

# Mining

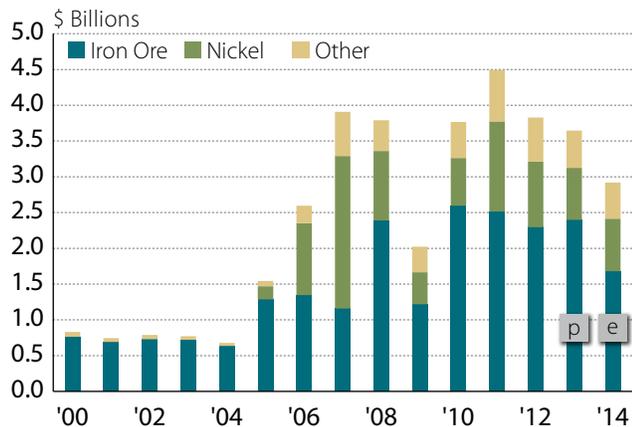
The value of Newfoundland and Labrador mineral shipments totalled approximately \$2.9 billion in 2014, representing a decrease of about 20% from 2013 (see chart). This decrease primarily reflected a lower value of iron ore shipments. Total mining related employment (including employment associated with construction and development activities at Vale's Long Harbour nickel processing facility) was around 7,400 person years in 2014. A map outlining mining activities in the province is contained on page 34.

## Market Conditions

Market conditions in 2014 were challenging for the Newfoundland and Labrador mining industry, particularly iron ore. Slowing demand growth for iron ore in China, coupled with production increases by a number of key iron ore producers, resulted in a significant decline in iron ore prices. Iron ore spot prices began the year at about US\$133/tonne and steadily declined throughout 2014.<sup>3</sup> Overall, iron ore spot prices averaged about US\$96/tonne, down 29.2% from 2013 (see chart).

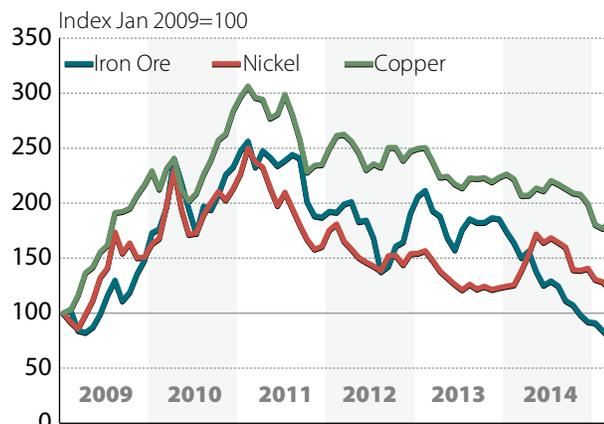
Nickel prices were volatile during 2014, first increasing to a peak of US\$9.59/pound in mid-May, but generally declining afterwards. For the year as a whole, nickel prices averaged US\$7.65/pound, up 12.4% from 2013. Copper prices declined by 6.3% in 2014, averaging US\$3.11/pound.

## Value of Mineral Shipments



p: preliminary; e: estimate  
Source: Department of Natural Resources

## Mineral Price Indices (Monthly)



Source: London Metal Exchange, MetalPrices.com

<sup>3</sup> Iron ore spot prices are from metalprices.com for iron ore fines 62% Fe delivered to CFR Qingdao.

## Iron Ore

Iron ore shipments totalled approximately 16 million tonnes in 2014, a decrease of about 20% relative to 2013. The decline was mainly due to the closure of Wabush Mines and, to a lesser extent, the shutdown at Labrador Iron Mines. The corresponding value of shipments fell about 30% as a result of both lower production and prices.

## Iron Ore Company of Canada

Shipments from the Iron Ore Company of Canada (IOC) decreased from just under 15 million tonnes in 2013 to about 14 million tonnes in 2014. Shipments had been expected to rise, but production was negatively impacted by unusually harsh winter weather conditions that lasted well into the second quarter which resulted in frozen material and unplanned equipment downtime. As well some shipments were delayed because of a landslide in November 2014 that closed down the Québec North Shore and Labrador (QNS&L) railway line for about 15 days.

In August 2014, IOC submitted an Environmental Impact Statement for the Wabush 3 deposit, which is scheduled to enter pre-production in late 2016 and is expected to run until approximately 2060. This development is intended to provide an alternate feed source for the mill, but is not expected to affect overall planned production rates. IOC currently employs about 1,750 people, but the company recently announced that it will be laying off 150 workers in June of this year as a result of cost-cutting measures associated with falling iron ore prices.

## Wabush Mines

Wabush Mines is owned by Cliffs Natural Resources (CNR) Inc. (based in Cleveland, Ohio). In February 2014, mining and processing at Wabush Mines was halted as increasing costs made the mine unprofitable. The company shipped approximately one million tonnes of iron ore in 2014 compared with almost three million tonnes in 2013. Much of the shipment last year was pre-existing concentrate inventory.

CNR had been in conversation with MFC Industrial, the mine royalty holder, to discuss the possible sale of the mine. However, in October 2014, CNR informed the Provincial Government that talks had broken off and that they were proceeding with permanent closure of the mine. In early April of this year, a Québec court-appointed administrator overseeing the Companies' Creditors Arrangement Act (CCAA) process for Bloom Lake filed a motion to seek permission to solicit interest in the sale of Cliffs' Canadian assets including Wabush Mines and the associated rail and port infrastructure. When operational, Wabush Mines had employed approximately 500 persons.

## Labrador Iron Mines Ltd.

Labrador Iron Mines Ltd. (LIM) began operations in April 2011 and shipped its first iron ore to China the following October. The company was the first new iron ore producer in the province since 1965 when Wabush Mines started producing.

# Producing Mines

## Developing Properties and Processing Facilities

### Producers

1. *Vale Newfoundland and Labrador Limited*, Voisey's Bay
2. *Iron Ore Company of Canada*, Labrador City
3. *Iron Ore Company of Canada*, Labrador City
4. *Labrador Iron Mines Limited*, Menihek Area (Idle for 2015)
5. *Rambler Metals and Mining Canada Limited*, Baie Verte Peninsula
6. *Teck Duck Pond Operations*, Duck Pond
7. *Anaconda Mining Inc.*, Pine Cove
8. *Hi-Point Industries (1991) Ltd.*, Bishop's Falls
9. *Atlantic Minerals Limited*, Lower Cove
10. *Trinity Resources Ltd.*, Manuels
11. *Tata Steel Minerals Canada Ltd.*, Menihek Area

### Processing facilities

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

### Under development

14. *Newspar*, St. Lawrence
15. *Alderon Iron Ore Corporation*, Labrador City/Wabush Area
16. *Labec Century Iron Ore*, Menihek Area
17. *Barite Mud Services Inc.*, Buchans - Barite

### Exempt Mineral Land

18. *Julienne Lake*, Labrador City/Wabush Area



\* Note scale differences of Labrador and Newfoundland maps



LIM did not operate in 2014 due to the depletion of ore at its James mine, cost pressures due to falling iron ore prices, and the lack of success in attracting required financing. The company shipped approximately 1.5 million tonnes of iron ore in 2013. In its quarterly report released on December 31, 2014, LIM indicated that it is currently focusing on obtaining additional financing and negotiating more favourable commercial terms of major supply and service contracts. LIM is not expected to conduct any mining activities in 2015.

In April 2015, LIM announced that it was initiating a court-supervised restructuring process under the CCAA in order to facilitate a restructuring and refinancing of its business operations. Under the CCAA proceedings, LIM's principal objectives will be to restructure its debt obligations, preserve the value of its mineral properties and restructure operating costs, including key operating contracts. LIM also reported that it has completed a transaction pursuant to the provisions of its Joint Venture Agreement with Tata Steel Minerals Canada (TSMC) whereby TSMC has acquired LIM's remaining interest in the Howse Project for \$5.0 million.

## **Elross Lake**

TSMC's Elross Lake project is a joint-venture owned by Tata Steel of India and New Millennium Iron Corp. The first load of iron ore from the project was shipped in September 2013. Shipments during 2014 totalled 250,000 tonnes, lower than had been expected due to the QNS&L railway closure in November 2014.

The project's year-round processing plant is expected to be operational in the second quarter of 2015, which will enable shipments to ramp up to just over 4 million tonnes this year. The plant will process material from both Québec and Newfoundland and Labrador. Additionally, a rail spur from LIM's Silver Yards facility to Elross Lake's processing plant has been completed, allowing rail shipments to be made directly from the plant instead of first trucking them to LIM's property for rail loading.

Shipments in the following years are expected to fluctuate as the Newfoundland and Labrador share of the plant's production will vary. The project (both production and continued development) created employment of just over 700 person years in 2014 and will gradually decline to a steady state of around 350 person years in 2017 as construction ends.

## **Voisey's Bay**

The volume of nickel shipped from Vale Newfoundland and Labrador's (VNL) operations at Voisey's Bay, Labrador decreased in 2014, but as a result of higher prices, the value of shipments increased. The company shipped nickel concentrate worth \$735 million in 2014, up about 1% compared to 2013.

Employment for all aspects of the Voisey's Bay project, including mining operations and Long Harbour operation and development, was about 3,200 person years for 2014. Approximately 500 people were employed at the Voisey's Bay mine site and the balance was associated with the processing plant at Long Harbour. Operational employment (including contractors) at Long Harbour was about 600, but construction activity remained the biggest contributor to project employment in 2014.

Phase 1 of the construction of VNL’s nickel processing facility in Long Harbour was completed in October 2013, with the successful production of first nickel in July 2014. Activity in 2014 focused on the completion of pre-operational construction work, including the testing of sub-systems and the reinstatement of systems to prepare for commissioning and ramp up of Phase 1 to capacity. Phase 2 construction is expected to continue this year and will focus on the transition from processing imported nickel matte to processing Voisey’s Bay concentrate early in 2016. Construction of the remainder of the plant and commissioning will continue with the plant expected to reach full operational capacity in 2018.

Construction delays at the Long Harbour processing plant have resulted in amendments to the Voisey’s Bay Development Agreement to allow continued export of concentrate from the mine. The latest amendment was announced in February 2015, and is expected to result in an additional \$200 million in compensation to the Provincial Government and \$30 million in commitments for community initiatives in the province. In exchange, the Province raised the export cap allowing Vale to continue to export nickel concentrate from Voisey’s Bay until the Long Harbour processing plant reaches full capacity. All exempted concentrate will be replaced and processed in Long Harbour.

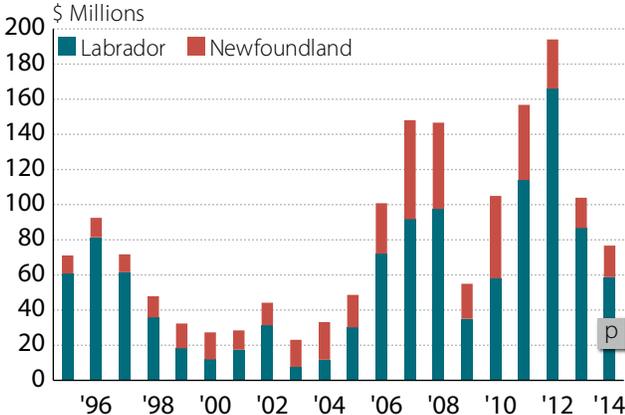
This amendment follows one announced in March 2013, which allowed Vale to continue to export concentrate from the province up to a cap until construction was completed. The March 2013 amendment also included a commitment by VNL to develop an underground mine at Voisey’s Bay. The underground mine is projected to start producing ore in 2019, and will generate additional employment and industrial benefits to the province.

### Other Mines

Rambler Metals and Mining Canada Ltd. (RMM) mines and processes ore from its copper-gold Ming Mine on the Baie Verte Peninsula. RMM commenced commercial production in November 2012 and shipped over 7,000 tonnes of copper concentrate in 2014. The original mine plan suggested a six year mine life; however, a new reserve statement published in early 2014 stated that enough new reserves have been identified to add an extra year to the mine’s life.

In 2012, the company completed a preliminary economic assessment of a high-tonnage, low grade resource known as the Lower Footwall Zone (LFZ) located 100 metres below the sections currently being mined. A December 2014 resource update showed a significant increase in the copper resource in this zone. Since then, a pre-feasibility study for development of the LFZ was initiated with a target completion date of mid-2015. Furthermore, the company is evaluating opportunities to optimize production including pre-concentrating the LFZ material using Dense Media Separation (DMS). A demonstration plant has been constructed and testing of the DMS process is ongoing.

### Mineral Exploration Expenditures



p: preliminary  
Source: Department of Natural Resources

Anaconda Mining Inc. began gold production in 2008 at its Pine Cove mine near Baie Verte. In 2014, production was estimated to total 460,000 grams, down around 2% from 2013. Employment at the project was approximately 70 person years in 2014.

The Teck Duck Pond copper-zinc mine is located in central Newfoundland. In 2014, copper and zinc production were 14,200 tonnes and 16,200 tonnes, respectively. This compares with copper and zinc production of 14,000 tonnes and 12,700 tonnes in 2013. The operation employs approximately 320 people. In October 2014, Teck confirmed that the mine and mill are expected to close as scheduled due to resource depletion, with operations shutting down in July 2015.

## Exploration and Development

Mineral exploration and development activity decreased in Newfoundland and Labrador in 2014. A weaker iron ore market resulted in delays for a number of potential projects. Exploration expenditures fell to \$76.7 million in 2014, from \$104.0 million recorded in 2013 (see chart). The major commodities of exploration interest were iron ore, base metals, gold and fluorspar.

Alderon Iron Ore Corp. is the proponent of the Kamistatusset (Kami) iron ore project, located in western Labrador near Labrador City and Wabush. Development of the Kami project slowed in 2014 as a result of weak market conditions. Alderon suspended its engineering, procurement and construction monitoring contract with WorleyParsons and informed Nalcor that it would not be paying the second installment on the security deposit for the construction of a power line from Churchill Falls to Labrador West required for the project.

The most recent information from the company indicated that, pending financing, construction on the project is expected to occur between 2015 and 2017. The company has raised about \$230 million and has engaged Endeavour Financial Ltd. to take the lead role in arranging an additional \$1 billion in financing. The Kami iron ore project is expected to ship about 8 million tonnes per year of iron concentrates and provide about 380 person years of on-site annual employment when fully operational.

New Millennium Iron Corp. and Tata Steel announced in March 2011 that a feasibility study had begun for the ventures' two large iron ore deposits in Labrador and Québec. The results of the study, which were released in March of this year, indicated that both the Labrador and Québec projects would be viable with the Labrador project showing somewhat better financial performance and a longer mine life. However, no further public statements have been issued regarding Tata's intentions towards the project and it has not yet been registered with regulators.

The Joyce Lake property is part of the larger Attikamagen project that straddles the Newfoundland and Labrador/Québec border about 20 kilometres northeast of Schefferville. Labec Century Iron Ore Inc. (Labec) registered the Joyce Lake iron ore property for environmental assessment in October 2012 and the Department of Environment and Conservation provided final guidelines for the project's Environmental Impact Statement (EIS) in December 2013. On March 2, 2015, Labec announced that it had received the results of the feasibility study for the project which estimated a mine life of about 7 years with initial capital costs of \$259.6 million.

Newspar continues its efforts to reactivate the underground fluorspar mine located in St. Lawrence on the Burin Peninsula. The company is an equal partnership between Canada Fluorspar Inc. (CFI) and Arkema (a multinational French chemical company). Newspar plans to develop two

deposits, complete upgrades to the existing mill, and construct a tailings management facility and new marine terminal. In January 2013, CFI announced the results of the new Preliminary Feasibility Study which estimated annual production of 131,000 tonnes and a mine life of 14 years. Newspar continues engineering feasibility work, and CFI is carrying out additional exploration work to expand the scope of the mining project in St. Lawrence.

Paladin Energy Ltd. continues to explore options to expand its existing uranium resource in the Central Mineral Belt of Labrador. Exploration is planned for the next three to five years to confirm and expand the existing resource. Paladin is hoping to develop a long-life mine and milling operation in the 2018-2020 timeframe, subject to economic viability.

In October 2012, the Provincial Government announced a Call for Expressions of Interest to seek proposals for the development of the publicly owned Julienne Lake iron ore deposit in western Labrador. The Province conducted a \$2.6 million exploration program on the deposit over the last few years. The results of the exploration define a world-class resource consisting of over one billion tonnes of iron ore with about 33% iron content. A more recent call for detailed proposals resulted in Government's decision to enter into negotiations with Altius Minerals and its two Chinese steel-producing partners to move the project forward.

# Outlook 2015

## Mining

- The value of mineral shipments is expected to increase moderately as higher iron ore production volumes are partially offset by lower prices.
- Iron ore shipments are expected to increase as IOC and Elross Lake increase production.
- The global iron ore market is expected to remain challenged, keeping downward pressure on prices.
  - Iron ore prices have continued to decline in early 2015 and as of April 10, 2015, prices were hovering around US\$46/tonne.
- Development of Vale's nickel processing plant at Long Harbour is expected to progress with phase 2 construction continuing this year. This work will enable the plant to transition from processing imported nickel matte to processing Voisey's Bay concentrate by the end of 2016.
- Exploration expenditures are expected to decrease about 19% to \$62 million.

