# From the Mineral Inventory Files

## The Jordan Falls Be-Mo Pegmatite

A quartz dyke containing beryl and molybdenite occurs about 700 m east of the Lake John Road in Shelburne County, about 5 km north of Highway 103 (Fig. 1). From the bridge over Lead Mine Brook, follow the brook northeast for about 700 m and you will encounter some water-filled trenches adjacent to a 90 m long trench. The trench exposes a quartz dyke intruding biotite-garnet-andalusite metasiltstone and metawacke of the Cambro-Ordovician Halifax Group. There is also a smaller mineralized pegmatite dyke exposed in an outcrop along the south bank of Lead Mine Brook, about 100 m west of Lake John Road.

The Jordan Falls dyke was first discovered in 1890, but until the mid-1950s interest was only directed at its molybdenite content by way of trenching and blasting. In 1957 attention shifted to the Be potential when A. E. Cameron of the provincial Department of Mines analyzed several samples that returned in the order of 5.5-9.5% BeO. Over the following three years the trench was extended to 90 m length and surveyed with a berylometer, which indicated an overall grade of 0.18% BeO. In 1961 Talisman Mines Limited acquired the property and carried out a program of mapping, geophysics, and drilling of 11 holes totalling 569 m. This work defined the main dyke as being 90 m long and extending to 130 m depth, but it appeared to be pinching out. The company also encountered numerous parallel, but thin, beryl-bearing quartz veins. In 1992 M. C. Corey of the provincial Department of Natural Resources drilled four diamond-drill holes on the property to evaluate the rare-element potential of pegmatites in southwest Nova Scotia. All four holes intersected beryl- and molybdenite-bearing quartz dykes and veins, but their distribution was sporadic. Two of the holes also intersected a 4 m wide, texturally variable and muscovite-rich leucogranite dyke that carries disseminated pyrite, chalcopyrite, and molybdenite. The leucogranite, as well as all the quartz intrusions, have a well developed, bleached alteration halo that contains significant black tourmaline.

The main quartz dyke consists predominantly of a mix of massive white and translucent quartz. The translucent portions display an obvious layering that, in thin section, has been proven to be minute shear bands. Muscovite-rich greisen "selvages" with abundant tourmaline occur as patches along portions of the dyke-wallrock contact (Fig. 1). Beryl in the dyke usually occurs as white opaque to translucent pale green, anhedral to subhedral crystals generally <3 cm long. There are also reported to be some beryl-rich masses consisting of a mix of fine-grained, anhedral, translucent beryl and a feathery white variety of albite called cleavelandite. Molybdenite occurs as small subhedral flakes in the massive quartz, but most commonly as disseminations in the greisen selvages.

By strict definition the Jordan Falls dyke is not a pegmatite and, as some examiners have noted, may be more fittingly termed a quartz-greisen. Its dyke-like form and mineral assemblage, however, are more typical of rare-element pegmatites, and the fact that the southwest region of the province has numerous rare-element pegmatite intrusions has led most to call it a pegmatite. For many years the Jordan Falls dyke was considered to be something of an orphan because it didn't appear to have a nearby parent granite pluton. The pattern of magnetic anomalies present over the Jordan Falls area revealed in federal government airborne magnetic surveys, however, shows an obvious disruption of the magnetic patterns around an area of low response that underlies the Jordan Falls property (Fig. 1). This strongly suggests the presence of an unkown or subcropping granite pluton and has thus been recognized as such on C. E. White's recent geological map of southwest Nova Scotia. If this is the case, then it highlights the Jordan Falls property as being a target area with potential for more rare-element intrusions than are currently known.

*G. A. O'Reilly*

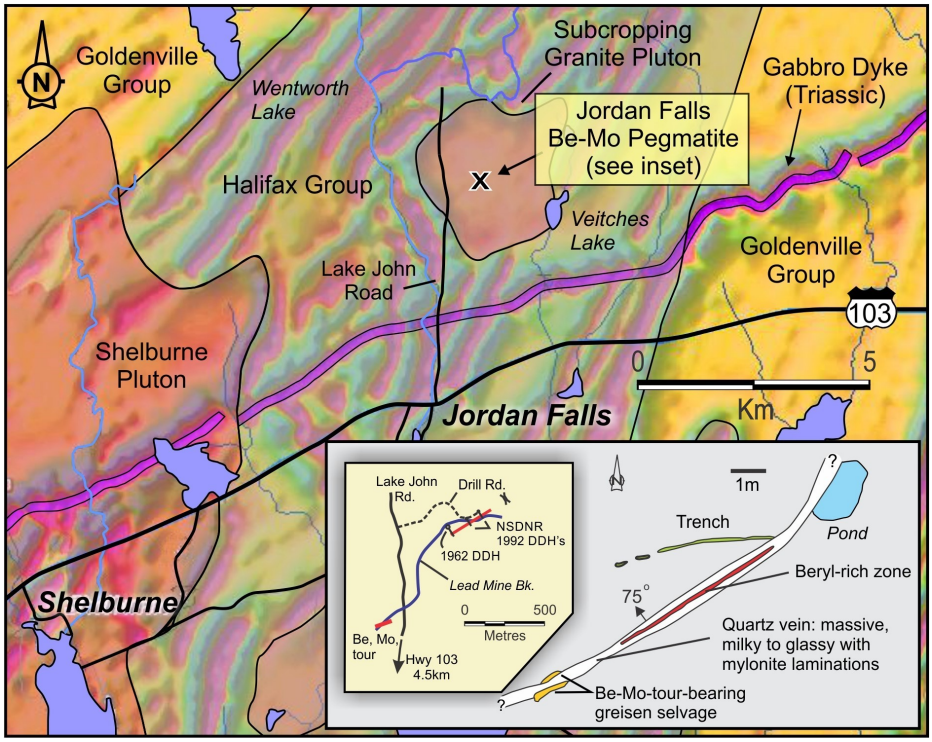


*Figure 1. Geology map of the Jordan Falls area draped over a federal government second-derivative aeromagnetic map of the same area. The location of the Jordan Falls Be-Mo pegmatite is shown relative to an underlying, subcropping, granite intrusion that is suggested by disruption of the aeromagnetic anomaly patterns.*