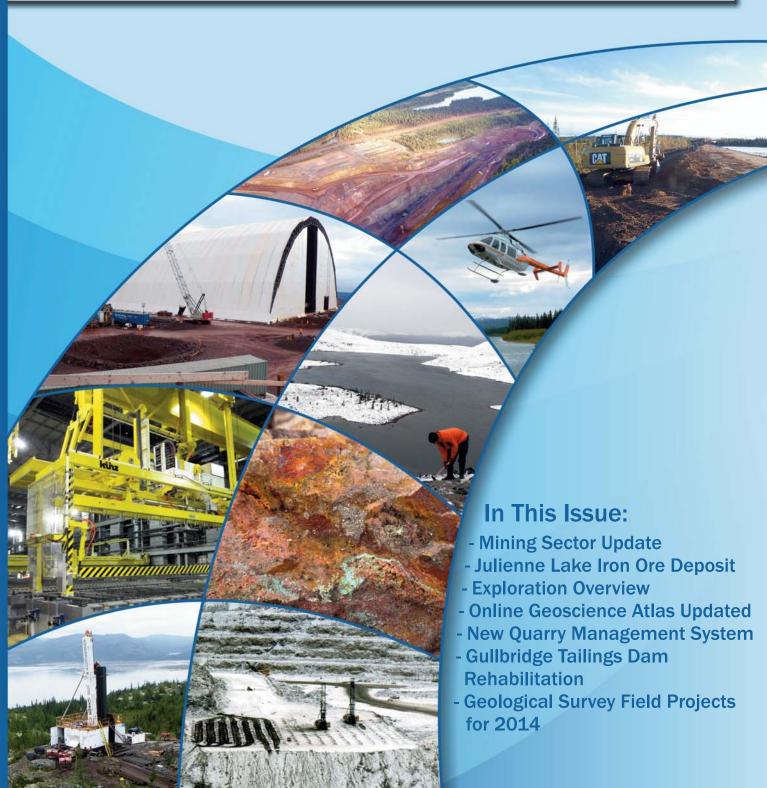




Natural Resources

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#### **MINING SECTOR UPDATE**

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ineral production in the province yields valuable commodities such as iron, nickel, copper, zinc, gold, cobalt, silver, aggregates, dolomite, limestone, peat and pyrophyllite. Many rural communities are major economic contributors to our province because of mining projects in their regions.

Mining accounted for nearly 8.6 percent, or close to \$2.7 billion, of the province's nominal gross domestic product (GDP) of \$31.7 billion in 2012. This is down from the previous year of 10.4 percent of GDP due to a decrease in export of iron ore and copper volume and values, as well as a decrease in spot prices for nickel.

The forecast gross value of mineral shipments for 2014 is \$3.8 billion. This is on par with the estimated 2013 value of \$3.7 billion. Iron and nickel are the greatest contributors to provincial gross value of mineral shipments.

Direct employment in the provincial mineral industry is projected to be 8,106 person-years in 2014, a decrease of about 3,000 from 2013. This is mainly the result of construction winding down at Vale Newfoundland and Labrador's hydromet nickel processing facility at Long Harbour. Also contributing to the decrease in employment numbers is the idling of Wabush Mines in February 2014.

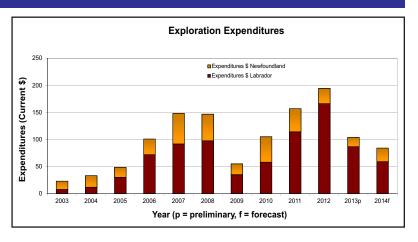
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Mineral exploration and development activity in 2013 decreased from 2012. As in previous years, the iron ore sector dominated the industry.

Exploration expenditures in 2013 were \$104.0 million, and are forecast to drop to \$84.1 million in 2014. This decrease is largely a reflection of poor market conditions that have resulted in junior exploration companies being unable to raise needed capital. Exploration expenditures for all commodities saw a decrease in 2013, a trend that is expected to continue in 2014. Drilling activity in 2013 was down from the near record highs in 2012, and is expected to decline further in 2014. Most exploration companies have reduced exploration activities to a minimum until market conditions improve.



Despite the downturn in mineral exploration, some positive developments did occur in 2013. These include continued development of the Kami iron ore project by Alderon Iron Ore and partner Hebei Iron and Steel Group, and encouraging exploration results from a number of advanced-stage gold and VMS projects throughout the province. Additional information on mineral exploration in the province is available at <a href="http://www.nr.gov.nl.ca/nr/mines/exploration/index.html">http://www.nr.gov.nl.ca/nr/mines/exploration/index.html</a>.

**Gross Value of Mineral Shipments** 

#### **GULLBRIDGE TAILINGS DAM REHABILITATION**

n 2010, the government approved funding for a Dam Safety Program at orphaned and abandoned mines (OAM) sites in the province. The OAMs are mine properties for which an owner cannot be identified or who is unable or unwilling to carry Lout the necessary rehabilitation work. These would include mine properties that were returned to the Crown during times when environmental legislation was less stringent. The program started with dam safety inspections, and then more detailed reviews at several former mine sites. This work was completed in accordance to the Canadian Dam Association's (CDA's) 'Dam Safety Guidelines 2007'.

The former Gullbridge Copper Mine was a mining and milling facility located between South Brook and Badger in central Newfoundland. Approximately 2.8 million tonnes of ore were mined. In 1999, rehabilitation work was initiated and included demolishing buildings, sealing all shafts to underground workings, and removing debris and chemicals from the site.

During the dam safety review of the Gullbridge tailings dam, it was brought to the attention of the department that the dam did not meet the CDA guidelines for slope stability, and because of the low factor of safety, rehabilitation the dam was a priority. In December 2012, rehabilitation of the dam was underway when a dam failure occurred. The breached area of the dam was approximately 35 m long, 25 m wide and the full height of the dam (7 m). Within two hours of the breach, the water level in the tailings impoundment dropped two metres and dam material and a small amount of tailings were washed downstream. There were no injuries to workers because of the incident.

Repair work began immediately. A berm was constructed on the downstream side of the breach to control discharge from the tailings pond. Initial repairs were completed in March 2013 with the construction of a spillway. This controlled the water level in the impoundment and addressed the unstable slopes that remained at the dam breach. Later, a study considering constructability, environmental protection, and cost was then completed to determine long-term solutions for the tailings impoundment. The first phase of the project commenced in November 2013 with the rehabilitation of the tailings dam. The dam height was lowered and the upstream and downstream slopes were flattened using fill taken from the crest of the dam. The tailings dam now meets CDA criteria. Phase II work will include erosion protection on the dam slopes and monitoring to assess environmental and hydraulic performance.

During the coming summer of 2014, rehabilitation of the tailings dams at the former Whalesback and Rambler mine sites will be completed in accordance with the recommendations of the 2012 dam safety review.



Gullbridge Dam Breach, 2012



Gullbridge Dam Breach Area After Repair, 2013

### NEW QUARRY MANAGEMENT SYSTEM

In 2013, the Mineral Lands Division of the Department of Natural Resources and the Office of the Chief Information Officer started the development of a new computerized Quarry Management System. The system is designed to allow for online acquisition of quarry permits and will be integrated with the province's Financial Management System, permitting payments of some fees and royalties online. The system will help streamline the quarry permit referral process, resulting in quicker issuance times and improved client service, and will include a report section. All business requirements for the new system have been documented and are now being reviewed, with the next stages being design and build.

# UPDATE: JULIENNE LAKE IRON ORE DEPOSIT

The government's initiative to encourage development of the Julienne Lake iron ore deposit in Labrador West moved closer to realization on April 16, 2014 because of its decision to enter into exclusive negotiations with a group consisting of Newfoundland and Labrador-based Altius Resources Inc. (Altius), and two major Chinese iron ore and steel producing companies. This group, referred to as the Julienne Lake Alliance, proposed an expanded project, based on resources located within the Exempt Mineral Lands, held by government, and adjacent iron mineralization, located on property, held by Altius.

Negotiations between the stakeholders aim to establish a legal agreement under which development would proceed. A successful development agreement would be followed by a detailed feasibility study on the project by the Julienne Lake Alliance to confirm project viability.

Natural Resources' news release announcing the selection of the Julienne Lake Alliance as the party with which Government would enter into negotiations regarding Julienne Lake development is available at

http://www.releases.gov.nl.ca/releases/2014/nr/0416n03.aspx.

# **GEOLOGICAL SURVEY**FIELD PROJECTS FOR 2014

The Geological Survey of Newfoundland and Labrador has an active field program in 2014 consisting of six projects across the province. Geologists with the Regional Geology Section will continue mapping the Bonavista Peninsula, and conduct brief field visits to areas of western Newfoundland. The Mineral Deposits Section continues studies on uranium in the Central Mineral Belt of Labrador, and iron-ore in the Labrador Trough. Follow-up work on gold and base-metal projects in Newfoundland will also be conducted. The Geochemistry, Geophysics and Terrain Sciences Section continues surficial mapping and till geochemistry projects in the Bay d'Espoir area, a lake-sediment geochemistry project in southeastern Labrador, and work on assessing areas vulnerable to coastal erosion in the province. In addition, there will be several office-based projects conducted with the assistance of summer students including the continued archiving of paleontological samples at The Rooms, a cultural facility in St. John's; map and data preparation; laboratory support and many others. More information about the ongoing programs, and such published products as maps and reports can be found at http://www.nr.gov.nl.ca/nr/mines/Geoscience/index.html.

## ONLINE GEOSCIENCE ATLAS UPDATED

In April 2014, the Geological Survey released an update to the Geoscience Atlas (<a href="http://www.releases.gov.nl.ca/">http://www.releases.gov.nl.ca/</a> releases/2014/nr/0422n02.aspx). The Geoscience Atlas contains information on decades of research conducted by the Geological Survey covering the province, with over 400 layers of geoscience information including Bedrock and Surficial Geology, Geochemistry, Geophysics, Land Use, Geofiles, Mineral Rights, Quarries, and Aggregate Resources. The latest version supports web browsers and mobile tablets. A newly introduced feature is an interactive mapping application that allows clients to print custom geoscience maps, overlay multiple layers of data simultaneously, and to download the most up-to-date information. The atlas is available at http://geoatlas.gov.nl.ca/Default.htm.

#### **COVER PHOTO CREDIT**

Vale Newfoundland and Labrador Limited - two pictures, lower left side.