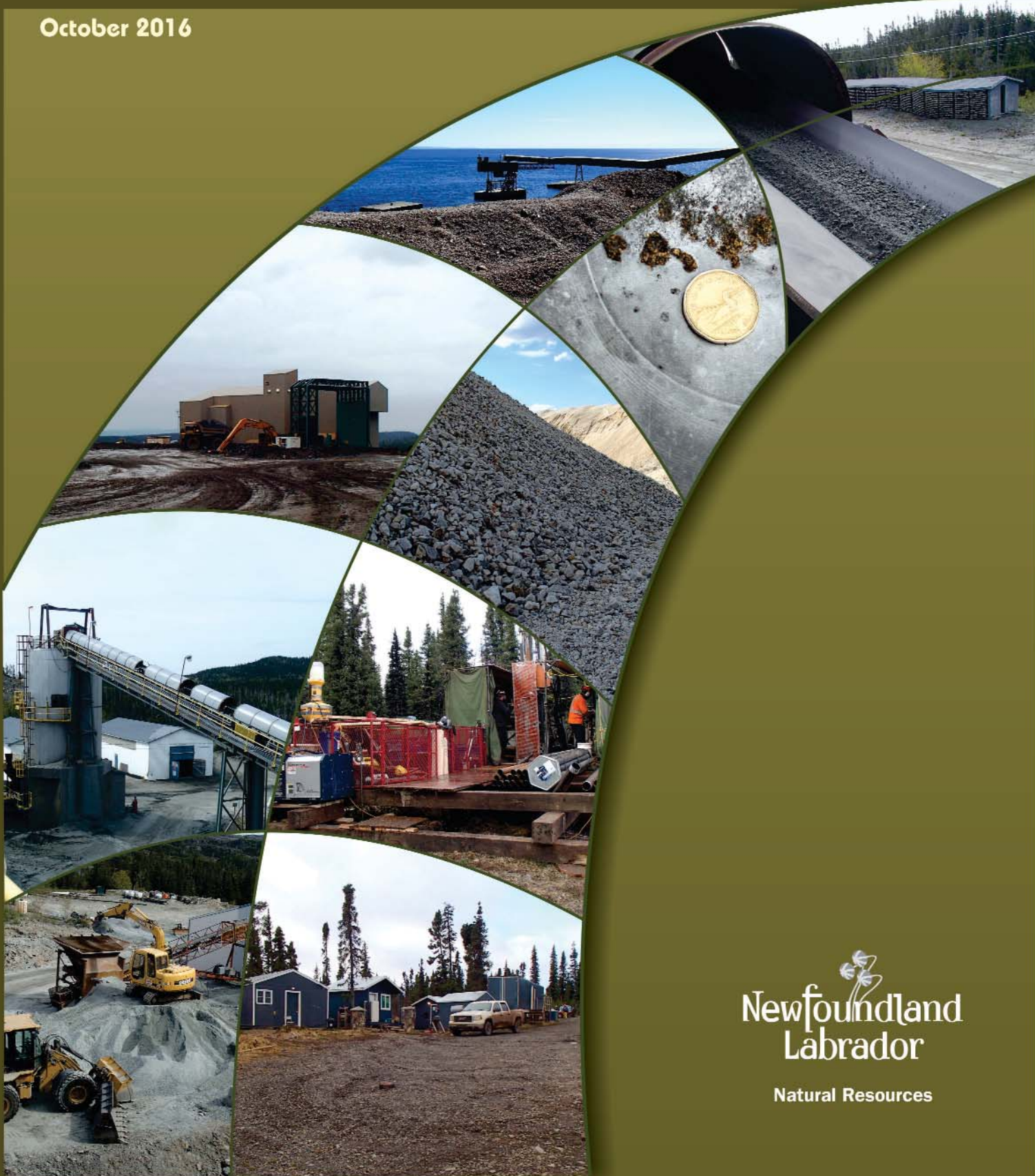


# MINING IN NEWFOUNDLAND AND LABRADOR

October 2016

Department of Natural Resources, Mines Branch



Newfoundland  
Labrador

Natural Resources

## **MINES BRANCH - KEY CONTACTS**

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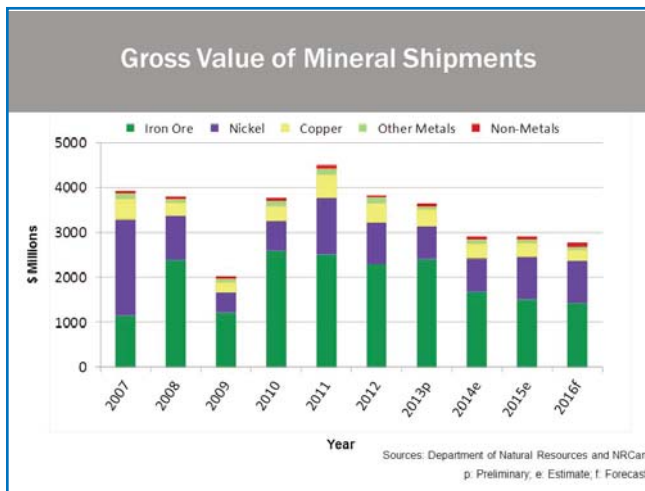
## TABLE OF CONTENTS

Mineral Development Review.....	Page 1
Producing Mines.....	Page 1
Developing Projects.....	Page 4
Inactive Mines.....	Page 5

## MINERAL DEVELOPMENT REVIEW

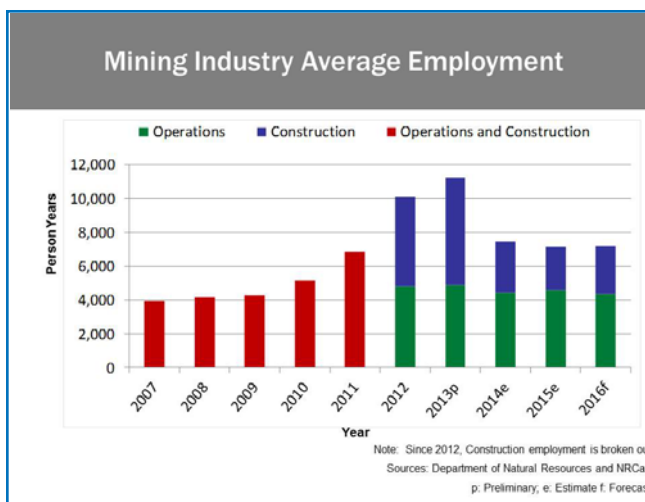
### Value of Mineral Shipments

The 2016 forecast gross value of mineral shipments for Newfoundland and Labrador is \$2.7 billion. This is a 3.5 per cent decrease from the 2015 estimated value of \$2.8 billion and is the result of lower shipment values for all commodities except iron ore and gold.



### Employment

Employment in the mining industry has risen 3.3 percent from last year's 7267 to 7509 person years. Employment



gains are primarily the result of activity associated with the Voisey's Bay project, including employment at the Long Harbour processing plant and the Voisey's Bay underground mine development.

## PRODUCING MINES

### Vale Newfoundland and Labrador Limited

Vale Newfoundland and Labrador Limited (VNL) operates a mine and mill in Voisey's Bay, and a hydromet processing plant at Long Harbour. The mine started operations in 2005, and produces both nickel and copper concentrates. The hydromet plant processes Voisey's Bay nickel concentrate into finished nickel.

During the first half of 2016, VNL reported production of 22 200 tonnes of nickel, 15 100 tonnes of copper and 339 tonnes of cobalt. Nickel production for the first half of 2016 was 22.5% lower than 2015 due to winter weather conditions and logistic constraints.

Employment for all aspects of the Voisey's Bay project is anticipated to be 4310 person years for 2016. About 450 people are employed at the Voisey's Bay mine site and another 475 are employed in operations at the Long Harbour processing plant. The remaining employment is generated by construction activity at the Long Harbour plant and at Voisey's Bay from the underground mine development.



VNL – Bulk Carrier Umiak 1  
(photo courtesy of VNL).

On August 10<sup>th</sup>, 2015, government announced that the underground mine at Voisey's Bay had been sanctioned by VNL's parent company (Vale) as per the terms of the Development Agreement. Construction activity started in 2016 and ore production is projected to begin in 2020. Underground mine development will include both the Reid Brook and Eastern Deeps deposits that are adjacent to the current open-pit mine. Hundreds of construction jobs will be created, as well as another 450 positions during operations from 2020 to beyond 2035. This next phase of the Voisey's Bay project is expected to generate significant additional industrial benefits to the province.

Beginning in 2016, VNL achieved a major milestone at Long Harbour by operating solely on high-grade nickel concentrate from Voisey's Bay. Construction of additional circuits required to enable processing of Voisey's Bay middling grade concentrate is continuing and is expected to be completed this year. Once fully operational, the Long Harbour Plant will process all nickel concentrates produced at Voisey's Bay and produce finished nickel, copper and cobalt.

### **Iron Ore Company of Canada**

The Iron Ore Company of Canada (IOC) has been producing iron ore at the Carol Lake project in Labrador West, since the 1960s. Production capacity at the site is 23.3 million tonnes of concentrate, of which 12.5 million tonnes can be pelletized.

Labrador Iron Ore Royalty Corporation (LIORC) owns 15.1% of IOC, and reported IOC concentrate production for the first half of 2016 as 9 million tonnes. Despite continuing with the improvements from last year and the first quarter, production for the quarter was lower than expected. IOC plans to produce 10 million tonnes of pellets and 10 million tonnes of concentrate. IOC expects to be able to sell all the pellets and concentrate it can produce.

IOC has stated that it must demonstrate consistent and reliable production meeting targets before taking its new Wabush 3

project to the Rio Tinto board for capital funding. IOC had record production in August and September but will fall short of its 2016 production target. This new open pit would allow flexibility in providing iron ore feed to its existing concentrator to achieve and maintain production at the mill's rated capacity; and provide a new source of iron ore to extend the operating life of its Carol Project.

### **Tata Steel Minerals Canada Ltd.**

Tata Steel Minerals Canada Limited (TSMC) is a joint venture between Tata Steel of India and New Millennium Iron Corporation (NML). TSMC operates a high-grade iron ore project in the Menihék area of northwestern Labrador. The project includes mining, crushing, washing, screening and drying ore to produce 4.2 million tonnes per year of sinter fines and pellet feed. TSMC completed its first shipment of direct shipping ore (DSO) to Europe from the project in September 2013. Current mining takes place in Labrador but in future years plant feed will come from both Labrador and Quebec.

After a temporary winter scale down of operations in 2016 that included stabilization of the plant which remains in care and maintenance, TSMC will be operating on a seasonal basis in the near term. This action was in response to challenging conditions in the steel and iron ore markets and will be reviewed on an ongoing basis. TSMC forecasted 150 person years of employment during 2016 at the mining operation.

NML announced that TSMC has secured financing of \$175 million in support of its direct-shipping ore project. This, combined with rail and port improvements in the Sept-Îles area at Pointe Noire, will benefit the TSMC operation.

TSMC is working toward developing the Howse iron ore deposit. This was originally a joint venture between TSMC and Labrador Iron Mine (LIM), but on April 2, 2015 TSMC acquired LIM's remaining interest in the project. This DSO deposit will be a low capital mining venture and will use TSMC's adjacent infrastructure. Open-pit drill and blast min-



*Mining activity at IOC's Luce Pit*



*Tata Steel – Kivivic 2*

ing will be used and extracted ore will be crushed and screened on site. Ore will be trucked less than 5 km to TSMC's railloop and railed to Sept-Isles.

The company plans to begin the Howse project construction in 2017, with a seven to ten month construction period, followed by immediate production. The company has estimated an eleven year mine life. An environmental preview report was received by the Department of Environment and Conservation on April 20<sup>th</sup>, 2016, and is currently being reviewed. The project is also subject to review under the Canadian Environmental Assessment Act 2012, and is undergoing a separate environmental assessment with the Canadian Environmental Assessment Agency.

### **Atlantic Minerals Limited**

Atlantic Minerals Limited (AML) began commercial production in 1996 and is located at Lower Cove on the Port au Port Peninsula. AML is a leading world producer of chemical-grade limestone, chemical-grade dolomite and construction aggregates. Product is exported by vessel from its 2000 tonnes-per-hour ship-loading marine terminal located adjacent to the mine. The operation has 88 year-round employees, plus seasonal jobs at the site that increase the total person years of employment to 151.



*Atlantic Minerals' Lower Cove*

AML's quarry expansion project, to access high-grade calcium limestone reserves adjacent to its current mining lease in the White Hills area on the Port au Port Peninsula, was released from environmental assessment in August 2016. The expansion would extend existing operations for approximately 25 years based on estimated annual production of two million tonnes of high-grade calcium limestone and one million tonnes of dolomite limestone. The quarry extension is planned for 2017.

### **Anaconda Mining Incorporated**

Anaconda operates an open-pit gold mine and mill at Pine Cove on the Baie Verte Peninsula as part of its Point Rousse

Project. The project employs 95 people and produced 16 023 ounces of gold valued at \$24.4 million during its fiscal year ended May 2016.

The project has been consistently producing gold since the summer of 2010 after completing an upgrade to its milling infrastructure. Mill throughput is approximately 1200 tonnes per day with a recovery rate of 84–87% at an average historical grade of 1.8 gm per tonne. Last year, Anaconda began blending ore from its Stog'er Tight satellite deposit.



*Anaconda – Open pit at Pine Cove*

Anaconda is exploring and evaluating three gold trends in the vicinity of Pine Cove and the recently acquired Viking property as it works to expand its reserves to extend the project life beyond 2019.

### **Rambler Metals and Mining Canada Limited**

Rambler Metals and Mining Canada Limited (RMM) owns and operates the underground Ming copper-gold mine and the Nugget Pond base and precious metals milling facility on the Baie Verte Peninsula. Copper and gold-rich ore from the Ming mine is trucked about 40 km to the Nugget Pond gold hydromet mill and copper flotation circuit for processing. Copper concentrate is shipped through the company's port facility at Goodyear's Cove. The project directly employs 165 people.

The company is transitioning from the Phase I high-grade massive sulphides Ming Mine to Phase II integration of the Lower Footwall Zone (LFZ) ore. Phase II will mean increased production, a much longer life of mine (from 6 to 21 years) and a greater capital investment in the Baie Verte area. The company has recently secured project financing for this expansion.

### **Barite Mud Services Incorporated**

Barite Mud Services Incorporated (BMSI) has been reprocessing tailings since 2015 from ASARCO's former base-metal mine in Buchans to produce barite for use in the offshore drilling industry. Approximately 40 000 to 50 000 tonnes of tailings will be reprocessed to yield 10 000 to 15 000 tonnes of



*Rambler's concentrate storage shed at Goodyear's Cove*

barite annually. BMSI plans to operate for six months of the year from May to October with a projected 15 year mine life. The operation employs 25 people seasonally and 2 full time employees.

### **Hi-Point Industries (1991) Limited**

Hi-Point Industries (1991) Limited produces horticultural peat and an oil absorbent product called Oclansorb. The company has provided Oclansorb to the international petroleum industry for over two decades; this lightweight peat product absorbs oil up to six times its natural weight. Located in Bishop's Falls, the operation employs 22 people seasonally with 8 full time employees.



*Peat harvesting equipment at Hi-Point Industries (1991) Ltd.'s operation*

### **Trinity Resources Limited**

Trinity Resources Limited (TRL) owns and operates the pyrophyllite mine and milling operation located in Conception Bay South. It also sells waste rock for use as aggregates in white cement. The company ships product from its own 6-acre ship

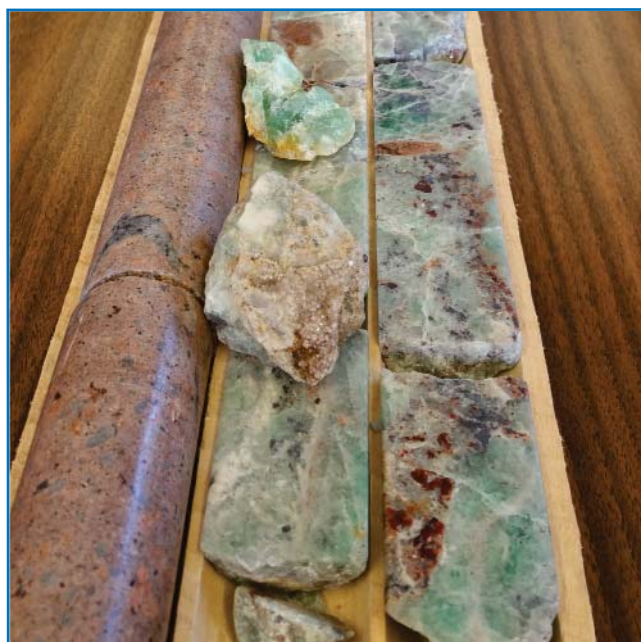
loading facility located within 6 km of the mine, and expects to generate 14 person years of employment in 2016.

## **DEVELOPING PROPERTIES**

### **Canada Fluorspar (NL) Incorporated**

Canada Fluorspar (NL) Incorporated (CFI), a subsidiary of US-based Golden Gate Capital, has begun construction of a surface and underground fluorspar mine in St. Lawrence, on the Burin Peninsula.

The CFI operation will produce up to 200 000 tonnes of acid-grade fluorspar concentrate annually from the AGS Vein, and will include a mill, tailings management facilities and supporting infrastructure. The company states that the mine will require a two-year construction period and will provide a 10-year mine life. Peak employment during construction is projected to be approximately 340 workers and the operation phase will create 164 full-time positions.



*Canada Fluorspar – Fluorite mineralization in core*

## **INACTIVE MINES**

### **Teck Duck Pond Operations**

Teck Duck Pond Operations officially closed on June 30<sup>th</sup>, 2015. The mine started producing copper and zinc concentrates in 2007 and exhausted the mineral reserves over an 8 year mine life as originally planned.

The project was located approximately 30 km southeast of Millertown and consisted of two small open pits, an under-

ground mine, a concentrator (mill), tailings facilities and a 100-person operations camp. Concentrate was trucked to a storage and shipping facility in St. George's and sold to smelters in North America and overseas.

At its peak, the mine employed over 350 people. Rehabilitation of the mine site has started and will be completed by 2018 followed by a period of environmental monitoring.

### ***Wabush Mines***

Wabush Mines started mining iron ore from the Scully Mine in Labrador in 1965. Cliffs Natural Resources (CNR) bought out its partners and became sole owner of the mine in 2011. Concentrate was railed for pelletizing in Pointe-Noire, Québec, until the pellet plant closed in 2013. In February 2014, CNR announced that mining and concentrating activities at Wabush Mines would be idled; later in 2014, CNR announced that the mine was permanently closed.

Wabush Mines is going through the Companies' Creditors Arrangement Act (CCAA) process. The Wabush CCAA Parties in consultation with its court-appointed monitor are in the process of analyzing liquidation offers for equipment located at the Wabush mine. The CCAA parties have been

granted an extension to the stay period until January 31, 2017.

Rehabilitation of the Wabush Mines Scully Mine was conditionally released from environmental assessment in February 2016. An updated Rehabilitation and Closure Plan has been submitted in accordance with Section 9.(1) of the Mining Act.

### ***Labrador Iron Mines Limited***

Labrador Iron Mines Limited (LIM) operated a direct shipping iron-ore mine in the Menihek area of Labrador. Declining iron ore prices prompted LIM to cease production in 2014.

In April 2015, LIM initiated a court-supervised restructuring process under the Companies' Creditors Arrangement Act. This restructuring is ongoing and reported on periodically by the court-appointed monitor.

### ***Beaver Brook Antimony Mine Incorporated***

Beaver Brook Antimony Mine Incorporated suspended operations at its antimony mine near Glenwood in January 2013, due to a combination of high operating costs and lower than expected ore grades. The operation has been placed on care and maintenance with nine employees working at the site. The mine employed 106 during full production.

# PRODUCING MINES, DEVELOPING PROPERTIES AND PROCESSING FACILITIES

October 2016



## Producers

1. *Vale Newfoundland and Labrador Limited, Voisey's Bay*
2. *Iron Ore Company of Canada, Labrador City*
3. *Tata Steel Minerals Canada Ltd., Menihek Area*
4. *Atlantic Minerals Limited, Lower Cove*
5. *Anaconda Mining Inc., Pine Cove*
6. *Rambler Metals and Mining Canada Limited, Baie Verte Peninsula*
7. *Barite Mud Services Inc., Buchans*
8. *Hi-Point Industries (1991) Ltd., Bishop's Falls*
9. *Trinity Resources Ltd., Manuels*

## Processing facilities

10. *Vale Newfoundland and Labrador Limited, Long Harbour Hydromet Plant*
11. *Rambler Metals and Mining Canada Limited, Nugget Pond Mill*

## Under development

12. *Canada Fluorspar (NL) Inc., St. Lawrence*

\* Note scale differences of Labrador and Newfoundland maps

