

Report on MEG Meeting - February 12, 1986
Georgia Hotel, Vancouver

"Geology and Gold Mineralization at the Congress Property of
Levon Resources, Bridge River, B.C."

by Brad Cooke

The Congress property is located 6 kilometres north-northeast of the town of Gold Bridge, on the north shore of Carpenter Lake, west of the lower section of Gunn Creek. The region was made famous by the Bralorne-Pioneer mine which operated from 1879 to 1971 yielding 8.32 million T of ore grading 0.5 oz of gold and 4 oz of silver.

The history of the Congress property began in 1913 when the Congress vein was staked. In those early years 800 tonnes of ore was shipped. Mine development from 1934 to 1937 consisted of three adit levels. The Sheep Creek Mining Co. managed the property between 1945 and 1950 developing three additional levels. In subsequent years exploration focused on eight targets which included the Congress mine and several mineralized zones - the Lou Zone, Howard Zone, Hard Zone, Gunn Zone and Paul Zone. The Hard vein was discovered in 1959 by Ernie Howard and this was followed by a diamond-drill program by Wulfen Resources in 1960. In 1964 Ray Rock Exploration Ltd. completed drilling on the new Paul Zone. In the late 1970's Congress Resources gained control of the property and returned to the Hard vein as the main exploration target. Levon Resources acquired the property in the early 1980's at which time the Lou Zone soil anomaly was discovered.

The geological setting on the Congress property consists of a wedge-shaped block of Middle Triassic Bridge River volcanic and metasedimentary rocks surrounded by older (Paleozoic ?) cherts. Pillowed and amygdaloidal greenstones on the property are cut by gabbro intrusions and young northerly trending and northwesterly trending porphyry dykes (including albitites). A northwest-trending melange assemblage bounds the property on the northeast above Gunn Creek.

The geological setting and mineralization differs comparing the Congress property with Bralorne. The Congress property is underlain by the back arc Bridge River assemblage whereas the Bralorne mine is situated on Cadwallader arc-type volcanic rocks. The Congress veins are generally wide and enriched in sulphides (up to 10 per cent) whereas the Bralorne veins are commonly narrow and sulphide poor.

Total ore reserves calculated for the Congress property amount to 669,677 T grading 0.24 oz of gold. This is aggregated from the significant mineralized intersections on the Howard, Lou, Congress and Paul Zones. The Lou Zone which began as a soil anomaly has been stripped revealing sheared basaltic rocks cut by a large porphyry dyke containing quartz-calcite veins. The zone is 65 feet wide and 1800 feet long. This contains 37,527 T of ore averaging 0.08 oz of gold. Some high grade pods of ore with stibnite and arsenopyrite concentrations assay as much as 0.5 oz of gold per T. The Howard Zone consists of a 6-foot-wide, 1600-foot mineralized intersection in altered gabbro (containing much sericite and ankerite). Estimated tonnage is 294,934 T grading 0.33 oz of gold. Bob Seriphim gives a much different estimate of 10 to 20,000 T with very erratic grades.

The Congress mine consists of 2 miles of underground workings on three narrow steeply plunging ore shoots. The veins cross the contact from greenstone to chert. Ore grades decrease markedly from the tight fissures in the volcanic rocks to the more open fissures in the chert. According to most recent estimate 99 216 T of ore remain in the mine grading 0.20 oz gold. Bob Seriphim quotes more conservative reserves of 40 to 50,000 T grading 0.25 to 0.3 oz/T.

The Paul Zone is located on a steep cliff face north of Gunn creek. Veins occur in north-south structures in greenstones and porphyritic rocks bounded by an altered melange assemblage to the north. Estimated ore reserves are 92,000 T grading 0.28 oz/T gold.

Metallurgical test on the Congress ore gives poor previous metal recoveries owing to the fine-grained nature of the sulphides. It appears that gold is mainly tied in with arsenopyrite and silver with stibnite. Bacterial leaching may be a solution to this problem. Preliminary leaching tests show a 91% recovery for gold and 56% recovery for silver. Custom milling would provide the necessary ore feedstock for continuous operations.

Notes by

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