

09:30 Musselwhite Gold Deposit, Ontario - A Project Update

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WBS → Willoughby
(Roundup '96)

In 1993, exploration plans were initiated to re-evaluate the geological potential of the Musselwhite property. The main objective was to determine if sufficient resources could be defined within the T-Antiform Deposit to support a 2,500 tonnes per day mining operation. A series of diamond drill programmes, and a comprehensive underground exploration programme were designed and completed to define the configuration, and confirm the geological controls and grade distribution for the T-Antiform Deposits. This presentation will describe the geology, recent exploration activities and plans in 1996.

The Musselwhite Property is 500 km north of Thunder Bay, Ontario; within the Caribou Greenstone Belt of the Sachigo Subprovince of the Archean Superior Province. Supracrustal rock have been regionally metamorphosed to amphibolite grade. At least two major deformation events have occurred.

Stratabound gold mineralization occurs primarily within silicate/oxide iron formation in a volcanic sequence. Five major deposits in the East Bay Synform include: T-Antiform, PQ, Esker, Island and OP deposits; and five deposits occur at the West Anticline, namely: West Anticline, Bay Zone, Canoe Zone, Camp and Pebble Zone. The largest and most significant is the T-Antiform Deposits.

Grunerite-garnet-amphibolite chert iron formation predominately hosts gold mineralization in the East Bay Synform. The mineralized zones characteristically contain abundant pyrrhotite, quartz flooding and native gold. In the T-Antiform, mineralized zones are generally subvertical, tabular bodies, concentrated in antiformal fold hinges and adjacent limbs, plunge northwest at 12-15°, and have been subdivided into the S,C,T and WA Zones. Individual zones extend over a minimum strike length of 1 kilometre, and the deposits have been traced over a 3 kilometre strike length.

During 1994 and 1995, exploration included 27,000 metres of underground drilling and nearly 50,000 metres of surface drilling. In addition, a ramp was driven on a -15% grade over 1.1 km distance. Bulk samples totalling 28,000 tonnes were mined from six drifts and six raises. These samples provided a reference comparison for sampling and resource estimation techniques based on diamond drill hole and underground channel samples.

The Pre-feasibility study was completed in early 1995, and the Feasibility Study is scheduled for completion in early 1996. Exploration's role for the Feasibility study included interpretation, modelling and wireframing of both the host lithology and mineralization zones within the T-Antiform, PQ and OP deposits. Resource estimations were developed by PD's "Resource Estimation Group" employing Ordinary Kriging; and these resource grades compared favourably to the bulk samples and manual estimation grades. The current geological resource for the T-Antiform is 11.55 million tonnes grading 7.29 g/t (uncut, undiluted) using a 3.6 g/t Au minimum grade cutoff.

The completion of the Feasibility Study has been rescheduled for February 28, 1996. This will allow for "fine tuning" of the results. Meanwhile, exploration is planning additional drilling of the PQ and probably the OP zones. We are optimistically anticipating a favourable green light decision in late February 1996.

9:45 Willoughby Gold Project, British Columbia

Dave Visagie, Senior Geologist, Camnor Resources Ltd.

The Willoughby gold-silver property, located 26 kilometres east of Stewart, northwestern B.C., consists of 12 mineral claims totalling 186 units. A joint venture between Camnor Resources Ltd. (50%), Royal Oak Gold Mines (25%) and Gold Giant Resources Ltd. (25%) exists to evaluate the property. Camnor is the operator of the joint venture.

The property occurs in British Columbia's "Golden Triangle", an area in which several gold mines and prospects are located. At Royal Oak Gold Mines' Red Mountain gold deposit, located 6 kilometres west of Willoughby, gold bearing mineralization appears to be genetically and spatially related to the intrusion of a hornblende-feldspar porphyry (Goldslide) stock into Jurassic Hazelton Group rocks.

The geological setting at the Willoughby property is similar to that at Red Mountain. Exploration consisting of mapping, sampling, prospecting, diamond drilling (58 holes - 6,476 m) along with limited underground development shows gold-silver bearing mineralization to occur in both sericite-pyrite-chlorite-carbonate altered Hazelton Group and Goldslide intrusive rocks. Twelve zones containing various combinations and amounts of pyrite, pyrrhotite, sphalerite, galena, chalcopyrite, electrum and visible gold have been located. Ten of the zones appear to be skarn related replacement bodies within Hazelton Group rocks with the remaining two being shear controlled vein systems in Goldslide intrusive rocks. Of the zones the North and Wilby appear to have the best potential to host significant gold-silver deposition.

The North Zone occurs in a 60 x 300 m, northwest striking trend of altered Goldslide intrusive rock. Within this trend the intrusive is gold, silver, zinc, lead, arsenic and antimony enriched. Drilling has tested a 100 m segment of the North Zone at down-dip depths of up to 75 m. Results are encouraging and include a 2.9 m section averaging 11.171 opt Au with 6.23 opt Ag. The zone is open at depth, down plunge and along strike. A 100 m long adit that would allow for the systematic testing of the zone was started in late 1995. Fifty-five metres were completed prior to shutdown.

The Wilby zone consists of a series of northwest striking, west dipping semi-massive to massive gold-silver bearing, pyrite-pyrrhotite lenses. The most significant lense has been traced for 65 m by drilling at down-dip depths of up to 40 m. Widths vary from 3 to 8 metres. The northernmost hole averages 0.390 opt Au with 1.85 opt Ag over 13.0 m while the southernmost averages 0.476 opt Au and 1.57 opt Ag over 5.9 m. The zone is open along strike and down-dip.

Elsewhere on the property several prospective zones occur that require additional work to determine their significance. A major exploration program consisting of surface and underground drilling, along with mapping and sampling has been proposed for 1996.

10:00 The Voisey's Bay Deposits, Labrador

Rosie Moore, Manager, Geological and Technical Services, Diamond Fields Resources Inc.

The discovery of the Voisey's Bay nickel-copper-cobalt mineralization in northeastern coastal Labrador was announced by Diamond Fields Resources in late 1994. Two prospectors from Archean Resources made the discovery while performing regional reconnaissance diamond exploration for Diamond Fields. The discovery announcement attracted the interest of the world's mining community and sparked a huge staking rush by other exploration companies. The Voisey's Bay sulfide ore is localized within a troctolite (gabbro) intrusive sheet which is part of the Nain Plutonic Suite, a voluminous magmatic group emplaced over much of northeastern Labrador approximately 1.3 billion years ago. The ore consists of disseminated to massive pyrrhotite, pentlandite and chalcopyrite hosted within a troctolite sheet. The troctolite trends east-west, has a variable dip, and a known strike length of at least 3000 meters, open at depth and along strike. The Ovoid Zone, which is the primary ore body of the Voisey's Bay deposits, contains proven, open pit mineable reserves of 31.7 million tonnes grading 2.83% nickel, 1.68% copper and 0.12% cobalt at a total stripping ratio of 0.36:1. This deposit will be the lowest cost nickel producer in the world and will supply at least 8% of the world's nickel demand when production commences in a few years. Combined with the new discoveries in the Western Extensions and Eastern Deeps, the total Voisey's Bay resource is in the range of 100 million tonnes, and is expanding rapidly.

10:50 British Columbia Mining, Development and Exploration Highlights-1995

Tom G. Schroeter, Senior Regional Geologist, B.C. Ministry of Energy, Mines and Petroleum Resources

Last year's prediction that British Columbia's mining industry would turn the corner in 1995 has been validated. The value of solid mineral production in the province is forecast to reach \$3.48 billion, up 38% from 1994, and is the highest value recorded for the Province. Two new mines have ^{opened} and more new production decisions are anticipated in 1996. Bulk mining and heap leaching low grade gold deposits are under evaluation. New access roads and infrastructure in remote areas will benefit exploration, and the long-term outlook for mineral markets in the Pacific Rim remains positive.

In value, copper is number one, and is ^{forecast} cast to contribute approximately \$1.2 billion to the economy in 1995. This reflects the return to full production at the Similco, Gibraltar, Ajax and Myra Falls mines. Coal is a close second, with output expected to reach 24.5 Mt valued at approximately \$1 billion, a substantial increase over 1993-94 levels. The province's gold producers are expected to recover 19.8 million grams, valued at \$340 million, a 57% increase over 1994; in large measure attributable to the opening of the Eskay Creek and QR mines. Eskay Creek is also a major silver producer, forecast at 393 million grams valued at \$88 million. Lead and zinc, with expected production of 50 million and 120 million kilograms respectively, should add a further \$220 million. Overall, this is more than a 50% increase in the total value of metals mined in British Columbia.

There were nine industrial minerals mines in operation in 1995, and more than 30 smaller quarries. ^{Industrial} industrial mineral production is forecast at \$61 million, and structural materials will account for a further \$380 million. There is investigation of new market opportunities, and increased exploration interest in this sector.

Exploration expenditures in 1995 are estimated at \$91 million, with more than 40% spent in the relatively undeveloped northwestern part of the province. Claim staking increased slightly in 1995. The Province's Explore B.C. initiative was

continued with 68 exploration, 11 mine-exploration, and 68 prospecting grants awarded.