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Map 2: Claims Location and Geology

containing shear-zone hosted mesothermal-style gold mineralization in the Avalon Zone, Burin Peninsula, Newfoundland, , Department of Mines and Energy, Report 01-1, pages 229-246.



The *Kelstone Property* consists of 8 claims on the SE coast of the Burin Peninsula (1M/3) (Map 1, Figure 1); the main showing is 2 km N of Marystown (Maps 2 and 3). Access is via the Garnish road which runs adjacent to the prospect. Marystown is well known for its shipyard facility and is a major supply centre for the area.

Regional Geology

Rocks of this region are part of the Avalon Tectonostratigraphic Zone and comprise the Burin, Marystown, Musgravetown, and Inlet groups. The Late Neoproterozoic (590 Ma) Marystown Group consists of an extensive volcanic succession of basaltic and felsic flows, ignimbrites, pyroclastic and sedimentary rocks which extend over the whole of the Burin Peninsula. SE of the property (Map 3), the Marystown Group is thrust over Cambrian to Ordovician shale, slate, quartzite and sandstone of the Inlet Group. All four groups are intruded by high level, Late Devonian Map 1: Property granite. Several major faults cross the area, the main being the NE-SW trending Duricle Cove Fault.

Property Geology and Mineralization

Highlights: Property geology consists of interlayered basalt, andesite, rhyodacite and rhyolite **One historic Cu-Zn-Au occurrence** of the Marystown group. Large areas of late Devonian granite and porphyry occur **Extensive area of alteration** approx. 10 km to the SW of the property. Basalts which underlie much of the area **Mineralization=chalcocite-bornite-hematite-sphalerite** are variably epidotized and hematized. Intermediate to felsic units at the Kelstone Grabs up to 5.05 g/tAu, .41% Cu, .74% Pb, 4.8% Zn prospect are sericitized and silicified and contain disseminated pyrite, locally up to Drill intersections to 7.54 g/t Au over 1 m 30 %. Some exposures close to the prospect contain abundant malachite staining Potential for economic Au and base metals deposits and locally rhyolitic units host chalcocite and bornite. Much of the rhyolite in References: 2001: O'Driscoll, C.F., Dean, M.T., Wilton, D.H.C., And exposure and in drill core is characterized by brittle fracturing. Fractures in felsic rocks contain carbonate + hematite and quartz and locally chalcocite, bornite and specular hematite. Pervasive hematite alteration occurs on surface exposures of basalt /andesite. Hydrothermally altered rocks occur over an area of at least 350 m by 350 m at the Kelstone prospect; extensive areas of till preclude definition of the exact

extent of the mineralization and alteration. Pyritic rocks in the central part of the prospect have slightly elevated gold values (up to 100 ppb Au) and anomalous As. The hematized mafic rocks contain the highest gold values on the property (5.055 g/t Au) and are enriched in Cu (4148 ppm), Ag (17 g/t) and As (447 ppm) (grab samples). Fine grained, hydrothermal breccias 150 m to the south of the prospect, exhibit extensive malachite staining and contain up to 0.31 % Cu and 564 ppm Zn. Native Cu and chalcocite also occur in the immediate area in sheared and altered rhyolitic to intermediate tuffs. Ca. 150 m north of the prospect, soil samples from an area of altered rocks assayed up to 0.74 % Pb and 730 ppm Zn. During recent prospecting in 2008, 4 grab samples approx 1 m apart were taken at the main Kelstone Showing (Map 3). These samples returned assays of **4.8% Zn and 8.22** g/tAg., 1.12% Zn, 1.22% Zn and 2.5% Zn.

Mineralization Model

The late Neoproterozoic succession of the Burin is host to one of the largest and least explored metamorphosed auriferous systems in Canada. Regional government mapping and exploration activity have indicated a regionally extensive geological environment favourable for mesothermal and epithermal gold systems (Map 2). The Kelstone Prospect represents one of the single largest auriferous alteration zones on the Burin. Numerous reports have highlighted the similarities between Burin geology and the geology of the Hope Brook gold mine area and, in a more regional sense, with the Carolina Slate gold belt.



Kelstone - Au-Zn-Cu



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