From the Mineral Inventory Files

The Cowan Mill Pond Tungsten Occurrences

The late 1970s to early 1980s saw a period of intense mineral exploration for deposits of tin (Sn) and related elements in the granites of southern Nova Scotia. Most of this search focused on the mammoth South Mountain Batholith because that's where the early discoveries were made and that's where the most interesting deposit, the East Kemptville Sn-W-Cu-Ag deposit, was found (see *Nova Scotia Minerals Update*, v. 29, no. 4). With time, however, the explorationists slowly wended their way east and started to explore the granite plutons of the Eastern Shore. The Musquodoboit Batholith (Fig. 1), Nova Scotia's second largest granitic batholith, soon started to have its turn and very quickly interesting things started to turn up.

In 1983 Billiton made a discovery of endo- and exo-contact greisen and greisen-bordered quartz veins containing impressive amounts of wolframite and scheelite, and lesser amounts of molybdenite, chalcopyrite, sphalerite and galena in the area of Cowan Mill Pond just east of Lake Charlotte (Fig. 1). The veins and greisens were associated with small intrusions of quartz-feldspar, cordierite porphyry and fine- to medium-grained, muscovite-biotite leucomonzogranite. These interesting, volatile-rich, late stage intrusions were emplaced at, or very near, the contact of the coarse-grained biotite monzogranite that constitutes much of the Musquodoboit Batholith with the enclosing Cambro-Ordovician metasediments of the Meguma Group. Billiton mapped the area and drilled six holes in 1983, and Falconbridge drilled another four holes in 1987. Fairly good results were obtained in both projects. Intersections were in the order of 1.09% WO_3 over 0.5 m and 0.3% Cu over 1 m, and the degree and extent of pervasive hydrothermal alteration was widespread. The hypothetical model included as an inset on Figure 1 summarizes the main features observed on the property and

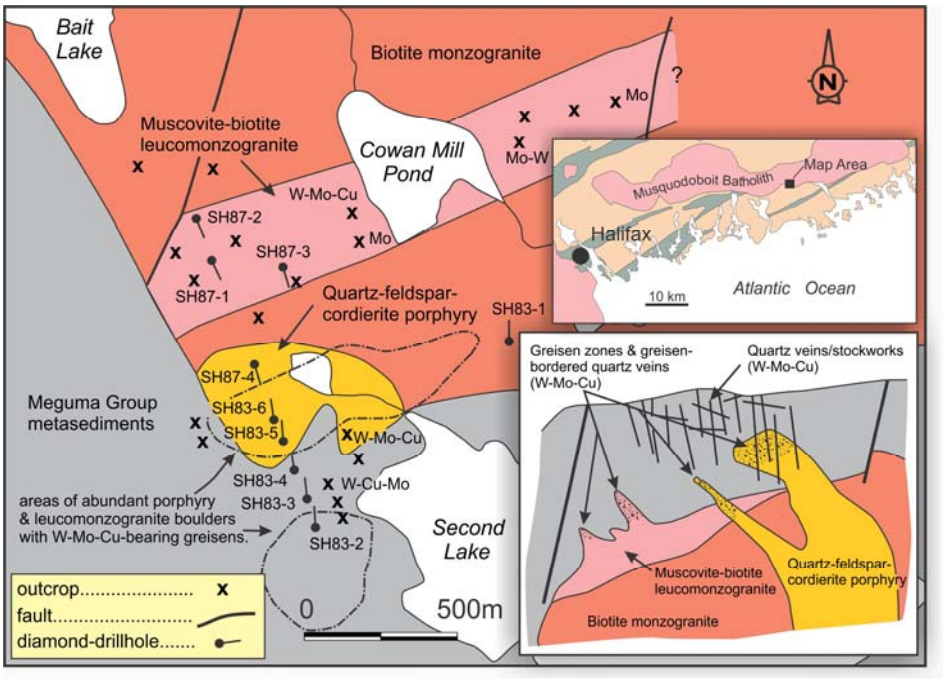

Figure 1. *Tungsten (W) occurrences of the Cowan Mill Pond and Second Lake areas near Lake Charlotte, Halifax County. Inset (lower right) is a hypothetical cross-section summarizing the main features of the mineralization styles observed in the area (modified after Corey, M. C. 1993: Polymetallic W-Mo mineralization and associated alteration in the eastern Musquodoboit Batholith;* in *Mines and Minerals Branch Report of Activities 1992; NSDNR, Report 1993-1, p. 31-44).*

indicates that the area represents a typical highly evolved cupola developed in the endo-contact zone of a peraluminous granite batholith.

Even though the property shows lots of promise, why has it not seen the exploration attention it seems to deserve? There are a couple of main reasons. The property showed potential for W, but there was not much Sn. In those days people were looking for Sn deposits and had little interest in W. The lack of Sn there was thought to be peculiar, but this aspect was never fully examined. Are tin-rich zones present but not yet found? Just how much W is there? Neither of these questions has been answered. In 1983 when the property was discovered and being explored, the Sn exploration boom was already in its waning stages and by 1985, when the Sn price plummeted and the global Sn cartel collapsed, the exploration industry simply lost interest. Likewise, in the early 1980s the price of W dropped to $2.50/lb. (US$), remained low for many years, and had a dismal long-term outlook.

We are now in a different era. Since the late 1990s the price of tungsten has been on the rise, and since 2005 it has been in the $15-$20/lb. (US$) range. Furthermore, the future outlook for the metal is strong. Global reserves of W are dropping, and China, which exports 70% of the world's W, is requiring more and more for its own internal demand. It is clear that W is being added to the list of strategic metals that the free world needs secure access to. As a result people are looking and the Cowan Mill Pond area deserves a peek.

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