and Minerals Division before a decision to prepare an MMP is made.

If an MMP is prepared it should be considered an action plan of the GMP addressing in more specific terms implementation of the minerals component of the GMP. Under no circumstances does an MMP remove the need for addressing minerals in the GMP. In general the MMP should provide the operating standards for the mineral activity necessary to meet the management objectives outlined in the GMP.

III. 36 MOST FREQUENTLY ASKED QUESTIONS

MINERAL OWNERSHIP WITHIN PARKS

The following definitions are those most commonly used under American mineral law to describe the nature of land ownership. Although some of these definitions may differ from those currently used by the NPS, these are the definitions used by other federal agencies, in particular the Bureau of Land Management who is the agency of record for most of the mineral lands within NPS units.

What is fee simple ownership?

Fee simple ownership is when one party or several parties own the surface and subsurface estate (ownership of the entire property). Fee simple ownership is the most extensive interest that can be held in land. The terms "fee", "fee simple" and "fee simple absolute" are equivalent.

What is less-than-fee interest?

An interest in land refers to any ownership, in whole or part, of the land and associated resources. This interest is composed of a variety of rights, for example, the rights to harvest timber or extract minerals. Each right can be separately leased, sold, or donated to other parties. Each of these rights is a less-than-fee interest. A scenic or conservation easement is a less-than-fee interest.

What are surface rights?

Surface rights include all rights in the land except the subsurface rights to underground mineral deposits. Sometimes referred to as "base fee" or "conditional fee."

What are subsurface rights?

Subsurface rights, or mineral rights, may include all rights to oil, gas, and other underground mineral deposits or portions thereof, depending on the document that severed the surface from the subsurface. Subsurface rights may also include the rights necessary for mining access, exploration, development, extraction, processing, and transportation operations. (The terms subsurface rights and mineral rights are generally synonymous.)

What is split estate ownership?

A split estate refers to lands where the surface estate is owned by one party and the subsurface estate is owned by another. The mineral rights have been "severed" from the surface ownership.

Can one own the surface estate and not the subsurface estate?

Yes. As previously mentioned, property ownership includes a variety of rights or interests. One party may own all of the rights associated with the surface and another party may own only the rights to the minerals.

What rights does the surface owner have when the subsurface is owned by someone else?

The laws of many states consider the subsurface estate as the dominant estate. The subsurface estate owner has an explicit or implied right of entry or access to minerals over or across the surface; the right to disturb the surface; and a right to use as much of the surface as necessary to develop and extract the minerals. However, many courts have held that the activities of the mineral owner may not result in unreasonable interference to the surface owner.

What mineral rights do claimants have regarding mining claims within parks?

A mining claimant on a valid unpatented claim has a possessory right to extract the minerals and to use so much of the surface as is necessary for mineral activity. The U.S. cannot extinguish a valid claim except by compensation, just as with any private property. A claimant generally has the right to bring a valid unpatented claim to patent which usually conveys to the claimant full ownership of both the subsurface minerals and the surface lands. In NPS units, these mineral activities conducted on patented and unpatented claims are subject to NPS regulations in 36 CFR 9A.

Where can federal mineral leasing occur within parks?

Federal mineral leasing can only occur in the following four NRAs as authorized in their enabling legislation and federal regulation: Lake Mead, Glen Canyon, Ross Lake, and Whiskeytown. (Note: While the enabling legislation

for Lake Chelan NRA authorized federal mineral leasing, the unit was administratively closed under the federal regulation due to the presence of sensitive resources.) Lessees are granted the right to explore, develop, and produce minerals provided the NPS finds that no significant adverse impacts would occur to park resources or to the administration of the unit. In other cases, mineral lease rights may exist in lands added to existing units or in newly created units of the National Park System.

What categories of federal minerals can be found in parks?

At the present time, federal minerals fall into one of three categories: (1) locatable minerals, (2) leasable minerals, and (3) salable materials. One or all of these federal minerals can be found within parks.

How does one know whether mineral development is authorized in a specific NPS park?

This can be determined by a careful reading of the congressional act or proclamation that established the area as a unit of the National Park System. NPS units are not open to mineral entry and location under the mining laws or disposition under the mineral leasing laws unless explicitly stated by Congress in the unit's enabling legislation. However, many units have been established subject to valid existing rights. In such cases, the National Park Service controls activity in exercise of these rights by imposing regulatory authority over activities that would affect federally owned or controlled lands or waters. Regulations under 36 CFR 9A is an example of this regulatory authority.

Are there legal limitations on acquiring mineral rights in some units?

Yes. In some park enabling acts, Congress clearly contemplated the continued existence of privately owned mineral rights within a park boundary. Congress directed that the National Park Service generally not acquire the mineral rights without the consent of the owner but often added the proviso that if development of those rights

posed a threat to parks, they could be acquired. Park legislation that restricts the acquisition of mineral rights includes, but is not limited to: Fort Union (New Mexico), Padre Island, Big Thicket, Big Cypress, Jean Lafitte, and Everglades. Individual park legislation should be read to determine if there are constraints on mineral right acquisition, and what the exceptions to such constraints might be.

FEDERAL MINERALS

Mining Claims

What is a mining claim?

A mining claim is a parcel of land containing valuable minerals that has been located and filed according to rules of the 1872 Mining Law, through the process of claim location.

What are the types of mining claims?

The 1872 Mining law authorizes placer and lode mining claims, mill sites, and tunnel sites.

Placer claims are defined as deposits of valuable minerals found in streambed alluvium. For an individual, a placer claim is limited to 20 acres; a group of up to eight individuals may file for up to 160 acres of an association placer claim.

Lode claims are staked on veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, antimony, copper, or other valuable deposits. A lode is frequently considered as a zone or belt of mineral rock clearly separated from neighboring nonmineral rock. After discovery of a lode or vein, a lode mining claim may be located on a plot of land not exceeding 1,500 by 600 feet (approximately 21 acres).

Tunnel sites are used to prospect for veins or lodes as authorized by the 1872 Mining Law. The owners have the right to all veins or lodes within 3,000 feet from the face of the tunnel. A tunnel site conveys no surface rights, and the

right to a vein discovered in a tunnel cannot be maintained unless the owner makes a lode location of the vein on the surface.

A 5-acre plot of nonmineral land may be staked as a mill site. The land need not be contiguous to the lode or placer claim that will produce the ore for the mill. Mill sites are monumented in the same manner as lode claims. The mill site must be used for mining and milling purposes.

What is a valid mining claim?

A valid mining claim is a mining claim that has been investigated by the federal government and found to contain a valuable mineral and to be properly located and recorded within the limits of each claim.

Under most circumstances, validity examinations are initiated when an application for patent is made or when there is a conflict between the claim and some other use of the land. Often, the conflicts over the use of the land are related to withdrawals of the land from mineral entry and location under the mining laws, such as establishing or expanding a national park. For the most part, the National Park Service has completed its examination of claims for validity in the coterminous United States; however, determinations of validity still need to be conducted for numerous claims in Alaska units.

Once a claim is determined to be valid, the owner of the claim has obtained the right to extract minerals from the land, but full title to the land continues to reside with the federal government.

What is a discovery?

The Mining Law of 1872 specifically requires discovery of a valuable mineral deposit within the limits of the claim prior to locating a mining claim. Through court decisions and practice, several tests have come into use for determining whether a discovery has been made. The first and most long lasting

test of discovery is the prudent man test, which states that the requirements of discovery have been met when minerals have been found and there is evidence that a person of ordinary prudence would be justified in the further expenditure of labor and money, with a reasonable prospect of success in developing a valuable mine.

Another test that modifies and complements the prudent man test is the marketability test. Under that test, the claimant must show, in order to justify possession of the claim, that the mineral can be extracted, removed, and marketed at a profit. The demand for the mineral must be present demand and not speculative. Consequently, it is somewhat more difficult to prove marketability for minerals of widespread occurrence than it is for rarer minerals. Like the prudentman test, the marketability test has been further refined over the years.

What is an unpatented
mining claim?

The claimant of an unpatented mining claim has the right to develop and extract minerals from an unpatented claim but does not have ownership of the land. The owner of an unpatented mining claim is entitled to use the surface only as necessary for the mining operation. All unpatented mining claims within park boundaries are subject to regulations of the National Park Service.

What is a patented mining claim?

A patented mining claim is one in which the federal government has passed full title to the claimant giving exclusive right to the hardrock minerals and, in most cases, the surface and all resources. At any time before the federal government issues a patent, it may challenge the validity of a claim, and if successful, the claim will be cancelled and all rights returned to the government. The process for taking a claim to patent is cumbersome and time-consuming. In recent years, out of a million mining claims in the United States, fewer than 100 a year go to

patent. All patented mining claims within park boundaries are subject to regulation by the National Park Service.

What are locatable or
hardrock minerals?

Hardrock minerals are generally those minerals that are subject to location and claim under the 1872 Mining Law. Hardrock minerals are gold, silver, copper, lead, zinc, cinnabar, salt, antimony, bismuth, molybdenum, and uranium. A mineral commonly defined as locatable may also be leased under the enabling statute for the five NRA's open to leasing.

What is recordation?

The Federal Land Management and Policy Act (FLPMA), passed in 1976, included a provision designed to provide the Bureau of Land Management with information on the locations and numbers of unpatented placer and lode mining claims, mill sites, and tunnel sites. Other objectives were to record abandoned claims and to determine the proper names and addresses of current owners.

This act also requires owners of unpatented mining claims to file a notice of intent to hold a claim or an affidavit of assessment work on or before October 22, 1979, and prior to December 31 thereafter. Failure to do so results in a claim being found abandoned and null and void.

The Mining in the Parks Act requires that a mining claim in existence on NPS lands on September 28, 1976, must have been recorded on or before September 28, 1977, or it is conclusively presumed to be abandoned and null and void.

What is assessment work on
a mining claim?

The purpose of assessment work is to prevent speculative holding of claims and to require development by bona fide claimants. At least \$100 worth of work must be conducted annually on unpatented mining claims in order to maintain the right to possess the claim. Because the law requires that a discovery be made before a claim is filed, the assessment

work must relate to developing or extracting the mineral, such as constructing or maintaining a mining access road, constructing a building on the claim, or installing mining-related machinery or fixtures. In lieu of performing annual assessment work, claimant may file a Notice of Intent to Hold.

When does the assessment
year begin?

The assessment year begins on September 1 each year (until 1958 it began July 1).

What are plans of operations?

Plans of operations constitute detailed descriptions of all proposed functions, work, and activities in connection with exploring, developing, producing, reclaiming, and abandoning a mining claim, or for operations in connection with nonfederal oil and gas. A plan of operations is required under 36 CFR Parts 9A and 9B.

What is a performance bond?

A performance bond is a deposit of cash or an equivalent monetary instrument, or a surety from a company that specializes in such, designed to guarantee a certain level of performance. Operators are required to file performance bonds as a surety that their mining operations will comply with NPS regulations and any additional terms and conditions imposed by the National Park Service as a part of a plan of operations approval. The amount of the bond under 36 CFR 9 is established by the National Park Service and is to be sufficient to cover the cost of reclamation. The bond is released only on NPS authorization.

Can the National Park Service
regulate mineral activities
on a patented mining claim?

Yes. The Mining in the Parks Act charges the National Park Service with the responsibility of ensuring that mining activities associated with 1872 mining claims within NPS areas, whether patented or unpatented, be conducted so as to minimize or prevent damage to the environment or other resource values.

Mineral Leases

What is a federal mineral lease?

A federal mineral lease is any contract, joint venture, or other agreement issued or approved by the United States under a mineral leasing law that authorizes exploration for and extraction of federally owned minerals, both solid and fluid.

What is a prospecting permit?

The Secretary of the Interior, through the Bureau of Land Management, issues private parties a prospecting permit to engage in prospecting for minerals on lands that are open to leasing. A prospecting permit grants the holder exclusive right to prospect for minerals listed in 43 CFR 3500 for the permit's two-year duration.

What federal minerals may be leased in the NRAs?

Regulations in 43 CFR state that leasable and hardrock minerals may be leased in NPS units. Leasable minerals are chlorides, sulfates, carbonates, borates, silicates or nitrates of sodium and potassium, phosphate, and gilsonite, and oil, gas, and tar sand. Hardrock minerals that would normally be subject to claim and location under the Mining Law of 1872 are also subject to leasing in four NRAs.

What is an excepted area?

An excepted area is an area established by regulations where leasing may not occur within the five NPS units where mineral leasing is authorized in law. All of Lake Chelan is an excepted area and therefore, not available for leasing. The NPS identifies areas where leasing would categorically interfere with the purposes for which a unit was added to the National Park System (e.g., developed areas, historic sites, outstanding natural features, critical habitat for threatened and endangered species). The Bureau of Land Management will not issue leases or accept permit applications for excepted areas.

What NPS controls exist for federal leases issued in NRAs?

Before issuing or renewing an oil or gas or other mineral lease or permit in one of the five NRAs, the Bureau of Land Management must obtain the consent and concurrence of the appropriate NPS regional director. This consent is contingent upon the regional director's finding that proposed mineral development will not result in significant adverse effects to park resources or administration. The lease or permit is also subject to the conditions prescribed by the National Park Service.

What NPS controls exist for leases that existed prior to or after creation of a park?

The Bureau of Land Management is required to obtain NPS consent and concurrence only in the four NRAs where leasing is authorized in law and regulation. In those units which have leases that existed prior to the incorporation of those lands into a park, there is no requirement for the Bureau of Land Management to consult with or obtain NPS consent. There may be some rare outstanding leases of minerals other than oil and gas within park units, other than the four NRAs. Such leases may have been issued prior to the inclusion of lands into the National Park System. In these instances, the Bureau of Land Management is not required to consult with or obtain NPS consent prior to permitting any activities.

If NPS consents to leasing within an NRA, what NPS controls exist?

All federal mineral leases issued in NRA's that are open to leasing, contain the stipulation that all site specific activity by the lessee requires NPS approval. The National Park Service can also require special lease and permit stipulations to protect the environment and other park resources. The Bureau of Land Management issues leases on these lands and monitors and enforces some lease and permit condition. In addition, the National Park Service participates with the Bureau of Land Management in preparing environmental assessments of all proposed mineral development activities and in establishing reclamation requirements for parks.

NONFEDERALLY OWNED MINERALS

What NPS controls exist for developing nonfederally owned oil and gas rights?

Under present NPS policy, regulations in 36 CFR 9B control mineral development activities associated with nonfederal oil and gas rights if the operator must cross federally owned or controlled lands or waters.

What NPS controls exist for developing outstanding coal rights?

No regulations are currently in place for the National Park Service to control coal development activities associated with nonfederal coal. However, the Office of Surface Mining and state regulatory authorities have regulations for coal.

Aside from oil, gas and coal what other nonfederal minerals exist within parks?

Examples include sand and gravel and other materials used in the building and construction industries, gold, talc, gypsum, uranium, silver, etc.

What NPS controls exist for developing nonfederal mineral rights?

No NPS regulations are currently in place for controlling development activities associated with nonfederal mineral rights, other than oil and gas.

-A-

appropriated public lands	Lands which at one time were part of the public domain but the title of which has since transferred out of federal ownership; these lands may also include those with reservations, leases, or other conditions of management or disposal.
auger mining	A mining method often used by strip-mine operators when overburden gets too thick to be removed economically. Auger mining is relatively inexpensive, and it is reported to recover 60 to 65 percent of the coal in the part of the bed where it is used.

-B-

base metal (n), base-metal (adj)	Any of the nonprecious metals; a metal inferior in value to gold and silver.
beach placer	A placer deposit of valuable heavy minerals along a coastline.
bedrock	The solid rock that underlies gravel, soil, or other superficial material.
bedrock sluice	A sluice box that is situated on top of bedrock to allow gravel to be washed or pushed into it.
beneficiation	The processing of ores for the purpose of (1) regulating the size of a desired product, (2) removing unwanted constituents, and (3) improving the quality, purity, or assay grade of a desired product.
bitumen	A general name for various solid and semisolid hydrocarbons. Petroleums, asphalts, and natural mineral waxes are all considered bitumens; often used interchangeably with hydrocarbons.
bituminous (adj)	Containing more organic matter, or at least carbonaceous matter, mostly in the form of the tarry hydrocarbons that are usually described as bitumen.

bituminous coal	A coal that is high in carbonaceous matter. It is dark brown to black and burns with a smoky flame. Bituminous coal is the most abundant rank of coal.
block caving	A large production low-cost method of mining, in which the greater part of the bottom area of a block of ore is undercut, the supporting pillars are blasted away, and the ore caves downward and is removed.
blowout	Uncontrolled release of gas, oil, or sulfuric gases from a well being drilled.
blowout preventer	A device at the wellhead that controls pressure during drilling and completion operations. This device may include a series of rams controlled by hydraulics for sealing off the well by crimping the casing.
bonanza	A miner's term for a rich body of ore or a rich part of a deposit; a mine is "in bonanza" when it is operating profitably.
bonus	A cash consideration or down payment, in addition to rental and royalty payments, paid by the successful bidder for a mineral lease.
borehole	A hole made by drilling or boring a well.
by-product	A secondary or additional product produced while recovering the primary product; for example, the more common by-products of coke ovens are gas, tar, benzol, and ammonium sulfate.

-C-

casing	Steel pipe used in a well to seal a borehole to prevent collapse of the well walls, to prevent escape of well fluids and intrusion of formation fluids along the well walls, and to provide an extraction route for production from the formation to the surface.
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christmas tree	Assembly of valves, pipes, and fittings used to control production flow from the casing head.
claimant	One who has located a mining claim under the general mining laws of the U.S.
coal	A solid, brittle, more or less distinctly stratified, combustible carbonaceous rock, formed by partial to complete decomposition of vegetation; varies in color from dark brown to black; not fusible without decomposition.
coke	A combustible material produced by heating bituminous coal or other bituminous materials; it consists of mineral matter and fixed carbon fused together; it is gray, hard, and porous, and as a fuel is nearly smokeless and of high calorific value. It is also a by-product of upgrading heavy crude oils and tar sand bitumens.
compensatory royalty	Money paid to the federal government by an oil and gas lessee to compensate for the loss of royalty on oil or gas drained from the leased lands through wells on other lands.
competitive lease	Leases issued on the basis of bonus bids or bidding required in known geological structures (KGS), special tar sands areas (STSA), and known recoverable coal resource areas (KRCRA).
concentrate	The valuable component of a recovery process or the accumulation of a valuable mineral in a natural process.
condemnation	In real property law, the process by which property of a private owner is taken for public use, without the owner's consent, but on the award of payment of just compensation.
contest	Formal proceedings by the federal government against a mining claim or filing on the basis that it is not in compliance with the appropriate laws and regulations.

core	A section or cut of the earth's crust; usually cores are collected at known or predetermined depths. Cores are analyzed for information about geologic structure and the presence of hydrocarbons or other mineralized zones.
core sampling	Collecting a core for geological examination of the strata at a particular depth.

-D-

deposit	In mining, a quantity of ore or mineral substances occurring naturally in the earth, such as a deposit of gold or oil.
development	Preparing a proven deposit for mining; development is an intermediate stage between exploration and production.
dredge	Any apparatus used for excavating placer deposits underwater.
dredging	The act of using a dredge.
drilling pad	The area comprising the exploratory drilling operation, approximate size, 2-7 acres for oil and gas.
dry hole	A well incapable of producing petroleum in economically attractive quantities to justify completion of an oil or gas well.

-E-

easement	An interest in land owned by another that entitles its holder to a specific limited use, such as laying a sewer, crossing over property, or putting up power lines.
eminent domain	Eminent domain is a legal tool that permits governmental agencies to take private property for public use, such as roads, parks, military bases, etc.

exploration The search for deposits of useful minerals or fossil fuels; prospecting; preparatory to development.

-F-

federal minerals Federal minerals fall into one of three categories: (1) locatables or hardrock, (2) leasables, and (3) salables, or common varieties or mineral materials.

field A area of land containing, yielding, or worked for a natural mineral resource, for example, a coalfield, an oilfield, or a diamond field.

fines Very small material produced in breaking up large lumps, as of ore or coal. In hydraulic sluicing, the material that slowly settles to the bottom of a mass of water.

flares Devices that burn off excess natural gas at a well or production site. Flaring is associated with fluid mineral development.

formation waters Production waters or fluids associated with extracted petroleum. Fluids may be a combination of oil, natural gas, sand, mud, saltwater, and sometimes hydrogen sulfate.

-G-

gathering lines Pipes or lines that transport petroleum and natural gas from the wellhead to treatment or transportation facilities.

geochemical surveys Systematic measurements of the chemical properties of soil, rocks, and earth to search for economic mineral deposits.

geological surveys Systematic recording of observations of geologic surface features and collecting of surface field samples. Included in these surveys are analyses derived from reviewing existing geologic maps, theories, and relation-

	ships to predict the presence of mineral deposits.
geophysical surveys	Applying the principles of physics to search for mineral deposits in the earth's subsurface. Electronic equipment is used to detect subtle contrasts in such physical properties as specific gravity, electrical and heat conductivity, seismic velocity, magnetic anomalies, and radioactive anomalies.
geothermal steam	Steam drawn from deep within the earth.
glory holing	Involves a mine opening at the surface from which ore is removed by gravity through raises connected to adit haulageways beneath; this method is suited to mining on a hillside.
grab sample	A randomly selected sample of rock or sediment or water.
grade (adj)	The classification of an ore according to the desired or worthless material in it or according to value; for example, a gold ore that contains 1 ounce gold per ton would be a high-grade ore.
grantee	A person, firm, or corporation to whom land or easements are conveyed or granted.
ground sluice	A channel or trough in the ground through which auriferous (gold-bearing) earth is sluiced for placer mining.

-H-

hardrock minerals	Hardrock minerals are generally those minerals that are subject to location and claim under the 1872 Mining Law. Hardrock minerals are gold, silver, copper, lead, zinc, cinnabar, salt, antimony, bismuth, molybdenum, and uranium. A mineral commonly defined as locatable may also be leased under the enabling statutes for the five NRA's open to leasing.
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hydraulic mining	Mining by washing sand and dirt away with water that leaves the desired mineral. The process by which a bank of gold-bearing earth and rock is excavated by a jet of water, discharged through the converging nozzle of a pipe under a great pressure, the earth or debris being carried away by the same water, through sluices, and discharged on lower levels into the natural streams and watercourses.
hydrocarbon	Any of a large class of organic compounds containing only carbon and hydrogen, such as petroleum, crude oil, or natural gas.
hypothetical resources	Undiscovered materials that may reasonably be expected to exist in a known mining district under known geologic conditions. Exploration that confirms their existence and reveals quantity and quality will permit their reclassification as a reserve or identified-subeconomic resource.

-I-

identified resources	Specific bodies of mineral-bearing rock whose existence and location are known; they may or may not be evaluated as to extent and grade.
identified-subeconomic resources	Mineral resources that are not reserves, but may become reserves as a result of changes in economic and legal conditions.
indicated ore	Material for which estimates of the quality and quantity have been computed partly from sample analyses and measurements and partly from reasonable geologic projections.
inferred ore	Ore for which there are quantitative estimates of tonnage and grade made in only a general way, based on geologic relationships and on past mining experience, rather than on specific sampling.

in situ (n), in-situ (adj)	In its natural position; said specifically of a rock, soil, or fossil when in the situation in which it was originally formed or deposited (in place). Is also used to describe mining or hydrocarbon extraction methods where the nonmineralized rock is left in place, and the valuable mineral is removed from the pores.
Interior Board of Land Appeals	The Interior Board of Land Appeals hears most appeals of decisions of the Secretary of the Interior that concern lands and minerals. All decisions respecting minerals or lands rendered by the Office of the Secretary, Department of the Interior, may be appealed to the board.
-K-	
Known geologic structure (KGS)	An area where an accumulation of petroleum (oil and gas) is discovered by drilling and is determined to be economically productive, the limits of which include all acreage presumed to be productive.
Known leasing area (KLA)	Lands in which valuable deposits of usable hardrock minerals are demonstrated to exist and which require competitive leasing for mineral exploitation subject to the regulations governing hardrock leasing.
-L-	
leaching	Extraction of soluble materials by a liquid medium, may be a natural or an induced process.
lessee	One who leases mineral lands.
location notice	In mining, a public notice of location of a mining claim. The object of the notice is to inform the public. It must be filed and posted on the ground according to the laws of the state where located. Usually it sets forth the name of the locator, the date, the name of the claim, and a

tie to a corner of the public land surveys.

-M-

master title plat Delineates the land belonging to the United States and shows patents, withdrawals (NPS lands, national forests, rights-of-way), state grants, navigable waters, acquired lands, and public domain lands mandated by BLM.

mine (n), mine (v) An excavation in the earth from which ores, coal, or other mineral substances are removed by digging or other mining methods, and in its broader sense it denotes the vein, lode, or deposit of minerals.

mine portal The surface entrance to a mine, particularly to a tunnel or adit.

mineral Any valuable inert or lifeless substance formed or deposited in its present position through natural agencies alone, and which is found either in or on the soil of the earth or in the rocks beneath the soil.

mineral (adj) Relating to minerals or the process and business of mining; bearing or producing valuable minerals.

mineral belt The strip, or zone, of mineralized territory in a given formation or mineral district. Broad region of extensive mineralization with a high favorability of containing commercial deposits.

mineral economics Study and application of the technical and administrative processes used in management, control, and finance connected with the discovery, development, exploitation, and marketing of minerals.

mineral entry Mineral entry as used in the federal land laws covers all methods by which a right to acquire title to federal minerals may be initiated. A right to acquire title to lands within NPS boundaries is not possible.

mineral lease	Contract between landowner and another granting the latter right to search for and produce oil or other leasable mineral substances upon payment of an agreed rental, bonus, or royalty. The lease conveys no permanent title to the surface estate or other minerals.
mineralize	To change from a metal into a mineral, as iron when exposed to the air.
mineralized zone	A mineral-bearing belt or area extending across or through a district. It is usually distinguished from a vein or lode as being wide.
mineral development	Mineral development refers to all types of mineral development activities including exploration, mining, excavation, processing, and abandonment.
mineral lands	Lands containing deposits of valuable, useful, or precious minerals in such quantities as to justify expenditures in the effort to extract them, and which are more valuable for the minerals they contain than for agricultural or other uses.
mineral location	Location is the act of appropriating a mining claim according to certain established rules. In NPS areas, no one can appropriate a new mining claim.
mineral materials	Substances such as sand, gravel, and building materials disposed of under the 1942 Materials Act.
mineral region	A region possessing mineral wealth or importance.
mineral resource	A concentration of naturally occurring solid, liquid, or gaseous materials in or on the earth's surface in such form that economic extraction of a commodity is currently or potentially feasible.
mineral royalty	Income received of mineral land, based on the production of minerals.

mineral segregation	Suspending appropriations for or operations of the mining, mineral leasing, or material disposal laws for selected public lands usually by congressional or executive withdrawal.
mineral sequence	The order of deposition during formation. A normal sequence is stated to be oxides followed by sulfides and ending with elements, such as gold.
mineral vein	A fracture, fissure, or crack in a rock that was subsequently lined or loaded with minerals; a vein containing ore.
mining district (or mineral district)	A section of country usually designated by name, having described or understood boundaries within which mineral is found and which is worked under rules and regulations prescribed by miners therein.
mining section	The depth of gravel, including bedrock, that is to be mined in a placer deposit.
-N-	
natural gas	Gas means any fluid, either combustible or noncombustible, which is produced in a natural state from the earth and which maintains a gaseous or rarefied state at ordinary temperatures and pressure conditions.
noncompetitive leases	<p>These leases may be issued for federal oil and gas minerals under the following two procedures:</p> <ol style="list-style-type: none"> 1. over-the-counter offers - for oil and gas leases on lands which have never been leased and are not in known geologic structure (KGS). 2. simultaneous filings - blocks of land are offered for oil and gas lease by public drawing when either two or more applicants apply for the same block simultaneously or whenever a lease expires or is cancelled or terminated

Noncompetitive leases are issued when the lands have no known mineral potential.

nonprecious metals

Metals other than gold, silver, or platinum which are useful in commerce but are not used for jewelry, artwork, or other such items.

-0-

oil

Oil means all nongaseous hydrocarbon substances other than those substances leasable as coal, oil shale, or gilsonite (including all vein-type solid hydrocarbons).

open cut

A mining process in which the working area is at the surface, also called open pit.

open stoping

Small ore bodies are often completely mined out leaving no pillars in place to support the walls of the stope.

ore

A solid mineral deposit where the percentage of valuable mineral is high enough so that it can be economically extracted (mined at a profit).

overburden

Soil, rock, and other materials that overlies mineral deposits and are removed in surface mining.

over-the-counter-offers
for oil and gas

(See noncompetitive leases).

-P-

patent

A document which conveys title to the mineral and in most cases the surface above it, after which no further assessment work need be done. The procedure of obtaining patent is divided into five steps (1) a mineral surveyor is paid to make a patent survey, to adjust boundaries and correct errors, in which case an amended location should be made; (2) at least \$500 worth of improvement must have been made per claim; (3) the presence of valuable mineral must be proven

beyond reasonable doubt; (4) the matter is taken up with the local land office, and the proper notices must be published in the papers for a specified time; and (5) the purchase price of the land is paid, and the patent is received. If the claimant fulfills the requirements for patent, the granting of the patent is a non-discretionary act by the federal government.

pay horizon	The vertical section in a placer deposit containing sufficient gold to be of economic value.
pay sands	Zone where oil is found in commercially feasible quantities.
paystreak	The horizontal limits of economic value in a placer deposit.
pedis possessio	A claimant's right to occupy the public lands to search for a valuable mineral deposit prior to the discovery of a valuable mineral deposit.
pooling	Interested tract owners or leaseholders for oil and gas may integrate or join their tracts or interests to share in the costs and production of a well within a drilling or spacing unit. Pooling may be voluntary or may be imposed by state commissions in particular spacing units. Pooling is generally used by corporations to combine small and irregularly shaped parcels of lands into one tract large enough upon which to drill a well.
precious metals (n), precious-metals (adj)	Gold, silver, or any minerals of the the platinum group.
preference right lease	An individual or party who, having discovered a valuable mineral deposit under a prospecting permit, is entitled to apply for leasing rights to those minerals. A preference right lease is considered a type of non-competitive lease. (See noncompetitive leases).
primary recovery	First method of recovering petroleum by pumping or free flow.

production	The phase of mineral extraction where minerals are made available for treatment and use.
prospect, prospecting	To search for evidence of valuable minerals.
public lands	As defined in the Federal Land Policy Management Act, public lands means any lands and interest in lands owned by the United 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 lands held for the benefit of Indians, Aleuts, and Eskimos.

-Q-

quitclaim deed	A document that transfers to the grantee all rights, title, and interest held by the grantor (if any). The interest transferred can range from nothing to fee simple absolute. The grantor may transfer only what he has, but as to that interest, the quitclaim deed is as effective as any other deed.
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-R-

reclamation	Reclamation is the process of returning mined land to a condition that will be approximately equivalent to the premining condition terms of sustained support of functional physical processes, biological productivity, biological organisms, and land uses.
recovery	Obtaining petroleum from a reservoir and bringing it to the surface.
regulations	Regulations are promulgated by state and federal agencies to implement laws. Regulations are issued to ensure uniform application of the law.
rental	The annual payment required on a lease for the right to use the land or resources for the purposes set forth in the lease.

reserve	That portion of the identified resources from which a usable mineral and energy commodity can be economically and legally extracted at the time of determination. The term ore is also used for reserves of some minerals.
reserved lands	Those federal lands dedicated to a specific public purpose that are not available for the operation of the public land laws.
residual	Placer deposits that are formed when the heavier valuable minerals remain near the bedrock source after weathering has removed lighter material.
revegetation	Process of reestablishing plants on disturbed areas.
royalty	In mining and oil operations, money or a share of the product or profit paid to the owner of the property or to other interest holders.

-S-

salable minerals	A term often used interchangeably with mineral materials.
shaft	A vertical or inclined opening giving access to an underground mine.
simultaneous filings for oil and gas	(See noncompetitive leases).
sluice boxes, sluices	Long, inclined troughs containing riffles in the bottom that provide a lodging place for heavy minerals in ore concentration; the material to be concentrated is carried down through the sluices on a current of water; sluice boxes are widely used in placer operations for concentrating such minerals as gold and platinum from stream gravels.
sluicing (v)	Concentrating heavy minerals, such as gold, by washing unconsolidated material through boxes (sluices) equipped with riffles that trap the heavier minerals on the bottom of the box.

speculative resources	Undiscovered materials that may occur either in known types of deposits in a favorable geologic setting where no discoveries have been made, or in as yet unknown types of deposits that remain to be recognized. Exploration that confirms their existence and reveals quantity and quality will permit their reclassification as reserves or identified-subeconomic resources.
spoil	Overburden or waste excavated and redeposited in surface mining.
sublevel stripping	Removal of overburden by hydraulic means where stripping is below drainage level.

-T-

tailings	The waste or valueless material from a concentration ore process.
tailings pond	An area closed at lower end by a wall or dam to which mill effluents are run; clear water may be returned after settlement in dam.
tar sand	A hydrocarbon resource where the matrix rock is sandstone or similar porous material, and the hydrocarbon resource (bitumen) trapped in the pore spaces has an API gravity of greater than 10,000 centipoise. Tar sand bitumen must either be removed by mining and retorting or by intensive in-situ methods.
trespass	Unauthorized use or exploitation of federal minerals (can include lands or resources).
tunnel	A nearly horizontal underground passage, open to the surface at both ends.

-U-

unconsolidated	Loose or uncemented material such as gravel, sand and clay in a placer deposit.
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undercurrent	A system whereby undersized material in a sluice box is separated from coarser sizes, which allows a decreased volume of water in the recovery of fine gold.
undiscovered resources	Unspecified bodies of mineral-bearing material surmised to exist on the basis of broad geologic knowledge and theory.
unit agreement	An agreement or plan of development and operation for the production and use of separately owned interests in geothermal resources or oil and gas. These interests are treated as a single consolidated unit without regard to separate ownerships. Costs and benefits are allocated on a basis defined in the agreement.
unitization	The merging of leases in all or a large part of the geologic structure in which oil is trapped. Units are exploration units representing the uniting of federal oil and gas leaseholders (jointly or separately) to collectively adopt and operate under a cooperative or unit plan for the development of the entire oil or gas pool, field, or reservoir. Secondary units may be formed to improve recovery of the mineral resources.

-V-

vacant public land	Public lands that are not reserved, appropriated, or withdrawn for a specific (designated) purpose.
vein	A well-defined zone or belt of mineral-bearing rock confined between non-mineralized rock, typically tabular in shape.

-W-

well spacing unit	A parcel of land in which one well may be drilled. Acreage parcels are determined by state commissions and are set to maximize recovery of the
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mineral resources. Units are expressed in terms of one well per X acres (i.e., 1 in 10 acres, 1 in 40 acres).

wildcat The first oil and gas well drilled in unproven territory. Can refer to the operator who drills the well itself or the method of exploration.

withdrawal A withdrawal means withholding an area of federal land from settlement, sale, location, or entry under some or all of the general land laws for the purpose of limiting activities under those laws in order to maintain other public values in that area. All NPS areas are withdrawn from mineral activities or other forms of disposition under the public land laws.

