

# Vermilion Gold District

## MN DNR Glacial Till Gold Grain Counts: New Results

miles

0

1

2

3

Minnesota

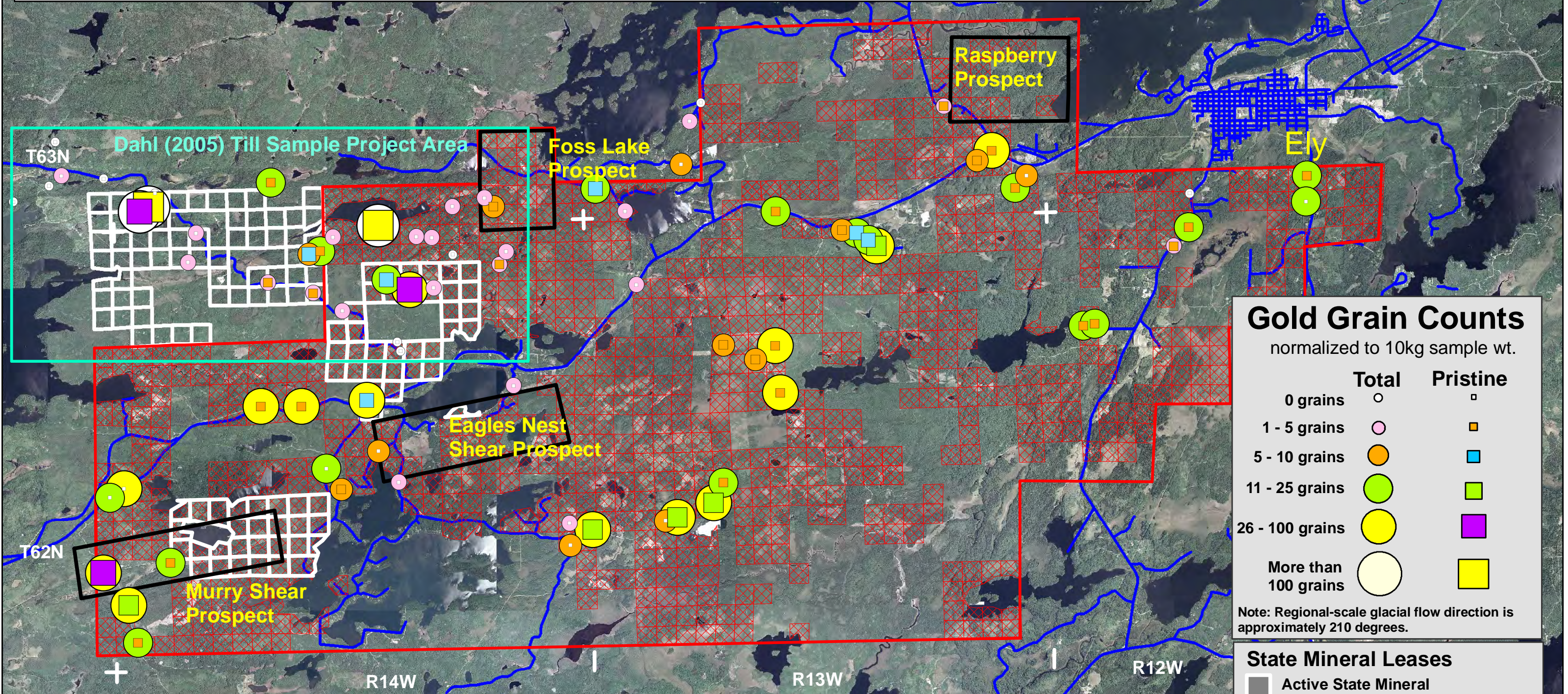
Department of Natural Resources

Created:

28 May 2009

Scale:

1: 100,000



### Gold Grain Counts

normalized to 10kg sample wt.

	Total	Pristine
0 grains	○	□
1 - 5 grains	●	■
5 - 10 grains	●	■
11 - 25 grains	●	■
26 - 100 grains	●	■
More than 100 grains	●	■

Note: Regional-scale glacial flow direction is approximately 210 degrees.

### State Mineral Leases

- Active State Mineral Lease
- Area of 2009 State Mineral Lease Offering

Forty-eight glacial till samples were collected during July 2008, in an area underlain by greenstone belts of the Vermilion District, Northeastern Minnesota. The samples were analyzed for gold grain counts and wear classification by a contract laboratory, Overburden Drilling Management. This project builds on the work of Dahl (2005) who documented the presence of both gold grains and pathfinder elements in thirty-two samples collected within a smaller portion of the Vermilion District. Some of these samples had anomalously high gold and HMC concentrations, when compared against background. The current project builds on a regional geochemical survey of B-level till samples (Larson, 2004), and complements a petrologic and geochemical reevaluation of archived drill core from the area (Frey and Hanson, 2008), and confirms the conclusion that till sample gold grain counts are a useful mineral exploration tool in this area.

### References

Frey, B., and Hanson, A., 2008, Drill Core Evaluation of Vermilion Greenstone Belt Gold Mineralization, Northeastern Minnesota. Project 373; Minnesota Department of Natural Resources, Lands and Minerals Division, 62p.

Dahl, D.A., 2005, Results of glacial till sampling in the Vermilion greenstone belt, northeastern Minnesota. Project 365; Minnesota Department of Natural Resources, Lands and Minerals Division, 79p.

Larson, P.C., 2004, Regional Till Sampling of the Western Vermilion Greenstone Belt, Minnesota. Natural Resources Research Institute, University of Minnesota – Duluth, Technical Report NRRI/TR-2004/23, 33p., 1 plate.

Historical gold prospect, identified by previous private mineral exploration. (Records and drill core available for review at DNR)