

HISTORY OF THE COBALT AND GOWGANDA AREA

Accounts of the occurrence of silver in the Cobalt area are sparse for the period pre-dating the discovery of silver at Cobalt, despite the fact that early explorers kept a close lookout for deposits of gold and silver.

Severe glaciation throughout the area is principally responsible for the poor surface exposures of the native silver veins. Furthermore, few nuggets and plates of native silver have ever been found in the drift and stream bottoms, and those located have been so pitted and corroded as to be quite inconspicuous. The native metal did not, therefore, catch the eye of the Indians, as did the plates of native copper in the Keweenaw Peninsula or nuggets of gold in other areas.

The first reference to the occurrence of silver in Canada is in Jacques Cartier's account of his second voyage (1535-1536). At Hochelaga (Montreal) Cartier was told by the Indians that silver occurred up the Ottawa River in the "Kingdom of the Saguenay", which may have included the Cobalt area. The translation by Baxter (1906) of Cartier's account reads as follows :

"Then they showed us by signs that, the said falls being passed, one could navigate more than three moons by the said river, and beyond they showed us that along the said mountains, being toward the north, there is a great stream, which descends from the west like the said river (the Ottawa). We reckoned that this is the stream which passes by the realm and province of Saguenay, and, without having made them any request or sign, they took the chain from the captain's whistle, which was of silver, and the haft of a poniard, the which was of copper, yellow like gold, which hung at the side of one of our mariners, and showed that it came from above the said river,... but by default of speech we could not learn how far it was to the said country. Our captain showed them some red copper, which they call *caignet-daze*, pointing them toward the said place, and asking by signs if it came from there, and they began to shake their heads, saying no, and showing that it came from Saguenay, which is to the contrary of the preceding."

The translation of the same passage by Biggar (1924) reads similarly.

There has been considerable speculation about the precise limits of the "Kingdom of the Saguenay". It would seem, although there is no proof, that it could have included the vast area from the copper mines of the Keweenaw Peninsula eastward through the Cobalt area to the present Saguenay River.

A much later but more accurate description of a silver-bearing vein in the Cobalt area is that to be found in the diary of Sieur de Troyes, dated

1686, and on a map published in France in 1744. The location (Anse à la mine) is an argentiferous galena vein on the east shore of Lake Timiskaming some 8 miles southeast of Cobalt.

Sieur de Troyes visited the mine on the 24th of May, 1686 while on his way with a group of soldiers to oust the English from their trading posts on James Bay. In the same summer (1686) Le Chevalier de Tonty was sent from Montreal by M. de Devonville to explore the mine. He found it to contain what he thought were lead or tin minerals. His report was later considered by les M.M. Raudot (1708) who noted that the mine was located too far north of Montreal for profitable exploitation (see the Publication and Commentary of De Troyes, journal by L'abbe I. Caron, 1918, pp. 45-46).

The vein first noted by the Sieur de Troyes was rediscovered in 1850 by Mr. E. V. Wright of Ottawa and developed as the Wright mine. It has produced only a few tons of ore (Barlow 1899 ; Miller 1913 ; Knight 1924).

Silver was discovered at Cobalt in 1903 while the Timiskaming and Northern Ontario railway was being constructed from North Bay to develop the agricultural land in the Haileybury area. Fred LaRose, a blacksmith employed in the construction of the railway, is credited with the first discovery, but the first application for claims, filed on August 13, 1903 was made by J. H. McKinley and E. F. Darragh, subcontractors who supplied ties for the railroad. They found silver-bearing float at the south end of Cobalt Lake. The first assay results showed bismuth but no silver. McKinley subsequently sent the ore for assay to McGill University, and was informed by Dr. Milton Hersey of Montreal that the ore contained 4,000 ounces of silver per ton. Mr. LaRose brought some specimens of vein material to the manager of the Matabanick hotel at Haileybury who in turn showed them to Mr. T. W. Gibson, Director of the Ontario Bureau of Mines, during the latter's visit to Haileybury on business. On his return to Toronto, Mr. Gibson sent the material to Dr. Willet G. Miller, Ontario's first provincial geologist, with the suggestion that he immediately visit the area. Dr. Miller arrived in November and found that four veins had been located, three very rich in silver. In addition, Tom Hebert had staked the property that later became the Nipissing mine. Dr. Miller returned to Toronto with a spectacular collection of samples and reported the news through an article in the Mining Journal of New York and through an Ontario Bureau of Mines publication. The final discovery in 1903 was made by Neil King who staked the property on which the O'Brien mine was to rise in 1906 and to continue production without a break until 1966.

In May 1904 Dr. Miller returned to the area and began his classical geological study of Cobalt, which at that time was known as "Long Lake Construction camp". Miller, fearing that the name would be retained for the railway station to be located at this point, put up a post and wrote on a piece of board attached to the post "Cobalt Station, T. and N.O. Ry". The name took at once, and a bronze plaque commemorating Dr. Miller for giving Cobalt its name was unveiled at Cobalt November 1, 1926.

In the spring of 1904, the world greeted reports of the silver discovery with apathy, but some prospectors came to the area. The most successful was W. G. Trethewey who learned of the silver discovery from Dr. Hersey, City analyst of Montreal. Mr. Trethewey's description, as recorded by Davis (1910), exudes the mood and nature of "Cobalt" at the time.

"While metallic silver had never amounted to much in Ontario, I was determined to visit Cobalt as soon as the snow was out. I came to Toronto, saw the department, got my licence and equipped myself for prospecting. I left Toronto on May 6, 1904. At that time one had to go to North Bay by the Grand Trunk, then on the C.P.R. to Mattawa, and by the short line to Temiskaming. From Temiskaming one had to get to Haileybury by the Lumsden steamers. From Haileybury we had to walk over a muddy trail about five miles to the new camp. No one at that time appeared to be very much impressed, even the fellows who made the discoveries not being at all excited, although the silver was looking them in the face....." "My idea was to buy something in the camp, but I discovered that no one was prepared to sell. I went back to Haileybury and hired a man there and came right back, pitched camp on what is now O'Brien property, and started to prospect. Alec Longwell, who was up there for Mr. Leonard, shared my tent with me. I was prospecting just two days. On the second day I went to Pickerel Lake, where Longwell thought there was something good, but found nothing, and came back to camp at 1 o'clock. About 4 o'clock I thought I would finish up the day, and I struck out in a northerly direction, to a section to which no one had paid any attention at all. The impression at that time was that the valley along which the T. and N.O. ran divided the mineral area from that which contained no silver, as all the discoveries so far had been made on the east side of the divide.

"I walked almost straight to the old Trethewey mine. I passed over several ridges until I struck one where the rock looked good, and I followed it south. As I walked along it I could see where the other fellows had torn away the moss. I came to a bluff where the point ran down into a swamp. I had to wade into the water to get round its western face, I could not see the face of the cliff until I had got out about twenty feet, when I saw a black streak on its face and I knew it was a silver vein. My first anxiety was to see if anyone had been there before me, but after a careful examination I concluded that it was a virgin discovery. I had no axe with me, and there were fellows down at camp who would have made a wild rush up there if they had known, and I might have lost my mine. So I hid it as well as I could by throwing sticks and moss over the rock where I had chipped it, and I came down to my tent and quietly had my tea. I did not know how to get away from the camp without the others following me, so I said to my man, 'Give me my axe, I am going to chop a tree down.'

"I started out with my axe on my shoulder slowly enough until I got out of sight of the camp, and then I only hit the ground at the high places. I squared a post, put the number of my license and my name on it, and planted it firmly over the discovery. And I made a witness tree. Then I started along the bluff a little farther

and discovered the Coniagas mine. I knew by the indications that there was a vein, but it was dark and I was afraid of getting caught in the woods. I saw Prof. Miller that night and told him I had made a find and asked him to say nothing. He and his assistant, Cyril Knight, visited the property with me next morning, and we examined it thoroughly to see if there were any signs of prior discovery. But there was nothing. Alec. Longwell helped me to stake out the two claims. "I put in the first little steam plant that went into Cobalt, and then the dynamo for electric light. We shipped the second car of ore that ever came out of the camp, on October 1, 1904. I sold out in the fall of 1906, having at that time taken out \$600,000 in ore."

A photograph showing the Trethewey discovery vein in May, 1904 is given by Miller (1913) and reproduced as Figure 1. From an open cut about 50 feet long and 25 feet deep, Trethewey took out about 340,000 ounces of silver. At no place was the vein more than eight inches wide. The veins discovered by Trethewey eventually proved to be complex networks of veins that yielded nearly 40 million ounces of silver.

Shortly after Trethewey's discovery A. Longwell found the vein that subsequently become the Buffalo mine, but this was one of the last dis-

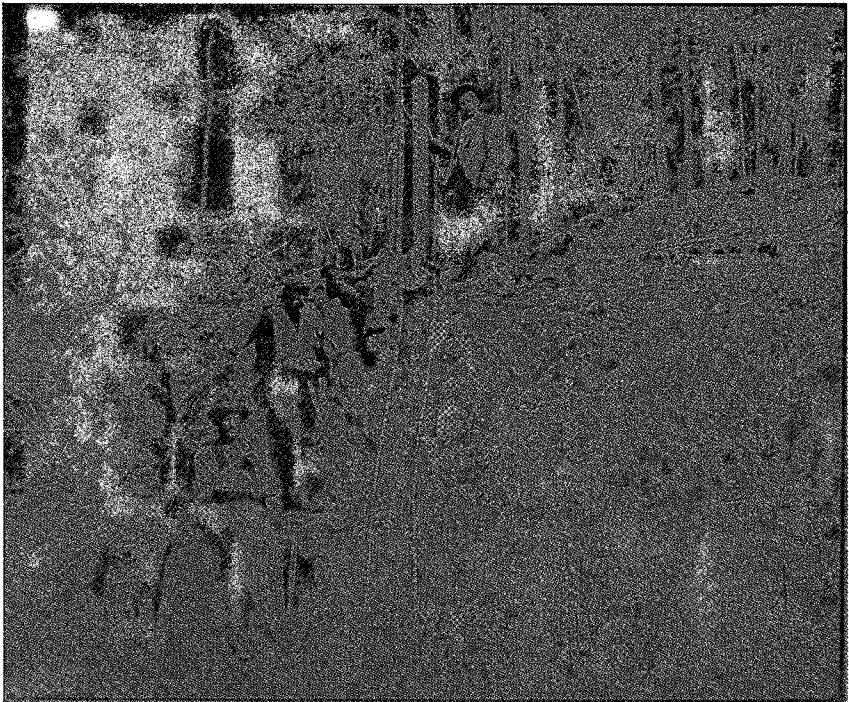


FIG. 1. Trethewey vein and discovery post, May, 1904. (Taken from Miller, 1913, p. 260 — reproduced by G.S.C. with permission of Ont. Dept. of Mines).

coveries before the "mining boom" that was to follow. When Trethewey's first shipment, which contained slabs of native silver, reached the south a tremendous wave of excitement ensued. Almost overnight the whole of Coleman township was studded with corner posts and the town of Cobalt sprang into existence on bare rock in the middle of the mining area. The camp grew and prospered, and by the end of 1905 there were 16 mines in operation.

Subsequent mines in the Cobalt area were discovered with more difficulty and the history of the Temiscaming mine, discovered in 1906 by a syndicate under the direction of R. A. Cartwright, provides an excellent example. The find was in the New Lake area, then a new area about 3 miles southeast of Cobalt. It consisted of a wide cobalt arsenide vein at surface. The cobalt arsenide changed to barren calcite in a short distance, but the syndicate continued to sink a shaft in barren calcite for 80 feet. The vein was then drifted in both directions, and at a point 90 feet north of the shaft, the vein became a fifteen-inch wide vein of very high-grade silver ore.

By 1906, exploration began fanning outward from Cobalt and this led to discoveries of silver in Casey and Harris townships in 1906, in South Lorrain township in 1907, and in the Miller Lake, Gowganda Lake, Elk Lake, and Maple Mountain areas in 1908. This exploration also led to discoveries of other mining camps, including Larder Lake in 1906, Porcupine in 1909, Kirkland Lake in 1911, and Matachewan in 1916.

Mining activity in the Cobalt area continued at a very high level and in 1910 the world's largest air compressor was built to service the mines in the Cobalt area. This compressor, which is still in use, is located in the bed of the Montreal River about nine miles south of Cobalt; it compresses air by the direct action of falling water into a vertical 300-foot shaft. Air is delivered to the mines via pipeline.

Silver production reached its peak in 1911, when 31,507,791 ounces of silver were shipped, and continued at a high level until 1922 when 10,711,727 ounces of silver were shipped. With the drop in the price of silver during the 1920's and depletion of silver ore, the mines began closing. By 1929 most mines had ceased operations and the town of Silver Centre, which had served the mines in South Lorrain township, ceased to exist. In the Cobalt and Gowganda areas, however, a few mines continued to operate, most of them intermittently, and local miners leased mines that had been closed but were believed to contain small silver veinlets. The miners recovered silver from these veinlets and paid the mine owners a royalty on smelter returns. Operations continued in this manner until about 1950.

Mining activity increased in the early 1950's as a result of world-wide demand for cobalt. This activity, combined with the extensive diamond drilling from underground workings of old mines, led to discoveries of new veins and nests of veins that had not been found by the early workers. New companies were formed and ore was mined by using the shafts of old mines in the Cobalt area, Casey township, South Lorrain township, and the Gowganda area. The demand for cobalt dropped in 1957 and mining activity began to wane. The increase in the price of silver in 1960, however, brought new interest to the camp, and more exploration, largely by diamond drilling from underground workings, led to the discoveries of still more silver ore. By 1963, Cobalt's 60th anniversary, eight mines were operating in the Cobalt and Gowganda areas. By 1965, however, operations ceased in South Lorrain township and, in 1968, in Casey township, both because of ore depletion. Subsequent exploration in South Lorrain township by another company has led to the discovery of still another nest of veins which are expected to be mined in 1972.

About 600 million ounces of silver, 45 million pounds of cobalt, 16 million pounds of nickel, and 5 million pounds of copper have been won from these deposits.

The geology and mineralogy of the Cobalt and Gowganda areas have been studied by many capable workers from the date of first discovery of ore to the present date. W. G. Miller was the first to study the geology of Cobalt, and he published a series of reports including his classical one published in 1913. This was followed by a detailed study of the Cobalt and South Lorrain Areas by C. W. Knight; his report, published in 1924, is still widely used. Geological studies of the Gowganda area were made by A. G. Burrows in 1920 and 1926, and by E. S. Moore in 1956. R. Thomson, resident geologist at Cobalt for the Ontario Department of Mines from 1950 to 1967, re-studied the geology of Cobalt which he reported in detail as a series of maps and preliminary reports in the early 1960's.

Mineralogical studies were first conducted at the Ontario Bureau of Mines by C. W. Knight, W. Campbell, H. V. Ellsworth, and E. W. Todd, and at the University of Toronto by T. L. Walker and A. L. Parsons. Subsequent mineralogical studies were generally small investigations by a number of different workers, but a comprehensive study was made of the Cobalt ores by E. Thomson in 1930, and of the Gowganda and South Lorrain ores by E. S. Bastin in 1949 and 1950, respectively.

The present study on the mineralogy, petrology and geochemistry of the ores was made during the period of 1964 to 1970 by personnel in the Department of Energy, Mines and Resources, Ottawa, and on fluid inclusions by S. D. Scott and T. P. O'Connor, University of Toronto. During

this period studies on certain aspects of the ores were also conducted by a number of university students resulting in the preparation of theses and in some publications.

Other workers, too numerous to mention in this short summary, have also contributed significantly to the understanding of these ore deposits.

W. Petruk

J. Jambor

R.W. Boyle