



Minnesota Department of Natural Resources (DNR)

Minerals Exploration Plan on State Nonferrous Metallic Minerals Leases

*Kennecott Exploration Company
Exploration Plan Submitted on 03/31/2016*

DNR Summary Report and Associated Maps

An exploration plan was submitted by Kennecott Exploration Company (Kennecott) on March 31st, 2016 and summarized here by the DNR on April 7th, 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 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

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

Narrative: Kennecott Exploration Company (explorer) submitted an Exploration Plan on March 31, 2016 for exploration activities to be conducted on 40 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-10377-N, MM-10379-N, MM-10253-N, MM-10252-N, MM-10202-N, MM-10203-N, MM-10008-N, MM-10204-N, MM-10205-N, MM-9849-N, MM-10003-N, MM-10004-N, MM-9767-P, MM-9768-P, MM-10006-N, MM-10320, MM-10324, MM-9769-P, MM-9773-P, MM-9772-P, MM-10331, MM-9774-P, MM-10126-N, MM-9809, MM-9808, MM-9852-N, MM-9807, MM-9851-N, MM-9810, MM-9811, MM-9856-N, MM-9806, MM-9805, MM-9853-N, MM-9854-N, MM-9855-N, MM-10009-N, MM-10317, MLMB200003, and MM-10124-N

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

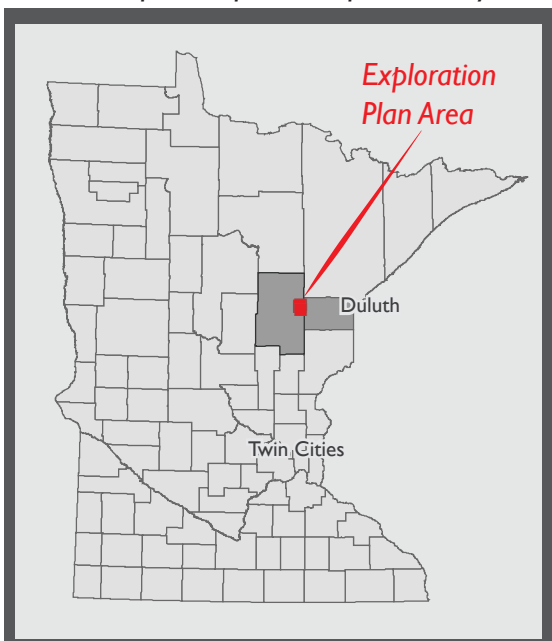
Expected time period of activity: April 17, 2016 - August 31, 2016

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

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

Explorer contact: John Storie, Kennecott Exploration Company, (218) 768-3292 or 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 March 31, 2016


Narrative: Kennecott Exploration Company (explorer) submitted an Exploration Plan on March 31, 2016 for exploration activities to be conducted on 40 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 ownership on the parcels involved.

 Proposed geophysical surveys (Gravity and MT) provided by Kennecott

The purpose of this map is to show proposed exploration activities on state mineral leases. The explorer has also shown activities on non-state lands.

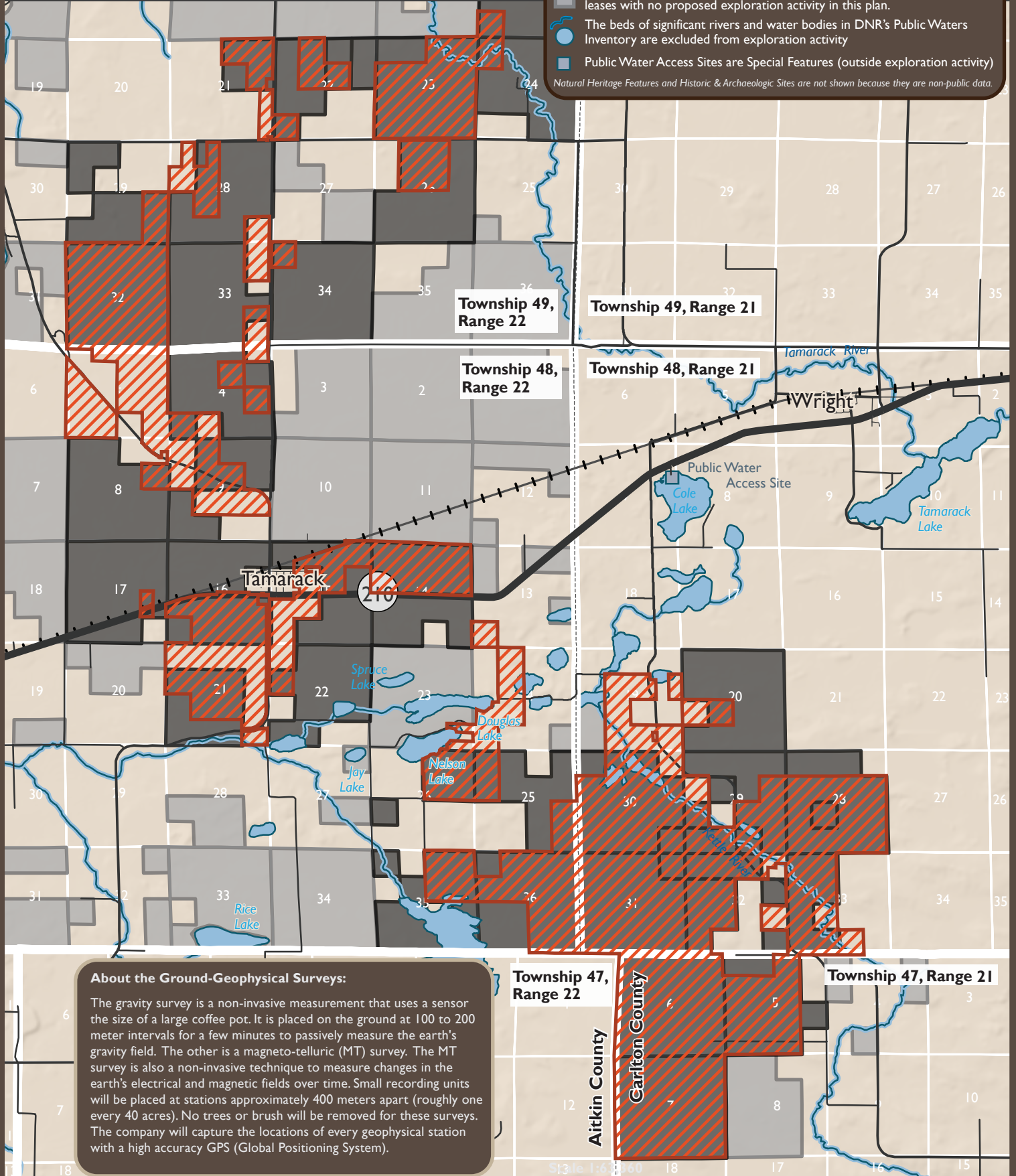
 Active state nonferrous metallic minerals lease with proposed exploration activity in this plan.

 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.



About the Ground-Geophysical Surveys:

The gravity survey 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).