GM 10621

GEOLOGICAL REPORT

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QUEBEC DEPARTMENT OF MINES

MINERAL DEPOSITS BRANCH

STRATFORD TWP. ELECTORAL DISTRICT OF WOLFE

Copper - Zinc - Silver - Gold deposit

- SOLBEC COPPER MINES LTD -

Re: Copper Deposits of the Eastern Twps. by J.A. Bancroft, Que. Dept. of Col. Mines and Fisheries, 1915 p. 279.
Que. Dept. of Mines, Ann. Rept. 1930 pt. D p. 133.
G.S.C. Map 418A, Disraeli sheet.

Location and Means of Access

The Solbec Copper Mines property is located in Stratford township, Wolfe Co. and comprises lots 30 to 45 in Range II S.W., lots 30 to 40 in Range I S.W. and I N.E. and lots 30 to 36 in Range II N.E. The mine is easily accessible by car since it lies close to Lake Aylmer and Lake Elgin which are popular summer resorts. The closest railway station is at St. Gérard which lies along provincial highway no. 1, 10 miles west of the village of Stratford. The road going to the village of Stratford passes one mile south of the Solbec property. From that same road a gravel road branches off where lot line 28-29 intersects Range line II S.W.-III S.W. This road follows lot line 28-29 all across Range 11 S.W. turns right along Range line I S.W.-II S.W. down to lot line 32-33, where it turns left to follow eventually the central line of lot 34 of Range I S.W. in a northeasterly direction. The 3 compartment shaft is located 2300 feet north of range line I S.W.-II S.W. and 200 feet east of lot line 34-35.

Aerial Geology

The Solbec orebody is found in the northeasterly striking belt of meta volcanics and porphyritic intrusive rocks called the Weedon schists belt of Pre-Silurian age. Going West, we find lying unconformably above those rocks, the Lake Aylmer limestone group of Upper Silurian to Lower Devonian age and going east in a similar structural relationship the interbedded slates and siltstones of the St. Francis group also assigned to the Silurian or Devonian period. Cutting through this whole sequence one granite stock crops out south and east of Lake Elgin and another granite stock is found east of Lake l'Equerre. Mineralization appears to have closely followed the time of intrusion of those two granitic masses with which it is believed to be genetically connected.

B.S.

History of the Property

Following a ground E-M survey completed in September 1957 by the Hastings Mining and Development Co. over a group of claims located north of the village of Stratford, Cyprus Exploration Corp. financed a diamond drilling program to test in particular an E-M anomaly picked up on lot 34 of Range I S.W. and coinciding with a strong magnetic anomaly shown on the airborne magnetometer survey map published by the Geological Survey of Canada in 1954 (Disraeli sheet Map 156G).

The program started in mid-January 1958. By fall of 1959 twenty one diamond drill holes had been completed. The presence of a lens-shaped orebody of massive sulphides was clearly indicated from the drill cores. It was estimated, at that time, that drilling indicated 643,800 tons for a vertical depth of 500 feet. It was also reported that grade was running 2.6% copper, 3.41% zinc, 0.02 ounces of gold per ton and 1.55 ounce of silver per ton.

Early in spring of 1960, East Sullivan Mines jointly with Sullivan Consolidated Mines and Quebec Lithium took control over the Hastings property. The Sullivan group formed a new Company which they named the Solbec Copper Mines Ltd, a wholly-owned subsidiary of the Hastings Mining and Development Co. Hastings, in turn, is controlled by the Sullivan group which is putting up the finance to see the new mine to production. The Sullivan group controls 84% of Hastings with the East Sullivan Mines having 42%, Sullivan Consolidated Mines 16.8% and Quebec Lithium 25.2% in the participation.

Recent Exploration and Development Work

Additional drilling was done by Solbec in spring and summertime of 1960. By mid-October of the same year, a total of 63 holes had been put over the original discovery ground. Production plans were announced by Solbec in June 1960 and in September shaft sinking got under way. It is planned to go to a depth of 1400 feet, and expected to be completed in a 7 month period. In October 1960 many of the mine and auxiliary buildings were already covered and a permanent office and warehouse were soon to be ready for occupuancy.

Detailed Geology, Assays and Ore Reserves

Although no rock exposures showing mineralization are found in the close vicinity of the mine, the orebody would by up dip projection crop out along the eastern part of lot 34 in Range I S.W. The deposit is approximately 1500 feet long and has a maximum width of 25 feet. The sulphide lens occurs in the Weedon schists belt. Lying parallel to the local schistosity the ore lens

strikes N.40°E. and dips 45° to the southeast. Down dip the orebody appears to pinch out almost completely at the 1000-foot level. The sulphides, which are by order of abundance, pyrite, sphalerite, chalcopyrite and galena, have replaced the bottom part of a fine-grained pyroclastic horizon that carries abundant quartz and sericite. The ore is fine-grained, massive to semi-massive, and the pyrite is characteristically yellowish grey. The mineralization has commonly followed three sub-parallel zones separated from each other by a two feet thick layer of barren schist. The contact of the orebody with the chlorite rich foot wall is everywhere quite sharp. Above the ore zones, disseminated sulphides are usually found over a distance not exceeding 50 feet. As in the massive sulphide zones, the host rock is here strongly sericitic and represents very likely pyroclastic beds. Above this poorly mineralized zone, greenstones are found. Further up in the sequence thick volcanic agglomerate with a chlorite rich matrix are found interbedded with the greenstones. In the foot wall rock section, the chloritic schist is often cut by sill-like bodies of blue to green or grey porphyritic intrusive rock. This igneous rock is always acidic in composition. In one of the section this rock has been seen at only one foot beneath ~~the foot wall rock contact with~~ the massive sulphides. Although actual tonnage figures were not released by mine officials, it is estimated to be in the neighborhood of 1,500,000 tons grading approximately 2.15% copper, 3.9% zinc, 1.2 ounces of silver per ton and 0.015 ounce of gold per ton (cf. plan and section).

Plans are made for a 1000 tons per day operation expected to be started by fall 1961.

Emilien Séguin, geologist for the Solbec Copper Mines, was supervising the drilling done over the Solbec property in the summer and fall of 1960. This report is based on core examination by the writer in September 1960. Core logging covered each hole drilled on the Solbec property since its discovery. Logging followed a geological survey at a scale of 500 equal to one inch of the Stratford map-area on behalf of the ~~Mines~~ Mineral Deposits Branch of the Quebec Department of Mines.

Gilles Duquette M. Sc.A.