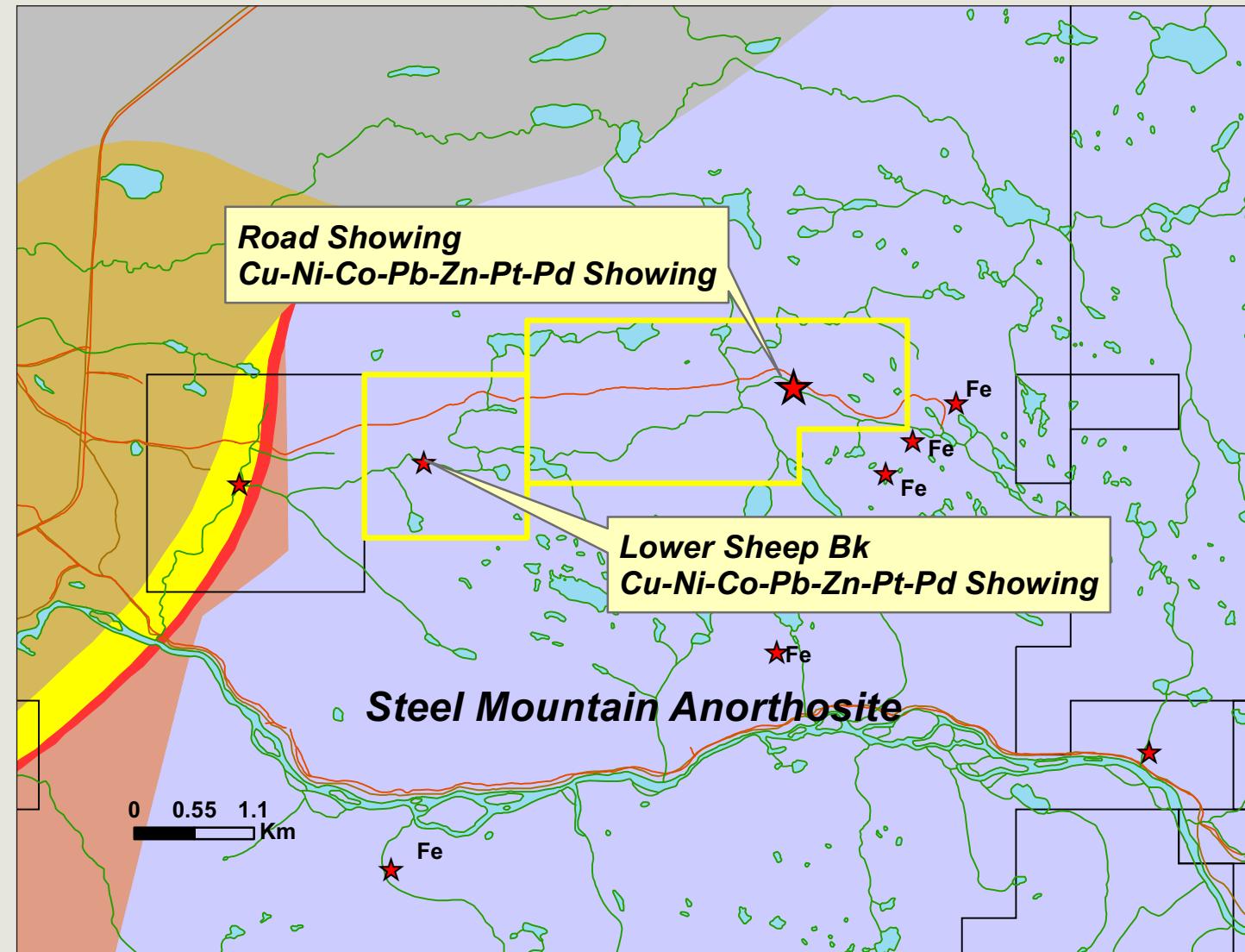


# NEWFOUNDLAND & LABRADOR

## Prospect • Discover • Develop



# Little Sheep Brook Cu-Co-Ni-Zn-Pt-Pd



Map 2: Claims Location, Geology, Mineralization

Geology Source:  
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.

### Highlights:

- Two Historic Pt-Pd-Cu-Co-Pb-Zn-Ni occurrences
- Altered rock grabs up to 7 g/t combined Pt/Pd and
- 17.7% Cu, 0.15% Co, 1.88% Ni, 2.88% Pb, 2.58% Zn
- Deposit Model: Magmatic Sulphide

5ppb) and Pd (up to 117ppb) adjacent to the mineralized zone (Dunsworth, 2004). Anomalous Pt, Pd and base metal values were obtained from grab and stream samples collected from other outcrops along the road and in the stream north from the showing (Muise, pers. comm. to Dunsworth, 2007).

### Mineralization Model

The Steel Mountain Complex, a large Precambrian mafic intrusive with magnetite pods and associated magmatic sulphides, pervasive low grade alteration, cross-cutting ductile shear zones with associated alteration, and known PGM-sulphide mineralization compares favourably with the geological environment of many known magmatic sulphide deposits associated with mafic intrusions and deep crustal structures. This geological setting combined with the presence of the Lower Sheep Brook and Road Showing PGM-Ni-Cu-Pb-Zn mineralization and near-by Au-bearing quartz veins are all indicative of the substantial mineral potential of the Steel Mountain Complex (Dunsworth, 2009).



Map 1. Property Location Map

The **Little Sheep Brook Property** is located approximately 11 km west of St. George's, western Newfoundland (NTS map sheet 12B/08, Maps 1 and 2). The property is accessed from a gravel road off the Trans Canada Highway, 2.5 km to the west.

### Regional Geology

The region is dominated by the Early to Mid-Proterozoic Steel Mountain Complex (SMC), which forms part of the Precambrian Grenvillian basement to the Humber Zone of western Newfoundland (Pilgrim & Regular, 1998).

### Local Geology

The Little Sheep Brook Property is underlain by the Steel Mountain Anorthosite, a strongly altered, variably deformed and recrystallized anorthosite, gabbroic anorthosite, norite and quartz-diorite-tonalite with lenses of titaniferous magnetite (Collins & Wilton, 2005). Brittle faulting and narrow ductile shearing was noted throughout the SMC (Bradley, 1995). Approximately 9 km to the east, the SMC lies in tectonic contact with Grenvillian basement gneiss. The eastern margin of the gneiss defines the Cabot or Long Range Fault, a major regional structure that forms the boundary between the Humber and Dunnage tectono-stratigraphic zones (Williams, 1979),

### Mineralization

There are 2 historic mineral occurrences on the property - the **Lower Sheep Brook Cu-Ni-Co-Pb-Zn-Pt-Pd and the Road Pt-Pd-Ni-Cu-Zn showings**. Much of the following description was taken from Marathon PGM's report (Dunsworth, 2009). Between 1999 and 2006,

exploration work was limited to minor prospecting, grab and soil sampling focused on two main areas; (a) the Lower Sheep Brook (LSB) showing, and (b) the Road Showing (RS). Grab samples from LSB returned assays of up to **1.48g/t Pt, 1.08g/t Pd, 1.17% Ni and 0.10% Co**. The **LSB Showing**, best exposed in the Sheep Brook stream bed, consists of two thin (5 - 8 cm wide by 1 - 1.5 m) long lenses of massive sulphide (po-py-cpy-sph) bounded by

strongly sheared anorthosite and leucogabbronorite (Collins, 2005). Altered and sheared mafic dikes also outcrop in the stream bed. Four short (up to 1.8m long) core samples were drilled into the Sheep Brook lens. Combined samples from one hole yielded **709 ppb Pt + Pd, 0.3% Cu, .03% Co and up to 2.7% Ni over 95 cm**. Grab samples collected by Marathon in 2007 from the LSB showing returned assays of up to **2.72 g/t Pt, 4.3 g/t Pd, 17.7% Cu, 0.15% Co, 1.88% Ni, 2.88% Pb and 2.58% Zn**.

The **Road Showing**, located 3.5km to the east of the Little Sheep Brook Showing, consists of a 40 cm wide zone of massive pyrrhotite, pyrite and minor chalcopyrite and sphalerite hosted by altered, deformed anorthosite. Grab samples were reported by Hull & Muise (2005) to have yielded up to **1.78 g/t Pt, 1.19 g/t Pd, 1.10% Ni, 0.63% Cu, 0.11% Co, 1.19% Zn**. A localized orientation soil survey carried out over the mineralized RS exposure showed elevated Pt (up to

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