

CHAPTER ONE - PURPOSE AND NEED FOR ACTION

A mine claimant has submitted a Plan of Operations to the Forest Service and Bureau of Land Management. The Plan includes about 0.5 miles of road construction and 7.5 miles of reconstruction; the development of 35 acres (4 sites) of nickel laterite mine pits; mining approximately 3.5 acres per year for ten years; and use of a 14-mile haul route entirely across public lands. Most of the access route and all of the pits are located on Forest Service (FS) administered lands. A 5+ acre ore drying and stockpile site would be located on Bureau of Land Management (BLM). This Final Environmental Impact Statement (FEIS) is a joint effort between the Siskiyou National Forest and the Medford District of the Bureau of Land Management. The Responsible Official is the Siskiyou National Forest Supervisor, who, along with the BLM Medford District Manager, would ultimately approve the final Plan of Operations. Many laws, regulations, policies and plans guide the analysis and eventual approval of a Plan of Operations and provide the basis for the Purpose and Need for Action.

LAWS, REGULATIONS, POLICIES and PLANS

Many laws, regulations, policies, and plans direct the FS and BLM to support and facilitate mineral extraction while protecting surface resources to the extent possible. The **1872 Mining Law**² states that all valuable mineral deposits in lands belonging to the United States are to be free and open to exploration. The **Organic Administration Act of 1897** grants authority to the Forest Service to regulate surface resources of National Forest System lands. The **Mining and Minerals Policy Act of 1970** directs the Federal Government to foster and encourage private enterprise in the orderly and economic development of domestic mineral resources.

The **Forest Service Surface Use Regulations** (36 CFR 228, Subpart A - also known as the 228 Regulations) sets forth rules and procedures for use of the surface of National Forest System Lands in connection with mineral operations. These regulations direct the Forest Service to prepare the appropriate level of National Environmental Policy Act (NEPA) analysis and documentation when proposed operations may significantly affect surface resources. These regulations do not allow the Forest Service to deny entry or preempt the miners statutory right granted under the 1872 Mining Law. The 228 Regulations state that an operator is entitled to access in connection with the operation, and that access must be approved in writing before use can begin. The regulations also require the FS to develop mitigation measures to minimize adverse impacts on National Forest resources. The 228 Regulations include requirements for reclamation. The **Forest Service Manual (FSM) 2800** also discusses specific responsibilities and considerations for dealing with a Plan of Operations. It states that the Forest Service should minimize or prevent adverse impacts related or incidental to mining by imposing reasonable conditions that do not materially interfere with operations. It also requires the Forest Service to evaluate proposals for road construction and reconstruction and consider alternatives that may be less damaging to surface resources (see FSM 2817.25).

²Under the mining law, a mine locator “shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations, and of all veins, lodes, and ledges throughout their entire depth.”

The **Federal Land Policy and Management Act of 1976** (FLPMA) states that public lands will be managed recognizing the need for domestic sources of minerals. In addition, FLPMA established the concept of “Areas of Critical Environmental Concern (ACEC)”. The **BLM Surface Management Regulations** (43 CFR 3809) were developed to prevent unnecessary or undue degradation of public lands related to mining, as directed by FLPMA.

The **Siskiyou Land and Resource Management Plan (Siskiyou Forest Plan)** includes several Minerals Standards and Guidelines (page IV-55). These guidelines discuss the need to facilitate the orderly development of mineral commodities and provide for timely, reasonable, effective and economically feasible environmental protections. The Siskiyou Forest Plan was amended by the **1994 Northwest Forest Plan**.³ The Northwest Forest Plan provides additional guidance for minimizing impact to surface resources, especially in relationship to the **Aquatic Conservation Strategy**. The **Medford District Resource Management Plan (BLM Management Plan)** includes mineral administration direction and also incorporates the Northwest Forest Plan Standards and Guidelines.

The BLM has released a Management Plan for the Rough and Ready Area of Critical Environmental Concern (ACEC - further discussion about the ACEC occurs throughout this EIS).

In 1993, the Siskiyou National Forest completed a study to determine whether Rough and Ready Creek and/or its tributaries were eligible for Wild and Scenic River designation. The main stem and North Fork of Rough and Ready Creek were found eligible. Outstandingly Remarkable Values - ORV's⁴ include Botanical/Ecological, Hydrological/Geological, and Wildlife. **Chapter 8 of the Forest Service Planning Handbook** expresses the policy of protecting eligibility status pending further determination of the river's suitability for inclusion into the **National Wild and Scenic River System**.

Other laws relevant to this project include (but are not limited to) the **National Environmental Policy Act (NEPA)**, the **Clean Water Act** and the **Endangered Species Act**.

The Nicore Environmental Impact Statement (EIS) tiers to the plans and analysis documents discussed in this chapter.

PURPOSE AND NEED

The purpose of this analysis is to determine reasonable measures to protect resources on BLM and National Forest System lands, within the context of the laws cited above. The need for action is to respond to the claimant's Plan of Operations.

³Northwest Forest Plan is embodied in the Federal Ecosystem Management Analysis Team documents, particularly the Record of Decision for the Amendments to Forest Service and Bureau of Land Management Documents within the Range of the Northern Spotted Owl and the Standards and Guidelines.

⁴Outstandingly Remarkable Values are described in the 1993 Eligibility Study.

DECISIONS TO BE MADE

The Siskiyou National Forest Supervisor, as the FS Responsible Official for this EIS, will decide whether to accept the Plan of Operations as submitted by the miner, or to require a revised Plan of Operations that includes mitigating measures. Aspects of the mining operation that may be affected include (but are not limited to): haul routes, road design and maintenance criteria, operating season, reclamation objectives, and monitoring and reporting requirements. The Forest Supervisor may also decide that insufficient information exists to approve full scale mining at this stage of the operation.

The Medford District Manager, as the BLM Responsible Official, will decide what stockpile site is environmentally preferred and what mitigating measures would reduce environmental effects. Mitigating measures may also be applied to the haul route on BLM lands in Section 18.

The policies and regulations described previously differ between BLM and FS. The Responsible Officials will base their decisions on agency-specific guidance. For both agencies, the decision-makers have limited discretion over the mining operation.

THE ANALYSIS AREA

The analysis area is shown in Figure 1, Vicinity Map. It is a 36-square mile area (about 23,000 acres) encompassing parts of Township 40 South, Range 9 West and Township 40 South, Range 8 West. The actual mine sites comprise about 35 acres of the analysis area. The haul route includes about 14 miles of roads. The area lies within the West Fork Illinois River Watershed, mostly in the Rough and Ready Creek area. Nearly two-thirds of the area is within the South Kalmiopsis Inventoried Roadless Area (see Appendix C of the Siskiyou National Forest Plan FEIS).

The West Fork Illinois River Watershed (see Watershed Analysis) is widely recognized for its botanical diversity. The FS Rough and Ready Creek Botanical Area comprises about 1500 acres of the analysis area. Some of the area is also within the Oregon Mountain Botanical Area (about 800 acres). The BLM Rough and Ready Area of Critical Environmental Concern comprises about 1200 acres. Oregon State Parks also manages a small portion of the area, including the 11-acre Rough and Ready Botanical Wayside. Additional FS land allocations include Matrix, Administrative Study Area, and Riparian Reserve. The remainder of the analysis area is privately owned (about 7,500 acres).

Most of the proposed route has been previously developed and disturbed. During the 1940's, a Swedish miner, Fred Alberg, hand built a road several miles into the North Fork Rough and Ready Creek, where he developed a small gold mine. Limited chromite and nickel exploration began during World War II and continued into the 1950's.

More extensive nickel laterite sampling occurred during the 1970's and 1980's. Most of the existing low-standard roads were built using heavy equipment during that time⁵. Limited mineral exploration accessed by these roads has continued to the present.

⁵Most roads in the analysis are shown on the No Action map in Chapter Two. Some existing roads have not been mapped by the Forest Service and are not shown. The unmapped roads can be generally characterized as jeep trails.

In July and August of 1994, lightning fires resulted in 8,000 burned-over acres mostly in the Josephine Creek Watershed to the north. Mining roads in the project area were used to move dozers to the fire line. Several miles of hand and bulldozer fireline was built to suppress the fire. Botanists, wildlife biologists, archeologists and soil scientists were involved in the placement and rehabilitation of the firelines and burned area. The area is in a natural recovery mode, and the firelines have remained free of motorized traffic. Mining access alternatives contemplated in this EIS utilize part of the bulldozed fire line (referred to as “The Mendenhall Fireline.”)

PROJECT HISTORY

A Proposed Plan of Operations (POO) for the Nicore project was originally submitted to the FS in December, 1992.⁶ The proposed POO included 5,000 tons of bulk sampling at Mine Site B. Development of a road system that crossed Rough and Ready Creek four times was included in the proposal. The District Ranger determined that an Environmental Impact Statement (EIS) would be necessary because of potential significant impacts to the environment (generally related to the stream crossings and road development). The mining claimant appealed this finding, but it was upheld by the Regional Forester. In November of 1993, the claimant revised the Plan of Operations and proposed additional mine and road development (5,000 ton sample from four mining sites in phase 1, and mining 40,000 ton per year for ten years in phase 2). Funding to complete an EIS was requested, and was forthcoming in 1996.

Concurrently, Forest Service Minerals Staff prepared a Surface Use Determination (SUD - see Appendix C for full text of the SUD). The Surface Use Determination considered available information related to the Plan of Operations and concluded that “removing a bulk sample of nickel bearing laterite for use in developing an off site pilot-prototype smelting facility is reasonable for this stage of operations [phase 1],” and that “...large-scale production [phase 2] is unreasonable for this stage of the operation.”

The mine claimant disputed the findings of the SUD and continues to suggest that “the need for Phase 1 to precede Phase 2 no longer exists,” and “Full scale mining is not contingent on the results of the sample [phase 1].” See Selected Correspondence between the Agencies and the Miner (Appendix D). The Forest Service developed Alternative 9 to represent the SUD findings and it remains the Preferred Alternative.

⁶The Plan of Operations was proposed on claims that had been extensively sampled by Inspiration Mining in the 1970's.

Vicinity Map

[See FIGURE 1](#)

Back of Map

Also in 1993, the mine claimant applied for patent on more than 4,000 acres of claims within the Rough and Ready Creek watershed. This patent application has not been processed by the Department of Interior, because of a moratorium imposed by the United States Congress. Mineral examination would be required as part of the patenting process.

Many people have expressed confusion over the relationship between the patent process and the process of analyzing and approving a Plan of Operation, documented by this EIS. There is little relationship between the two processes: approval of a Plan of Operations does not pass title to a mine claimant (the potential outcome of patenting), nor are mineral examinations required to approve a Plan of Operations. The patent process is independent of the approval of any Plan of Operations, regardless of selected alternative. The existing moratorium on processing patent applications has no effect on the Agencies' responsibility to analyze a Plan of Operations.

A Draft Environmental Impact Statement was released January 1998. A comment period was established and extended to May 15, 1998. The Siskiyou National Forest received about 3,800 letters during the comment period; the majority of these were form letters generated by environmental groups. Hundreds of people also signed petitions. Nearly all the letters expressed strong opposition to any mining within the South Kalmiopsis Roadless Area or the Rough and Ready Creek Watershed. Many people contacted the Chief of the Forest Service, President Bill Clinton, and their Senators and Representatives to voice their concerns. The Forest Service Chief also received a letter signed by one Senator and four Congresspeople, expressing their concerns about the project (see Appendix B, Public Comments and Responses, which includes a copy of the letter).

In August, 1998, a Notice of Intent to prepare a Supplemental Draft EIS was published within the Federal Register. The Siskiyou National Forest Supervisor decided to prepare a Supplemental Draft EIS due to the following considerations:

- uncertainty related to the economic viability of the Nicore POO
- the only nickel smelter operational within the United States of America closed
- Arabis macdonaldiana* (Red Mountain rockcress) was listed as endangered under the federal Endangered Species Act
- the Forest Supervisor desired a greater range of alternatives to be analyzed, including an alternative that would approve bulk sampling (phase 1).

In January of 1998, a Supplemental DEIS (SDEIS) was published. About 500 people commented on the SDEIS. About 1600 people also reportedly contacted the World Wildlife Fund (WWF) to support WWF's concerns about project. Appendix B responds to all the public comment received on both the DEIS and SDEIS.

FEIS ISSUES

Scoping was initiated for this EIS in April 1997 (Scoping also occurred in 1993 for the original Plan of Operations). Scoping has been accomplished through multiple public meetings, formal hearings, informal discussions, newspaper and periodical articles, and mailings. The issues described below are the basis for alternative development and analysis; the discussions in Chapters Two and Three and Alternatives Compared section of Chapter Two are organized according to these issues. *A new issue appears in this section: Nickel Concentrations in the Water.* This issue was discussed in the previous EIS'; additional information about the concentrations of nickel is now available.

Soil Productivity

Road development and use, pit development, and ore storage would disturb ultramafic soils and lead to loss of productivity. The more road development and acreage mined, the greater the risk of loss of productivity.

Slope Stability and Erosion

The public has raised numerous concerns about whether the mining pits will be stable or whether they will cause erosion. Mine Site D is on a steeper slope, associated with a higher risk of failure. Road construction is associated with risk of erosion and sediment delivery to streams. The alternatives include measures to maintain slope stability and minimize erosion risk.

Stream Crossings

The Proposed Plan of Operations would utilize seven major stream crossings (six on the mainstem Rough and Ready Creek and one on the South Fork). Each year washed rock would be placed in low water fords of the creek at these locations to accommodate ore haul. The rock would wash out with annual winter flows. Measurable increases in turbidity could occur and exceed water quality standards.⁷ The cumulative effects of years of fill added to the crossings could result in noticeable changes in channel form and slope. The alternatives to the Proposed Action minimize stream crossings and use bridges rather than low water fords. Mitigation associated with the alternatives may effectively resolve this issue.

The Proposed Action haul route is associated with 9 smaller tributary crossings. The Alberg route itself includes 4 crossings. The alternatives are designed to minimize tributary stream crossings.

Stream Flow and Water Temperature

Rough and Ready Creek has inherently low summer flows and high water temperatures. Summer flows are often critically low, and temperatures exceed state water quality standards. Use of water for dust abatement could remove thousands of gallons for water per day from the creek, leading to lower flows and higher temperatures.⁸ Low water fords (fill) in the mainstem or South Fork Rough and Ready Creek could pond water and result in higher temperatures behind the crossings. Cold springs entering Rough and Ready Creek near Crossing #3 could be affected by road development and use in that area.

⁷Turbidity standards are discussed further in Chapter Four. State standards are from OAR 340- 42-365. Exceptions to these standards may be granted by the Division of State Lands under OAR 141-85-100. The operator is responsible for meeting water quality standards set and permitted by the state.

⁸A water right would be required.

Nickel Concentrations in the Water

Currently, the concentration of nickel in the surface waters of Rough and Ready Creek and nearby springs exceeds Oregon State *ambient* water quality standards⁹. The standard is set at 13.4 parts per billion, and most of the samples were measured as 15 to 40 parts per billion. Even though these levels are above the ambient water quality standards, they are considered safe for drinking. Mining and associated activities may increase the concentration of nickel in Rough and Ready Creek. Residents drink water from springs in the Analysis Area. Others drink water directly from Rough and Ready Creek or from shallow wells on the alluvial fan.

Risk of Hazardous Material Spills

The Proposed Action is associated with increased risk of fuel or other hazardous substances accidentally reaching Rough and Ready Creek, especially in the vicinity of the multiple stream crossings. People living within the analysis area have expressed concern that their drinking water could be fouled by an accidental spill. The risk of a serious spill is low, however the consequences could be significant.

Proposed, Endangered, Threatened and Sensitive (PETS) Fish Species

Rough and Ready Creek provides habitat for several PETS fish species (coho salmon are listed as threatened, steelhead trout are FS Region Six sensitive and proposed for federal listing, chinook salmon and cutthroat trout are Region Six sensitive). The Proposed Action may adversely affect fish and their habitat by blocking fish passage at mainstem and South Fork crossings and degrading other habitat features.

Port-Orford-cedar Root Disease

The Proposed Action increases the risk of importing Port-Orford-cedar (POC) root disease into the Rough and Ready Creek Watershed. The action alternatives include strategies to prevent or slow the spread of the disease. The alternatives are compared based on the relative risk of introducing the disease into currently uninfested areas.

Noxious Weeds

The Proposed Action may lead to the spread of noxious weeds that can out-compete rare and native vegetation. All of the action alternatives include some mitigation to reduce the risk of spread of noxious weeds. The alternatives are compared based on the relative risk of spreading noxious weeds.

⁹No other elements are in concentrations that exceed any standard, nor are any other standards expected to be exceeded in any mining alternative.

Botanical Diversity/Sensitive and Endangered Plants

The proposed haul route and mine site traverses the Rough and Ready Botanical Area and Area of Critical Environmental Concern (ACEC). An alternative haul route traverses the Oregon Mountain Botanical Area. Many different sensitive plant species and one listed under the federal Endangered Species Act may be affected. Botanical Area Standards and Guidelines require the FS to make “every effort” to protect these species.

Aquatic Conservation Strategy and Riparian Reserve Standards and Guidelines

The Aquatic Conservation Strategy from the Northwest Forest Plan sets objectives to maintain and restore ecosystem health. It provides an integrated approach to riparian management. Many standards and guidelines apply specifically to riparian areas. Proposed mining and access may retard attainment of the Aquatic Conservation Strategy and not fully meet Riparian Reserve Guidelines.

Wild and Scenic River Eligibility - Outstandingly Remarkable Values

The main stem and North Fork of Rough and Ready Creek was found eligible for Wild and Scenic River status. Botanical, Wildlife, and Geological/Hydrological values were found to be Outstandingly Remarkable (see Eligibility Study in the Analysis Files). Policy requires the Forest Service to protect these Outstandingly Remarkable Values (ORVs) and the potential classification (Wild, Scenic, Recreational) of eligible streams. The Proposed Action and action alternatives may have adverse effects on these ORVs.

Costs of Operations

The various components of the access route have different direct costs. Road construction and reconstruction costs, crossing structures, dust abatement and haul costs are considered.

Economic Viability

Substantial uncertainty exists relative to the economic viability of the project. Nickel prices have fallen world-wide and are predicted to remain depressed for the long term. The Proposed Action is associated with negative Present Net Values.

Effects on Residents

The Proposed Action and its alternatives have adverse impacts particular to people living near the haul route. These effects relate to increased dust and noise, decreased solitude, and increased safety hazards. Effects on water quality could also have impacts specific to local residents. Mitigation included in all action alternatives are intended to minimize adverse effects, but some impacts cannot be avoided.

Visual Quality, Recreation and Interpretive Development

The Proposed Action may degrade scenic quality of the analysis area by developing roads and a stockpile site within direct view of Highway 199, the Rough and Ready Botanical Wayside and the BLM Area of Critical Environmental Concern. The Proposed Action may reduce the area's value as an interpretive site. Improvement and use of low standard roads may affect people who use them as hiking trails or increase the number of people using the area.

Roadless Character

The Proposed Action includes some road development within an inventoried roadless area. Much of the Rough and Ready watershed is isolated from human intrusion. Some people value the isolated character of the area. Roads can bring in unwanted traffic and lead to adverse environmental impacts (most of which are also addressed within other issues).

OTHER ISSUES

Many other issues were brought up during scoping. These issues either did not lead to potential significant effects or could not be analyzed within the scope of this EIS. Brief discussions about these other issues are included in Chapter Four.

ILLINOIS VALLEY RANGER DISTRICT

Figure 1 Vicinity Map

