

Private Exploration Activities Conducted in Minnesota for Calendar Year 2010

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OVERVIEW

Mineral exploration activity in Minnesota is at a historic high level, with thirteen companies exploring for metallic minerals in Minnesota. Twelve companies hold state metallic mineral exploration leases. Eleven companies are actively working in Minnesota, with ten working on state mineral leases-- which is an increase of three companies year -on-year. One company, Western Metals, is working exclusively on private leases. One additional company from Australia has been here evaluating leasing opportunities, but has no state mineral leases yet. DNR approved 18 exploration plans this year on state mineral leases. In addition, at least three companies conducted airborne geophysical surveys this year.

The activities included exploration or mineral development for at least four separate deposit types: gold, titanium, copper +nickel + precious metals, and iron [on the technicality of drilling outside KeeTac's permit- to- mine]. The exploration activities span the range from grass roots exploration in the search for a new deposit in areas not searched before to delineation drilling to refine the mine planning and economic evaluation of a future mine proposal. We present the public information about drilling as a proxy measure for the level of exploration activity. A gross estimate of the private investment in metallic mineral exploration in Minnesota during 2010 is \$20 million, based upon the 3 airborne geophysical surveys and 211 drill holes completed [with a general rule of thumb of an investment of \$100,000 per drill hole]. Private investment in exploration clearly has recovered to the pre-recession level (see bar graph).

SUMMARY DESCRIPTION BY COMPANY

- PolyMet was busy with an EIS for a copper+nickel+precious metals deposit at NorthMet. PolyMet drilled 66 holes in the proposed pit area, and continues to work on the acquisition of surface rights.
- Duluth Metals completed another NI 43-101 report that defines the mineral reserves at their Nokomis deposit. Antofagasta has bought into the Nokomis ownership and a new company called Twin Metals Minnesota has been created. Drilling continued within the Nokomis Deposit with 50 more holes to refine the reserve estimate.
- Duluth Metals continues to operate as a separate entity from Twin Metals MN, and has begun the search for new deposits away from the Nokomis deposit.
- Franconia completed another NI 43-101 report that expands the reserves at the Birch Lake Deposit. The combination of 11 more drill holes and higher metal prices led to an expansion of the deposit area, and the tonnage to be increased. Duluth Metals and Antofagasta have made a proposal to buy out Franconia's Birch Lake, Maturi, and Spruce Road deposits for ~\$77 million.
- Kennecott completed 21 more drill holes in the intrusives that host the Tamarack deposit. More geophysical surveys were done.
- Teck worked on a large assay program on existing Mesaba Deposit drill core from the DNR Core Library.

- Vermilion Gold LLC is exploring 3 gold prospects and completed 5 drill holes at the Virginia Horn and 5 more in northern Itasca County.
- Minerals Processing Corporation completed geophysical surveys and 11 drill holes at several sites in Aitkin and Carlton Counties.
- HTX completed an airborne geophysical survey late in the year in the Carlton-Aitkin county border area.
- US Steel drilled 6 holes outside their permit to mine area near Keetac, which requires that they follow the Exploratory Boring rules.
- Western Metals has drilled 5 holes on private leases in Renville and Lyon Counties in the search for copper+nickel+ precious metals. We do not yet have this drilling data, so it is not listed in Table 1 below. They have plans to resume drilling in January to complete 3 more drill holes.

Table 1. Summary for calendar year 2010 of mineral exploration drilling activity that was governed by the Minnesota Exploratory Boring Law.

Company	# Drill Holes	Feet of Rock Core	Prospect Type	Comment
Cardero Iron	36	34,337	Iron + Titanium	Various sites in Eastern St Louis County
Duluth Metals*	50	198,352	Base metals	Nokomis Site, Lake County
Franconia	11	28,914	Base metals	Birch Lake Site, St. Louis Co.
Kennecott	21	22,576	Base metals	Tamarack site, Aitkin Co. plus 1 hole in Carlton Co.
Mineral Processing Corp	11	8,821	Base metals	Several sites in Aitkin & Carlton Counties
PolyMet	66	19,390	Base metals	NorthMet Site, St. Louis Co.
US Steel	6	1,916	Iron	KeeTac site, Itasca Co.
Vermilion Gold	5	1,940	Gold	Itasca Co
	5	2,340	Gold	Near Virginia, St Louis Co.
Western Metals**	Unavailable	No data	Base metals	Sites in Lyon and Renville Counties
Totals	211	318,586		

*Changed to a new entity called Twin Metals Minnesota at the Nokomis deposit late in 2010, but continues to operate separately as Duluth Metals on lands away from the Nokomis deposit.

**Western Metals began a drilling program in December 2010, plans to resume drilling in January and has not yet submitted the drill hole data.