



Questions and Answers Regarding State Leases for Nonferrous Metallic Minerals

As of January 2017

Nonferrous Metallic Minerals

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NONFERROUS METALLIC MINERALS

What are nonferrous metallic minerals?

Nonferrous metallic minerals refer to all metals except iron ore and taconite. Nonferrous metallic minerals includes elements such as copper, nickel, platinum, palladium, gold, silver, cobalt, chromium, zinc, lead, bismuth, tin, tungsten, tantalum, and niobium. Some of these ores contain native gold or native copper, or oxides of chromium or titanium. Conditions and obligations within state mineral leases, environmental review, and permits are all specifically designed to mitigate the environmental impacts of exploration and/or mining.

Who uses nonferrous metallic minerals?

The majority of us in America use nonferrous metallic minerals in our daily lives without ever knowing it. Our computers, smart phones, tablets, televisions, cars, bikes, planes, homes, schools, businesses, hospitals, and even we are all made up of nonferrous metallic minerals. You can learn more about minerals that we use in our daily lives at the Mineral Education Coalition website: [Minerals in Your Life](#)

STATE LEASING

Why does the state lease its minerals?

The state leases its minerals on school trust lands to fulfill its fiduciary obligations to raise revenue for the Permanent School Fund. Minerals have generated about 80% of the historic total revenue to the Permanent School Fund. The state also has fiduciary responsibilities to raise revenues for the Permanent University Fund and the taxing districts and meets those responsibilities by leasing minerals on university trust lands and minerals acquired by the state through tax forfeiture.

The leasing of state-owned minerals supports the state's policy "to provide for the diversification of the state's mineral economy through long-term support of mineral exploration, evaluation, environmental research, development, production, and commercialization." [Minnesota Statutes section 93.001](#).

What rules and statutes authorize the state to issues leases for nonferrous metallic minerals?

State can issue leases for nonferrous metallic minerals mining units pursuant to [Minnesota Statutes, section 93.25](#) and [Minnesota Rules, parts 6125.0100-.0700](#).

What are mining units?

The DNR creates mining units to establish the state-owned lands and minerals that are available for lease pursuant to Minnesota Statutes, section 93.15. A mining unit is usually based on a government section of land. For example, *A-1-48-22* is a mining unit number located in Aitkin County, Section 1, Township 48 North, and Range 22 West. It should be noted that thus far all the nonferrous mining units ever leased since 1966 have had no actual mining on them rather just exploration.

What processes are used to issue nonferrous metallic mineral leases?

There are three processes used by the state to issue state nonferrous metallic mineral leases.

1. Public lease auction (Metallic Mineral Lease Sale) – [Minnesota Rules, 6125.0500](#) >>
2. Negotiated Lease – [Minnesota Rules, 6125.0600](#) >>
3. Preference Rights – [Minnesota Rules, 6125.0610](#) >>

Explain the state's Metallic Minerals Lease Sale process?

The DNR has recently revised its metallic minerals lease sale process. Provided below is a link to the lease sale process fact sheet.

[DNR's Revised Metallic Minerals Lease Sale Process Fact Sheet](#) >>

What are the necessary qualifications of a potential leaseholder?

According to [Minnesota Rules, Part 6125.0410](#), the leaseholder must be:

1. Qualified to do business in Minnesota.
2. Technically and financially capable of performing under the terms of a state minerals lease.
3. The applicant has shown the capability to comply with environmental laws and permits.
4. Qualified to conduct exploratory borings in Minnesota by fulfilling the requirements of [Minnesota Statutes, section 103I.601](#), subdivision 3.

[Minnesota Rules, Part 6125.0410](#) >>

[Minnesota Statutes, section 103I.601](#) >>

What is a negotiated nonferrous metallic mineral lease?

Besides the public metallic mineral lease sale a lease may be issued through negotiations under any of the following circumstances, provided that the commissioner finds it is in the state's best interests to enter into the lease:

- The state's mineral ownership interest in the lands to be leased is an undivided fractional interest and the applicant holds under control a majority of the remaining undivided fractional metallic mineral interests in the lands to be leased.
- The applicant holds a state metallic minerals lease covering other lands within the same government section of land.
- The applicant holds, within one-half mile of the requested lands to be leased, a state metallic minerals lease or a private metallic minerals lease and no other party holds a state metallic minerals lease covering land within the same government section of land where the requested lands to be leased are located.
- The lands to be leased contain an identified mineral resource, and the applicant holds under its control the majority of the same type of minerals in the remaining lands containing the identified mineral resource.

[Minnesota Rule, part 6125.0600 >>](#)

How long has the state been leasing its mineral rights for nonferrous metallic minerals?

The state began offering leases for nonferrous metallic minerals under its current set of rules in 1966. Prior to that time, prospecting permits for various nonferrous minerals were granted. For a current status of active and terminated leases visit the [DNR's nonferrous metallic mineral leasing webpage >>](#)

[Map timeline \(slideshow\) of state active and terminated leasing 1966-2016 >>](#)

Where has the state offered nonferrous metallic mineral leases?

Explorers invest in locations where they believe the geologic conditions are prospective to contain undiscovered mineral deposits, based upon known mine locations with similar geologic conditions in other parts of the world. Since 1966 the state has offered state leases for metallic minerals on the state mineral rights in the following 21 counties: Aitkin, Beltrami, Carlton, Cass, Cook, Crow Wing, Itasca, Kanabec, Koochiching, Lake, Lake of the Woods, Marshall, Mille Lacs, Morrison, Norman, Ottertail, Pine, Roseau, St. Louis, Todd, and Wilkin Counties.

The DNR has an up-to-date webpage that lists and displays on a map the locations where the state has offered nonferrous metallic mineral leases. That same webpage also shows where the active leases are located.

[Locations of nonferrous metallic mineral leases >>](#)

What companies currently hold state leases?

The DNR has an up-to-date webpage that lists the private companies with active state nonferrous metallic mineral leases.

[List of private companies with active state nonferrous metallic mineral leases >>](#)

Are there other nonferrous metallic mineral leases besides state leases?

Yes, there are federal hardrock prospecting permits. There are also private mineral leases in virtually all the same areas as the active state mineral leases and federal hardrock prospecting permits. These are on privately owned lands, so the state does not have locations for them, except where a company discloses the lease in a public way such as on a website. There is also exploration for copper and nickel on private (not state) mineral leases in southern MN.

What are the terms of a state lease?

You can view the state lease form requirements within Minnesota Rules, part 6125.0700. The paragraph locations for some key lease terms are referenced below:

[Minnesota Rule, part 6125.0700](#)

- Conformity with state and federal laws and regulations - paragraph 23
- Surface owner notification - paragraph 25
- Exploration activities plan review - paragraph 26
- Lessee obligations for surface damage - paragraph 27
- Exploration data and drill core – paragraph 16

How long is a lease granted?

A lease is granted for 50 years unless terminated, subject to the state’s right to cancel at 20 years under certain conditions, and subject to the state’s right to cancel for non-compliance with lease terms.

How much does a lease cost?

Based on Minnesota Rule, Part 6125.0700 there is a rental rate applied to each mineral lease based on acreage and number of years:

- \$1.50/acre/year –Remainder of the year of lease issuance and the first full 2 years
- \$5/acre/year – Years 3-5
- \$15/acre/year – Years 6-10
- \$30/acre/year – Remainder of the lease term

Minnesota Rule, part 6125.0700, at paragraph 6 >>

If there was a mine what would the royalty rate be?

The base royalty rate must not be less than 3.95% nor more than 20% and varies with the net return value of the metallic minerals and associated mineral products recovered from each ton of ore mined from the mining unit. On most leases the base royalty rate is greater than 3.95%.

Minnesota Rule, part 6125.0700, at paragraph 8 >>

How many leases has the state granted since 1966 and how many are currently active?

For a current status of active leases visit the [DNR’s Nonferrous Metallic Minerals Leasing Activity webpage](#) >>

For a current status of leases terminated visit the [DNR’s Nonferrous Metallic Minerals Leasing History webpage](#) >>

Historically how long on average does a nonferrous metallic minerals lease last?

The state began offering leases for nonferrous metallic minerals in 1966. Almost 90% of the state leases terminated within 5 years of being issued. This is according to data analysis from 50 years of state metallic minerals lease transactions and associated exploration from January 1966 through 2016. Provided below are some statistics from this data analysis.

Summary statistics from the terminated lease data (n = 3,248 leases):

- 85% of state nonferrous metallic mineral leases were terminated within 5 years.

- 13% terminated between 6-10 years.
- 2% terminated after 10 years.

Summary statistics from the active lease data (n = 264 leases) at time of data analysis:

- 18% were greater than 10 years old
 - 42% were between 6 and 10 years old
 - 40% were less than 5 years old
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EXPLORATION ACTIVITIES

Historically what exploration activities might a company do after being granted a state nonferrous metallic minerals lease?

The mineral exploration process varies from site to site and also varies based upon the particular mineral being sought. The explorer's goal for the mineral exploration process is to discover and delineate a mineral deposit that is sufficiently economic to develop into a mine. There are usually many years and steps that need to be made in order to reach the first goal of discovering a mineral deposit. The DNR has a webpage describing typical nonferrous metallic mineral exploration activities undertaken in order to discover a mineral deposit.

[DNR webpage typical exploration activities >>](#)

What are the chances than an exploration drill hole would be drilled on a state lease?

This is a difficult question to know for certain, but we can use 50 years of historic state leases and exploration drilling data to determine the percentage of state leased parcels that had exploration drilling on them. Based on analysis of data from 1966 through 2016 the state found that the overwhelming majority of state leased parcels for nonferrous metallic minerals (97.8%) had zero exploration drill holes on them.

Percentage of state leased parcels with exploration drill holes

- 97.8% of all state leased parcels had no exploration drilling on them. There are 23,746 approximate 40 acre parcels leased by the state that had no drilling.
- 1.4% of the state leased parcels had only 1 drill hole on them. The equals 343 parcels.
- 0.6% of the state leased parcels had between 2 and 10 drill holes on them. That equals 141 parcels.
- 0.2% of the state leased parcels had greater than 11 drill holes on them. That equals 39 approximate 40 acre state leased parcels.

[History of state leasing and exploration drilling >>](#)

Why is this? The primary reason is cost. One exploratory drill hole of 1,000 feet can cost approximately 100,000 dollars. Since exploration drilling is an expensive operation, companies will first use less direct and inexpensive exploration methods (geologic mapping, geophysical surveys, and surface geochemistry surveys) to assist in determining potential subsurface drilling targets on their land packages. Exploration companies may also view or sample drill core from the state's drill core library containing 3 million feet of drill core from 9,000 plus drill holes. If the other exploration methods show a favorable area to drill the company will typically hire a contractor who specializes in exploration drilling.

More information on exploration drilling:



Before drilling can take place, the exploration company must notify the surface owner on state leased minerals. There are also state regulations in place throughout the exploration drilling process. In Minnesota, drilling is commonly done in the winter when the ground is frozen and the surface impact is limited. An exploration hole that is 1,000 feet deep can be completed in less than two weeks of drilling time. The site preparation, sealing of the boring, and site reclamation typically occurs over another two week time-period. After drilling is completed the drill cuttings are covered by local soil materials at the site. The environmental impacts are temporary. The rock recovered in the core is then described in detail and chemically assayed to measure the metal content in the rock. If signs of mineralization are favorable, further drilling will likely follow in order to more thoroughly evaluate the extent and grade of mineralization.

State regulations for exploration drilling >>

EXPLORATION REGULATION FOR STATE LEASES

Who regulates exploration activities on nonferrous metallic mineral leases?

Before exploration activity can occur on state nonferrous metallic mineral leases, the explorer which is a state mineral lessee must submit an exploration plan to the Minnesota Department of Natural Resources (DNR), which the DNR reviews and replies to. The DNR reply contains conditions and stipulations regarding historic/archaeological sites, natural heritage features (rare plants, animals, and other rare features), designated trout streams, and other special features. This is further described in Minnesota Rule, part 6125.0700 of the lease terms under the following paragraphs:

Minnesota Rule, part 6125.0700

- Conformity with state and federal laws and regulations - paragraph 23
- Surface owner notification - paragraph 25
- Exploration activities plan review - paragraph 26
- Lessee obligations for surface damage - paragraph 27
- The DNR notifies interested public within 5 business days of receiving an exploration plan.

For more information about Exploration Plans or to sign up to be notified when one is submitted please visit the [DNR's Exploration Plan webpage](#) >>

Who regulates exploration drilling for nonferrous metallic minerals?

The Minnesota Department of Health (MDH) and Minnesota Department Natural Resources (DNR) are both involved in regulations to protect the environment during exploration drilling on all lands, not just state. For example there are many rules in the Water Well Code that protect groundwater during exploratory boring. These regulations must be followed before a company can do exploratory borings on either public or private land in Minnesota:

- Register the exploration company with the DNR,
- Obtain an explorer's license from the MDH
- Notify both the DNR and the MDH at least 10 days prior to commencing an exploratory boring. The DNR conducts drill site inspection throughout the drilling activity to assure compliance with all relevant laws.
- On a state nonferrous metallic minerals lease the explorer must submit an exploration plan (described above) 20 days prior to the start of activities. The DNR reviews these plans prior to granting the right to proceed.
- Following completion of exploratory borings, the explorer must further comply with state law. They must submit a completed MDH report form that provides details on how the explorer sealed the boring. This ensures that the rules for sealing a borehole is followed.
- The explorer must also submit a portion of the drill core samples to the DNR upon lease termination. These samples become public property, and this helps to limit future

environmental impacts (or duplication of effort) by allowing others to view and analyze the drill core.

To put the exploratory drilling activity into perspective, we can compare the small number of exploration borings done to the large number of water wells and other wells drilled statewide. This comparison is based on the MDH data for a period of 11 years. There were 1,031 exploratory borings during the timeframe 2000 through 2010 compared to 128,637 domestic water supply wells and other wells. Thus, exploratory boring was a very small component of drilling in Minnesota, and represented less than one percent of the total drill holes in the state.