

From The Mineral Inventory Files

At Cap d'Or, All That Glitters is not Gold - it's Copper!

Most people in the province, even those involved with mining, know little about the unique mineralization style and large size of the copper (Cu) deposits mined at Cap d'Or, Cumberland County, from 1900-1907 (see Fig. 1). Common perception is that they were little more than glory holes on a few Cu occurrences. This is not so. Native Cu-bearing veins in the Triassic basalt cliffs at Cap d'Or were used before Europeans came to Nova Scotia when natives made arrowheads from the metal. Early in the 17th century Samuel de Champlain made note of Cu in these cliffs after first thinking it was gold (hence "Cap d'Or") and called the nearby area Port des Mines (later re-named Advocate).

Serious attention was not paid to the deposits until 1897 when Mr. J. A. Hanway formed the Colonial Copper Company. The company, from its New York city offices, invested several million dollars in developing mining operations at Cap d'Or. At that time, this was a very obscure part of the province with few roads. Best access to the site was by sea and a wharf was constructed in Horsehoe Cove. By 1900, three areas of workings were operating (see Fig. 1). Shaft No. 1 was sunk to 113 m and had two short drifts at 66 and 110 m. The Hanway workings actually consisted of two inclined shafts, one at 25-30° toward the north for 150 m (approx 100 m true depth) and another toward the south at 30-50° for 200 m. There are upwards of 243 m of underground tunnels at the Hanway workings, one of which opens on the basalt cliff face south of the shafts. A third area of workings, Shaft 3 at Bennet Brook, was 55 m deep with 90 m of drifts. Mine infrastructure for the district consisted of a crushing and concentrating plant, mine offices, assay lab, numerous miners' homes, boarding houses and a lodge. In addition, a narrow gauge rail line connected all three workings to the concentrating plant. **Please be forewarned that should you decide to visit these sites, the shafts there are among**

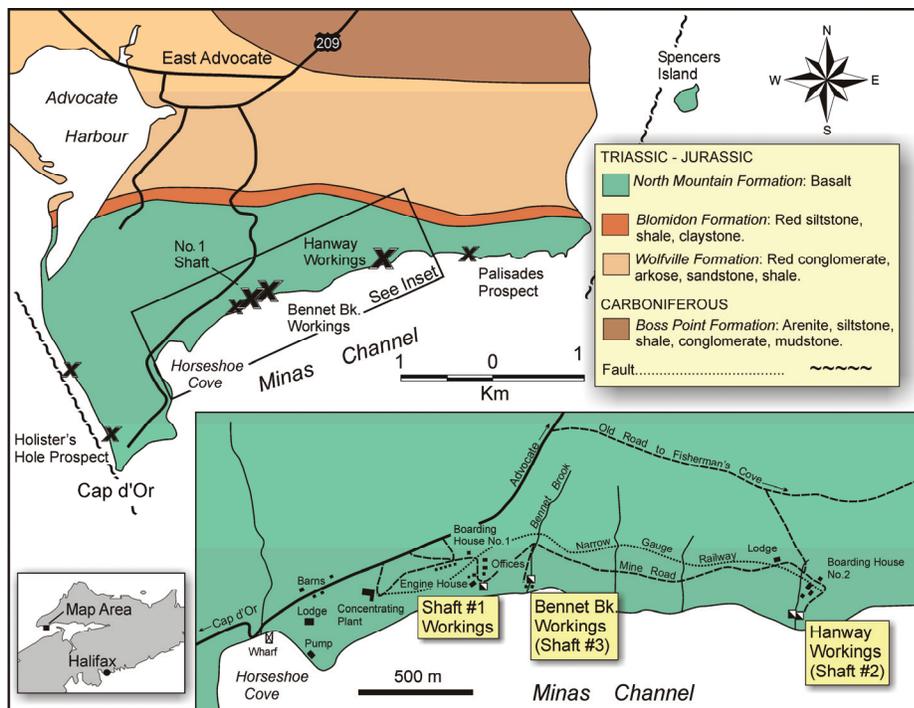


Figure 1. Geology of the Cap d'Or area, Cumberland County, showing the location of Cu deposits. Inset map shows the infrastructure of the Colonial Copper Company.

the most dangerous in the province. Exercise extreme caution!

The ore consisted of native Cu with essentially no sulphides, occurring as lenses, knots and disseminations within carbonate-quartz veins and breccias. The mineralized zones occupy north-trending fault zones in the flat-lying Triassic basalt flows. The most extensive workings of the district were those at the Hanway, which reportedly penetrated the basalt to the underlying Triassic redbeds. I assume that the ore zones do not extend into the underlying sediments, but this is not totally clear. Within the Hanway workings the mineralized zone averaged about 2.5% Cu and was 1.2 m wide at 30 m depth, 8.5 m wide at 61 m, and 3 m wide at 91 m. The Bennet Brook Shaft was sunk in a 15 m wide fault and breccia zone with native Cu found in a predominantly carbonate vein occurring along its eastern margin. These workings lie in a deep ravine and immediately adjacent

to a brook, responsible for reported water incursion that always hampered mining. The fault and mineralized zone at Shaft No. 1 was narrow, generally less than 30 cm, and this deposit was deemed to be least important. In addition to the three sites of mining there were several other Cu prospects discovered in the area, but none were explored to any extent (see Fig. 1).

Although occurrences of native Cu are known in several other locations in the Triassic volcanic rocks of the province, these deposits at Cap d'Or are by far the largest and most extensive. Surprisingly very little is known about the genesis of these interesting deposits, simply because nobody has taken the time to study them in detail. There has never been a modern exploration evaluation of the deposits, thus no meaningful statements as to their true potential can be made.

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