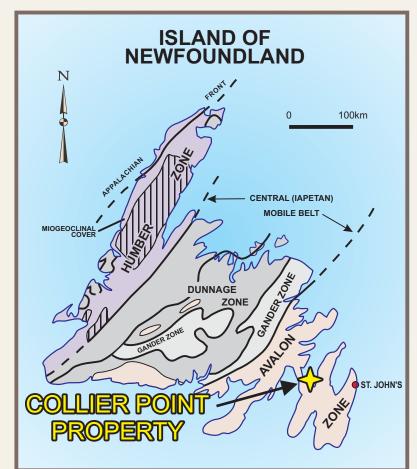
NEWFOUNDLAND & LABRADOR

Explore The Opportunities

Collier Point Barite



Map 1. Property Location Map

The *Collier Point Property* consists of 6 claims (Lic. #'s 15683M and 11964M) situated 1 km south of Collier Point, on the south shore of Collier Bay, Trinity Bay, Eastern Newfoundland. The property is adjacent to the community of Normans Cove / Long Cove and accessible by a 2.5 km gravel road from route 201 (NTS 1N/02) (Maps 1 and 2).

Regional Geology

The area lies within the Avalon Tectonostratigraphic Zone of the Newfoundland Appalachians and is underlain by the Late Proterozoic Musgravetown Group, a mixed assemblage of mafic and felsic intrusive and extrusive rocks and pyroclastic, clastic and terrestrial red to green sedimentary rocks.

Local Geology

Much of the property is underlain by olive-green arkose of the Hearts Desire Formation, locally folded into a northeast-trending asymetric anticline, and hosting the Past-Producing Collier Point Barite Mine. The southeastern part of the property is underlain by rocks of the Crown Hill Formation, comprising red pebble conglomerate and sandstone; locally red siltstone at the base and minor green conglomerate.

Mineralization

The Collier Point barite occurrence was first noted around 1905 and has had three periods of limited production from the coastal exposure of the vein inland for 50 m by open cut, and from very shallow (5 to 8 m) trenches. The property hosts two near-parallel barite veins separated by 200 m (Figure 3) and a separate barite occurrence, the Long Cove Showing, 1000 m to the east. The main barite vein has been traced along the surface of the ridge for approximately 700 m, with the first 50 to 75 m having been mined via a large open cut. The vein pinches and swells both along strike and down dip, varies in thickness from $0.30 \, \text{m}$ to $>4 \, \text{m}$ and varies in dip from 70° west to vertical. The second vein has been traced for $>125 \, \text{m}$, is narrower at surface and has a similar mineralogical composition to the main vein . Mineralization of the main Collier Point Barite Vein varies from massive at the centre to zones of brecciation, with alteration of the arkose host rock on its outer margins. The alteration zone consists of gray-green arkose that has been altered to a yellow-brown friable material, reflecting the loss of matrix cement, and is from $0.5 \, \text{to} \, 2 \, \text{m}$ in width, though locally absent. The characteristics of the vein mineralization were described by Hutchings (1982):

- 1.) No visible disseminations of barite in the host rock;
- 2.) No replacement or inclusions at wall rock contacts;
- 3.) Banding, parallel to vein strike, often symmetrically developed;
- 4.) Comb structure indicating growth inward from the vein walls;
- 5.) Crystal size at contacts is usually fine, becoming coarse towards the vein center, forming bladed crystals;
- 6.) Cockade structures are sometimes developed around breccia fragments;
- 7.) Small vugs and cavities occur;

The ore from the Collier Point barite deposit has an average measured specific gravity of 4.3, with an average grade of 93% BaSO4. Due to the pure nature of the ore deposit, the rigid nature of the wall rock, little to no impurities in the deposit, and the high specific gravity of the barite, only simple mechanical separation techniques would be required to process the ore

ore. It has been noted by drilling fluid suppliers that there is in excess of 20,000 tonnes of barite

demanded annually for the Grand Banks oil drilling (North Sea oil fields demand 200,000 tonnes annually). Currently this barite is imported from Morocco, India, and China, much of which often does not meet the requirements for drilling fluids. The high specific gravity of the Collier Point Barite ore exceeds the requirements set out by API 13 standards for drilling fluid (4.3 vs 4.1); significant production from other mines needs a higher S.G. source to blend with the

lower quality ore to meet the requirements for drilling fluids. Recently the price of barite has doubled as output from China has been cut by 25% (or roughly 1/8 of the worlds supply). The property is considered a brownfield site with potentially less time to enter production.

The barite veins are considered to have been emplaced as part of a regional-scale hydrothermal plumbing system which may have developed contemporaneously with a fault transecting the anticline at Collier Point. Given this mode of formation, it is highly likely the veins will continue vertically for considerable depth (Wilton, 1997).

Collier Point Barite Mine Long Cove Barite Collier Point Barite Mine Collier Bari

Trinity Bay

Map 2. Geology Map

Highlights

- Past producer
- Average grade 93% BaSO4
- Drilling restricted to shallow holes near coast
- **Open along strike and at depth**
- Good potential for further new vein discovery
- *P***Brownfield site**
- Exceeds API 13 standards for drilling fluid (4.3 vs 4.1)

Map 3
Sample and Trenching
Location Map

NTS 1N/12, UTM grid, Zone 22, NAD 27
One grid square equals 1 km square

Barite Occurrence
Barite Vein, plan view
1 Main barite vein
2 Secondary barite vein

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