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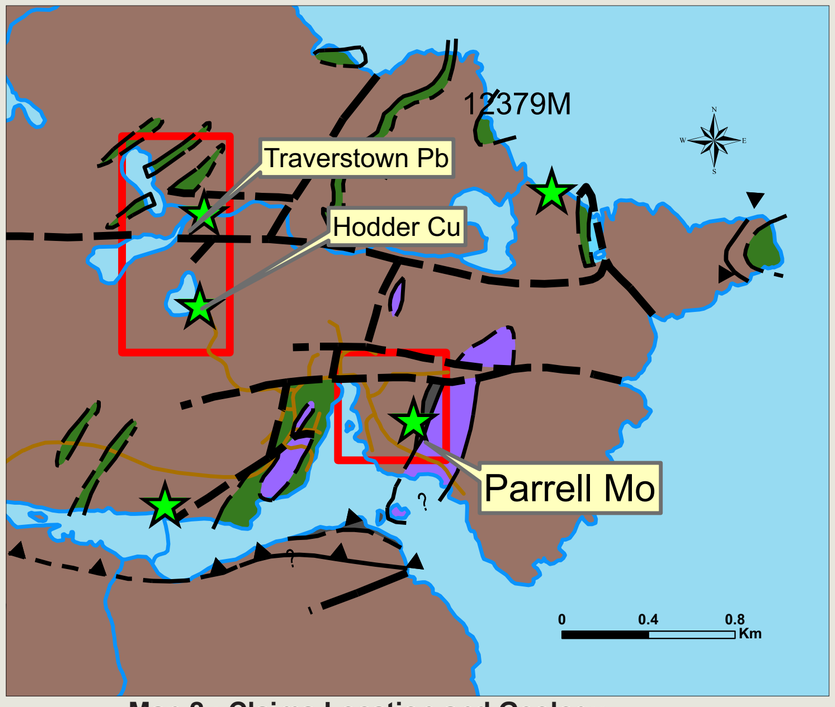
MATTY MITCHELL PROSPECTORS RESOURCE ROOM

Fleur de Lys - Mo-Ni



Map 2 : Claims Location and Geology

Crisby-Whittle, L. V. J. (compiler): 2012: Bedrock geology dataset for the Island of Newfoundland. Newfoundland and Labrador Department of Natural Resources, Geological Survey, Open File NFLD/2616 version 7.0.
Mineral Occurrence Source: Mineral Occurrence Database - Geological Survey, Department of Natural Resources Website: http://www.gov.nl.ca/mines&en/geosurvey

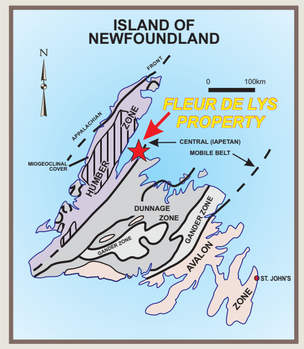
LEGEND

LATE CAMBRIAN TO EARLY ORDOVICIAN
- Serpentized ultramafics

NEOPROTEROZOIC TO EARLY ORDOVICIAN

FLEUR DE LYS SUPERGROUP
RATTLING BROOK GROUP
- Amphibolite / greenschist
- Graphitic schist
- Marble / calcareous pelite
- Schist
- Mineral Occurrences
- Vendor's Claims

The Fleur-de-Lys Mo Property is located on the northern tip of the Baie Verte Peninsula, north-central Newfoundland (NTS 12I/1). The property straddles Route 410 to the community of Fleur-de-Lys (Map 1).



Map 1. Property Location Map

Regional Geology

The area is predominantly within the Humber Zone of the Newfoundland Appalachians; however, thrust slices of ultramafic rock of the Dunnage Zone are also present.

Local Geology

The property is underlain principally by pelitic to psammitic schists of the Neoproterozoic to Early Ordovician Rattling Brook Group (Fleur-de-Lys Supergroup, Hibbard, 1983) (Map 2). Cambrian to Ordovician aged, serpentinized ultramafic rock of the Birchy Complex occurs in the south central part of the property and represents tectonically emplaced elements of the Dunnage Zone.

Mineralization

The area of the molybdenum prospect is a structurally complex zone striking north-south, bounded in the west by a band of gneiss and to the east by a serpentine mass. Two types of molybdenum bearing veins are present at the Parrell prospect: 1) actinolite/dolomite and 2) feldspar/quartz, both postdate regional metamorphism (Hibbard,1983). The main shaft on the Parrell molybdenum prospect is in the area of the gossan outcrop on the main road in Fleur-de-Lys, and has been backfilled (Wilton, 2007). In the outcrop on the main road, there are three distinct units: 1) upper gossanous, sulfide-bearing cap, approximately 8 m in height and > 50 m in outcrop width. Here, fresh surfaces are black in colour with disseminated pyrite, pyrrhotite, chalcopyrite and possibly pentlandite; 2) a 2 m wide layer which has the appearance of rusted clay with mica; 3) base layer containing fuchsite, actinolite and dolomite, with small lenses of white to gray dolomite/magnesite with finely disseminated sulfides, generally <1 mm in size, but occasionally exceeding 3 cm. In this unit there are large crystals of green actinolite and white to gray mica > 2 cm in size. On the west side of the main road outcrop, glassy quartz with a sulfur staining on the surface (sample 5), occurs at the contact with the underlying gneiss and overlying ultramafic containing biotite, **chalcopyrite and pyrrhotite.** The sulfide mineralization is present as disseminations and between the foliated layers. The ore grade has been outlined as: **10.6% MoS2 from dump samples, 3.0% over a 46 inch intercept** across lode, with an average grade in 12 foot long drift of **1.5% MoS2 over 74 inches** (Hatch, 1924). From polished section analysis, Fuller gives 2 periods of mineral deposition: 1) Pyrrhotite, galena, cubanite and pentlandite, followed by fracturing; 2) Dolomite carrying molybdenite and chalcopyrite filling fractures. Thus, there are 2 distinct and unrelated ore forming periods, the former may have been related to the ultramafic intrusion, the latter the acid volcanics related to the Partridge Point Granite (Fuller, 1941). A sample of magnesite or dolomite, approximately 20 cm across, with crystals often exceeding 1 cm, has been found in contact with a quartz/biotite sulfide outcrop north of the road to Calvary hill, this sample contains a number of 1 to 2 cm diameter greenish/brown muscovite/fuchsite crystals. The main gossan outcrop in this area contains sulfides, but the fine-grained nature and the abundance of mica make it difficult to fully identify the minerals present, though pyrite/pyrrhotite and sphalerite are the most likely. Also, on the path leading from the museum, directly east of the cemetery, loose talus contains 0.5% disseminated sulfides in a green talc-rich host. In addition, molybdenite is said to occur in a quartz vein cutting the starboard gneiss north west of Calvary Hill (Fuller, 1941), and may correspond to the IP anomaly in the area (Lambert,1997).
From an IP survey conducted by Noveder, the area directly south of Bishie pond has been given a high probability of hosting a semi-massive to massive sulfide occurrence due to “exhibiting well-marked coincident resistivity lows” at depths of less than 15 m below the surface. (Lambert,1997).
Up to **0.4% Ni** has also been reported from a gossan zone (Plate 1) on Route 410; this zone is probably part of the Birchy Complex.

Highlights:
Historic Parrell Mo Prospect
10.6% MoS2 from dump samples, 3.0% over a 46 inch intercept
IP survey indicates semi-massive to massive occurrence at approx 15 m
Up to 0.4% Ni from gossan on roadcut; ophiolitic host

Plate 1. Gossan zone in roadcut with 0.4% Ni

Mineralization Model

Kennedy (1971) linked the Fleur De Lys area to a similar tectonic environment in the Gaspe area of Quebec, where a Devonian granite hosts Cu-Mo deposits. In addition, Ag-Pb-Zn vein-type mineralization along faults, such as the adjacent Traverstown prospect, may be the distal expression of porphyry Mo deposits (Sidex, 2007). Hibbard states that the Duck town mine of Tennessee has indistinguishable host rock as that of the Fleur De Lys area. The Duck town deposits are of the besshi-type massive sulfide deposits.(Hibbard,1983).

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October, 2017