Exploration and Development Highlights 2017

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Newfoundland Labrador

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Till sampling, Gander gold project, Torq Resources Inc.

Exploration and Development Highlights 2017

Introduction

The minerals industry in Newfoundland and Labrador saw increased activity in 2017 including significant progress on a number of established exploration projects, several mine development proposals, and the continuation of heightened interest in gold exploration that began in late-2016. Even more than in previous years, gold continues to dominate the exploration sector. Based on expenditure intentions reported during first half of the year, exploration spending in the province is forecast to increase significantly to about \$34.2 million in 2017, potentially marking the turnaround of the decline in provincial exploration expenditures that began in 2013. Claim staking significantly increased in late-2016 and a high level of claim staking continued in 2017 with the majority of new claims staked in Labrador in underexplored areas considered potentially prospective for gold.



Drill rig, South Tally Pond zinc-lead-copper-silver-gold project, Canadian Zinc Corp.







Exploration statistics, 1998 - 2017



Channel sample site, Heritage gold project, Puddle Pond Resources Inc.

Government Services

The Department of Natural Resources' Mineral Incentive Program continued its targeted support of the exploration sector with a budget of \$1.7 million for the 2017/18 fiscal year for cost-shared funding of approved projects. This program also supports prospectors through direct grants, mentoring, and training courses.

Likewise, the department maintained delivery of its geoscience program in the Geological Survey of Newfoundland and Labrador (\$1.0 million operating budget). Key initiatives designed to encourage mineral exploration included bedrock geological mapping and mineral deposit studies in the Labrador Trough, and till geochemical surveys, bedrock mapping, gold and base metal metallogenic studies in Newfoundland, and releases of data from previous surveys on the Island and in Labrador."

The department also assists the mineral industry through its extensive web-based research tools and utilities, including GIS-based databases and mineral claim staking. The web-based Geoscience Atlas is updated regularly with new geochemical and geophysical data, with a continuing focus on building the provincial geoscience database.

The department maintains drill core libraries throughout the province housing approximately 1.4 million metres of core collected from mineral exploration projects. The core collection is available to the exploration industry for viewing, relogging, and sampling.



China Mining 2017, Tianjin



PDAC 2017, Toronto

The department plays a lead role in informing potential investors, both in Canada and abroad, about the province's mineral resources, mineral potential and the overall operating environment of the mineral sector. This effort is conducted through a variety of initiatives and activities including participation in annual mining conferences such as PDAC, AME Roundup and our own Mineral Resources Review, developing and maintaining technical and promotional materials relating to the mineral sector, publishing general or sector-specific technical articles in trade journals, responding to gueries on mineral investment opportunities, and developing and maintaining a substantial minerals investment section on the department website.

In recent years the department's marketing efforts have continued to target the important Asian sector, both as a source of investment capital for advanced projects and as a market for our existing and potential mineral resources. This effort includes participating in the annual China Mining conference and related mineral investment forums in China and Canada, helping organize, in cooperation with other jurisdictions and the federal government, inbound trade missions from China, and developing and maintaining a Mandarin section on the investment side of the website.

Outlook

The 2018 outlook for the minerals sector in the province is more favorable than in recent years however remains highly dependent on commodity. The renewed interest in gold exploration continues in 2017 and this, combined with significant exploration interest for copper and zinc, provide for an optimistic outlook for the Island. Exploration activity in Labrador remains low compared to historic levels, largely due to weak iron ore, nickel, and uranium prices, however new interest in gold exploration in vast underexplored areas represent an area of potential industry growth.

For further information on the minerals sector in Newfoundland and Labrador, please visit the Department of Natural Resources website at nr.gov.nl.ca/nr/mines/exploration/ explorationactivity/exp_overview.html



Examining drill core, Lynx Lake copper-cobalt project, King's Bay Resources Corp.

Note to reader

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New Mining and Processing Developments

Alderon Iron Ore Corp. released an updated Preliminary Economic Assessment (PEA) for the Kamistiatusset (Kami) iron ore project, western Labrador, representing an update to a re-scoped PEA released earlier in 2017. The updated PEA envisions using a stand-alone tailings management facility and is based on an initial capital expenditure for the project of US\$999.4 million and an operational expenditure of US\$29.92 per dry metric tonne with a production rate of 7.8 million tonnes per year of iron ore concentrate at a grade of 65.2% iron. The planned production from the Kami project has been pre-sold under the terms of off-take agreements with HBIS Group Co., Ltd and a subsidiary of Glencore plc.

For the fiscal year ended May 31, 2017, Anaconda Mining Inc. sold 15,562 ounces of gold produced from the Pine Cove mine, Point Rousse gold project, located near Baie Verte, north-central Newfoundland. \$25.7 million were generated in revenue at an average sale price of \$1,651 per ounce. The Pine Cove mill increased throughput by 8% to 1,223 tonnes per day compared to the previous fiscal year. The company generated a further \$0.9 million from the sale of mine waste rock as aggregate from its nearby Point Rousse port facility constructed in 2016 on the eastern side of Baie Verte Harbour.

Anaconda received approval from the Newfoundland and Labrador Department of Natural Resources to utilize the Pine Cove pit as a 7 million-tonne in-pit tailings storage facility for the Point Rousse gold project, with the intention of putting the tailings storage facility into service in early 2018. Unlike tailings facilities with engineered walls, an in-pit tailings facility provides less technical and environmental risk. As the Pine Cove pit transitions to a tailings storage facility, the company will continue to mine the Pine Cove deposit in areas adjacent to the pit. **Anaconda** announced that it plans to resume mining the Stog'er Tight deposit, located within the Point Rousse project area approximately 3.5 km from the Pine Cove mill, beginning in early 2018.

The Iron Ore Company of Canada (IOC)

announced that it will proceed with the planned Wabush 3 pit development near Labrador City, western Labrador. The company previously put the planned development on hold in 2016. The development will provide a new source of ore to the company's Carol iron ore project which has been operating continuously since the 1960s and should extend the life of mine by 12 years. Mining at Wabush 3 is set to commence in the second half of 2018. The Carol project produces approximately 23.5 million tonnes of concentrate annually and sells both concentrate and pellets.

Maritime Resources Corp. completed a Prefeasibility Study on the past-producing Hammerdown gold project, north-central Newfoundland. The study demonstrates the viability of bringing the mine back into commercial production with low upfront capital costs and a short timeline to the start of gold production. The engineering design optimizes a small footprint within the historical mine area as well as utilizing some of the existing underground infrastructure. The operation is expected to



Re-opened mine portal, Hammerdown gold project, Martime Resources Corp



produce approximately 400 tonnes per day over a five-year mine life to produce a total of 174,000 ounces. The pre-tax operating cash cost to produce an ounce of gold is \$558 CDN with an all in pre-tax-cost (including capital, sustaining capital and operating cost) of \$955 CDN per ounce. The study assumes a mill recovery of 97% based on the historic treatment of the ore at the nearby Nugget Pond mill from 2000 to 2004. The Nugget Pond mill is presently owned and operated by Rambler Metals and Mining who in 2016 entered into an agreement with Maritime to negotiate a toll milling arrangement involving the Nugget Pond mill should both companies agree to re-open the Hammerdown mine.

Maritime re-opened the underground portal to regain access to the Hammerdown mine by removing the plug of unconsolidated material that was put in place in 2004. The company reports that the ramp appears to remain in excellent condition and will require less rehabilitation than expected to re-activate.

Rambler Metals and Mining plc announced that during November, 2017, 33,870 tonnes of ore from the Ming mine were processed at Nugget Pond mill, representing a record monthly throughput for the operation. The Ming coppergold mine and the Nugget Pond copper-gold mill are located on the Baie Verte peninsula, north-central Newfoundland. The November feed had a grade of 1.19% copper and 0.75 g/t gold and averaged 1,221 tonnes per day during operational hours, including 17 days running at an average of 1,260 tonnes per day. Upgrades to the ventilation system will allow for increased activity and faster clearing times in the mine.



Rambler announced the results of ore preconcentration test work carried out in 2016. As part of its ongoing technical evaluation of expanding the Ming mine beyond the current planned mining rate of 1,250 metric tonnes per day, the company has been investigating dense media separation as a pre-concentration step before milling. In 2016, approximately 2,200 dry metric tonnes of run of mine low grade material (~0.8% copper) was test processed, yielding 1,457 tonnes of plant feed material with a grade of 1.14% copper, representing a 1.4X increase of grade in the pre-concentration step with 93.6% of the total contained copper recovered prior to milling. This result is consistent with earlier testing. Rambler intends to continue advancing engineering studies on ore preconcentration and shaft rehabilitation with a view to increase production to 2,000 metric tonnes per day.

Red Moon Resources Inc. registered for provincial environmental assessment a proposal to mine the Ace gypsum deposit located near St. George's, western Newfoundland. The proposed open pit operation is located at the site of the former Flat Bay mines that produced at least 15,000,000 tonnes of gypsum prior to 1990. The company intends to commence production as soon as possible with marketable material available for spring 2018, subject to regulatory approval and positive mining parameters. Initially, mining will start at an existing face in the former open pit. A deep-water port connected by a haulage road is located approximately 9 km from the proposed Ace pit.

Search Minerals Inc. registered for provincial environmental assessment a proposal to mine the Foxtrot rare earth element (REE) deposit, located near the Town of St. Lewis, southeastern Labrador. The mine will have an estimated life of fourteen years, the first eight of which will involve an open pit operating for six months of the year (May to October) and producing 2000 tonnes per day while the last six years will involve underground mining for 12 months of the year and producing 1000 tonnes per day. An onsite processing mill will produce 10 tonnes of product per day and will operate year round using ore stored on site. The 43-101 compliant resource estimate for the Foxtrot deposit was updated in 2015 and consists of an Indicated resource of 7.39 million tonnes of ore at 1.09% total rare earth oxide and an Inferred resource of 1.98 million tonnes at 1.17% total rare earth oxide. Revenue projections for the Foxtrot mine are dominated by Nd, Dy, Pr, and Tb, all elements that are projected to remain in supply deficit. The company continues to evaluate additional Foxtrot-like prospects within the Port Hope Simpson REE project area, including the Deep Fox prospect drilled in 2017, with the idea that they may provide additional resources to supply a central processing facility located in the region.

Tacora Resources Inc.'s proposal to reactivate the Scully iron ore near the Town of Wabush, western Labrador, was released from provincial environmental assessment. The Scully Mine previously operated from 1957 – 2014 and the assets entered the Companies' Creditors Arrangement Act process in 2015. Tacora obtained the assets in 2017 and intends to reactivate the mine and mill on the same footprint. The company proposes to operate the existing facility for a minimum of 15 years at an expected annual production rate of 6.25 million tonnes once fully operational.

Vale suspended its plan to construct an underground mine at the Voisey's Bay nickelcopper-cobalt mine, northern Labrador, pending the outcome of a review of the company's base metals business. According to the plan announced in 2015, the underground mine would see first production in 2020 around the same time the surface mine is expected to reach the end of its lifespan, and would extend mine life by about 15 years and include the Reid Brook and Eastern Deeps deposits located near the current open pit mine.

Exploration Highlights

With respect to the projects referenced below, the following companies submitted Letters of Intent requesting financial support towards exploration expenditures made in the 2017/18 fiscal year through the department's Junior Exploration Assistance Program (JEA). The grant amounts for each project will be posted on the JEA website once the grants are paid out. nr.gov.nl.ca/nr/mines/exploration/mip/jea.html

List of companies

Anaconda Mining Inc. Antler Gold Inc. Benton Resources Inc. Great Atlantic Resources Corp. GTA Resources and Mining Inc. Kings Bay Resources Corp. Marathon Gold Corp. Maritime Resources Corp. New Dawn Resources Inc. Puddle Pond Resources Inc. **Quadro Resources Ltd.** Red Moon Resources Inc. Search Minerals Ltd. Sokoman Iron Ore Corp. Torq Resources Inc. Ubique Minerals Ltd. Vulcan Minerals Ltd.

In the following information, reported drill intercepts are core lengths except where otherwise specified.

Gold

Anaconda Mining Inc. continued its strategy to extend the life of the Pine Cove gold operation by exploring for additional resources located near the Pine Cove mill within the Point Rousse gold project, north-central Newfoundland. The project area contains, in addition to the mine and mill, the previously producing Stog'er Tight and Deer Cove deposits, and numerous prospects and showings include the Argyle prospect discovered in 2014.

Anaconda released results from its late-2016 drill program on the Argyle prospect. The Phase 2 program consisted of 2,174 m over 22 holes and extended the strike length of mineralization by about 50% to over 600 m while more than doubling the down-dip extension to at least 225 m. Highlights include 5.52 g/t gold over 15.0 m and 2.95 g/t gold over 15.0 m. The Argyle prospect is a shallow-dipping, near-surface (less than 100 m depth) mineralized system with intercept grades in core that are higher than the current production grade at the Pine Cove pit.

Diamond drilling carried out on the Argyle prospect in 2017 consisted of 1,002 m over 8 holes and targeted high-grade zones identified by previous drilling. The drill program extended Argyle's known mineralization up to 100 m down-dip in the northeast and demonstrated the continuity of a higher-grade zone over a further 50 m down-dip to the north than previously known. Highlights from the high-grade zone include 3.63 g/t gold over 12.0 m and 3.22 g/t gold over 4.0 m. The Argyle prospect mineralization remains open down dip and along strike.

Percussion drilling carried out on the Argyle prospect consisted of 491 m over 25 shallow holes designed to demonstrate continuity of near surface mineralization encountered in previous trenching and diamond drill programs. The primary goal was to verify the presence of mineralization rather than determine in-situ grade. 20 of the holes intersected mineralization, confirming that mineralization is continuous between previously drilled, broader spaced, diamond drill holes along a 400-m strike length on the southern portion of the near-surface mineralized area. Highlights include composited assays of 1.35 g/t gold over 8.23 m and 1.35 g/t gold over 7.32 m.

In late-fall **Anaconda** initiated a 5,000 m diamond drill program with the intention to drill along and adjacent to the Scrape Trend, a 6-km strike length of prospective geology that includes the Pine Cove mine, Stog'er Tight deposit, the Argyle and several other gold prospects. The program will focus on four main targets – Argyle, the Connector Zone, Anoroc and Corkscrew Road – all of which are located within 5 km of the Pine Cove mill. A combination of infill and step-out drilling is planned for the Argyle prospect.

Anaconda had metallurgical testing carried out on a 25-kg sample of blended core samples from the Argyle prospect with an average grade of 2.69 g/t gold. The testing achieved a combined floatation and leach recovery of 91.9%. The testing was conducted to determine the metallurgical characteristics of Argyle mineralization and successfully verified that the mineralization can be effectively processed at the nearby Pine Cove mill without mill modifications.

Anaconda commenced a research and development project to develop, prototype and optimize a new technology to mine steeplydipping narrow gold veins that cannot be mined cost-effectively with existing technologies. The company cited the presence of narrow vein mineralization within the boundaries of the Point Rousse project such as the Romeo and Juliet prospect. The Atlantic Canada Opportunities Agency (ACOA) announced more than \$1.5 million for the project through the Atlantic Innovation Fund and the provincial government a grant of \$520,000 through its GeoEXPLORE program.

Antler Gold Inc. carried out the first phase of diamond drilling on the Wilding Lake gold project, central Newfoundland, consisting of



Drill rig, Wilding Lake gold project, Antler Gold Inc.

2,599 m over 30 holes. The drilling targeted the Elm, Alder, Taz, and Raven zones, which consist of mineralized quartz vein systems hosted by the Rogerson Lake conglomerate, the Red Ochre complex, which consists of fractured porphyry located south of the conglomerate, as well as induced polarization and magnetic anomalies. Highlights include 10.01 g/t gold over 5.35 m from the Elm Zone and 1.51 g/t gold over 11.0 m from the Red Ochre complex.

Drilling was preceded by trenching of known prospects as well as of soil anomalies which resulted in the discovery of the Raven zone and Red Ochre complex. The discovery of mineralization in the felsic volcanics south of the conglomerate contact has significantly increased the known gold potential of the project. The discovery of gold mineralization on what became the Wilding Lake gold project area was first announced in 2016. The initial Wilding Lake discovery of mineralized float was made by local prospectors along a newly constructed logging road and using funding provided by the provincial prospector grant program.

Benton Resources Inc. and project partner Nordmin Engineering Ltd. released an updated Preliminary Economic Assessment (PEA) for the Cape Ray gold project, southwestern Newfoundland. The updated PEA is based on an updated resource estimate developed after completion of a 5,000 m drill program in 2016. Highlights from the PEA include 2.8 million tonnes of mill feed of average grade 3.3 g/t gold and 9.7 g/t silver, average mill through-put of 1,000 tonnes per day, a mine life of 9 years with total production of 291,000 ounces of gold and 553,000 ounces of silver, and a gold recovery of 98% and silver recovery of 63%. The project is envisioned as an open pit operation. The updated 43-101 compliant resource estimate consists of Indicated resources of 124,000 ounces of gold at 7.56 g/t gold and 331,000 ounces of silver at 20.1 g/t silver and Inferred resources of 18,000 ounces of gold at 7.03 g/t gold and 41,000 ounces of silver at 16.34 g/t silver.

Great Atlantic Resources Corp. carried out trenching in the northern region of the Golden Promise gold property, central Newfoundland. Six samples of angular quartz vein boulders from the trenches exceeded 30 g / t gold including four of the samples from a new target area east of the Jaclyn North zone. The company has planned a drill program which will target the Jacklyn Main and Jaclyn North zones. The Jaclyn Main zone deposit has a 2008 43-101 compliant Inferred resource estimate of 921,000 tonnes containing 89,500 ounces of gold at an average grade of 3.02 g/t gold.

Marathon Gold Corp. continued to carry out large-scale drill programs on the Valentine Lake gold project, central Newfoundland, which covers a 23 km long, gold-bearing mineralized corridor along the Valentine Lake thrust fault. Mineralization consists of gold-bearing quartztourmaline-pyrite veins. The project currently hosts four deposits (Leprechaun, Sprite, Marathon, and Victory) with 43-101 compliant resource estimates, each of which remains open along strike and to depth. Drilling is planned to resume in January 2018 with a focus on expanding the Marathon resource as well as drilling the boggy areas between the Marathon and Sprite deposits.

Drill programs were carried out throughout 2017 on the Marathon deposit and its broader mineralization corridor which at year-end 2016 had a known strike length of at least 1.7 km.

Winter drilling demonstrated the vertical continuity of the Marathon deposit sub-vertical mineralized corridor. Highlights from 200 m or more depth include of 3.01 g/t gold over 47.0 m. Highlights from near-surface include 25.33 g/t gold over 14.0 m. Other highlights include 1.88 g/t gold over 136 m drilled sub-vertically into the mineralized corridor.

Deeper drilling of the Marathon mineralized corridor during the spring increased the known depth of mineralization to 1 km, including visible



Drill rig, Valentine Lake gold project, Marathon Gold Corp.

gold observed as deep as 950 m. Deep drilling highlights include 3.25 g/t gold over 32.0 m and 4.09 g/t gold over 19 m.

Mid- to late-year drilling of the Marathon deposit represented a combination of steep infill drilling, step-out drilling along strike to the southwest to expand the open pit resource, and hanging and footwall drilling aimed at reducing the strip ratio for the resource pit shell. In addition, longer drill holes were designed for infilling in the upper portion of the hole and exploration in the lower portion. Highlights include 1.82 g/t gold over 82.0 m and 2.13 g/t gold over 326.0 m intersected down through the main mineralized corridor. The infill drilling confirmed the continuity of mineralization throughout the corridor as well as intercepting numerous high-grade intervals. Highlights from step-out drilling along strike include 8.46 g/t gold over 5 m. According to the most recently released drill results, the main mineralized corridor is 50 to 125 m wide and at least 500-700 m deep.

Mid- to late-year drilling of the Leprechaun deposit confirmed the continuity of the Main Zone corridor and also intersected hanging wall mineralization. Highlights from the Main Zone corridor include 2.65 g/t gold over 301 m. Highlights from drilling down-dip include 5.30 g/t gold over 11.0 m.

Marathon released an updated 43-101 compliant resource estimate in November for the Valentine Lake property. The estimate consists of a Measured and Indicated resource of 1,846,500 ounces gold at 1.88 g/t gold and an Inferred resource of 1,011,700 ounces gold at 1.65 g/t gold, representing increases of 33% and 32%, respectively, from the previous resource estimate released earlier in the year. 88% of the Measured and Indicated resource is pit shell constrained. According to the company, the November resource estimate means that the Valentine Lake property now hosts the largest gold resource in Atlantic Canada.

In December **Marathon** announced that a Preliminary Economic Assessment will be carried out for the Valentine Lake gold property due to be completed in 2018.

Marathon bought back the 3% precious metals NSR royalty and the 2% base metals NSR royalty on the Valentine Lake gold property in central Newfoundland from a third party for US\$8.7 million. The company stated that the elimination of the NSR on both the Marathon and Victory deposits will give better economic results in the Preliminary Economic Assessment by reducing the costs of mining.

Maritime Resources Corp. released a new 43-101 compliant reserve and resource estimate for the past-producing Hammerdown gold project as part of the Prefeasibility Study. The estimate consists of 179,358 ounces of Proven and Probable reserves at a grade of 7.96 g/t results include 67.5 g/t over 0.5 m. A 3,000 m drill program is planned for winter 2018 and will include shallow drill holes to outline grade and thickness of the recently trenched veins.

Maritime carried out trenching on the Whisker Valley gold project, north-central Newfoundland. The trenching program increased exposure of the Jackson vein system, including the newly discovered Ben and Gary



Trenching, Hammerdown gold project, Maritime Resources Corp.

gold, 315,600 ounces of Measured and Indicated resources at 10.6 g/t gold, and 376,900 ounces of Inferred resources at 7.53 g/t gold. The Hammerdown gold deposit was mined by Richmont Mines between 2000 and 2004 to produce a total of 291,400 tonnes of ore at an average grade of 15.83 g/t gold with recovery of 143,000 ounces of gold.

Maritime carried out trenching on veins located adjacent to the former open pit mine on the Hammerdown gold project. Assay veins, to over 250 m with mineralization open in both directions and at depth. Highlights include a weighted average grade of 16.61 g/t gold for the Gary vein with an average vein width of 0.91 m over a projected sample strike length of 38 m.

Puddle Pond Resources Inc. carried out drilling on its Heritage gold-silver project, southern Newfoundland, consisting of 1089 m over nine holes. The drilling intersected down dip mineralization at the previously undrilled Mossy, Flatbed, Whalesback and Zaxis prospects. Assay results are expected to be released mid-January 2018. Mineralization is hosted by the Point May epithermal system, an alteration envelope containing gold-silver mineralized quartz veins and hydrothermal breccias at the Eagle zone and 19 other identified prospects. The Point May epithermal system measures approximately 4.5 x 2.5 km in its known extent.

Sokoman Iron Corp. carried out initial drilling on the Clarks Brook gold project, central Newfoundland. The Phase 1 program consisted of 515 m over four holes designed to test approximately 100 m of known strike length of the mineralization at Clarks Brook. All four holes intersected a variably mineralized structural zone carrying widespread and locally significant gold grades. Highlights include 3.37 g/t gold over 3.00 m and 1.65 g/t gold over 2.40 m. The mineralization remains open along strike and to depth, and the company intends to commence a Phase 2 drilling program to begin in early 2018. At surface, the Clarks Brook prospect consists of mineralized angular boulders discovered in 2004.

Sokoman carried out a large soil sampling programs on the Crippleback Lake and East Alder gold projects, central Newfoundland. Highlights for Crippleback Lake include gold-in-soil values up to 73 ppb and till samples with up to 60 grains of gold. The results at Crippleback suggest multiple gold targets over a 6 km strike length of the same major structural corridor which hosts gold mineralization at Antler Gold Inc.'s Wilding Lake project and Marathon Gold Corp.'s Valentine Lake project. Highlights from East Alder include gold-in-soil values up to 75 ppb in previously unexplored areas as well as new discoveries of mineralized float. According to the



Drill rig, Heritage gold project, Puddle Pond Resources Inc.

company, the newly discovered mineralization is similar to the newly discovered Red Ochre zone on the adjoining Wilding Lake property.

Torg Resources Inc. carried out regional till sampling on the Gander gold project, central Newfoundland. The program was designed to identify centers of gold mineralization beneath till cover and consisted of 1,749 samples collected over a 50 km by 15 km area along the Dog Bay crustal scale fault zone considered by the company to be highly prospective for gold mineralization. The sampling identified six gold-in-till anomalies. A follow-up sampling program consisting of in-fill till and biogeochemical sampling was initiated to investigate the five strongest gold-in-till anomalies identified during the regional program. A total of 2,400 till samples and 4,800 biogeochemical samples were planned to encompass the target areas in addition to the Cracker and Lucky Moose surface showings. The company intends to conduct trench and drill programs in 2018 with targets chosen based on the results. Historical data from the project area demonstrate the high-grade gold potential of the region with a number of grab and trench samples above 10 g/t gold from the Cracker and Lucky Moose prospects.

Quadro Resources Ltd. began drilling on the Staghorn gold project, central Newfoundland, which covers a 30 km strike length of the same major structural corridor which hosts gold mineralization at Antler Gold Inc.'s Wilding Lake project and Marathon Gold Corp.'s Valentine Lake project. Initial drill holes were to target the Woods Lake zone where previous work has identified a 30 m wide zone of alteration and mineralization highlighted by a previous drill intercept of 2.14 g/t gold over 16.11 m. Other significant areas of mineralization include the Ryan's Hammer and Rich House zones. A total of 2000 m are planned.

Base Metals (Copper, Lead, Zinc)

Canadian Zinc Corp. carried out drilling on the South Tally Pond zinc-lead-copper-silvergold project, central Newfoundland, targeting extensions of the Lemarchant Main zone and the Lemarchant Northwest zone, the previously undrilled Lemarchant North target area, and other areas. Drilling of the Main zone consisted of almost 7,500 m over 32 holes and three drillhole extensions and extended the Lemarchant deposit up-dip by up to 80 m over a 200-m strike length at vertical depths between 120 to 170 m. Highlights from the Main



Drill rig, South Tally Pond zinc-lead-copper-silver-gold project, Canadian Zinc Corp.

zone include 14.06% zinc, 6.27% lead, 1.88% copper, 382.9 g/t silver and 2.01 g/t gold with mineralized barite over 6.0 m and 14.41% zinc, 3.41% lead, 2.40% copper, 576.9 g/t silver, 1.06 g/t gold over 7.5 m. Drilling of the Northwest zone, located 250 m northeast of the Main zone, consisted of 1,460 m over four holes, and intersected massive sulphide with mineralized barite as well as stringer and semi-massive mineralization. Drilling of the Lemarchant North target area, located 300 to 500 m north of the Lemarchant deposit, consisted of five near-surface holes targeting conductive zones modelled from 2016 electromagnetic surveys and intersected iron sulphide-rich mudstone horizons similar to those located near surface at the Lemarchant deposit. Additional targets included the Lost Pond prospect located 10 km north of Lemarchant where copper mineralization occurs within mudstones geochemically similar to those which overlie Lemarchant.

Canadian Zinc announced that it engaged **Mercator Geological Services Ltd.** to complete a structural study of the Lemarchant deposit, and that the study will contribute to the preparation of an updated resource estimate for the deposit planned for after the current drill program. The Lemarchant deposit has a 2012 43-101 compliant resource estimate of 1.24 million Indicated tonnes grading 5.38% zinc, 0.58% copper, 1.19% lead, 1.01 g/t gold and 59.17 g/t silver and 1.34 million Inferred tonnes grading 3.70% zinc, 0.41% copper, 0.86% lead, 1.00 g/t gold and 50.41 g/t silver.

Canadian Zinc announced the completion of the metallurgical and economic research project undertaken collaboratively with Buchans Minerals Corp. (now **Buchans Resources Ltd.**) to explore the concept of a centralized milling facility to process multiple copper-lead-zinc-silver-gold deposits in central Newfoundland. The main deposits studied were the Lemarchant and Boomerang-Domino deposits held by Canadian Zinc and the Bobbys Pond, Daniels Pond and Lundberg deposits held by Buchans Resources. The project included bench-scale metallurgical test work to characterize each deposit with respect to flotation for production of copper, lead and zinc concentrates as well as dense media separation as a potential means of preconcentrating the ore at the mine sites in order to reduce trucking costs to the central milling facility. The test results support the development of a common sequential flotation flowsheet for processing the five deposits to produce marketable copper, lead and zinc concentrates. Pre-concentration by dense media separation prior to flotation was determined to be technically viable for samples representing Lundberg, Bobbys Pond and the Lemarchant footwall.

The metallurgical testing was followed-up with process simulation and cost assessment modelling to evaluate and identify the key factors that would impact the operating economics of a centralized processing concept. Multiple conceptual economic scenarios at three potential sites were developed, with Lundberg (being the largest but lowest grade deposit) considered the main plant feed and Lemarchant, Boomerang, Daniels Pond and Bobbys Pond treated as satellite deposits. The variables assessed included the different potential mill sites, with or without dense media separation, new or used process equipment, mining rate, and processing feedstock composition for each deposit.

The research program was initiated in 2015 and carried out by **Thibault & Associates Inc**. The research program was funded in part by the provincial government's **GeoEXPLORE** program.

Great Atlantic Resources Corp. carried out trenching and drilling on the Pilleys Island base and precious metal project, north-central Newfoundland. Grab samples collected from the trenches returned up to 27.5% zinc, 20.0% lead, 8.36% copper and 63.4 g/t silver. One of the areas trenched, the Bull Road showing, has a historic drill intersection of 7.85 m grading 0.66% copper, 0.51% lead, 3.41% zinc and 0.34 ounces/ton silver. Current trenching of the Bull Road showing exposed mineralization over a length of 130 m with a width varying between 1 - 7 m. Drilling was carried out subsequently and was planned to consist of 800 m over four holes targeting several areas. The Pilleys Island project area contains the former Pilleys Island copper mine which operated from 1891 to 1908 over which time it produced 525,000 tons of ore.

GTA Resources and Mining Inc. carried out drilling on the Burnt Pond zinc-silver project, central Newfoundland, located along strike from the recently past-producing Duck Pond copperzinc mine. The program consisted of 874 m over three holes and tested two of the numerous base metal targets identified in the 2016 ground geophysics, lithogeochemistry and compilation program. The drilling extended the Burnt Pond base metal horizon an additional 250 m to the northeast and had a best intersection of 0.7% zinc and 5.1 g/t silver over 4.2 m. Additional drilling is being planned to further test the Burnt Pond horizon and similar targets within the Burnt Pond project area.

Kapuskasing Gold Corp. carried out drilling on the Lady Pond copper-cobalt project, located near the Town of Springdale, north-central Newfoundland. The program was planned to consist of approximately 1000 m with the intention of confirming historical copper mineralization, as well as to begin the process of working towards a 43-101 compliant resource estimate for the Sterling, Twin Pond, and Lady Pond prospects. The Lady Pond project area covers a number of historic shafts, mine workings, and areas of historic drilling. The geology underlying the Lady Pond property consists of Lushes Bight group volcanics, the same lithology which hosts the nearby previously mined Little Deer and Whalesback copper deposits held by Rambler Mining and Metals plc.

New Dawn Resources Inc. reported additional results from its 2016 drill program on the Butlers Pond copper-gold-silver project, eastern



Alteration, Butlers Pond copper-gold-silver project, New Dawn Resources Inc.

Newfoundland, which consisted of 350 m over eight shallow holes. The drilling confirmed the presence of porphyry style copper-gold-silver mineralization and alteration, with intersections including narrow zones (0.1 to 0.5 m) of copper mineralization with values up to 0.55% copper.

Rambler Metals and Mining plc carried out surface-based diamond drilling targeting the depth extensions of the Lower Footwall zone and the high grade Ming Massive Sulphides. As of late-year, the program has extended the Lower Footwall zone an additional 550 m down-dip. Highlights from the Lower Footwall zone include 1.65% copper over 102 m, representing the thickest intersection of continuous mineralization discovered in the Lower Footwall zone to date. Highlights from the Ming Massive Sulphides include 2.85% copper and 2.99 g/t gold over 6.30 m. The company intends to continue the surfacebased drill program in 2018.

Rambler continued underground exploration drilling of Ming Massive Sulphides which, as in previous years, is designed to replace reserves mined during the year. Since 2012 the Ming operation has been mining the 1807 zone almost exclusively and the company announced mid-year that 2017 exploration drilling of the 1807 zone had already succeeded in replacing material mined. In addition, new drilling into the Ming North zone down dip has confirmed the continuation of mineralization at depth. The company has stated that confirmation of the depth extensions of the parallel high grade massive sulphide zones, including the Ming North, Ming South, 1806 and the 1807 zones, could be transformational for the operation while adding new flexibility for the blending strategy.

Ubique Minerals Ltd. carried out drilling on its Daniels Harbour zinc project, located northeast of the former Daniel's Harbour zinc mine, northern Newfoundland. The program consisted of 9 holes with the highlight being an intersection of 13.6% zinc over 39.9 ft including 17.43% zinc over 28.2 ft (true widths). **Vulcan Minerals Inc.** released results from its 2016 drill program on the Colchester coppergold project, north-central Newfoundland, consisting of 824 m over four holes drilled at the Old English zone. The program confirmed the presence of mineralization and geology intersected in historic drillholes and also provided initial calibration of the high-resolution induced polarization survey completed prior. Highlights include 1.6% copper over 5.10 m. The Colchester project hosts several former mines dating from the late nineteenth century which together produced 1,000 tons of ore from underground workings.



Drill rig, Colchester gold project, Vulcan Minerals Inc.



UTEM survey, South Voisey's Bay nickel-copper-cobalt project, Commander Resources Ltd.

Nickel-Copper-PGE

Fjordland Exploration Inc. and **Commander Resources Ltd**. carried out drilling on the South Voisey's Bay nickel-copper-cobalt project, central Labrador. The drill program consisted of 1469 m over 8 holes and tested a number of geophysical conductors outlined by UTEM surveys completed in 2014 and 2002. The holes were surveyed by downhole geophysical probes to document existing conductors and test for additional off hole conductors. The project covers the Pants Lake intrusion which is considered highly prospective for nickel mineralization. Upon completion of the program, Fjordland will have increased their ownership of the project from 15% to 35%.

King's Bay Resources Corp. carried out initial drilling on its Lynx Lake copper-cobalt project, southeastern Labrador, located along the Trans-Labrador Highway. The Phase 1 program

consisted of 501.9 m over two holes with both holes intersecting intervals of net textured gabbro for a total of 164.3 m and a mineralized biotite gabbro for a total of 14.9 m. The drill hole placement and orientation were determined based upon the amalgamation of the previously flown VTEM survey anomalies and known bedrock structure. Historical grab sample assays from the project area include 1.39% copper, 0.94% cobalt, 0.21% nickel and 6.5 g/t silver.

Rare Earth Elements (REE)

Search Minerals Inc. carried out drilling on the Deep Fox REE prospect, southeastern Labrador. 470 m over three holes have been reported completed so far out of approximately 2000 m planned. Mineralization similar to that observed and assayed in surface channels has been found in each of the three drill holes with assay results due in early 2018. The current drill program was planned to test for mineralization at depths of



Drill rig and field crew, Lynx Lake copper-cobalt project, King's Bay Resources Corp.

50 to 100 m along a 300 to 400 m surface strike length. The Deep Fox prospect has a known surface strike length comparable to that of the Foxtrot REE deposit located 12 km away and for which the company produced an updated 43-101 compliant resource estimate in 2015. The Deep Fox prospect and Foxtrot deposit are, along with more than 20 other prospects and targets, located within the company's Port Hope Simpson REE project. The company's aim is to discover and outline REE resources that could be mined as shallow, low operating and capital cost open pits, feeding a scalable, centralized processing plant in southeastern Labrador.

The Deep Fox drill program was preceded by infill channel sampling which succeeded in confirming the presence on the surface of high grades and significant widths. Highlights include 1421 ppm Y, 1955 ppm Nd, 516 ppm Pr, 50.6 ppm Tb and 282 ppm Dy over 6.54 m (true width).

Search Minerals Inc. received the final results for Foxtrot REE ore from its pilot plant operation at SGS Laboratories in Ontario. Over 3.0 tonnes of crushed material from the Foxtrot deposit was processed using the patented Search Minerals Direct Extraction Process to produce a high purity mixed rare earth oxide. Total rare earth oxide content was 99.0% by calculation and the key impurities uranium and thorium were less than 0.5 g/t and 5.5 g/t, respectively. According to the company, the completion of the pilot plant has provided the final product composition and concentrate samples needed to more formally engage with separation technology companies as well as companies within the rare earth supply chain, particularly those in the permanent magnet market. The pilot plant also produced environmental samples (leach residues, precipitates, and barren solutions) for characterization. The pilot plant project was supported by \$750,000 from the former Research and Development Corporation of Newfoundland and Labrador and \$500,000 from the Atlantic Canada Opportunities Agency.

Search received the results from a bench-top demonstration test on a sample of Deep Fox REE ore carried out at SGS Laboratories in Ontario using the Search Minerals Direct Extraction Process. The Deep Fox surface channel sample was approximately 1.65 times higher in total REE grade compared to the Foxtrot pilot plant sample. Extractions of 90.8% Nd, 90.5% Pr, 81.3% Dy and 82.5% Tb compare favourably with extractions from the Foxtrot pilot plant sample of 85% Nd, 86% Pr, 68% Dy and 71% Tb. Based on market forecasts, the Direct Extraction Process has been optimized to significantly increase recoveries for key revenue elements neodymium (Nd) and praseodymium (Pr).

Industrial minerals

Red Moon Resources Inc. carried out definition drilling on its Ace gypsum project, western Newfoundland, consisting of 26 holes drilled at 50-100 m spacing to average depth of 20 m to supplement historic drilling. The program utilized an air hammer drill which provided composite cutting samples at 3 m intervals and was sufficient to determine overburden depth, gypsum and anhydrite distribution and thickness and other geologic constraints. Preliminary mass balance analysis of the samples confirms the presence of gypsum and anhydrite over the full extent of the 11,79 hectare mining lease. Internal modelling of drill data confirms that 3-5 million tonnes of gypsum and anhydrite are present on the lease.

Red Moon Resources Inc. extracted a 3.5 tonne bulk sample from its Black Bay nepheline project, southeastern Labrador, and a duplicate portion of the sample was provided to SGS Canada to test its mineralogical, comminution, beneficiation, and metallurgical characteristics. Earlier test work on grab samples indicated that the nepheline is amenable to processing to a high value product. The bulk sample was obtained from 13 sawn channels up to 19.5 m in length with an average length of 6.5 m and was taken from the eastern portions of the deposit covering a gross areal extent 350 m long by 125 m wide limited only by outcrop exposure.

Channel sampling, Port Hope Simpson REE project, Search Minerals Inc.

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Major Transactions

Anaconda Mining Inc. acquired Orex Exploration **Inc.** which owns the Goldboro gold project located Nova Scotia. Anaconda acquired all issued and outstanding common shares of Orex. The Goldboro project is located on tidewater approximately 180 km northwest of Halifax. Anaconda has stated that the acquisition presents the opportunity to combine the Goldboro deposit with Anaconda's existing port, mill and tailings facilities of the Point Rousse project and thereby potentially achieve substantial capital cost reductions in developing the Goldboro deposit. Anaconda subsequently announced metallurgical test results for a core sample of the Goldboro deposit and the initiation of a large diamond drill program with the aim of resource expansion and infilling.

Antler Gold Inc. optioned from Altius Resources Inc. a large package of mineral claims in central Newfoundland representing six separate project areas located along the same major structural corridor which hosts gold mineralization at Antler's Wilding Lake project and Marathon Gold Corp.'s Valentine Lake project.

Benton Resources Inc. was notified by its Cape Ray gold project partner, Nordmin Engineering Ltd., that Nordmin has elected not to complete the necessary milestones required by the 2015 option agreement to earn a 30% interest in the project and as a result will form a 80% Benton and 20% Nordmin joint venture and return operatorship of the project to Benton. Both companies agree that significantly more exploration drilling is required before the project would be suitable for a feasibility study. The Cape Ray gold project is located in southwestern Newfoundland and contains four deposits with 43-101 compliant resource estimates.

Cartier Iron Corp. acquired the Big Easy goldsilver property, eastern Newfoundland. The property is underlain by a low sulphidation epithermal gold-silver system with the presence of silica sinter at surface and at shallow depths indicating that the paleosurface is essentially at the current surface. Past drilling on the property totaling 6,497 m outlined a mineralized zone approximately 300 to 400 m wide that has a prospective strike length of at least 5 km open to the north and south. Historical highlights include drill intercepts of 1.30 g/t gold over 8.7 m and 3.54 g/t gold and 511 g/t silver over 2.0 m.

Fjordland Exploration Inc. entered into a Letter of Intent with **Commander Resources Ltd**. allowing Fjordland to acquire up to a 100% interest in the South Voisey's Bay nickel-copper-cobalt project, central Labrador. Before the agreement Fjordland owned a 15% interest in the project earned under a 2014 agreement.

Great Atlantic Resources Corp. optioned the Pilleys Mine, Southern Golden Promise, and Point Learnington properties, central Newfoundland, from Unity Resources Inc. The Pilleys Mine property contains an historic copper mine. The Point Learnington property is located adjacent to the Point Learnington copper-zincsilver-gold deposit, which, at 13.8 million tonnes, is the largest single massive sulphide deposit found to date in the province. The Southern Golden Promise property is located south of the Golden Promise property, also optioned by Great Atlantic, which contains a 43-101 compliant resource estimate for gold. Subsequent staking by Great Atlantic has created an enlarged Golden Promise property which includes both options.

Kapuskasing Gold Corp. optioned the Daniels Harbour zinc property, northern Newfoundland, whereby Kapuskasing may earn a 100% interest in the property. The property is underlain by Mississippi Valley-type zinc mineralization and covers the former Daniels Harbour zinc mine from which approximately 7 million tonnes of ore averaging 7.8% zinc were mined between 1975 and 1990. **Kapuskasing** acquired the Lady Pond coppercobalt property, located near the Town of Springdale, north-central Newfoundland. The initial acquisition of the Lady Pond property was made by asset purchase, while the Sterling property, which includes the historic Sterling copper mine and Twin Pond prospect, was optioned subsequently and combined with the Lady Pond property.

Maritime Resources Corp. optioned the Whisker Valley gold property, north-central Newfoundland, located approximately 10 km from the company's past-producing Hammerdown gold project, whereby Maritime may earn a 100% interest in the property. The Whisker Valley property contains a number of veins containing high-grade gold mineralization, including visible gold.

Maritime acquired the El Strato and Strugglers Pond gold properties located adjacent to the Whisker Valley property. Both properties host veins containing gold mineralization, including historic drill intersections of 14.23 g/t gold over 1.2 m and 3.15 g/t gold over 3.2 m on El Strato. The company hopes that new discoveries on the enlarged Whisker Valley project area could allow for the expansion of the Hammerdown resource and provide a common operating base for both projects.

New Dawn Resources Inc. optioned the Steep Nap – Bergs gold property, eastern Newfoundland, from White Fox Silver Resources Inc. The property hosts the Steep Nap and Bergs prospects which display alteration, textures and mineralization typical of a shallowly eroded low-sulphidation epithermal system. Historical exploration results include 1.2 g/t gold over 1.6 m in drill core and 0.39 g/t gold over 18.5 m in channel sample. The property is located near the Manuels pyrophyllite mine operated by **Trinity Resources Inc.**

Quadro Resources Ltd. optioned the Staghorn and adjacent Rose gold properties, central Newfoundland, from Benton Resources Inc. and Metals Creek Resources Corp., whereby Quadro will have an option to acquire a 100% interest in the combined property. The option to Quadro replaces a 2014 option agreement whereby Benton optioned the Staghorn property from Metals Creek. The enlarged Staghorn project has multiple gold showings including the Woods lake zone, Ryan's Hammer, Glimmer, Rich House and the new Rose Zone discovery.

Sokoman Iron Corp. optioned the Clarks Brook gold property, central Newfoundland, from **Metals Creek Resources Corp.** Once a 75% interest is earned, either a 75/25 joint venture will be formed, or Sokoman may elect to increase its interest to 100% by meeting additional requirements. Sokoman will be the operator during the earn-in period. Following the option agreement, Sokoman carried out initial drilling of the Clarks Brook prospect.

Sokoman Iron Corp. optioned the Moosehead gold property, central Newfoundland, from **Altius Resources Inc.** Upon closing of the option, Altius will become an insider of Sokoman and will be granted a pro rata right to participate in future equity financings of Sokoman for three years. The Moosehead mineralization remains open along strike and at depth and has returned intercepts including 11.05 g/t gold over 17.11 m.

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