

From the Mineral Inventory Files

Londonderry: Nova Scotia's Giant from the Past May Still Have a Future

Most people involved with exploration and mining in Atlantic Canada are not aware of the importance of the Londonderry Iron Mining District to our region's mining history. For much of Londonderry's period of operation, 1847 to 1906, it was the foremost iron mining district in Canada and one of the more significant districts in the British Commonwealth. Steel made from Londonderry pig-iron enjoyed a very good reputation; in fact, Londonderry pig-iron was often used in the world-renowned steel mills of Sheffield, England. The adjacent map shows the geology of the Londonderry district and locations of the three main sites of ore production: the East Mines, Old Mountain Mine and West or Cumberland Mines. Ore from these sites was transported by a rail and wagon system to furnaces in the town of Londonderry, which had a population of 5000 during peak production.

A visit to the old workings reveals the impressive extent of the former operation. Past mining operations seldom progressed below a depth of 300 feet and focused on what was thought to be the limonitic to hematitic, supergene-enriched cap of fault-controlled ankerite - siderite vein systems. At several locations the

ankerite was also quarried to serve as a flux for the furnaces. The most notable geological features are the continuity and massive size of the ankerite - siderite vein systems and their association with widespread hydrothermal alteration. Veins and breccia zones persist for at least 16 km strike length and separate veins and pods may be 40 m in width. The map shows that veins and breccias

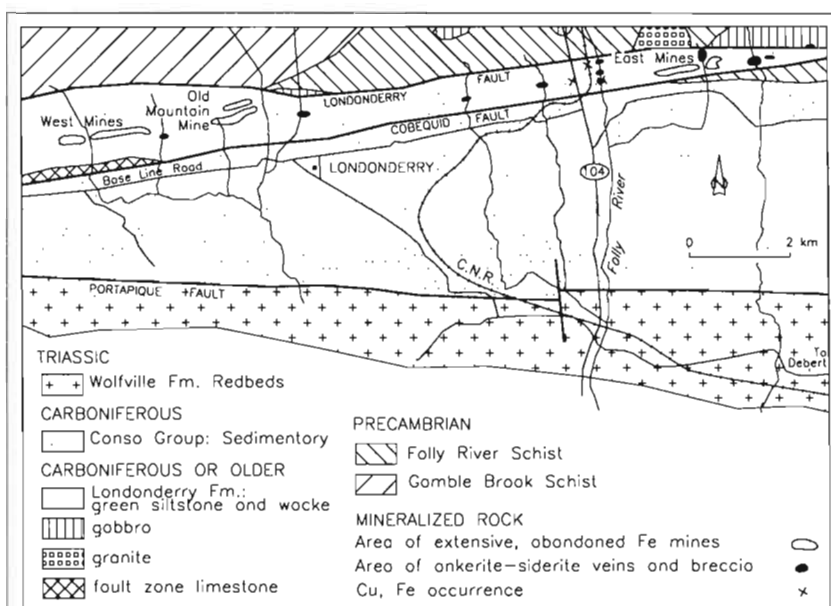
extend to areas far removed from previous mine sites.

The Londonderry vein systems appear to be the best developed of the more than 100 fault-controlled, ankerite - siderite vein and breccia occurrences known to be associated with the Cobequid-Chedabucto Fault Zone. Given that several of the mineral occurrences associated with this

regional fault system have economic concentrations of Cu, Co, Ni and Au, it follows that the Londonderry veins may also have potential for deposits other than iron.

Reconnaissance exploration has shown that the Londonderry veins, as exposed at surface, have only slightly anomalous concentrations of Cu, Co, Ni and Au. However, the Londonderry veins share the same structural style and elemental associations as the other Cu, Co, Ni and Au occurrences found along the Cobequid - Chedabucto Fault Zone. This suggests the possibility that deeper levels of the Londonderry vein systems may be more sulphide-rich. One indication of such a vertical zonation is provided by old mine reports, which state that the deeper levels of the mine encountered more sulphide-rich ore. To date, this model of vertical zonation has not been fully tested.

George O'Reilly



Map of the Londonderry Iron Mining District, Colchester County.



Londonderry as it looked in the 1880s. Photo from "A History of Londonderry, Nova Scotia" by Trueman Matheson. Reproduced with permission of the author.