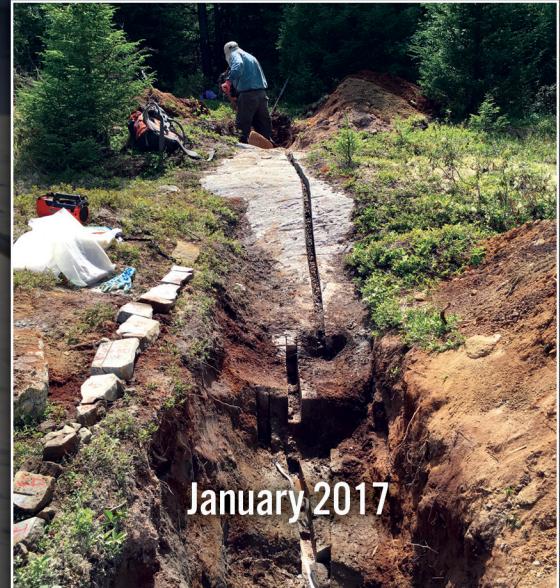
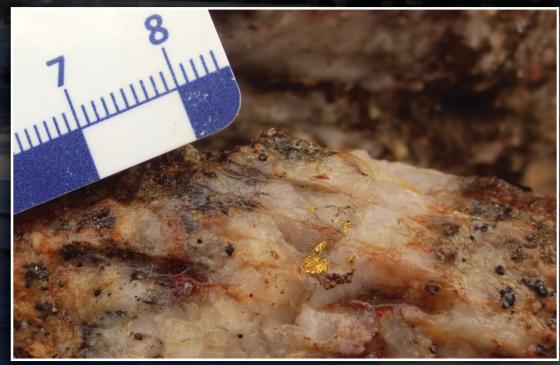


# EXPLORATION & DEVELOPMENT HIGHLIGHTS 2016

  
**Newfoundland  
Labrador**

Natural Resources



# NEWFOUNDLAND AND LABRADOR

## EXPLORATION AND DEVELOPMENT HIGHLIGHTS 2016

### OVERVIEW

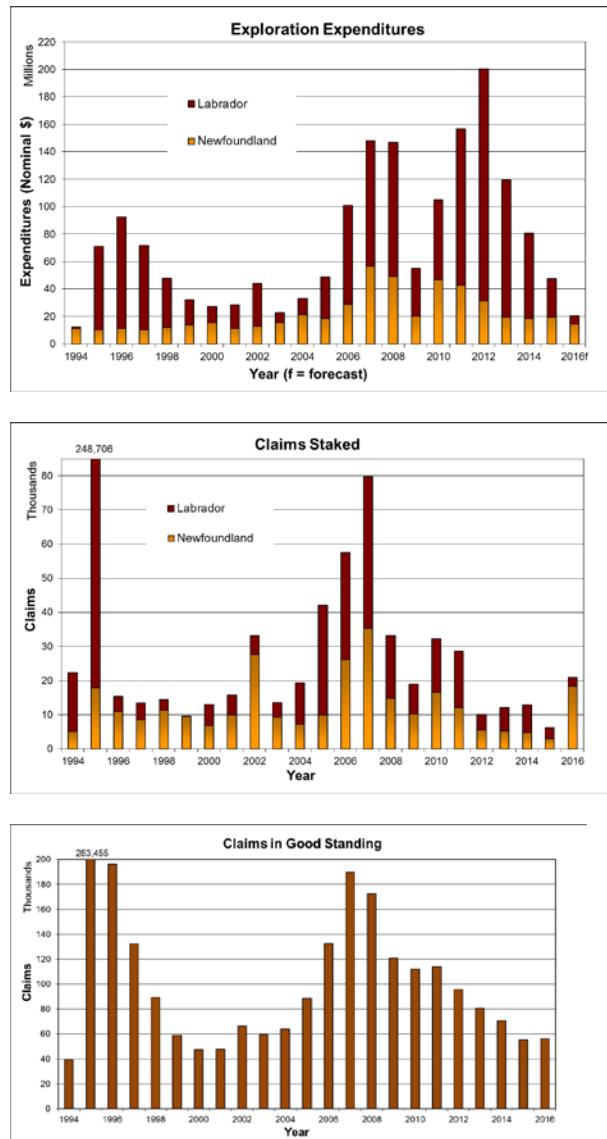
The minerals industry in Newfoundland and Labrador continued to advance in 2016 despite the ongoing tepid state of mining industry investment and weakness in certain key commodities, with significant progress on a number of established exploration projects and a renewed interest in gold on the Island of Newfoundland. Even more than in previous years, gold continues to dominate the exploration sector.

Based on expenditure intentions reported during first half of 2016, exploration spending in the province is forecast to decrease to about \$20.3 million in 2016, the lowest level since 1994, the year preceding the Labrador nickel rush sparked by the discovery of Voisey's Bay. However, 20,901 claims were staked in 2016, an almost quadrupling from 2015 and above historical averages. Most of the claims were staked late in the year following the announcement of a new gold discovery in central Newfoundland.

### 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 2016/17 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 (\$1.1 million operating budget). Key initiatives designed to encourage mineral exploration included bedrock geological mapping and iron ore studies in Labrador, and till geochemical surveys, bedrock mapping, gold and base metal metallogenetic studies in Newfoundland, as well as release of data from a regional geophysical survey in the Bay d'Espoir area of south-central Newfoundland.



**Figure 1.** Exploration statistics, 1994 – 2016.

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 in excess of 1.2 million metres of core from 8,790 drillholes collected from mineral exploration projects. The core collection is available to the exploration industry for viewing, relogging, and sampling.

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 the 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 queries on mineral investment opportunities; and developing and maintaining a substantial minerals investment section on the Department website.



PDAC 2016, Toronto

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 2017 outlook for the minerals sector in the Province is mixed and highly dependent on commodity and the financing capabilities of individual companies. Base metals prices increased throughout 2016, possibly in anticipation of renewed demand. The price of gold continues to fluctuate however seems confined to the range \$1,150 to \$1,350 per ounce, well above historic levels. Prices for iron ore have recovered somewhat yet remain well below their historic 2011-2012 highs. Uranium prices decreased in 2016 and are far below their 2007 peak.

Recent discoveries and claim staking suggest that gold exploration, at least, will increase in 2017.

For further information on the minerals sector in Newfoundland and Labrador, please visit the Department of Natural Resources website at [http://www.nr.gov.nl.ca/hr/mines/exploration/explorationactivity/exp\\_overview.html](http://www.nr.gov.nl.ca/hr/mines/exploration/explorationactivity/exp_overview.html) or contact [Stephen Hinchey](#), geologist responsible for monitoring the exploration industry.

### Cover photos (top to bottom):

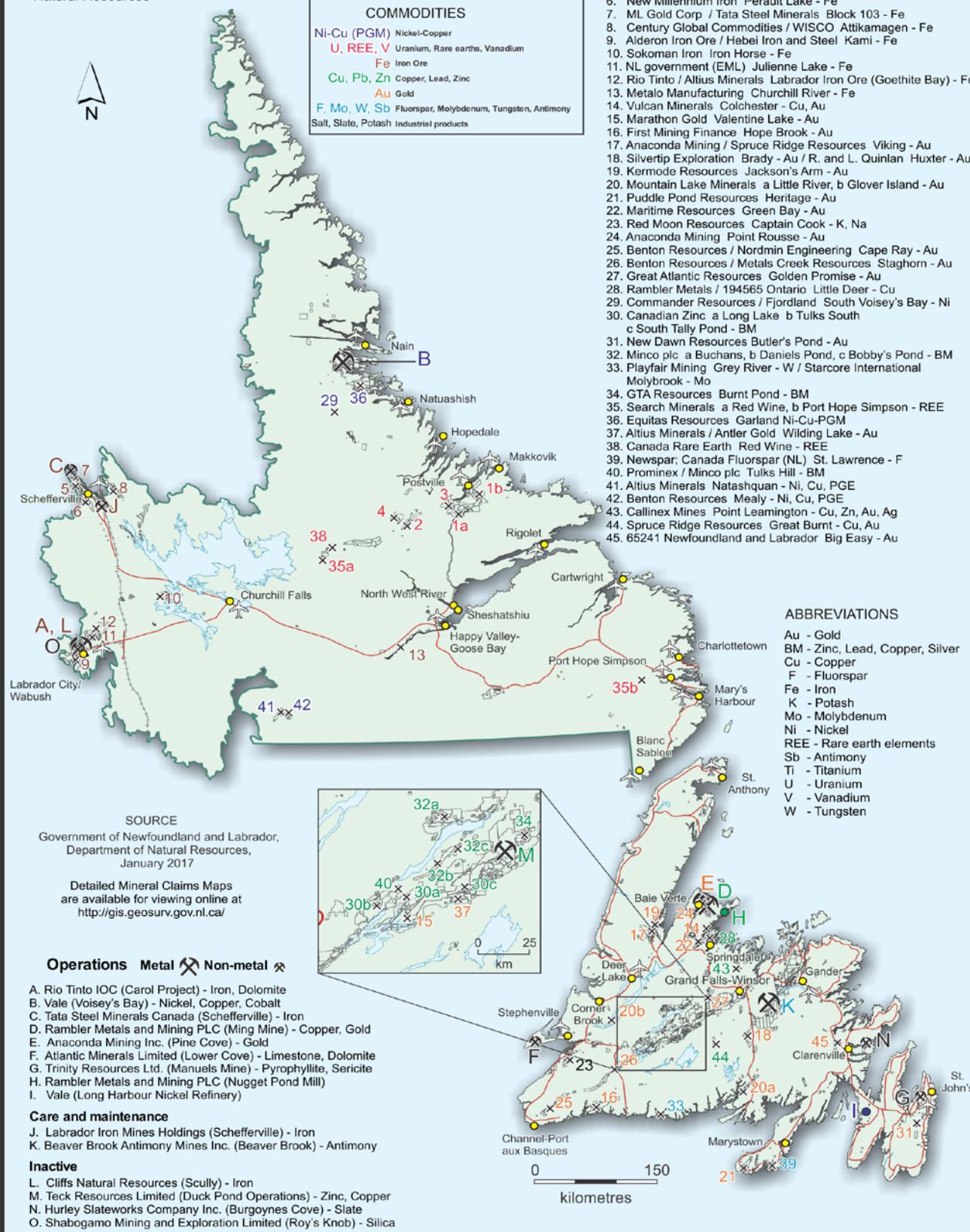
Copper staining, Colchester copper-gold project, Vulcan Minerals Inc.  
Lower cover limestone quarry (mine), Atlantic Minerals Ltd.  
Drill rig, Valentine Lake gold project, Marathon Gold Corp.  
Visible gold, Wilding Lake gold project, Altius Minerals Corp.  
Channel sampling, Port Hope Simpson REE project, Search Minerals Inc.

### NOTE TO READER

*This summary has been prepared on the basis of information available at the time of writing. The Department of Natural Resources, Mineral Lands Division, makes no warranty of any kind with respect to the content and accepts no liability, either incidental, consequential, financial or otherwise, arising from the use of this document. Users should read the full disclaimer on the Department's website at [www.gov.nl.ca/disclaimer.htm](http://www.gov.nl.ca/disclaimer.htm)*

# Newfoundland Labrador

Natural Resources



**Figure 2. Mining operations and major exploration properties, 2016.**



## NEW MINING AND PROCESSING DEVELOPMENTS

For the fiscal year ended May 31, 2016, **Anaconda Mining Inc.** sold 16,023 ounces of gold produced from its Pine Cove mill, near the town of Baie Verte, north-central Newfoundland. The Pine Cove mill processed 387,694 tonnes of ore, 370,561 from the Pine Cove pit and 27,260 from the nearby Stog'er Tight deposit, representing a 13% increase in ore processed from fiscal 2015 which offset the relatively lower grades in the recent mine plan. Mill availability, recovery and head grade were 93%, 85%, and 1.50 g/t gold, respectively. By mining and processing ore from the Stog'er Tight deposit the company successfully demonstrated the ability to blend higher-grade ore through the Pine Cove mill as per the company's long-term strategy. The outlining of high-grade ore at Stog'er Tight is aided by shallow percussion drilling.

Anaconda began shipping crushed aggregate produced from waste rock recovered from its Pine Cove gold mine operation. The aggregate is being produced under an agreement with **Shore Line Aggregates** who will mine, crush, and ship the product in exchange for a production royalty. The aggregate is being shipped from a newly constructed port facility near the mine site. Current production is to fulfill a 3,500,000-tonne contract expected to last 14 months to supply aggregate to a project on the eastern seaboard of the United States.



*Stog'er Tight mine, Point Rousse gold project,  
Anaconda Mining Inc.*

**Atlantic Minerals Ltd.** proposed Lower Cove high-calcium limestone and dolomite quarry (mine) expansion was released from the

provincial environmental assessment process. The expansion of existing operations into the adjacent White Hills area would extend the mine life by approximately 25 years based on an annual total production rate of approximately three million tonnes. Clearing and road construction are scheduled to begin in 2017 and the company anticipates that production will begin from the expansion area before the end of 2017.



*Lower Cove limestone quarry (mine), Atlantic Minerals Ltd.*

**Canada Fluorspar (NL) Inc.** announced that it has put a temporary hold on plans to construct a marine facility in St. Lawrence, southern Newfoundland, and instead plans to truck ore to **Kiewit Offshore Services'** Cow Head facility near Marystow for shipment. Canada Fluorspar is constructing a fluorspar mine in St. Lawrence which is planned to consist of surface and underground development of the AGS vein (formerly known as the Grebe's Nest vein) with a production capacity of up to 200,000 tonnes per year of acid-grade fluorspar concentrate. Production is expected to begin in 2017 with a mine life of 10 years at the current resource estimate.

**The Iron Ore Company of Canada** announced that its planned Wabush 3 expansion near Labrador City, western Labrador, has been put on hold due to a number of factors. The company had previously announced in 2015 that the Wabush 3 expansion would be delayed due to weak outlook in the commodities market. The expansion would provide a new source of ore to the company's Carol project which has been operating continuously since the 1960s.

For the fiscal year ended July 31, 2016, **Rambler Metals and Mining plc** milled 241,080 dry metric tonnes of ore from its Ming copper-gold mine near Baie Verte, north-central Newfoundland, producing 17,048 tonnes of concentrate containing 4,580 tonnes of copper, 7,549 ounces of gold, and 53,830 ounces of silver. The average feed grade during this time was 2.12% copper, 1.40 g/t gold, and 9.97 g/t silver, with mill recoveries of 95.6%, 68.7%, and 71.8%, respectively. Gold ounces exceeded guidance by 16 per cent, a record for gold in concentrate production, resulting from adjustments made to the flotation circuit in the first half of the year. A significant increase in production tonnes during the final quarter of the fiscal year resulted from a focused move towards integrating the Lower Footwall Zone reserves into production as part of the company's Phase II expansion strategy. The Phase II expansion involves optimizing the mining operation to blend Lower Footwall Zone stringer ore with the high-grade massive sulphide ore that has been the mainstay of production to this point. With the expansion the project mine life is now over 21 years.

**Vale** requested permission from the provincial government to delay its schedule for construction of an underground mine at its Voisey's Bay nickel-copper-cobalt mine, northern Labrador. The company anticipates that first ore from the underground mine will still be produced in 2020 as originally planned, around the same time the surface mine is expected to reach the end of its lifespan. The underground mine is anticipated to extend the mine life by about 15 years and will include the Reid Brook and Eastern Deeps deposits, which are near the current open pit mine.



Voisey's Bay nickel-copper-cobalt mine, Vale

## 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 2016/17 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. <http://www.nr.gov.nl.ca/nr/mines/exploration/mip/jea.html>

Altius Minerals Corp.  
Anaconda Mining Inc.  
Nordmin Engineering Ltd.  
Marathon Gold Corp.  
65241 NL Inc.  
New Dawn Resources Inc.  
Puddle Pond Resources Inc.  
Canadian Zinc Corp. (through subsidiaries)  
Vulcan Minerals Inc.  
Search Minerals Inc.  
Red Moon Potash Inc.

### Gold

**Altius Minerals Corp.** announced the discovery of several new high-grade gold occurrences in central Newfoundland on the Wilding Lake gold project. The new project is located northeast along strike from **Marathon Gold Corp.**'s Valentine Lake gold project and covers more than 50 km of strike length that has not previously been systematically explored for gold. Mineralization is hosted within quartz veins and stockworks. At the Alder zone, where initial trenching first exposed mineralization in bedrock, free gold occurs in associated with chalcopyrite. Highlights from initial channel sampling include uncut gold values ranging up to 13.9 g/t over 4.0 m, 5.4 g/t over 3.6 m, and 49.3 g/t over 4.6 m. Highlights from initial channel sampling at the Birch zone, located 450 m to the south of the Alder zone, include 5.5 g/t gold over 1.0 m. The initial Wilding Lake discovery of angular quartz vein float containing coarse visible gold was made by Newfoundland prospectors Brian Jones and Gary Rowsell along a recently constructed logging road and using funding provided by the provincial prospector grant program. Systematic soil sampling and reconnaissance mapping began during the fall as well as 82 kilometers of

planned cut lines to cover a region 2.6 km by 1.4 km in preparation for ground-based magnetic and induced polarization geophysical surveys over the main region of known gold occurrences. Mineralization has been identified along approximately 3.5 km of the 50 km prospective trend.



*Trench, Wilding Lake gold project, Altius Minerals Corp.*

**Anaconda Mining Inc.** continued its strategy to extend the life of its Pine Cove gold operation to beyond ten years by acquiring land and exploring for additional resources located within sufficient proximity to its Pine Cove mill located near Baie Verte on the Ming's Bight peninsula, north-central Newfoundland. The company initiated the strategy in 2015 by assembling its Point Rousse gold project, a large land position on the Ming's Bight peninsula. The Point Rousse project contains the Pine Cove mine and mill as well as the producing Stog'er Tight deposit and numerous prospects and showings include the Argyle prospect and the past-producing Deer Cove deposit and Goldenville horizon. The company announced in early 2016 that it had agreed to acquire the adjacent Viking and Kramer gold properties located near White Bay, north-central Newfoundland. The properties contain advanced prospects, including the 43-101 compliant Thor gold deposit, and are located approximately 180 km by road from the

Pine Cove mill. Together with adjacent lands newly staked, these areas comprise the company's White Bay gold project. Also, in late 2016 the company agreed to acquire the Jackson's Arm gold property near White Bay, as well as the Tilt Cove property on the Baie Verte peninsula. The Jackson's Arm project combined with adjacent lands newly staked comprise the company's Great Northern gold project which contains a number of recognized gold occurrences. The Tilt Cove property is located approximately 60 km by road from the Pine Cove mill, contains a number of gold occurrences, and is located in an area containing several historical copper mines at which gold was commonly associated with the copper mineralization. In 2016 Anaconda carried out drilling on its Point Rousse and Viking gold projects.

Anaconda released the results from drilling began at the Pine Cove deposit in late-2015, consisting of 1,156 m over 14 shallow holes and focused on the southern margins of the deposit in an area not currently part of the mine plan. The drilling was successful in extending known mineralization at the Pine Cove deposit 25 metres to the south, east and west of the current 43-101 compliant resource. Highlights include 2.68 g/t gold over 15.9 m.

Anaconda reported results from trenching and channel sampling undertaken in late-2015 at the Argyle prospect and successfully demonstrated that the two previously exposed zones of mineralization are contiguous for a strike length of 300 m. Highlights include 3.75 g/t gold over 16 metres.

Drilling on the Argyle prospect was carried out in two phases, the first of which consisted of 1,638 m over 22 holes and was designed to test mineralization to a depth of approximately 70 m. The drill results demonstrate that mineralization extends for 410 m along strike, dips shallowly northward for 100 m and is present at 42 m vertical depth, with mineralization remaining open along strike and down dip. Highlights including 6.09 g/t gold over 8.9 m and 4.50 g/t gold over 6.3 m (apparent widths, estimated to be 80 – 100% of true widths). Improved geological and geophysical characterization of the Argyle mineralization assisted subsequent ground magnetic and induced polarization geophysical surveys which resulted in the identification of several additional target areas

nearby. The second phase of drilling at the Argyle prospect began in late 2016, was planned to consist of approximately 2,000 m, and is designed to test for extensions of Argyle mineralization along strike and down dip within the Argyle gabbro as well as test areas identified by geophysics.

Drilling on the Stog'er Tight deposit was carried out in several phases, the first of which consisted of 489 m over nine holes designed to test the possible near-surface easterly extension of the Stog'er Tight deposit, however only two of the holes encountered significant mineralization. The second phase of drilling consisted of 751 m over 16 holes and focused on shallow areas west and southwest of the Stog'er Tight deposit and determined that while the Gabbro and West zones are physically separate from each other they represent fold repetitions of the Stog'er Tight deposit, thereby extending the deposit 100 m westward for a total strike length of 500 m. Highlights from the second phase include 1.81 g/t gold over 6 m. The third phase of drilling consisted of 1,347 m over 19 holes focused on an area southwest of the Stog'er Tight deposit covering a strike length of 850 m and width of 300 m. The drilling testing the 278, West, and Massive Sulfide mineralized zones and identified two new prospective areas referred to as the Corkscrew Road and Mine Road zones. Highlights include 1.28 g/t gold over 8.8 m at the 278 zone and 1.20 g/t gold over 4.3 m at the West Zone.

Drilling targeting the Goldenville horizon consisted of 1,686 m over 14 holes. The Goldenville horizon consists of an "ironstone" formation and appears to be the same geological unit that hosted the former high-grade Nugget Pond gold mine located approximately 25 km southeast of the Point Rousse project. While intersecting several areas with characteristics like Nugget Pond, the program did not result in intersections of significant gold mineralization, however the company clarifies that Nugget Pond-type mineralization is not expected to have a large footprint and that only approximately ten percent of the Goldenville horizon was tested by the drill program.

The first phase of drilling on the Viking gold project consisted of 4,136 m and, together with a review of core from historical drilling and previously collected geological, geochemical, and geophysical data, comprised an exploration

program targeting the strike extensions of the Thor deposit, the Thor's Cross prospect, and the Viking trend. The program successfully extended the strike length of the Thor deposit to 650 m, outlined broad zones of mineralization at the Viking trend, and discovered new mineralization at Thor's Cross which now has a known strike length of at least 100 m. Highlights from 2016 drilling include 1.25 g/t gold over 7.0 m at the Viking deposit, 0.45 g/t gold over 20 m at the Viking trend, and 0.78 g/t gold over 10.3 m at Thor's Cross. The company developed refined targets based on geochemical, geophysical, and structural characteristics, and carried out a second phase of drilling consisting of 1,151 m over six holes designed to test targets including the Viking trend, Thor South and the Whiskey Jack showing in the Asgard trend. Results are expected to be released in early-2017.



*Drill rig, Viking gold project, Anaconda Mining Inc.*

Anaconda commissioned preliminary metallurgical test work on a homogenized sample grading 1.86 g/t gold from the Thor gold deposit. Bench scale test work, conducted by the **NB Research and Productivity Council**, primarily focused on flotation, cyanide leaching, and grinding. Results indicate that ore from the Thor deposit could be processed at the Pine Cove mill using the current flotation and leach circuit configuration. Anaconda intends to conduct follow up metallurgical testing and/or bulk sampling at the Thor deposit when the time is appropriate for feasibility studies.

Prior to drilling, Anaconda released a 43-101 compliant resource estimate for the Thor gold deposit. The Thor deposit contains an Indicated

mineral resource of 63,000 ounces of gold (937,000 tonnes at an average grade of 2.09 g/t gold) and an Inferred mineral resource of 20,000 ounces of gold (350,000 tonnes at an average grade of 1.79 g/t gold) at a cut-off grade of 1.0 g/t gold. The resource estimate has the same tonnage, grade, and cut-off as an estimate released by a previous project owner in 2011.

**Benton Resources Inc.** and their joint venture partner **Nordmin Engineering Ltd.** released a Preliminary Economic Assessment (PEA) for, and carried out drilling on, their Cape Ray gold project, southwestern Newfoundland. The Cape Ray gold project joint venture covers the 04, 41, 51, and Windowglass Hill deposits and is located on the Cape Ray / Victoria Lake regional fault zone. The PEA was completed by **Sibley Basin Group Ltd.** based on the 2015 43-101 resource estimate and assumes gold recovery of 97% and silver recovery 45% for production of 250,000 ounces gold and 260,000 ounces silver for a pre-tax net present value (NPV) at a 7% discount rate of \$48.4 million with a pre-tax internal rate of return (IRR) of 29% and a post-tax NPV at a 7% discount rate of \$32.6 million with a post-tax IRR of 24%.

The Cape Ray drill program consisted of 5,000 m over 29 holes and was designed to infill and expand the 51 and 41 deposits to potentially increase, and provide better confidence in, the current resources in preparation for feasibility studies. Highlights include 4.1 m grading 5.02 g/t gold and 64.76 g/t silver and 6.0 m grading 5.92 g/t gold and 22.43 g/t silver. The new results will be brought into ongoing mining model.



*Camp, Cape Ray gold project, Benton Resources Inc. and Nordmin Engineering Ltd.*

Nordmin's and Benton's proposal to develop and operate, as well as eventually decommission and reclaim, a gold and silver mine at the Cape Ray site, was registered for the provincial environmental assessment process.

Drilling and metallurgical testing, as well ongoing trenching, were carried out on **Marathon Gold Corp.**'s 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 quartz-tourmaline-pyrite veins. The project currently hosts four deposits (Leprechaun, Sprite, Marathon, and Victory) with 43-101 compliant resource estimates, with the Leprechaun and Marathon deposits representing over 90% of the combined resource estimate.



*Victoria Lake camp, Valentine Lake gold project, Marathon Gold Corp.*

Several phases of metallurgical testing were carried out by **Thibault and Associates Inc.** on core samples from the Leprechaun and Marathon deposits. Precursor bottle roll tests of representative samples from each deposit recovered 73.6% of the gold in 96 hours and subsequent short column leach testing confirmed that the low grade portions of each deposit are amenable to heap leaching. Testing of high-grade sample material from the Marathon deposit demonstrated that this material, like high-grade sample material from the Leprechaun deposit that underwent similar testing in 2014, yields the highest recovery (+97%) by flotation followed by cyanidation of the concentrate and cyanidation of the flotation tailings. The metallurgical tests demonstrate that the Leprechaun and Marathon deposits have similar gold leachability characteristics. The company has stated that the positive test results will give them the opportunity to integrate one or both of heap leaching and combination flotation

and cyanidation in order to maximize the economics of the project. For instance, heap leaching could reduce the pit cut-off grade resulting in a lower waste-to-ore ratio and could be used to process lower grade, run-of-mine ore while a separate mill processes high-grade ore. **The Research and Development Corporation of Newfoundland and Labrador** provided \$142,606 (75%) of the \$190,141 cost of the metallurgical testing project.

Near surface drilling in late 2015 targeted a zone of mineralization discovered earlier that year located 500 m northeast of the Sprite deposit. Highlights, released in 2016, include 5.78 g/t gold over 3.2 m (true thickness) including 17.95 g/t gold over 0.8 m.

Drill programs were carried out throughout 2016 on the Marathon deposit and its broader mineralized corridor which at year-end 2015 had a known strike length of over 850 m. Winter drilling targeted areas overlain by frozen bog terrain and successfully extended mineralization and alteration for 800 m southwest along strike with the mineralized corridor remaining open in this direction. Highlights include 4.84 g/t gold over 2.8 m and 3.94 g/t gold over 2.1 m (true thicknesses). Drilling during the remainder of the year focused on expanding and better defining the Marathon deposit which as represented by the 2015 open-pit resource shell is 450 m in strike length, and succeeded in increasing potential open pit and underground resources. Deeper drilling including down-hole extensions of previously drilled holes intersected mineralization at depth and has established the continuity, in the central portion of the Marathon deposit, of a 200 m long subvertical mineralized corridor up to 50 to 100 meters wide, over 350 m deep, open in all directions, and containing higher gold grades at depth. Highlights from the deeper drilling include 20.17 g/t gold (uncut) over 7.2 m (true thickness). Shallow drilling succeeded in better defining mineralization to the southwest of the resource pit shell as well as expanding the mineralized corridor northwest into the hanging wall, and the company envisions that these results may contribute to lower strip ratios for the open pit. Highlights from shallow drilling southwest of the resource pit shell include 2.44 g/t gold over 7.0 m (true thickness). Highlights from shallow drilling in the hanging wall include 2.55 g/t gold over 2.4 m (true thickness). The total strike length of the

Marathon mineralization corridor now extends for at least 1.7 km.

Marathon reported in the fall that a 35,000-meter drill program is underway with the goal of expanding gold resources at the Leprechaun, Sprite, Marathon and Victory Deposits as well as developing new resources at other exploration targets on the project.

**New Dawn Resources Inc.** carried out drilling on the Butler's Pond copper-gold-silver project, eastern Newfoundland, consisting of 350 m over eight holes and targeting six areas. All holes showed some mineralization, mainly pyrite and minor chalcopyrite as disseminations and fracture fillings. As of November, logging and sampling were ongoing. The Butler's Pond property is underlain by volcanic and plutonic rocks associated with the Holyrood Horst.



*Stripped silicified bedrock, Butler's Pond copper-gold-silver project, New Dawn Resources Inc.*

**Puddle Pond Resources Inc.** carried out drilling on the Heritage gold-silver project, southern Newfoundland, consisting of closely-spaced drilling at the Eagle zone as well as drill testing of its extensions along strike, in addition to drilling of the Pinnacle-Turpin trend identified in an earlier magnetic survey and located 750 m to the east. Highlights from the Eagle zone drilling include 6.55 m at 1.90 g/t gold and 258.0 g/t silver and 9.5 m at 1.33 g/t gold and 77.8 g/t silver. The Eagle zone contains a well-mineralized section 300 m long, may be up to one km in length, and is located within the 4.5 km-long by 1.5 km-wide gold-silver-mineralized Point May epithermal system. An updated resource estimate is currently being prepared for the Eagle zone based on the 2016 drill results.

**65241 NL Inc.** carried out drilling on the Big Easy gold project, eastern Newfoundland, consisting of 1471 m over seven holes with targets including the northern and southern extensions of the Big Easy zone. All holes encountered alteration and mineralization, however the highlight was a zone of brecciated quartz-adularia veins which assayed 3.5 g/t gold and 510.6 g/t silver over 2 m within a 24.6 m section grading 0.42 g/t gold and 59.8 g/t silver. To date, brecciated quartz-adularia veining has been intersected over a strike length of approximately 500 m and remains open along strike and down dip.



*Mineralized drill core, Big Easy gold project,  
65241 NL Inc.*

### **Base Metals (Zinc, Lead, Copper)**

**Callinex Mines Inc.** released a 43-101 compliant resource estimate for the Point Leamington zinc-gold-silver-copper deposit, central Newfoundland, consisting of 14,093,000 Inferred tonnes grading 1.86% zinc, 0.02% lead, 17.12 g/t silver, 1.07 g/t gold, and 0.42% copper, at a cut-off grade of 4.0% zinc equivalent. The resource estimate has the same tonnage, grade, and cut-off as an estimate released by a previous project owner in 2013. Prior to announcing the resource estimate, the company stated that it had identified an opportunity to materially increase metallurgical recovery of gold at the project and that relatively recent metallurgical advancements will be investigated including the creation of an arsenopyrite concentrate that could contain significant gold mineralization. The company plans to conduct metallurgical testing to further define the

relationship between gold and arsenopyrite, which past work has shown strongly correlate, as well as to further refine the anticipated recovery rate for zinc as per more efficient and lower cost fine grinding techniques.

**Minco plc** and **Canadian Zinc Corp.** released test results from their collaborative research program of physical and metallurgical bench scale studies on their respective volcanogenic massive sulphide deposits – five in total – located in the Victoria Lake district of central Newfoundland. The test results confirm that selective zinc, lead and copper concentrates at marketable grades can be produced using a common flotation flowsheet, a result that strongly supports the development of the sequential flotation technology for processing of the deposits using a centralized processing facility. Dense media separation testing was carried out and an economic assessment is in progress to determine if there is a net benefit to using this process to reduce the mass of ore transported compared to the loss of payable metals to the floats (waste) product.

Since its inception in December 2015, the joint research program has expanded its focus from four deposits, two held by Minco (Bobbys Pond and Daniels Pond) and two held by Canadian Zinc (Lemarchant and Boomerang-Domino) to include Minco's Lundberg deposit at Buchans, which because of its large size holds more contained zinc, copper and lead metal than the other four smaller deposits combined. The collaboration between the companies also extends to the sharing of research data on their respective deposits.

**Vulcan Minerals Inc.** carried out drilling on its Colchester copper-gold project, north-central Newfoundland, consisting of 824 m over four holes and targeting the Old English zone. The holes were drilled to explore for possible extensions of historic mineralized drill intersections, as well as assist in calibrating the results from a high resolution induced polarization (IP) geophysical survey carried out immediately prior. The IP survey identified a strong response over the Old English zone where historic drill results include 65.7 m of 0.52% copper and, in another hole, 2.9 m at 4.2 g/t gold. The drilling intersected several zones of mineralization and assay results are expected early in the new year. The 2016 drilling is considered preliminary in advance of systematic

evaluation of all known targets. 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 copper-gold project, Vulcan Minerals Inc.*

## **Iron Ore**

**New Millennium Iron Corp.** announced that, in response to new economic realities, they intend to pursue a new development approach to their taconite properties located on both sides of the Labrador-Quebec border near Schefferville, Quebec. The new initiative, called the NuTac project, evaluates at the pre-feasibility level development scenarios for the deposits at various production rates, using existing rail infrastructure from the Schefferville/Menihek region now in service for heavy haul trains and connected to the Port of Sept-Îles, Quebec, where the company is a participant in a new, state-of-the-art, deep-water dock. The company's taconite properties contain a 43-101 resource spread across seven deposits, including the LabMag and KeMag deposits located in Labrador and Quebec, respectively. The taconite is suitable for producing high-quality pellets for blast furnace or direct reduced iron applications, or a chemically pure concentrate that can benefit steelmakers as a low-gangue blending ore.

## **Rare Earth Elements (REE)**

**Search Minerals Inc.** announced the results of an updated Preliminary Economic Assessment (PEA) on its Foxtrot rare earth element (REE) project, near St. Lewis, southeastern Labrador. The PEA evaluates an open pit-underground scenario with lower capital costs, a lower mining rate and higher grade processing facility feed, and reconfirms the Foxtrot project has robust economics and the potential to become a profitable producer of rare earth elements, particularly dysprosium, neodymium, praseodymium, and terbium. The PEA assumes a 1,000 tonne per day processing rate at a mine life of 14 years – 8 years open pit, 6 years underground – for a total life-of-mine production of 44,129 tonnes of total rare earth element oxide, including 7.095 million kg of neodymium oxide and 0.836 million kg of dysprosium oxide. The Mineral Processing Engineering Study from **SNC-Lavalin** (June 2015) along with the updated Foxtrot 43-101 compliant resource estimate (December 2015) provided the basis for the updated PEA which confirms that Search's proprietary metallurgical process will lead to significant cost savings in capital and operating costs. The Foxtrot deposit, along with numerous other prospects and targets, is located within the company's Port Hope Simpson REE project. While the PEA evaluates developing the Foxtrot deposit as a standalone operation, the company states that its goal is to discover and outline REE resources that could be mined with low capital and operating costs to feed a scalable, centralized processing plant in southeastern Labrador.

Search carried out channel sampling on the Fox Meadow prospect, Port Hope Simpson REE project, consisting of 127.15 m over 44 channels which succeeded in outlining REE mineralization at least 30 m in width over a strike length of 500 m. The company notes that the observed surface dimensions are similar to the Foxtrot deposit (10 – 14 m wide and 400 long) and Deepwater Fox prospect (up to 34 m wide and 500 m long). Preliminary assay data indicate that REE values at Fox Meadow are similar to those at Foxtrot.



*Channel samples, Fox Meadow prospect, Port Hope Simpson REE project, Search Minerals Inc.*

Search announced an update of its pilot plant program which is being conducted by **SGS Canada Inc.** The pilot plant uses the patent-pending proprietary direct extraction process developed by Search which has eliminated grinding, flotation, and magnetic and gravity separation from the process flow-sheet. Eliminating these processes has significantly reduced the capital and operating costs of processing the ore to produce a mixed rare earth concentrate. The pilot plant project involves testing of a bulk sample from the Foxtrot deposit and has a bench-scale component and a continuous pilot-scale component. The bench-scale work has confirmed the leachability of the Foxtrot ore by the proprietary direct extraction process and demonstrated the removal of the already small amounts of uranium and zinc during treatment in order to provide acceptable levels of these elements in the final mixed rare earth oxide for refining. The continuous pilot plant testing is nearing completion. The pilot plant project is being funded by **Atlantic Canada Opportunities Agency** and the **Research and Development Corporation of Newfoundland**

and **Labrador** for up to \$1.25M of the \$1.9M program cost.

### **Uranium**

**Aurora Energy Ltd.**, a member of the **Paladin Energy Ltd.** group of companies, carried out an infill soil survey on their Michelin uranium project, central Labrador, which infilled gaps in the 2015 survey as well as extended the survey in some areas on the periphery. The enlarged soil survey is expected to help establish a better defined surface exploration model for both Michelin- and Rainbow-style deposits. It is intended that the soil survey programme will be extended in coming field seasons to cover some of the other prospective areas within the Central Mineral Belt in order to target additional deposits currently under cover.

### **Salt-Potash**

**Red Moon Potash Inc.** (now **Red Moon Resources Inc.**) released an initial 43-101 resource estimate for the Captain Cook halite (salt) project, western Newfoundland, consisting of 908 million tonnes (inferred) of high-purity halite (96.9% salt) using a lower base cut-off of 95.0% NaCl (the general standard for road salt). The resource estimate is based on five holes drilled by the company since 2011, out of which the best halite intersection is 335.3 m grading 96.8% NaCl including 98.0% NaCl over 125.3 m and 97.5% NaCl over 177.3 m. The resource estimate was prepared by **APEX Geoscience Ltd.**

## **MAJOR TRANSACTIONS**

**Altius Minerals Corp.** co-founded **Adventus Zinc Corp.** and transferred to it a portfolio of zinc projects, including an extensive land package around the former Buchans base metals mine, central Newfoundland. In addition to advancing its exploration properties, the new company intends to pursue the acquisition of advanced projects and has begun evaluating potential acquisitions.

**Altius Minerals Corp.** optioned a 100% interest in the Wilding Lake gold property to **Northwest Arm Capital Inc.** (since re-named **Antler Gold**

**Inc.**) in exchange for 4.5 million shares of Northwest Arm Capital and a 2% Net Smelter Royalty Return (NSR) on the project.

**Anaconda Mining Inc.** entered into option agreements with **Spruce Ridge Resources Ltd.** to acquire the adjacent Viking and Kramer properties located near White Bay, north-central Newfoundland, both of which contain recognized gold occurrences including the Thor deposit 43-101 gold resource. To earn a 100% interest in Viking, Anaconda is required to make aggregate payments to Spruce Ridge of \$300,000 over a five-year period including a final payment of \$175,000 upon commencement of commercial production, or pay all outstanding payments at any time to complete the acquisition. To earn a 100% interest in Kramer, Anaconda is required to make aggregate payments to Spruce Ridge of \$132,500 over the five-year period, beginning with an initial payment of \$12,500. Two previous NSR agreements held by **Altius Resources Inc.** and a prospector, Paul Crocker, in relation to Viking, will be replaced by new NSR agreements that stipulate that the Anaconda will pay a 2.5% NSR on Viking, a 1% NSR on Kramer and a 1.5% NSR on an area of interest within 3 km of the combined Viking and Kramer properties.

**Anaconda Mining Inc.** entered into option agreements with **Metals Creek Resources Corp.** to acquire the Jackson's Arm property, located near White Bay, and the Tilt Cove property, located on the Baie Verte peninsula, both of which contain recognized gold occurrences. To earn a 100% interest in the Jackson's Arm property, Anaconda is required to make aggregate payments to Metals Creek of \$200,000 in cash and 500,000 common shares of Anaconda over a three-year period. The Jackson's Arm agreement provides for a 2% NSR to Metals Creek capped at \$1,500,000 after which the NSR will be reduced to 1%. Anaconda is required to spend a total of \$750,000 in qualified exploration expenditures during the option period. To earn a 100% interest in the Tilt Cove property, Anaconda is required to make aggregate payments to Metals Creek of \$200,000 in cash and 500,000 common shares of Anaconda over a three-year period. The Tilt Cove agreement provides for a 1% NSR to Metals Creek. Anaconda is also assuming an existing 2% NSR on one of the licenses that comprises the Tilt Cove property. For each of the Jackson's Arm and Tilt Cove

properties Anaconda is required to spend a total of \$750,000 in qualified exploration expenditures during their respective option periods.

**Benton Resources Inc.** and its joint venture partner **Nordmin Engineering Ltd.** signed a non-binding letter of intent with **Rambler Metals and Mining Canada Ltd.** to explore the potential to custom mill gold-rich concentrate from the Cape Ray deposits at Rambler's Nugget Pond mill located near Baie Verte. Custom milling has the potential to reduce the capital and operating costs of the project by eliminating the cyanide leach circuit at the proposed Cape Ray mill site as outlined in the 2016 preliminary economic assessment. The Nugget Pond mill currently has an idle gold leaching and refining circuit ready and available that could be utilized under a toll milling arrangement.

**Callinex Mines Inc.** acquired the Point Leamington zinc-gold-silver-copper deposit, central Newfoundland, from **Newmarket Gold Inc.**, in return for \$115,000 paid to Newmarket and an additional \$400,000 payable in either cash or shares within two years at the election of Callinex.

**Rambler Mines and Metals plc** entered into an agreement with **Maritime Resources Corp.** to evaluate the economic potential of re-opening the past-producing Hammerdown gold mine located on Maritime's Green Bay gold project. Subsequent to the agreement, Rambler and Maritime engaged the services of **WSP Canada Inc.** to complete a prefeasibility study to this end. Should a positive economic analysis result and a production decision be made by the boards of the companies, the companies have agreed that they will negotiate mutually agreeable management services and toll milling agreements that will see Rambler assist Maritime in the process of re-opening the old Hammerdown mine.

**Rambler Mines and Metals plc** completed its acquisition of **Thundermin Resources Inc.** by way of amalgamation. Under the terms of the transaction, shareholders of Thundermin received 0.061261 ordinary shares in the capital of Rambler for every one common share held. In acquiring Thundermin, Rambler acquires the previously producing Whaleback and Little Deer copper deposits near Springdale, north-central

Newfoundland, of which each company previously held 50% ownership.

**Stratton Resources Inc.** has entered into an option agreement with **Wildwood Exploration Inc.** to acquire the rights to approximately 119,000 hectares in central Newfoundland comprising three claim groups situated along a 100 km trend extending northeast from **Marathon Gold's** Valentine Lake gold project and a fourth claim block situated along the

structural corridor known as the Gander trend that is characterized by numerous high-grade gold occurrences. Under the terms of the agreement, Stratton may acquire a 100% interest, subject to a 2.0% NSR royalty, through a combination of work expenditures totalling \$2,250,000, cash payments totalling \$850,000, and shares totalling 3,200,000. 1% of the NSR is buyable for \$3,000,000 at any time.

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