

Locatable and Salable Minerals

(Including reference to recreational mining and paleontology)

Introduction

Locatable minerals and salable minerals are natural resources that exist within the Wasatch-Cache NF. Like leasable mineral resources, locatable and salable mineral resources are a finite resource rather than a renewable commodity. They are difficult to inventory, explore, and develop. Interest in these commodities ebbs and flows as economic conditions change.

Locatable minerals (also known as “hard rock” minerals) include gold, silver, lead, zinc, copper, and many other minerals. Salable minerals, which are sometimes referred to as mineral materials or “common variety” minerals, include sand, gravel, stone, clay, and a host of other ordinary minerals.

Laws, Policy and Regulation

- **Mining and Minerals Policy Act of 1970.** This Act states that the continuing policy of the federal government is to foster and encourage private enterprise in the development of economically sound and stable domestic mining and minerals industries and the orderly and economic development of domestic mineral resources.
- **Energy Security Act of 1980.** This Act directs the Secretary of Agriculture to process applications for leases and permits to explore, drill, and develop resources on National Forest System lands, notwithstanding the current status of any management plan being prepared.
- **36 Code of Federal Regulations, Part 228, Subpart E.** Complete description of the Forest Service’s policy on Oil and Gas Resources.
- **36 CFR Part 212, et al. Administration of the Forest Development Transportation System; Prohibitions; Use of Motor Vehicles Off Forest Service Roads; Final Rule, January 12, 2001.** Road management policy to provide a road system that is safe, responsive to public needs, environmentally sound, affordable, and efficient to manage.
- **The Forest Service Roadless Area Conservation Rule (FEIS), November 2000, Volume 1.** Prohibits road construction and reconstruction in inventoried roadless areas within National Forest System lands, unless roads are needed for following: 1) to protect public health and safety, 2) to honor existing valid permits, reserved or outstanding rights or statutes, 3) Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) activities, or 4) to respond to irreparable resource damage.
- **General Mining Law of May 10, 1872.** This law allows prospecting and development of valuable minerals on public lands. This includes locating various types of claims, specifying work required, and patenting under specific circumstances.
- **Organic Administration Act of June 4, 1897,** as amended. This Act established the national forests and the specific uses thereof and initial regulation. It extended the right to conduct mining activities under the General Mining Law of 1872 if in compliance with rules

and regulations covering National Forest System lands. The law authorizes the use of National Forest System lands to qualified parties for collection of vertebrate and invertebrate fossil resources.

- **Materials Act of July 31, 1947.** This act gives the Secretary of Agriculture the authority to dispose of mineral materials (common variety minerals) deposits by sale or free use.
- **Multiple Use Mining Act of July 23, 1955.** This Act requires the disposal of common varieties of sand, gravel, stone, and other mineral materials under provisions of the Mineral Materials Act of July 31, 1947.
- **36 Code of Federal Regulations, Part 228, Subpart A.** Describes how locatable mineral activity will be managed on lands open to operations under the General Mining Law of 1872.
- **36 Code of Federal Regulations, Part 228 Subpart C.** Describes how the Forest Service will manage salable minerals.
- **Wilderness Act of September 3, 1964.** This act is subject to valid existing rights; wilderness areas are withdrawn from all forms of appropriation and disposition under the mining and mineral leasing laws.
- **Federal Cave Resource Protection Act of 1988.** Authorizes use and protection of paleontological resources found in caves on National Forests.
- **Archeological Protection Act of 1979.** Authorizes the use and protection of National Forest lands for paleontological resources associated with archeological resources. Allows collection of rocks, minerals, and fossils for non-commercial use without a permit.
- **36 Code of Federal Regulations Part 251, Subpart B.** Provides direction for managing special uses including paleontological resources.
- **36 Code of Federal Regulations Part 261, Subpart A.** Defines paleontological resources and describes prohibited activities.

The laws authorizing the method of disposal for locatable and salable minerals differ considerably in the degree to which they allow the Forest Service to manage impacts associated with developing either type of mineral. The General Mining Law of 1872, and the Forest Service Organic Administration Act of 1897 that extends application of the mining laws to National Forest System lands, authorize qualified parties to enter lands open to mineral entry and locate mining claims for locatable minerals. Neither Act allows the Forest Service to prohibit mining.

The General Mining law and Forest Service mining regulations establish a process whereby the Forest Service evaluates mining proposals in the context of its responsibilities as steward of National Forest System lands. The Forest Service prepares reasonable mitigation and reclamation measures to address any significant associated surface disturbance. Though reasonable access and occupancy must be granted to conduct mining activities, the scope of these activities will dictate the nature of approved access and occupancy. Access, for example, depends on the stage of exploration or development. It can range from unimproved access by foot through unimproved temporary road access for prospecting or drilling to a more permanent improved road for full-time mine operations.

The Forest ensures that exploration and development of locatable minerals is conducted in an environmentally sound manner and is integrated with planning and management of other natural resources. Where national forest land is not explicitly withdrawn from mineral entry, exploration for locatable minerals under the General Mining Law of 1872 will be permitted under all alternatives. However, site-specific environmental considerations must be addressed when mining activities may cause significant disturbance to surface resources. Additionally, where there may be significant disturbance, the viability of a mineral deposit may have to be assessed before prospecting, exploration, and development would occur.

Salable minerals, which are sometimes referred to as mineral materials or “common variety” minerals, include sand, gravel, stone, clay, and a host of other ordinary minerals. In contrast to how mining activities must be addressed under the 1872 Mining Law, Congress gave to the Forest Service, through the Secretary of Agriculture, the discretion to dispose of salable minerals by sale or by free use permit. In this context, the Forest Service has complete discretion over whether such disposals are made.

Affected Environment

Locatable Minerals

Historically, locatable minerals have been mined and removed from the Forest in years past. The discovery of silver ore in 1860 led to the settlement of the Town of Alta. Mining activity continued through the late 1800’s and early 1900’s with the last operation of appreciable size closing in 1967. Most of the activity occurred in mining districts in Little Cottonwood Canyon and Big Cottonwood Canyon. This Forest Plan revision does not affect the quantity or quality of locatable minerals, but it will affect the number of acres where exploration and development are allowed.

In 1985 there were over a 1,000 mining claims on the Forest recorded with the BLM. Since then method by which a claim is maintained has changed and the number has significantly dwindled.

The availability of lands open to operations under the 1872 Mining Law can be affected by several factors including withdrawals, special legislation, and outstanding or reserved mineral rights (National Forest Surface, but state or private minerals rights). Currently there is an estimated 44,500 acres of reserved mineral rights within the proclaimed national forest boundary.

Areas withdrawn from mineral claims include developed recreation sites, administrative sites and wilderness. A total of 329,000 acres are currently withdrawn from mineral entry. Special designations allow mining entry but restrict certain types of mining activity. These include the Salt Lake City municipal watershed Red Butte and Morris Creek Research Natural Areas.

Most of the locatable metaliferous minerals were mined from Big Cottonwood Canyon and Little Cottonwood Canyon on the Salt Lake Ranger District. There are no known locatable mineral deposits of economic value on the forest and there are no known valuable deposits known on patented mining claims that now appear as private land in-holdings on the forest. Presently, there are no significant mining activities on the Forest.

Salable Minerals

Salable minerals are abundant and have been extracted from various locations across the Forest from designated sites or from broad, general areas. Salable minerals are managed at the sole discretion of the Forest Service as far as management and disposal is concerned. The Forest Service is generally the principal user of material from borrow sources on the Wasatch-Cache National Forest. The Forest develops pits for construction and maintenance of forest roads and other facilities. Some salable minerals have been used in the past, and are expected to again be in demand, by oil and gas lessees, primarily on the North Slope of the Uinta Mountains.

Presently, the Forest does have 25 active rock quarries/sand and gravel pits that are in operation. These are used for in-service purposes and provide valuable sources to assist in improving water quality on many Forest roads near stream courses. These pits are scattered across the Forest.

In the next planning cycle it is anticipated that the demand for common variety minerals can be met from off-Forest commercial sources or from private lands within the Forest boundary. Historically, the demand for this mineral has been minimal and it is expected to remain the same.

Recreational Mining

Public interest has increased in casual prospecting for gold using suction dredges and sluice boxes. The public often views this type of activity as “recreational” and it can be authorized under a cooperative recreational permit issued by the State of Utah. When a nominal threshold of disturbance is exceeded, the State permit does not apply and any mining activity is conducted under Forest Service mining regulations at 36 CFR 228 Subpart A. In effect, what the public sees as a “recreational” activity is actually an activity covered by federal mining law and regulation, particularly when impacts become significant. Consequently, “recreational mining” is deemed to be a locatable mineral activity that is managed under federal mining regulations when impacts to surface resources become significant.

Under a cooperative Forest Service/BLM/Utah State permit issued by the State of Utah, Division of Water Rights, there are three stream segments open to recreational dredging, sluicing, and panning. The segments are Three-Mile Creek (Perry Canyon), North Willow Canyon, and Davenport Canyon.

Paleontology

There is essentially no Federal law that mandates the protection of invertebrate fossils but specific federal regulations do cover protection of vertebrate remains. All vertebrate and significant invertebrate fossils can only be removed from National Forest System lands for non-commercial uses with a Special Use Permit. Casual collection of invertebrate and plant fossils does not require a permit. Future inventories may identify individual sites needing specific management direction.

The quality and quantity of paleontological resources that may be present on the Forest is not known. Generally speaking, there are geologic formations containing rocks that may contain

evidence of either invertebrate or, very rarely, vertebrate remains. Rock formations exposed on the forest range in age from Precambrian through Paleozoic and Mesozoic to Cenozoic. They include a variety of rock types but are composed predominantly of sandstone, shale, limestone, and quartzite. Most the Paleozoic age rocks and Mesozoic age formations of marine origin may contain invertebrate fossils that may be of interest to hobbyists. Mesozoic, Tertiary, and Quaternary age strata of continental, lacustrine, or fluvial origin may contain scientifically important vertebrate fossils but extensive inventory would be necessary to identify areas of highest interest needing management direction.

Environmental Consequences

Management Activities That Affect the Condition of the Resource

Any locatable mining activity shall require approval from the Forest Service before any significant ground disturbance occurs. This would include activities at any stage including prospecting, exploration, development, production, or abandonment and reclamation. Also covered, are “recreational mining” activity when impacts associated with that activity exceed the threshold described in the Utah State permit for Recreational Dredging and Sluicing.

It is essential to ensure that all mining activities that may cause significant surface disturbance are in compliance with law (including NEPA), federal regulations, policies, and site-specific requirements as identified in a Plan of Operations. Any approved Plan of Operations that is not administered to standard can affect the environmentally sound extraction of the mineral resource and could result in less recovery that would otherwise be the case.

Existing commercial mineral material sources outside the Forest provide a readily and economical supply to the consumer. Currently, there are no designated public-use sources on the Uinta National Forest. Under all alternatives, it is anticipated that no sources will be identified in the near future.

The distribution of potentially significant paleontological resources on the Forest is unknown. Generally speaking, any activity disturbing the surface could impact that resource.

Resource Protection Measures

Under all alternatives, the General Mining Law of 1872 and Forest Service mining regulations at 36 CFR 228 Subpart A allows prospecting and development of valuable minerals. All regulations require that environmental issues be addressed. The biological standards and guidelines included in the Forest Plan and any legal requirements would apply and be incorporated into a Plan of Operation submitted by the proponents and approved by the Forest Service. This Plan of Operation will cover site-specific environmental issues and be in compliance with NEPA.

In addition, under all alternatives, a surface use determination by a Certified Mineral Examiner may be required to ensure that a proposed mineral exploration or development activity be reasonably necessary and conform to reasonable industry standards. If the mineral examiner

concludes that the proposed activity is not reasonable, it would not be approved under 36 CFR 228, Subpart A.

Where they are identified, the Forest Service manages paleontological resources for their scientific, educational, and recreational values. Existing law and regulations provide different direction on managing all vertebrate and some invertebrate fossils. Qualified parties can obtain a Special Use Permit, to include proper resource protection provisions, to collect vertebrate and significant invertebrate fossils for non-commercial purposes. No permit is needed for casual collecting of invertebrate and plant fossils for personal use.

General Effects

Presently, there are no significant mining activities on the Forest. There is a scattering of mining claims recorded with BLM across the Forest. Most are along the Wasatch Front and on the Kamas District. Beyond casual prospecting, there is no significant level of activity on any of the claims. It is anticipated that locatable mineral activities will not increase above present levels on the Forest for the foreseeable future.

The alternatives may affect the quantity of locatable minerals available for development and they will affect the number of acres where mineral exploration and development is eventually allowed. Until such time as the selected alternative is identified and any lands included in that alternative are segregated from mineral entry, all lands will remain open to operations under the General Mining Law of 1872. The management prescriptions identified in Table LO-1 show the possible eventual result of prohibitions on mining on withdrawn lands.

Areas presently withdrawn from mineral entry include all of the designated wilderness areas on the Forest as well as developed recreation sites and administrative sites. Reasons for recommending that additional lands are withdrawn from mineral entry could include laws, legislative direction, agency policies, capital investments, long-term permits, administrative use to conduct day-to-day Forest duties, and potential for adverse displacement of permittees and recreationists. In addition, withdrawals may be recommended due to environmental and site-specific issues such as geological features (e.g., caves and landslides), municipal watersheds, and animal and plant species as per laws, biological opinions, and conservation agreements. Table LO-1 shows those National Forest System lands by management prescriptions under each alternative that would be withdrawn from locatable mineral entry and disposal of salable minerals.

Table LO-1. Acres Proposed for Withdrawal from Mineral Entry

Management Prescription	Acres by Alternative						
	1	2	3	4	5	6	7
Recommended Wilderness (1.5)	387,000	145,500	51,100	0	0	69,000	73,300
Research Natural Areas (2.4)	5,600	5,600	4,500	6,100	5,300	5,600	5,600
TOTAL ACRES	392,600	151,100	55,600	6,100	5,300	74,600	78,900

Over the next decade, it is anticipated that the demand for salable minerals can be met from commercial sources on private lands. Historically, the demand for these minerals has been minimal on National Forest System lands and it should remain the same. Disposal of this resource is by sale contract or free use permit at the discretion of the Forest Service.

Direct and Indirect Effects

Locatable mining activities could have significant adverse impacts on other resources, depending on the scope of the activity. Some impacts could be unavoidable while others may be mitigated. The analysis of the level of impacts and possible mitigation measures would be presented in a site-specific environmental analysis prepared before any Plan of Operations were approved. Reasonable mitigation and reclamation measures would have to be incorporated into the final approved Plan of Operations. Administering the plan to standard would ensure that impacts to other resources are within the scope of those described in the environmental analysis. The operator is also responsible to ensure that mining operations are in conformance with standards established in the Plan of Operations.

As new technology develops, more opportunities to extract locatable minerals from the Forest may occur; however, economics and environmental issues may create limitations such that technology may not be able to overcome such constraints.

Effects on Locatable and Salable Minerals from Riparian Habitat Conservation Area (RHCA) Management

The management of these resource areas would have impacts on mining activities, such as constraints on road construction and reconstruction. RHCA's include limits on mining activities such as no embankments and/or tailing dumps within any water/riparian areas.

Any salable mineral proposal that would have adverse effects on aquatics would be prohibited because the opportunities for mitigation measures are anticipated to be limited in scope. Any proposed locatable mineral activity would be evaluated through a site-specific analysis whereby alternatives are evaluated to address the range of possible impacts.

Other constraints would apply to fueling locations, access roads (minimal in locations and numbers), waterway crossings, cleaning of equipment, timing restrictions, issues of sedimentation transport and related abatement measures, potential degradation of affects to aquatic organisms, and passage for and impacts on species-at risk. The potential locatable mineral operation impacts to RHCAs may be significant if measures are not in place to protect aquatic habitat. It is essential that if a mining activity is permitted, the Plan of Operation addresses biological issues, and any mitigation measures are in place.

Effects on Locatable and Salable Minerals from Inventoried Roadless Area Management

The Roadless Area Conservation Rule (RACR) would restrict road construction and reconstruction in roadless areas in Alternatives 1, 2, and 6 and in over 95% of roadless areas in Alternative 7. However, under the General Mining Law of 1872, reasonable access must be provided, and access standards must be commensurate with the proposed activity. All proposals for locatable mineral exploration or development would be subject to 36 CFR 228, Subpart A. Significant ground disturbance to National Forest System lands would require site-specific NEPA analysis and a detailed Plan of Operation would be developed. Access rights will be recognized to those claims but the standard of access across National Forest System lands will be commensurate with the level of activity proposed on those claims.

Under all alternatives, the Forest would be open to locatable mineral development, except for those areas withdrawn from mineral entry. Additional areas, identified by alternative in Table LO-1, could be eventually withdrawn from mineral entry. However, it is anticipated that for all alternatives over the next decade very few new mining claims would be located due to low commodity prices, higher environmental and permitting costs, and apparent lack of public support for exploration and development on public lands.

In Alternatives 1, 2 and 6 exploration and development for salable minerals within inventoried roadless areas will be limited due to the prohibition of road construction and reconstruction except for outstanding rights. In all other alternatives while some development is allowed in inventoried roadless areas, development of sources would be incidental to new road construction or reconstruction activities.

Effects on Locatable and Salable Minerals from Noxious Weed Management

Management of noxious weeds may have a small impact on locatable and salable mineral development. Similar to the requirements applicable to RHCAs, equipment would require inspection and cleaning before entering and movement within the Forest. These requirements would assist in the isolation, eradication, and control of invasive non-native plant species. The requirements of certified weed-free hay, straw, and seed in rehabilitation of disturbed sites are essential to ensure that noxious weed propagation is abated. Additionally, the importation of topsoil would be prohibited due to the potential of importing noxious weeds and seeds. The effects of a noxious weed program on mining activities would be increases in costs for abatement and monitoring to ensure that the proliferation is limited.

Effects on Locatable and Salable Minerals from Fish and Wildlife Management

Effects on Threatened, Endangered, and Sensitive (TES) fish, wildlife and plant species, including bats and raptors such as goshawk, would require restrictions and mitigation measures for protection. Complete avoidance of sensitive plant habitat would be required and identified in a Plan of Operation. Fisheries habitat for Colorado River and Bonneville cutthroat trout and other fish will require some limitations and be site-specific. Winter range timing limitations would apply where appropriate.

Effects on Locatable and Salable Minerals from Managing Other Resources

Effects of managing other resources such as watershed, water quality, and air quality would require compliance with the standards and guidelines for managing these resources found in the Forest Plan. Impacts would depend on the complexity of the proposed project and its location. Site-specific issues and mitigation, if any, would have to be addressed in a Plan of Operation, which would be binding on the proponent/operator.

Managing other resources such as recreation and grazing would also require the impacts of locatable and salable minerals activities to be implemented in an orderly manner. Fire management, heritage resources, and scenery management will require compliance of laws and agency policies for any mineral activities. Restoration and mitigation measures of mineral activities would be required to ensure that these resource activities continue as identified in their respective management prescription objectives. Locatable and salable mineral activities would generally not be allowed in Research Natural Areas, thus the reason for these areas to be withdrawn as identified Table LO-1.

Management prescriptions 2.6 and 3.1 and RHCAs would not be recommended for withdrawal, but would require specific mitigation measures to ensure laws, policies, and aesthetic values would be met. The revised Forest Plan contains standards and guidelines that outline specific direction on resource values pertaining to these (and other) prescriptions. Decisions to withdraw additional National Forest System lands as shown in Table LO-1 would preclude prospecting, exploration, and developing any potential locatable minerals. This would displace mining activities elsewhere on the Forest or onto non-forest lands.

Cumulative Effects

Mineral and energy resources in Utah support a viable industry. Although alternatives 1, 2, 3, 6, and 7 would eliminate mineral development in areas newly recommended for wilderness designation, most of the Forest would remain open to mineral development. Whether any minerals are present and the economics of exploration and extraction will govern any decision by the public to actually explore for and develop minerals on the Forest.

The one impact that could affect the Forest would be honoring existing rights to access private mining property, such as that in Big Cottonwood Canyon and Little Cottonwood Canyon.

Access into and out of these areas is limited and not readily available without significant costs associated with the reconstructing of several Forest roads.

No significant cumulative effects are anticipated with salable mineral materials or with paleontological resources.

