



# Minnesota Department of Natural Resources (DNR)

## Minerals Exploration Plan on State Nonferrous Metallic Minerals Leases

*Kennecott Exploration Company  
Exploration Plan Submitted on 01/25/2016 and  
Amended on 02/10/2016*

## DNR Summary Report and Associated Maps

An exploration plan was submitted by Kennecott Exploration Company (Kennecott) on January 25<sup>th</sup>, 2016 and summarized here by the DNR on February 1<sup>st</sup>, 2016. The locations of proposed exploration activities by this state nonferrous metallic minerals lessee are shown in a standard format and legend. This report and associated maps were created by the Minnesota DNR, Division of Lands and Minerals.

*This report is amended to extend the expected time period of activity. This is the only change to the original plan.*

This report and associated maps are posted on the DNR's exploration plan website at:  
[http://www.dnr.state.mn.us/lands\\_minerals/metallic\\_nf/regulations.html](http://www.dnr.state.mn.us/lands_minerals/metallic_nf/regulations.html)

*This summary report and associated maps should be distributed as a complete document due to the relative nature of the content.*

# Minerals Exploration Plan on State Nonferrous Metallic Mineral Leases

## Kennecott Exploration Company Exploration Plan Summarized by the Minnesota DNR

January 25<sup>th</sup>, 2016

**Narrative:** Kennecott Exploration Company (explorer) submitted an Exploration Plan on January 25, 2016 for exploration activities to be conducted on 27 state nonferrous metallic mineral leases in Aitkin and Carlton Counties near the city of Tamarack. The company proposes to conduct two ground-based geophysical surveys over its Tamarack Project. One is a gravity survey. This is a non-invasive measurement that uses a sensor the size of a large coffee pot. It is placed on the ground at 100 to 200 meter intervals for a few minutes to passively measure the earth's gravity field. The other is a magneto-telluric (MT) survey. The MT survey is also a non-invasive technique to measure changes in the earth's electrical and magnetic fields over time. Small recording units will be placed at stations approximately 400 meters apart (roughly one every 40 acres). No trees or brush will be removed for these surveys. The company will capture the locations of every geophysical station with a high accuracy GPS (Global Positioning System).

**State Minerals Lease Numbers:** MM-10007-N, MM-10008-N, MM-10203-N, MM-10346, MM-10009-N, MM-10010-N, MM-10349, MM-10003-N, MM-9765-P, MM-10002-N, MM-10315, MM-10004-N, MM-9766-P, MM-10005-N, MM-10318, MM-10006-N, MM-9768-P, MM-9767-P, MM-9769-P, MM-9770-P, MM-9772-P, MM-9809, MM-10126-N, MM-9808, MM-9807, MM-10202-N, and MM-9849-N.

**Types of exploration activity:** Ground-based geophysical surveys: gravity survey and magneto-telluric survey

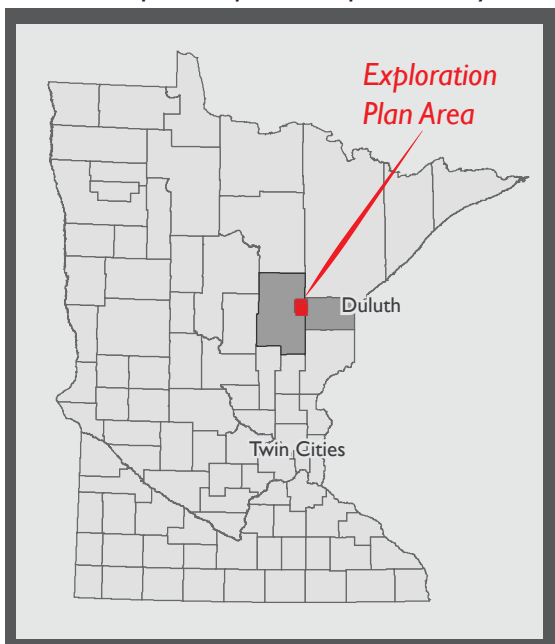
**Expected time period of activity:** February 15, 2016 - July 30, 2016 (Amended by Explorer on 02/10/2016)

**Plans to access exploration sites:** The explorer will use existing access trails.

**Surface Ownership:** The explorer has agreements or leases for the surface and mineral ownership on the parcels involved.

**Explorer contact:** John Storie, Kennecott Exploration Company, (218) 768-3292 or [john.storie@riotinto.com](mailto:john.storie@riotinto.com)

*Locator map for exploration plan activity*



### Exploration Plan Area

This small scale map displays the general location of the exploration plan relative to other cities in northern Minnesota. The following map provides more details on the locations of the geophysical survey, active state mineral leases, public land survey locations, cities, water bodies, special features, and excluded lands.

See page 3 for a detailed map






### Maps and Data Disclaimer

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# DNR Summary Overview Map of Exploration Plan Submitted by Kennecott Exploration on January 25, 2016

**Narrative:** Kennecott Exploration Company (explorer) submitted an Exploration Plan on January 25, 2016 for exploration activities to be conducted on 27 state nonferrous metallic mineral leases in Aitkin and Carlton Counties near the city of Tamarack. The company proposes to conduct two ground-based geophysical surveys, a gravity survey and a magneto-telluric (MT) survey over its Tamarack Project.

**Surface Ownership:** The explorer has agreements or leases for the surface and mineral ownership on the parcels involved.

-  General area of proposed geophysical surveys (Gravity and MT)
-  Active state nonferrous metallic minerals lease with proposed exploration activity in this plan.
-  Active state nonferrous metallic minerals leases with no proposed exploration activity in this plan.
-  The beds of significant rivers and water bodies in DNR's Public Waters Inventory are excluded from exploration activity
-  Public Water Access Sites are Special Features (outside exploration activity)

*Natural Heritage Features and Historic & Archaeologic Sites are not shown because they are non-public data.*

