

Monitoring Conducted

Exploration

Federal Hardrock Minerals - The Bureau of Land Management (BLM) is the responsible agency for permitting and administration of federal hardrock leasable minerals. The SNF completes the necessary environmental analysis and assists them in administration and monitoring of operating plans and notifies the BLM when there are compliance issues.

Three exploration operating plans were analyzed in an EA and approved. They include geophysical and drilling activities. Approximately 17 acres of new disturbance was permitted. No new permanent or temporary roads were constructed.

Thirteen monitoring/compliance site visits were completed. Operations were found to be in compliance and no notices of noncompliance were issued. Monitoring has shown that road/trail closure is effective since no post-reclamation vehicle issues developed.

One prospecting permit application was received by the BLM in 2007 and forwarded to the Forest Service for consideration. With the 23 applications from the previous two years, there are a total of 24 applications to consider for processing. A large scale EIS analysis is being planned to incorporate the application areas.

The following federal hardrock mineral lease and prospecting permit activity occurred in 2007:

- Prospecting Permit Applications – New: 1 (1,295 acres)
- Prospecting Permit Applications – Pending: 23 (27,569 acres)
- Prospecting Permits - Issued: 0
- Prospecting Permits – Active: 4 (4,426 acres)
- Prospecting Permits - Expired: 0
- Prospecting Permits - Relinquished: 0
- Leases - Active: 2 (4,865 acres)
- Operating Plans received: 3
- Operating Plans approved: 3
- Operating Plans monitored: 4

Private Minerals - The SNF received, approved, and monitored three private mineral exploration operating plans for compliance with approved project description and negotiated mitigation and reclamation requirements. Approximately 6 acres of new disturbance were permitted. One operation compliance issue relating to rutting

Minerals & Geology Summary Points

- * Federal mineral operations, which are permitted and administered by the Bureau of Land Management, were found to be in compliance and no notices of noncompliance were issued.
- * One prospecting permit application was received (1,295 acres).
- * Twenty-three prospecting permits are pending approval from previous years (27,569 acres).
- * Two hard rock mineral leases were administered (4,865 acres).
- * Four active prospecting permits were administered (4,426 acres).
- * Three federal hard rock mineral operating plans were analyzed under an EA and approved.
- * A total of 9,100 tons of granite from two quarries were sold for \$85,707.
- * A total of 164,709 tons of sand and gravel were sold for \$89,444.
- * A total of 183,464 tons of mineral materials were utilized by the SNF for administrative purposes for a total value of \$122,740.
- * Develop a detailed framework for managing-administering federal hard rock minerals with the BLM would be beneficial to improve the permitting and administration process and to guide how the two agencies cooperatively work together.

of a road occurred. When notified of the issue, the company stopped use of the road and completed repairs as required by the District Ranger (see below).



Figure 1. Road rutting.



Figure 2. Road rutting repaired.

Hardrock Mineral Development/Mining

There is no active hardrock mining on the SNF at this time. In addition, no mines were permitted in 2007. However, a large open pit copper/nickel/platinum group metals mine has been proposed on National Forest System lands by PolyMet Mining Inc. The subsurface minerals are privately owned. The SNF is cooperating with the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers in an environmental impact statement analysis.

Mineral Material Production

There are three large mineral material contracts on the SNF. Two contracts are for granite and one contract is for sand and gravel. Monitoring of mineral material production is on-going throughout the year when the operations are active. Monitoring focused on contract and Forest Plan compliance. In all three contracts, operators are very willing to comply with requests or requirements and only rarely is there a noncompliance. Approximately 15 monitoring site visits were completed. One issue was reported in a small gravel pit where a tree near the edge of the pit had fallen on a power line and district personnel were notified.

Granite: Two granite quarries were in production under mineral material contracts with Cold Spring Granite Company: Babbitt Black and Lake Superior Green. The Black quarry operating plan was approved for 240 acres and the current disturbed area is approximately 18 acres. The Green quarry operating plan was approved for 400 acres and the current disturbed area is approximately 9 acres. Production is measured in tons (see below). A total of 9,100 tons were sold for a total of \$85,707.

Babbitt Black Quarry:	7,250 tons @ \$67,248
Lake Superior Green Quarry:	1,850 tons @ \$18,459

Sand and Gravel: The SNF continues to sell and provide sand and gravel to the public and companies. Seppi Brothers Concrete Products Corp. buys the most mineral materials and has a large active mineral material contract. Their operating plan was approved for 69 acres and the current disturbed area is approximately 31 acres. Free use is given to counties and other non-profit entities as requested. Small material sales are issued to the public. The SNF has an inventory of 397 gravel pits. The materials from these pits are used by the SNF for road maintenance, construction, timber sales, and other project administration. Production and sales are listed below.

Private Sales:	49,245 tons	@\$40,665
Free Use:	171 tons	@\$114
Seppi:	115,464 tons	@ \$48,779
SNF Use:	183,464 tons	@ \$122,740



Figure 4. Seppi Brothers Concrete Products – Jammer Lake Gravel Pit. (03/30/2007)

Reclamation

Reclamation of exploration projects is accomplished after the projects are completed and drill boreholes are permanently abandoned. No boreholes were permanently abandoned in 2007. Road closures appear to be effective at keeping motorized vehicles off of reclaimed/closed access routes. Drill sites, including closure of drill sumps, have successful reclamation and sites are stable. Reclamation appears to be successful and no issues developed.

Evaluation and Conclusions

Exploration, Development, Production, Reclamation

Monitoring site visits during active exploration projects have shown that companies are implementing their project in accordance with their operating plans. No notices of non-compliance were issued but one road rutting issued developed and was resolved relating to a private mineral exploration project. Monitoring for multiple years after reclamation will continue to document effectiveness after the projects are completed. This should help the SNF develop a better understanding of what measures are effective and what additional measures are needed to protect surface resources. Further monitoring will be required when companies propose to permanently abandon their drill boreholes.

An updated mineral site inspection form was developed. More detailed information is reported and can be geared to specific projects and includes photo documentation. More emphasis is placed on completing site inspections with the operator so that



Figure 5. Temporary Abandoned Drill Borehole



Figure 5. Drill Site Reclamation After Two Years

activities and project requirements/mitigation can be discussed and a cooperative working relationship is strengthened.

Hardrock mineral activities have one employee assigned to administer and monitor projects. This provides consistency. In contrast, five employees administer and monitor mineral material activities and monitoring is not consistent and needs improvement.

Management Considerations

- ✱ Develop a detailed framework for managing/administering federal hardrock minerals with the BLM would be beneficial to improve the permitting and administration process and to guide how the two agencies cooperatively work together.