



Maritimes Mining and Exploration and Labrador Trough

Atlantic Gold has declared commercial production in Nova Scotia, Trevali Mining is a big-time producer in New Brunswick and Champion Iron is preparing to ship its first iron ore concentrate from the Labrador Trough – plus there are numerous attractive exploration projects underway.

by Ellsworth Dickson

While Canada's Maritimes are not known as wealthy provinces, they are rich in minerals and have a long history of mining. For example, New Brunswick hosts deposits of base metals, precious metals, tungsten, molybdenum, manganese, tin, antimony, bismuth, indium, potash and salt, as well as industrial aggregates and peat.

What's more, New Brunswick is consis-

tently recognized as one of the best mining jurisdictions in the world. Its attractive mining policies offer an extensive industrial development infrastructure, a secure and fair regulatory regime and competitive taxes. The province is easily accessible for exploration and is closer to Europe than any other seaport in the United States. Presently, there is much activity in the

historic Bathurst Mining Camp of northern New Brunswick where there are over 45 known volcanogenic massive sulphide deposits where a VMS deposit was discovered in 1953. With the rise in the price of zinc, this is an exciting place to explore and mine.

On the downside, employees and the province took a hit when PotashCorp, now



FAR LEFT: Marathon Gold's Valentine Lake Project exploration camp, 55 km south of Buchans, west-central Newfoundland. Photos courtesy Marathon Gold Corp.

LEFT: Marathon Gold's exploration team discusses gold mineralization at Valentine Lake. Left to right, Sherry Dunsworth, Sr. VP of Exploration of Marathon Gold, Janice Stairs, Marathon Gold Director, and Phillip Walford, President and CEO of Marathon Gold.

merged with Agrium Inc., ceased operations at its Picadilly and Penobsquis mines near Sussex, New Brunswick.

In neighbouring Nova Scotia, mines and quarries employ over 5,500 workers and contribute some \$420 million annually to the economy. Coal used to be king but now gold is the favoured metal. Atlantic Gold Corp. declared commercial production effective March 1st 2018.

Newfoundland and Labrador is a unique jurisdiction with much exploration taking place on the island of Newfoundland as well as on the mainland of Labrador. There are 10 mines in production and over 40 exploration projects, according to the provincial government. Activity ramped up in 2017 with exploration spending about \$34.2 million, marking a turnaround from a decline that began in 2013. Claim staking increased in late 2016 and continued through 2017 making the outlook for the rest of 2018 more favorable than in recent years.

Exploration in Labrador remains low compared to historic levels with weak iron ore prices; however, some miners are forging ahead such as Champion Iron Ltd. which is shipping its first iron ore concentrate mined in the Labrador Trough just across the border at the Bloom Lake Mine near Fermont, Québec. Meanwhile, the Iron Ore Company of Canada, a major producer, that is experiencing a strike, continues to ship iron ore pellets from its

mine, concentrator and a pelletizing plant in Labrador City, NL to its port facilities at Sept-Îles, Québec. It also operates a 418-km railroad that links the mine to the port. **Rio Tinto PLC** [RIO-NYSE] is the major shareholder.

Below are project summaries.

Atlantic Gold Corp. [AGB-TSXV; SPVEF-OTC] has reported gold production and gold revenue results for the first quarter of 2018. The company declared commercial production effective March 1, 2018 as a result of a successful ramp-up of mine and milling facilities at its Moose River Consolidated Mine, near Halifax, Nova Scotia, comprising the Touquoy and Beaver Dam gold deposits. Gold ounces sold in the quarter were 17,187 ounces at an average sale price of \$1,619 per ounce for total revenue of \$27.8-million. During Q1 2018, a total of 419,150 tonnes were milled.

Phase 1, life-of-mine production guidance for 2018 is between 82,000-90,000 oz. gold at All-In-Sustaining-Costs (AISC) between CDN \$675/oz.-\$735/oz. (US \$540-588/oz.) The Phase 2 life-of-mine Expansion will have gold production ramping up to + 200,000 ounces per annum while maintaining the company's industry lowest quartile cash costs at all-in sustaining cash cost (AISC) of CDN \$692/oz. gold (US \$555/oz. gold).

Atlantic Gold has also reported final

assay results received from the Phase 3 resource expansion drilling program at the Cochrane Hill gold deposit. The program's goal was to identify additional gold resources immediately peripheral to those resources previously defined and to upgrade inferred resources to measured and indicated categories.

The Cochrane Hill Gold deposit is located approximately 80 km northeast of the central processing facility at Touquoy. Cochrane Hill's current measured and indicated mineral resources stand at 10.66 million tonnes at 1.16 g/t gold for 398,000 oz. at a 0.35 g/t cut-off grade. Inferred mineral resources are 1.63 million tonnes at 1.32 g/t gold for 69,000 oz. at a 0.35 g/t cut-off grade.

Avalon Advanced Material Inc. [AVL-TSX; AVLNF-OTCQX; OU5-FSE] is currently focused on its Separations Rapids lithium project near Kenora, northwestern Ontario; however, it still holds the 100%-owned, road-accessible East Kemptville tin-indium project about 45 km northeast of Yarmouth, Nova Scotia in the vicinity of the former East Kemptville tin mine.

Estimated indicated resources are 18.47 million tonnes averaging 0.176% tin, 0.173% zinc and 0.064% copper with inferred resources pegged at 16.95 million tonnes averaging 0.148% tin, 0.122% zinc and 0.062% copper at a 0.10% tin cut-off.

Avalon's plans include an innovative redevelopment model that removes exist-

ing site environmental liabilities and ensures future wastes are managed in a sustainable manner such that there will be no long term environmental concerns post-closure. Engagement with the local NGO Tusket River Environmental Protection Association and local politicians and businesses has continued into 2018.

Callinex Mines Inc. [CNX-TSXV; CLLXF-OTCQX] released an updated independent NI 43-101 resource estimate for its 100%-owned Nash Creek Project in the Bathurst Camp, New Brunswick. The estimate outlined a major increase in contained zinc, lead and silver mineralization within indicated and inferred categories. The company's initial exploration program in 2017 expanded the near-surface deposit and led to an increase in indicated zinc equivalent (ZnEq) pounds by 74% to 963 million pounds, and inferred zinc equivalent pounds increased by 385%.

Callinex expects to publish a maiden Preliminary Economic Assessment shortly that will demonstrate the potential economic viability of a conceptual open-pit mine at the Nash Creek and Superjack projects. The updated estimate is now an indicated resource totaling 13.6 million tonnes averaging 3.2% ZnEq (2.7% zinc, 0.6% lead and 17.8 g/t silver) containing 963 million pounds of zinc equivalent mineralization and an inferred mineral resource totalling 5.9 million tonnes averaging 3.1% ZnEq (2.7% zinc, 0.5% lead and 14.0 g/t silver) containing 407 million pounds of zinc equivalent mineralization.

Canstar Resources Ltd. [ROX-TSXV], **Adventus Zinc Corp.** [ADZN-TSXV] and **Altius Minerals Ltd.** [ALS-TSX] have entered into a three-way definitive agreement whereby Canstar will acquire the Newfoundland base metal exploration assets of Adventus and the Daniel's Harbour Zinc Project from Altius in exchange for issuing shares to Adventus and Altius and a funding commitment of \$500,000 as part of a \$750,000 private placement. The transaction will allow Canstar to consolidate the majority of the Buchans Camp in Newfoundland and adds three high quality Newfoundland zinc

exploration projects to Canstar's portfolio. Upon closing, Canstar's Newfoundland exploration team starts a 2018 exploration program focused on the Buchans Camp, with a minimum 3,000 metres of diamond drilling campaign anticipated in 2018.

The Buchans Mine was one of the highest-grade polymetallic mines globally, producing a historical 16.2 million tonnes averaging approximately 14.50% zinc, 7.56% lead, 1.33% copper, 126 g/t silver and 1.37 g/t gold over 56-years. The south-east corner of the region also hosted Teck's Duck Pond Mine 2007–2015. The Duck Pond 1,800 tpd flotation mill is currently on care and maintenance.

Altius also has shareholding interests in **Alderon Iron Ore Corp.** [IRON-TSX], a development-stage company advancing the Kami iron project in the Labrador Trough, and **Sokoman Iron Corp.** [SIC-TSXV] which has the Moosehead gold project in central Newfoundland. A letter of intent has been executed to vend the Sail Pond silver-copper-lead-zinc project in northwest Newfoundland into New Found Gold Corp.

Century Global Commodities Corp. [CNT-TSX; CEUMF-OTC] is awaiting higher iron ore prices while it continues to hold interests in properties in the Labrador Trough, including the Joyce Lake DSO Project which completed a Bankable Feasibility Study in April 2015. The Hayot Lake deposit is also part of the Attikamagen JV and hosts a 1.7 billion tonne inferred taconite resource.

The Sunny Lake JV properties are subject to a joint venture agreement between Century and WISCO, which had a Preliminary Economic Assessment completed in April 2015 and the Blackbird DSO Deposit which had an NI 43-101 resource estimate, also completed in April 2015.

Champion Iron Ltd. [CIA-TSX, ASX; CHPRF-OTC] reported that Québec Iron Ore Inc., a Champion Iron subsidiary, is preparing for the first shipment from Bloom Lake Mine of high-quality iron ore following the arrival of the MV Magnus Oldendorff at the Port of Sept-Îles on the

Gulf of St. Lawrence on March 25, 2018.

The first shipment to Asia will comprise up to 200,000 wet metric tonnes of high-grade 66% Fe iron concentrate, part of the tonnage transported by rail to the port over the last month from the Bloom Lake Mine located in the Labrador Trough near Fermont, Québec.

The loading of the *MV Magnus Oldendorff* at the Pointe-Noire terminal completes a historic milestone for the company and the Port of Sept-Îles as it represents the first vessel loading at the brand new terminal and the inauguration of the new conveyor linking the stockyard to the new terminal.

The current iron ore price of US \$71/tonne for 62% Fe is 25% higher than the estimates of US \$56/tonne used by Champion in its original planning. In February 2017, a positive feasibility study indicated a 21-year mine life for the former producer.

Commander Resources Ltd. [CMD-TSXV] reports project partner **Fjordland Exploration Inc.** [FEX-TSXV] expanded the company's South Voisey's Bay nickel-copper-cobalt project (SVB Project) 80 km south of Vale's Voisey's Bay nickel mine in Labrador. Fjordland signed a Letter of Intent with **Vulcan Minerals Inc.** [VUL-TSXV] granting Fjordland the option to acquire a 65% interest in 30 mining claims in the South Voisey's area.

Under the option, Fjordland can pay Vulcan \$45,000 and spend \$150,000 on exploration over three years. If the option is exercised a joint venture will be formed whereby Vulcan will be carried for 100% of its JV expenditures until Fjordland earns its full interest from Commander on surrounding contiguous lands or a minimum expenditure of \$7 million on those lands.

The property is contiguous to claims held by Fjordland and Commander as part of their SVB Project. Fjordland's investor, High Power Exploration Inc., has notified Fjordland that they plan to spend a minimum of \$1.2 million of the proposed 2018 summer drill program on the SVB Project. Fjordland recently completed a

1,469-metre drill program in which hole 17-6 returned a 3.9-metre interval of semi-massive to massive sulphide comprised of pyrrhotite, pentlandite and chalcopyrite grading 0.37% nickel, 0.27% copper and 0.1% cobalt at the base of the Worm Gabbro.

Electra Stone Ltd. [ELT-TSXV; ELCGF-OTC; 44E1-FSE] recently acquired the Connell Mountain copper prospect, subject to a 2% NSR, near Woodstock, New Brunswick.

El Nino Ventures Inc. [ELN-TSXV; ELNOF-OTC; E7Q-FSE] recently acquired three gold projects in the Great Northern Peninsula of Newfoundland. The claims were staked to follow up on the new Gunner Cove gold discovery of **White Metal Resources Corp.** [WHM-TSXV]. El Nino's technical team is finalizing a summer/fall 2018 exploration program.

The three gold projects are situated around the city of St. Anthony and northward, covering approximately 22 km of favourable geology, similar to that being encountered on the Gunners Cove Project to the east and north.

White Metal Resources recently announced highly anomalous gold assays over 15 km in black shale units of the Hare Bay and Goose Tickle formations. Michael Stares, President of White Metal, said, "Of the 156 rock samples, 99 were collected from the main area of the black shale unit. On the basis of the results from the 99 samples, the company has expanded the gold mineralization to the north by approximately 3.75 km, to the east-northeast by approximately 3.2 km and to the south by about 1.3 km. Approximately 50% of grab samples collected in the Gunners Cove area assayed 100 ppb gold (0.1 g/t gold) or greater, with a maximum of 2.14 g/t gold. Silver assay results are also elevated, ranging from less than 5 ppb to a maximum of 9.1 g/t." An airborne geophysical survey has been flown by White Metal.

Galway Metals Inc. [GWM-TSXV; GAYMF-OTC] reported partial assays from 2,128 metres of drilling in seven new holes in the recently discovered George Murphy Zone (GMZ) at Clarence Stream in SW New

Brunswick. Galway has drilled 22,677 metres in 116 holes at Clarence Stream since the project was acquired August 2016 (over 76,000 metres drilled by all operators), with focuses on expanding existing resources in the South and North Zones, and on identifying new resources in the Jubilee Zone and the GMZ.

Galway will incorporate these two new zones into an updated resource in early 2019. In September 2017, Galway issued a resource update on Clarence Stream, prepared by SRK Consulting (US) Inc., which included pit-constrained resources of 352,200 ounces measured and indicated, plus 153,100 ounces inferred, each at 1.9 g/t gold. The underground gold resource contained an additional 37,800 ounces at 4.4 g/t of measured and indicated resources, plus 124,100 ounces at 4.5 g/t inferred.

Generation Mining Ltd. [GENM-CSE] has acquired a 100% interest in certain mining licences in Hants County, Nova Scotia, known as the Kennetcook property. The 11,040-hectare property has the potential to host large tonnage, economic deposits of carbonate hosted zinc-lead-silver-copper or paleo-placer gold mineralization. Geophysical surveys are planned.

Great Atlantic Resources Corp. [GR-TSXV; PH0-FSE] plans to drill its Keymet precious/base metal property near Bathurst, New Brunswick to test the continuation along strike and depth of copper-lead-zinc-silver-bearing veins intersected during 2015 and 2017 drilling programs and continuation of a gold zone discovered during 2017 drilling.

GTA Resources and Mining Inc. [GTA-TSXV] holds the Burnt Pond base metal VMS project in Newfoundland where it has completed a 874-metre, three-hole, drill program along strike from Teck's past-producing Duck Pond copper-zinc mine.

Inomin Mines Inc. [MINE-TSXV] holds a 100% interest in the King's Point VMS polymetallic (gold-copper-zinc) project in Newfoundland's prolific Green Bay mineral region. The property has just been 100% optioned to Maritime Resources Corp.

The claims cover geological extensions to Maritime's Hammerdown gold deposit. An exploration program is planned.

Iron Ore Company of Canada reported total concentrate production from the IOC Project of 20.2 million tonnes in 2017 was 5% higher as compared to 2016 of 19.2 million tonnes, but below the 22 million tonnes objective for 2017. Production of ore from the Wabush 3 pit is on track as planned for July 2018.

King's Bay Resources Corp. [KBG-TSXV; KBGCF; KBG1-FSE] reported assays back from Phase 1 drilling on King's Bay's 100%-owned Lynx Lake copper-cobalt project in southeastern Labrador. Hole LL-17-01 returned 0.071% nickel+cobalt over 115.2 metres.

Manganese X Energy Corp. [MN-TSXV; SNCGF-OTC; SSM-Lima] has 55 claims covering 1,228 hectares about 5 km northwest of Woodstock, southwest New Brunswick. It encompasses all or parts of five manganese-iron zones including Iron Ore Hill, Moody Hill, Sharpe Farm, Maple Hill and Wakefield. The company is also conducting metallurgical studies. There are favorable drill results from a 25-hole, 5,100-metre program. The company is working towards a resource calculation.

Marathon Gold Corp. [MOZ-TSX; MGDPF-OTC] recently released a positive PEA on its 100%-owned Valentine Lake Gold Camp in central Newfoundland. The PEA envisages the gold deposits would be mined by open pit methods and gold recovery by a combination of a milling circuit and heap leaching.

The PEA stated that average annual production would be 188,500 oz/year starting in 2022. After-Tax NPV (5%) is CDN \$466 million with an After-Tax IRR of 25% and an After-Tax payback period of 2.8 years. Preproduction capital is \$483 million. Life-of-Mine average All-In Sustaining Costs are \$756/oz. Mine life would be 11 years with a throughput of 7,500 tpd (mill) and 9,000 tpd (heap leach).

The project hosts four, near-surface, mainly pit-shell constrained deposits with measured and indicated resources totaling

2,137,400 oz gold at 1.99 g/t and inferred resources of 1,104,700 oz at 1.99 g/t gold.

Phillip Walford, President and CEO, said there are “opportunities to enhance the mine plan and economics of the project as well as extend mine life” as there are other known gold-bearing zones that have not been drilled off, including a large underground resource. Walford told *Resource World* that the company will now work toward preparing a Pre-Feasibility Study and then on to a Feasibility Study.

All 14 winter 2018 Sprite Zone bog drill holes (VL-18-257 to VL-18-667) intersected an echelon stacked, southwest-dipping QTP-gold veining in an extensive alteration halo. This newly discovered mineralization beneath the Sprite Zone bog has added another two kilometres to the strike length of the mineralized corridor at the Valentine gold camp and provides an excellent target for additional resource development.

Latest drill results include 8.36 g/t gold over 6.00 metres, 7.12 g/t gold over 4.0 metres and 1.12 g/t over 40 metres. Earlier assays include 14.68 g/t gold over 8.0 metres and 4.11 g/t gold over 7.00 metres.

Maritime Resources Corp. [MAE-TSXV] was recently the target of a hostile takeover offer from **Anaconda Mining Inc.** [ANX-TSX; ANXGD-OTC]. Maritime has requested that its shareholders not tender their shares as the company considers the offer inadequate.

Maritime holds 100% of the Green Bay property which hosts the past producing Hammerdown gold mine, the Orion gold deposit and the Lochinvar base-precious metals deposit in Newfoundland.

Anaconda owns the Point Rouse Project (comprised of the Pine Cove open pit mine and Stog'er Tight Mine) northern Baie Verte Peninsula, north-central Newfoundland. The company has several exploration and advanced projects including the Goldboro, Great Northern and Tilt Cove. Also, see Inomin data.

Morien Resources Corp. [MOX-TSXV; APMCF-OTC] holds royalty interests in two, long life, tidewater-accessed projects in Nova Scotia. The Donkin Coal Mine began production in Q1 2017 and the

Black Point aggregate project was permitted in Q2 2016 and is progressing toward a development decision.

New Millennium Iron Corp. [NML-TSX; NWLNF-OTC] is now at the development stage at its seven, long-life NI 43-101 compliant taconite properties in the Labrador Trough straddling the Labrador-Québec border. NML's largest shareholder and strategic partner is Tata Steel. The company's project areas are connected via a well-established, heavy-haul rail network to the Port of Sept-Îles, Québec. New Millennium also has a minority interest in a direct shipping ore project that produces and ships sinter fines.

Osisko Metals Inc. [OM-TSXV; BWMXF-OTC; OB5-FSE] reported additional results from its drill program on the Gilmour South Project 40 km southwest of Bathurst, N.B. Drill hole GS-18-19 intersected 13.76% zinc, 3.39% lead, 0.23% copper and 50.81 g/t silver over 11.00 metres within the targeted massive sulphide trend that now clearly links previous and historical intercepts not previously interpreted as a continuous zone.

Osisko has other zinc projects in New Brunswick – Brunswick Belt, Flat Landing Brook and Mount Fronsac.

Osprey Gold Development Ltd. [OS-TSXV; OSSPF-OTCQB] announced assay results from three holes drilled on the western portion of the Goldenville property, Guysborough County, Nova Scotia, in the Mitchell Lake Zone. All three holes hit multiple intervals of gold mineralization. Hole MIT17-01 intersected a broad zone of gold mineralization; 30.50 metres of 0.70 g/t gold, including 8.10 metres of 1.10 g/t gold, and 9.40 metres of 1.02 g/t gold. MIT17-01 also intersected high grade mineralization, 9.26 g/t gold over 0.50 metres.

Puma Exploration Inc. [PUMA-TSXV] has signed an option agreement with Trevali Mining to explore and develop the Murray Brook deposit and has signed a strategic alliance agreement setting terms of the exploration of combined mining properties in the Restigouche-Armstrong belt region of New Brunswick.

Trevali will provide up to \$7.5 million of financing to finalize the acquisition of the Murray Brook Project, which includes the Murray Brook deposit and the Murray Brook east property, by Puma within the time frame negotiated with Votorantim Metals Canada Inc. and El Nino Ventures Inc.

The Murray Brook deposit has measured and indicated resources of 5.28 million tons averaging 5.24% zinc, 1.80% lead, 0.46% copper, 68.9 g/t silver and 0.65 g/t gold containing 610 million pounds of zinc, 209 million pounds of lead and 11.7 million ounces of silver.

Rambler Metals and Mining plc's [RAB-TSXV; RMM-AIM] principal project is the producing Ming copper-gold mine on the Baie Verte Peninsula of the island of Newfoundland. Over a planned 20-year life-of-mine ending 2037, the project will produce 514,000 tonnes of high-grade copper concentrate containing saleable metal of 312 million pounds of copper and 57,000 ounces of gold. Average annual sales is 26,000 tonnes of copper concentrate containing an average of 16 million pounds of saleable copper and 2,800 ounces of saleable gold. Average annual cash operating cost of \$1.98 per pound of copper net of by-product.

Search Minerals Inc. [SMY-TSXV] See Rare Earths article page 21.

Trevali Mining Corp. [TV-TSX, Lima; TREVF-OTCQX; 4T1-FSE] reported preliminary Q1 2018 Caribou production in the Bathurst Camp was 19 million pounds of payable zinc, 7.2 million pounds of payable lead and 216,087 ounces of payable silver. Mine production and mill throughput set new first quarter highs of 238,650 tonnes and 235,531 tonnes, respectively.

Trevali has several exploration and development projects in the Bathurst Camp – Heath Steele, Stratmat and the Halfmile Mine. ■