Department of Natural Resources, Mines Branch

MINFO

MINERAL INFORMATION

Newfoundland Labrador

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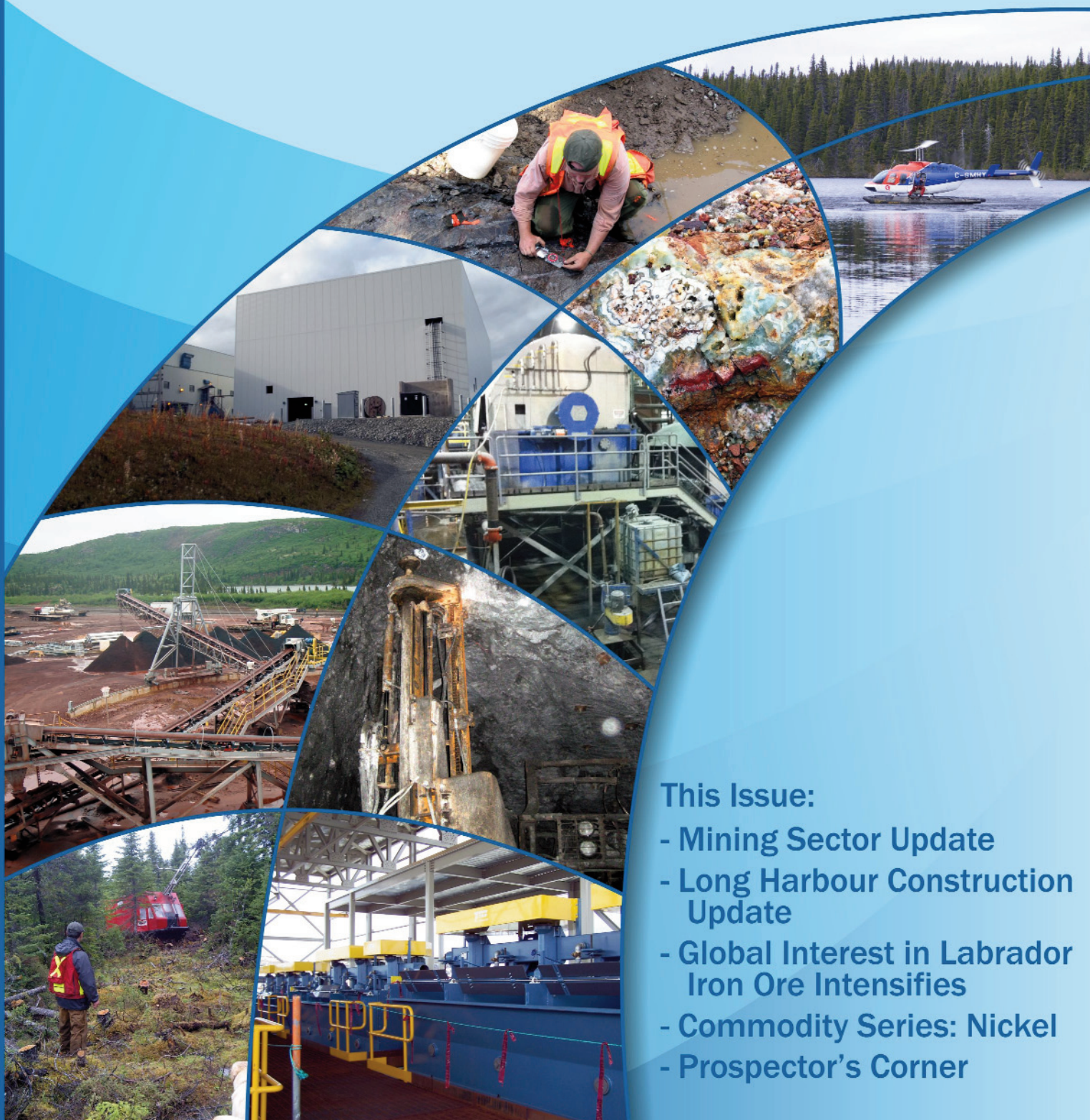


This Issue:

- Mining Sector Update
- Long Harbour Construction Update
- Global Interest in Labrador Iron Ore Intensifies
- Commodity Series: Nickel
- Prospector's Corner

MINISTER'S MESSAGE

Honourable Jerome Kennedy
Minister of Natural Resources

Newfoundland and Labrador's mining industry is a tremendous contributor to the economy of the province, and a valuable source of employment for many men and women in our rural communities where the majority of operations are based.

Mining represents the province's second largest resource industry in terms of natural resource revenue and industrial Gross Domestic Product. Record mineral shipments of $5.7 billion are expected this year with iron and nickel accounting for most of production. Employment is at a 35-year high due mainly to increased hiring at Long Harbour, and the strength of the iron ore industry.

Construction activity for two new mines by Tata Steel Minerals Canada and Newspar, and the anticipated opening of both in 2012 and 2014 will help ensure long-term industry growth and expansion, while supporting increased economic and employment opportunities for the residents of Newfoundland and Labrador over the next decade.

The mineral exploration sector has been revitalized by strong commodity prices and demand from emerging global economies. Exploration expenditures will be greater than last year's record of $172 million, demonstrating the province's impressive mineral potential and possibility for future development. The major commodities of interest include iron, copper, and gold with a significant renewed interest in rare earth elements and uranium.

Major growth is happening in the iron ore district of Western Labrador, and approximately $15 billion of investment may be realized in the region over the next decade. Announced company plans, feasibility studies, and preliminary assessments of prospective deposits indicate a sustainable future for the industry, and hold the promise of continued growth and development in Labrador.

Newfoundland and Labrador is resource rich and investment ready. We have a proven record of world-class deposits with diverse mineral potential and investment opportunities to explore. The Government of Newfoundland and Labrador is committed to working with industry partners to ensure long-term success and development. We continue to support responsible mineral exploration, discovery and development in the best interest of the province, and will pursue resource opportunities that ensure the continued prosperity of Newfoundlanders and Labradorians.

CONTENTS

2 MINISTER'S MESSAGE

3 MINING SECTOR UPDATE

4 MINERAL EXPLORATION 2011

6 GLOBAL INTEREST IN LABRADOR IRON ORE INTENSIFIES

7 LONG HARBOUR NICKEL PROCESSING PLANT: *CONSTRUCTION UPDATE*

8 PROSPECTOR'S CORNER

9 GEOLOGICAL SURVEY FIELD PROJECTS FOR 2012

10 HISTORICAL MINE SPOTLIGHT: *BUCHANS FROM DISCOVERY TO DEVELOPMENT*

10 GOOD NEWS FROM PDAC 2012

12 MINERAL INCENTIVE PROGRAM

13 COMMODITY SERIES: *NICKEL*

13 REHABILITATION 2012

14 GEOSCIENCE AND MINERALS OUTREACH: *WORKING TOGETHER FOR EDUCATION*

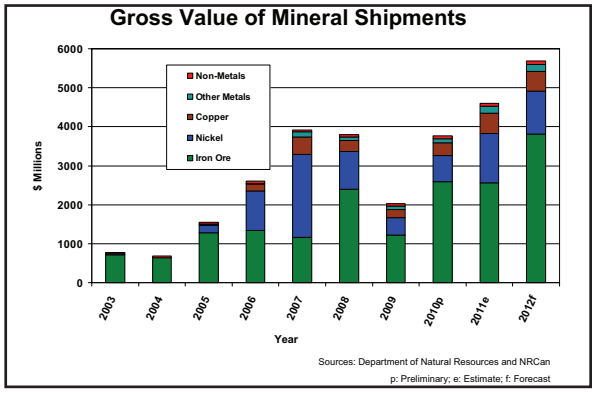
14 APPOINTMENTS AND DEPARTURES

15 TWO MINING EXECUTIVES PASS AWAY

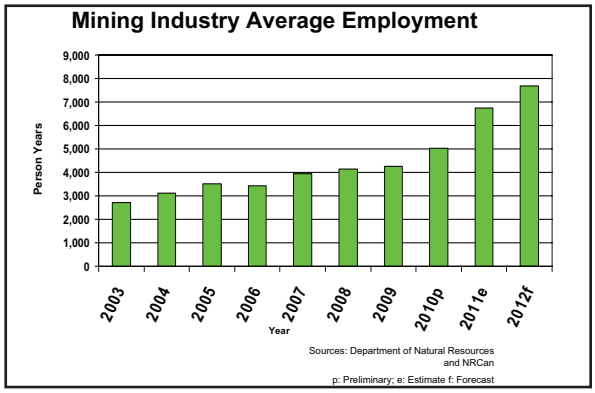
Note: *Currency in Canadian Dollars unless otherwise noted.*

MINING SECTOR UPDATE

Newfoundland and Labrador's mining industry has been in the midst of an upswing for several years. Chinese, and, to a lesser extent, Indian demands for steel have created a boom in the development of the iron-rich Labrador Trough. Record high exports of iron ore concentrates from Labrador West, and the newly developed direct iron ore shipping project in the Menihek region, contribute to the forecasted gross value of mineral shipments of $5.7 billion for 2012.



Other mineral shipments include antimony, nickel, copper, cobalt, zinc, gold, pyrophyllite, limestone, dolomite, peat, sand/gravel and stone. Most of these commodities will see increased gross shipment values. The production ramp-up at Rambler Metals and Mining Canada Limited's Ming Mine will improve copper and gold shipments.



Employment is projected to be 7,682 person years in 2012. This is due mainly to increased hiring for the construction of Vale Newfoundland and Labrador's hydromet nickel processing facility at Long Harbour. Vale's peak employment of 3,500 person years is forecast for this year. The start of construction at both the fluorspar mine in St. Lawrence, owned by Newspar, and iron ore mine near Elross Lake, owned by Tata Steel Minerals Canada is also contributing to increased employment. There is also significant construction activity associated with the Iron Ore Company of Canada's Carol project, undergoing phase II of their Concentrate Expansion Program.

The mine permitting process involves continuing respect for aboriginal consultation with inclusive involvement from exploration through to development. Once a project is released from environmental assessment, industry must provide a development plan, a rehabilitation and closure plan as well as financial assurance to government during the pre-development stage.

The Department of Natural Resources, Mines Branch, ensures that mining in our province is prudently done and is sustainable for future generations. Increased inspections and new regulations from Service NL help ensure that mine safety for workers is continually improving. ❑

MINERAL EXPLORATION 2011

Mineral exploration and development activity continued to grow in 2011, with two new mines in production, expansion at several existing operations and a substantial increase in exploration expenditures. As in 2010, new developments in the iron ore sector dominated the industry. Strong gold and non-ferrous metal prices also had a significant impact on exploration in the province.

Preliminary estimates of exploration spending are at an all-time high of about $172 million for 2011 (Figure 1). Drilling activity is also estimated to have increased from 162,000 m in 2010 to about 235,000 m in 2011 (Figure 2). This trend is forecast to continue in 2012 with exploration expenditures projected at an all-time high, and diamond drilling is forecast to exceed last year's total.

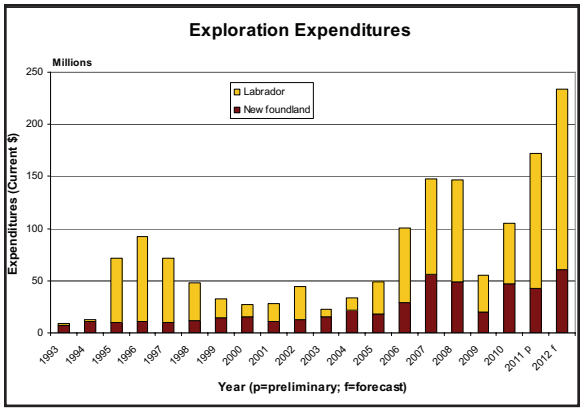


Figure 1. Exploration Expenditures, 1993 – 2012.

LABRADOR

Exploration for iron ore in the Labrador Trough increased dramatically in recent years. Alderon Iron Ore released results of a Preliminary Economic Assessment (PEA) on the Rose Central Deposit of its Kamistiatusset property and an initial mineral resource estimate on the North Rose Deposit. Tata Steel and partner New Millenium Iron (NML) are working toward completion of a feasibility study of their LabMag taconite project and are exploring areas along the trend of known deposits. NML also announced the planned start-up schedule of production from their direct shipping ore deposits by Tata Steel Canada Limited (TSMC), a joint venture (JV) with NML. The JV anticipates ore production by year end. Cap-Ex Ventures conducted extensive exploration in 2011 with impressive drill results on the Green Bush Zone and discovery of the Northwest Zone. Champion Minerals announced positive drill results from its Attikamagen Iron property, 51% of which is now held by Century Iron Mines. WISCO Resources, a subsidiary of a major Chinese steelmaker, can acquire a 40% interest in Century's subsidiaries through injection of new capital. Altius Minerals and partner Rio Tinto Exploration Canada reported drill results for its Geothite Bay prospect in western Labrador. Altius also announced 2012 exploration plans with partner Century Iron Ore for the Astray and Grenville projects. Metals Creek Resources and Golden Dory Resources reported encouraging assay results from the Gabbro Lake JV project. Grand River Ironsands announced a JV on its Churchill River project with South African Petmin and Vancouver-based Cardero Resource Corp. to form North Atlantic Iron Corporation. Plans include metallurgical tests and engineering studies leading to a bankable feasibility study.

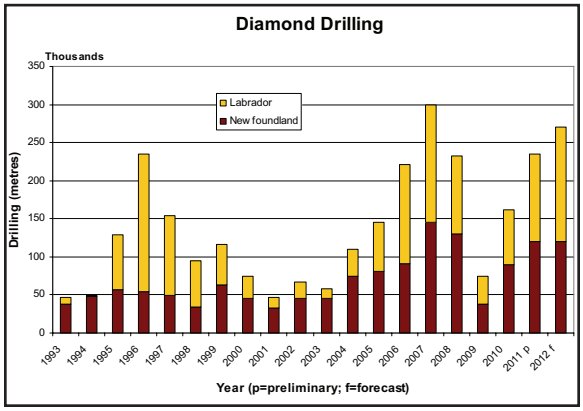


Figure 2. Diamond Drilling, 1993 – 2012.

In March 2012, the Nunatsiavut Government enacted the Environmental Protection Act and an amendment to the Labrador Inuit Lands Act that lifted the moratorium on development, mining, and production of uranium on Labrador Inuit Lands. Several uranium exploration companies announced plans for aggressive exploration efforts, including Mega Uranium, Paladin Energy (Aurora Energy), Crosshair Energy and Silver Spruce Resources.

Rare Earth Element (REE) exploration continued in Labrador. Rare Earth Metals is exploring for REEs in the Letitia Lake area and reported an initial inferred resource estimate for their Two Tom deposit. Search Minerals continued detailed exploration on six REE prospects in the Port Hope Simpson area and reported a preliminary resource estimate on the Foxtrot Prospect. Search and partner Great Western Minerals Group completed a first-phase drill program on Search's Red Wine property near Letitia Lake. Quest Rare Minerals and partner Search also reported positive results from drilling completed on the Strange Lake Option Project. Silver Spruce continued to explore for REEs on several properties in central and eastern Labrador, including the Pope's Hill property.

The late 2010 agreement between Altius and Cliffs Natural Resources to explore areas of the province for ferro alloy metals was expanded in 2011 to include an iron ore project known as Saglek in northern Labrador. (The partners also staked 3,424 claims targeting nickel-iron alloy minerals and chromite in ultramafic complexes on the Island).

Playfair Mining reported results of a 24 hole drill program on its Seal Lake project in central Labrador. The target is Kupferschiefer-type copper silver mineralization and economic Cu–Ag grades were intercepted in three of the holes.

Vale Newfoundland and Labrador continued their nickel–copper–cobalt exploration focus on several near-mine targets including the Southeast Extension, zones south and west of the Eastern Deeps and areas north of the Reid Brook Zone. Infill drilling also continued on the Reid Brook Zone.

NEWFOUNDLAND

Gold exploration on the Island reached an all-time high in 2011 driven by record gold prices. New resource estimates were reported for several projects.

Joint venture partners Marathon Gold and Mountain Lake increased their resource estimate for Valentine Lake and announced the discovery of two new gold occurrences. Northern Abitibi Mining reported an updated resource estimate for the Thor Trend deposit. Castillian Resources announced its first NI 43-101 compliant resource estimate for the Hope Brook Gold project in southern Newfoundland. Maritime Resources reported a preliminary resource estimate for the former Hammerdown gold mine. Other highlights in gold exploration include the recovery of 314 oz gold from a surface bulk sample at Paragon Minerals/Crosshair Exploration and Mining's Golden Promise project as well as drill results from Mountain Lake's Glover Island property, Maritime Resources' Orion property, Cornerstone Capital's El Strato property, Manson Creek's Virgin Arm project, Anaconda Mining's Pine Cove mine, Silver Spruce's Rambler South property, Tawsho Mining's Whisker Valley property, GoGold's Rambler project, TerraX Minerals' Stewart property, Soldi Ventures' Golden Bullet project and the Long Range JV property held by Buchans Minerals/Benton Resources. Golden Dory also announced drill results from its Brady property in central Newfoundland, and are working with partner Paragon to update the gold resource at Huxter Lane. Metals Creek reported new gold discoveries at Jackson's Arm (near White Bay). and Zonte Metals conducted regional exploration for sedimentary-hosted bulk tonnage targets on their Wings Point project in northeastern Newfoundland.

Base-metal exploration continued on a number of well-established projects in central Newfoundland, including Cornerstone's/Thundermin's Little Deer copper deposit where a revised estimate shows increased resources. The partners also recently released positive drill results from the Whalesback past-producing copper property. Buchans Minerals announced completion of a positive PEA on its Lundberg deposit located in Buchans. A new player, Minco Plc, acquired several VMS deposits including the Lundberg Zone from Buchans Minerals, and Bobby's Pond from Mountain Lake. Paragon released its first mineral resource estimate for the Lemarchant VMS deposit, as did Messina Minerals for the Long Lake Main Zone. Teck Resources continued drilling on the Lower Duck deposit as well as on other targets near its Duck Pond mine. Puddle Pond Resources conducted drilling on its Horn-Mesher project in central Newfoundland and Prominex completed 5 holes on its Tulks Hill property.

Prices and markets for specialty metals remained strong through 2011 and increased exploration and development are forecast for 2012. The Beaver Brook antimony mine continues to delineate ore resources and explore for new deposits. Playfair Mining reported an updated resource estimate for the Grey River tungsten deposit on the south coast of the Island. Crosshair Exploration continued to work on its CMB uranium–vanadium project in central Labrador. Triple Nine Resources explored its Four Corners iron–titanium–vanadium (Fe–Ti–V) property in southwest Newfoundland. Newfoundland Fluorspar Exploration continued to explore for fluorspar near St. Lawrence on the Burin Peninsula. Canada Fluorspar Inc. (CFI), in partnership with Arkema Inc., is working to reactivate the St. Lawrence fluorspar mine. CFI has recently expanded the known extent of the past-producing Director vein.

The province's mineral industry saw strong growth throughout 2010-2011 with major capital investments in new and expanding projects. A pipeline of advancing projects with encouraging results is also in place to help sustain growth and development for some time. ❑

GLOBAL INTEREST IN LABRADOR IRON ORE INTENSIFIES

A major feature of current iron ore development in the Labrador Trough, including Labrador West, is the growing involvement of large Asian steelmaking companies. Asian nations, with China at the forefront, are showing impressive economic growth. China's economic growth is particularly robust. China's latest 5-year plan is targeting average annual growth in Gross Domestic Product at 7.5%, after previously growing at rates exceeding 10 % annually.

China is well supplied domestically with many critical metals needed to support its economy, but iron ore is somewhat of an exception. While China processes iron ore domestically, production comes from lower grade deposits, some of which are underground. This comparative disadvantage means that Chinese iron ore production is relatively expensive. This puts a level of support under iron ore prices in China that can be exploited by lower cost producers, particularly those in Australia and Brazil.

China is interested in developing the seaborne iron ore trade, currently dominated by the three large global suppliers: Rio Tinto, BHP Billiton, and Vale. This interest can be seen in the activities of state-sponsored Chinese enterprises in the Labrador Trough. Wuhan Iron and Steel (Group) Corp. provided significant financing for the Bloom Lake mine in Québec and are also involved in other developing properties in the Labrador Trough. In April, 2012 Alderon Iron Ore Corp. announced that China's largest steelmaker, Hebei Iron and Steel Group Co. Ltd., will play a significant role in development of Alderon's Kami project located in Labrador West. The Bloom Lake and Kami deals both include off-take agreements, whereby the Chinese entities agree to purchase a major part of iron concentrates from the projects at or near market prices.

A large Indian company, Tata Steel, partnered with Canadian junior-listed company New Millennium Iron Corp. to develop a high-grade, direct-shipping iron ore deposit in the Menihek area. The two companies are also conducting a feasibility study on a large lower grade iron deposit in the same area that could possibly add 22 million tonnes per year of iron concentrate production to the Newfoundland and Labrador total. A large part of production from these deposits is intended to supply Tata Steel owned steelmaking plants in Europe. A smaller independent operator, Labrador Iron Mines Holdings Ltd., is already producing in this area and sells its production on the Chinese spot market through the Rio Tinto sales organization.

Along with the Asian involvement there is a major presence in the region from large global players Arcelor Mittal, Cliffs Natural Resources, and Rio Tinto, all of which have announced plans to increase production from mines in the Labrador Trough.

Activity in the Labrador Trough is intensifying with major companies from three continents vying for access to iron ore deposits and finite infrastructure. RBC Capital Markets stated in a recent coverage of the Labrador Trough:

> *"Our analysis suggests that production could grow by an annual compounded growth rate of 35% over the next five years, with the potential for base load current production to increase seven-fold over the next ten years. While it is not likely that all the proposed projects and developments will come to fruition, the Labrador Trough is set to become a more meaningful supplier of iron ore in the global seaborne market."*

LONG HARBOUR NICKEL PROCESSING PLANT: *CONSTRUCTION UPDATE*

Vale Newfoundland and Labrador Limited (VNL) continues to develop its mega project near the town of Long Harbour. This project is a commercial nickel processing facility that will have a capacity to produce 50,000 tonnes of finished nickel as well as any associated copper and cobalt that is contained in the concentrate processed at the plant.

The layout of the plant is in two tiers; a lower tier consisting of the port, lay-down areas and concentrate storage building, and an upper tier consisting of multiple buildings housing all the equipment that will process Voisey's Bay concentrate into finished metals. To construct and operate such a large project there are other installations that need to be put in place, such as a water distribution system, electrical controls, roads, etc. When all this work is complete, Vale estimates that US$3.6 billion will have been invested.

As of January 2012, the overall project status was 59% complete, with engineering 97% complete, and construction about 30% complete. The current focus remains on concrete placement, steel erection, equipment setting and building cladding. Concrete foundations have been poured for almost all the buildings, however now concrete must be poured for the thousands of pieces of equipment that will be housed inside of these buildings. The company is working on closing in the 17 process buildings and has the neutralization building, the largest one on site, substantially completed.

Equipment is being shipped to the site as modules, assembled in place and then will be connected to form the workings of the hydromet processing plant. Some of these modules have already arrived in Long Harbour. Other equipment in place include the utility rack modules, electrical room module, large diameter tanks, thickener and the first electrowinning cells. At the lower tier, the concentrate storage building is taking shape, installation of crushing and grinding equipment is started and marine work continues.

To do this work requires a large workforce. During January there were about 2,400 people working on site. The company has indicated that employment is expected to peak this year at 3,500. As a result, Long Harbour will continue to be a busy place throughout 2012.

Construction at Vale's Nickel Processing Facility.

PROSPECTOR'S CORNER

WHEELERS AND DEALERS

For some people, prospecting is seen as an interesting and challenging hobby, an excellent form of exercise, and a means of stimulating curiosity about our natural environment. However, for many prospectors this is a serious business that provides a full- or part-time income, and a rewarding way to exercise their natural business and entrepreneurial skills. For a very few, the combination of hard work, innovative thinking, and perhaps a little luck, can yield financial wealth beyond most people's dreams.

The Discoverers

An outstanding example of how prospecting can lead to riches is provided by prospectors Al Chislett and Chris Verbiski, who in 1993 discovered the Voisey's Bay deposit near Nain in northern Labrador. This large, high-grade nickel–copper–cobalt ore body was found during a regional prospecting program, designed to explore for diamonds. However, during a routine helicopter reconnaissance, these men noticed a large outcrop of rusty rock which later became known as "Discovery Hill". Training and curiosity did the rest.

Alex Turpin, Prospector.

The Voisey's Bay mine, now operated by a large international mining company, became one of the most valuable ore bodies in the world, and its discoverers became very wealthy as a result. Very few prospectors will make this kind of discovery in their lifetimes, however not willing to rest on their laurels, both continue to pursue their dream of finding "the next big one".

The Company-makers

Another way in which prospecting can develop into serious business is illustrated by the Keats and Stares families from the small town of Benton, near Gander. These families have produced several generations of prospectors, mostly self-taught, or who learned their skills through employment with a mining company.

Brothers Michael and Steven Stares left for Ontario some years ago and started a successful prospecting/ contracting company. They later began a new, junior exploration company which is listed on the Toronto Stock Exchange and this has proven to be a highly successful enterprise. The Stares, including another brother Sandy, now operate a number of public companies most of which are actively involved with mineral exploration in the province.

More recently, Kevin Keats, who remained in the province, followed a similar route. Kevin learned the profession from his father, well-known local prospecting pioneer Al Keats, and together they went on to form a thriving private prospecting company based in Benton. Later, with local partners, Kevin launched a new publicly listed company that explores for minerals both in this province and elsewhere. Kevin's uncle, Fred Keats, is another well known local prospector who has done extensive work internationally.

The Independent Prospector

Not all prospectors follow the corporate route to success. Many are highly independent and prefer to operate as self-employed entrepreneurs. They may accept short term contracts to earn an income, but they also make business deals with exploration companies. This type of arrangement, called an option agreement, allows the company to earn an interest in the prospector's mineral property in return for cash payments or other financial benefits. This is a very lucrative form of business activity which many local prospectors use to augment their income.

A well-known example is Alex Turpin, who comes from Little St. Lawrence on the Burin Peninsula. Alex has operated independently for many years, prospecting on his own behalf or with partners, or working for companies as a contractor.

Prospectors at PDAC 2012.

Government Role

The Department of Natural Resources recognizes the key role that prospectors play in contributing to new and lucrative mineral discoveries, and thus to growth of the provincial economy. Some of our province's most important mines (e.g., Buchans) were developed from original discoveries made by prospectors. Because of this, the department has developed a number of initiatives to encourage and assist the prospecting community.

The Matty Mitchell Resource Room is a government–industry–university partnership developed by the department to deliver technical support, advice, mentoring and promotional services to prospectors and other interested members of the public.

In partnership with Mining Industry NL, the department assists prospectors to travel to national conferences to promote their properties to interested mining companies. These conferences include the Prospectors and Developers Association annual conference in Toronto, and the Roundup in Vancouver.

The department's Mineral Incentive Program provides training courses on a regular basis, as well as giving direct grants to eligible prospectors. The basic training course is a two-week event held annually in Stephenville, and includes classroom instruction and field trips. The grants are used to cover field and other expenses for prospector's programs.

Finally, the Mineral Exploration Consultant's office with Geological Survey provides advice, consultation and information services to prospectors and the general public, as well as rock and mineral identification and limited assay services. ❑

GEOLOGICAL SURVEY FIELD PROJECTS FOR 2012

LABRADOR

James Conliffe will start a new iron-ore research program in Western Labrador. Areas of study will include the current iron ore mining operations, major developments and exploration programs. He will also examine and sample the Julienne Lake drill core stored in Goose Bay.

Denise Brushett will start a new geochemical sampling program in western Labrador. The target for the survey is kimberlite-indicator minerals within eskers that are well exposed throughout the Archean Ashuanipi Complex, located to the west of the Menihek Lakes. Samples will be assessed for their heavy mineral contents.

Andy Kerr will continue with his rare earth elements project in central and southeastern Labrador.

Charles Gower will conduct a short field season in central and southeastern Labrador examining the Grenvillian rocks of the area.

Tim van Nostrand will carry out a detailed mapping of the Seal Lake Group north of the Orma Lake Road, northeast of the Smallwood Reservoir. He will also carry out a bedrock geochemical sampling project over the Michikamats Intrusion, located near the northern shore of Smallwood Reservoir.

Melanie Irvine will start the Labrador part of her coastal monitoring project along the southeast coast of Labrador, starting in the L'Anse au Clair area.

NEWFOUNDLAND

Jennifer Smith will continue her surficial mapping and till geochemistry sampling project in the area east of Millertown.

John Hinchey will examine base-metal and gold prospects in the Long Lake area of central Newfoundland,continuing a regional study of the Victoria Lake Supergroup that is a major focus for mineral exploration.

Hamish Sandeman will continue his studies on gold prospects in central and northwestern Newfoundland and start a new project on mineralization in Silurian volcanic rocks in northwest Newfoundland.

Greg Sparkes will continue with his project in the Burin Peninsula–Bonavista Bay area examining the regional context of epithermal and porphyry-style gold mineralization.

Jerry Ricketts will carry out a granular aggregate survey in the Clarenville area.

Melanie Irvine will continue her coastal monitoring project around the coast of Newfoundland and revisit the sites established last year.

Ian Knight will conduct a short project in the Cormack Lake area.

David Taylor will complete his till geochemical sampling project in the northeast Avalon area.

A ***New Hire*** will continue the bedrock mapping project in the Trinity Bay and Bonavista Bay area of Eastern Newfoundland. This project is a continuation of the bedrock mapping project started by Leon Normore in 2009. ❑

HISTORIC MINE SPOTLIGHT:

Buchans, a town located in central Newfoundland, is well known for its mining history. It is situated on the northwest shore of Red Indian Lake, about 70 km from the Trans-Canada Highway on Route 370. For 58 years, base-metals extraction and refinement made a healthy return for American Smelting and Refining Company (ASARCO). While in production, Buchans was one of the highest grade lead–zinc–copper mines in Canada. From 1926 to 1984, the Buchans mines included Old Buchans, Lucky Strike, Oriental, Rothermere and MacLean's. Total production from these five mines was 16,866,234 tons of ore.

This account is a brief review of Buchans from discovery to development. Many people played a role in Buchans, but we start with Matty Mitchell, who died in 1922 - prior to any major production.

In the summer of 1905, Matty Mitchell was employed as guide and prospector by the Anglo-Newfoundland Development (A.N.D.) Company. The A.N.D. Company was formed in January of the same year by two parties sharing similar interest in the pulp and paper potential of the land: the Harmsworth brothers and Mayson Beeton. The A.N.D. Company expressed interest in the land surrounding Red Indian Lake and Victoria Lake which encompassed 2,320 square miles. The government of the time granted the land for a period of 99 years and was entitled to 5% of the net profits if minerals were to be discovered. As a condition of the associated legislated Act of the Government of Newfoundland entitled "An Act to Encourage the Manufacture of Pulp and Paper in this Colony", the A.N.D. Company was obligated to survey the entire area of land described within the Act.

It was mid-August when Mitchell was assigned to assist William Canning, an associate of Michael S. Sullivan of Sullivan and Canning, Chemists and Surveyors. While his associate Sullivan began surveying and marking boundaries of the A.N.D. Company leased lands, Canning was instructed to conduct a geological survey with the help of an experienced, indigenous prospector and guide, Matty Mitchell. Sulphur would have been the ultimate find for the pulp and paper industry.

Travelling up the Buchans River, then known as Sandy River, a discovery of lead and copper ore was made

GOOD NEWS FROM PDAC 2012

The Mines Branch mounted major promotion and investment attraction initiatives at the annual PDAC Conference and Trade Show in Toronto (March 4-7, 2012). PDAC 2012 was the largest and busiest on record, with over 30,000 registered delegates. About 30% were from outside Canada, with large delegations from Asia and South America. Over 1,100 exhibitors from 120 countries participated in the Trade Show and Investors Exchange.

About 300 delegates from Newfoundland and Labrador attended PDAC, representing all aspects of the minerals sector: producers, explorers, suppliers and service providers, and government. Over 20 publicly traded companies with projects in the province exhibited in the Investors Exchange; a dozen prospectors had property displays in the NL area of the Trade Show. Once again, the Matty Mitchell Room played a key role in supporting the latter aspect of the larger promotional piece.

Our exhibits in the Atlantic Canada Rock Room and the 'Atlantic Canada: Explore the Potential' pavilion showcased many

BUCHANS FROM DISCOVERY TO DEVELOPMENT

just one month into their journey. Although written documentation is scant, the discovery was still accredited to Matty Mitchell. It has been speculated that Mitchell, being of Montagnais-Mi'kmaq descent, had prior knowledge of ore in the region, leading Canning more or less directly to the outcrop.

Later that fall, work was conducted to further delineate the discovery that included stripping, pitting and trenching. Canning concluded in his second evaluation "…it will appear that a prospect of considerable promise has been located. It remains now to prove the property."

In 1906, the task of proving the reserve fell into the hands of William Scott, a civil engineer with the A.N.D. Company. Delineation at the time included extension of existing trenches and pits and collection of geochemical samples for assay. Assays indicated a high-grade zinc–lead deposit including: zinc 37%, Lead 20%, copper 0.74% with trace amounts of gold and silver. Examination then proceeded below surface.

Several buildings were constructed in 1907 to aid in the advanced exploration program. A cookhouse, bunkhouse, forage and stable were erected. An inclined shaft was sunk and three exploratory levels with cross cuts helped define the deposit with 1700 linear feet of development work completed.

However, metallurgy proved difficult. There was no milling process at the time to separate the ore from the gangue material. This postponed the development phase of the project for nearly fifteen years until a breakthrough came from the American Smelting and Refining Company (ASARCO) based at Flat River, Missouri in 1925. A.N.D. Company was notified and talks ensued on how to proceed.

A 25-year agreement was reached between the two companies on March 18, 1926. ASARCO managed and operated the mine. A.N.D. was to be reimbursed for their lengthy and expensive exploration program. Once these conditions were met then the companies would split the profits 50-50. The first tonnage estimates were about 110,000 tons of high-grade ore. Quick to follow was a second near-by discovery with 60 times as much ore estimated at 6,893,000 tons, making this arduous journey finally sweet for both parties.

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The Buchans Ore Bodies: Fifty years of Geology and Mining, GAC special paper number 22, 1981
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of the strategic investments that the department has made to support the mineral sector. The Mines Branch promotion team was on hand to provide advice and up-to-date technical information on the geology and mineral potential of the province, and the opportunities for new investment and development. New technical promotional materials were developed specifically for PDAC and these were displayed and distributed to the many delegates visiting the Newfoundland and Labrador area of the Trade Show.

Newfoundland and Labrador projects were also highlighted in the annual Canada–China Investment forum, attended by more than 200 visiting officials from the Chinese government and state-owned enterprises. The Annual NL Reception, co-sponsored with Mining Industry NL, was the networking highlight of the PDAC for many. It was attended by the Minister, who also did a walk-around.

While the markets remain tough, the sector is still upbeat and investment dollars from domestic and international sources are available for the right project in the right jurisdiction. Our ongoing efforts at key investment conferences like PDAC help increase NL's competitive edge within the global economy and help capture investment in our mining sector, from worldwide sources. ❑

MINERAL INCENTIVE PROGRAM

The Mineral Incentive Program (MIP) offers non-refundable grants to individuals and exploration companies engaged in the search of mineral deposits in the Province. The Program also provides educational opportunities to individuals interested in prospecting in the Province. The Program is comprised of three components: Prospectors Assistance, Junior Exploration Assistance (JEA), and Natural Stone Assessment. The 2011-12 budget for all three programs totaled $2.9 million.

The province's newest prospectors pose in front of the site of the oldest known mining activity on the Island, near Fleur de Lys. The Fleur de Lys soapstone quarry was visited by more than one prehistoric group and archaeological evidence indicates that Maritime Archaic peoples used it approximately 4,000 years ago.

Under the Prospectors Assistance program, $410,000 was awarded in 70 prospector grants. However,prospectors generally did not take full advantage of their grants, with total expenditures submitted amounting to only $258,000.

Several of the projects funded by the Prospectors Assistance Program resulted in significant discoveries that will be subject to more advanced exploration by mineral exploration companies. These projects include:

- Bert Stone optioned the High Beach gold prospect, located near Lamaline, to Puddle Pond Resources Inc.
- David Hicks and Sichuan Xinge Investment Corp. reached a deal regarding the Nippers Harbour copper–gold prospect located on the Baie Verte peninsula.
- Derrick Fancy optioned the Cripple Creek copper-gold property to Capstone Mining Corp. (0840559 B.C. Ltd.). The Cripple Creek property is located approximately 25 km north of Gander.

Annual grants of $40,000 and $8,000 were provided to the Matty Mitchell Prospector's Resource Room and Mining NL, respectively. The $8,000 grant to Mining NL helped fund travel for 12 prospectors to the Prospectors and Developers Association conference in Toronto and 2 prospectors to the Cordilleran Round-Up in Vancouver.

In 2011-12, the Mineral Incentive Program acquired additional geophysical equipment for prospector use. A second EM16 VLF receiver was purchased along with 3 new scintillometers and a GEM proton magnetometer with base station. This new equipment will complement the existing inventory of soil augers, gold pans, lake sediment sampler and EM16. This equipment will provide prospectors with additional geophysical data about their properties that cannot be obtained by traditional prospecting methods. Also in 2011-12, a toll-free number, 1-855-729-6448, was established for the Mineral Incentive Program.

In partnership with the College of the North Atlantic and with assistance from the Energy Branch of the department, the 21st annual Prospectors Training Course was conducted in Stephenville from May 30th to June 11th, 2011. This year, 19 students graduated from the two week course (see photo).

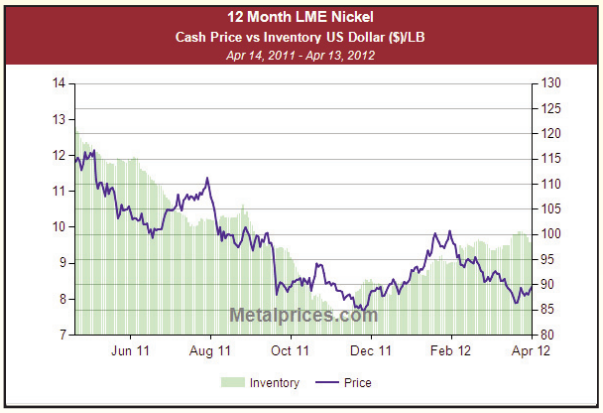
No applications were received under the Natural Stone Assessment component in 2011-12.

Twenty-five grants totaling $2,550,000 were awarded under the Junior Exploration Assistance Program 2011-12. Nineteen JEA-supported projects were located on the Island and six were conducted in Labrador. Highlights of JEA-funded programs include promising results from Marathon Gold Corporation, Thundermin Resources, Search Minerals, Maritime Resources and Northern Abitibi Mining Corporation. These JEA assisted projects greatly advanced geological, technical, and economic knowledge of the respective deposits. ❑

COMMODITY SERIES: *NICKEL*

Nickel is a silvery, white to grey metallic chemical element. Other physical properties include its ductility, malleability and ferromagnetism. Nickel has valuable anti-corrosive properties.

Nickel sulphide deposits are mainly of magmatic origin, with associated volcanic and plutonic rocks. Nickel is always associated with significant amounts of copper and cobalt.



Two-thirds of all nickel produced is used in the production of stainless steel which is a combination of metals including iron, nickel and chromium. The more demanding the application, the higher the nickel content in the stainless steel, e.g.,gas turbines and chemical plants. The combination of corrosion resistance, ease of fabrication and availability make it the material of choice for use in the food processing, beverage production and medical industries. Nickel also has applications in the making of computer hard discs.

Despite its many beneficial properties and applications, the price of nickel has been on decline since 2007 when it peaked around US$25.00 per pound. It is currently trading at about US$8.00 to $8.50 range and analysts predict that this downward trend may continue for another year. Downward price pressure has been attributed to a number of factors such as several new substantial nickel projects that have come on stream providing additional supply, lower demand from China and substitution resulting from the period of high nickel prices. However, things are not all bleak for future nickel prices, because Indonesia, one of the world's largest nickel producers, is planning on imposing an export ban on nickel during 2012, one year earlier than anticipated. This can result in upward pressure on nickel prices in the future.

Common uses of Nickel in the Automotive Industry:

1. *Stainless steel – exhaust systems*
2. *Nickel-based alloys – spark plugs, turbochargers and wheels*
3. *Nickel-containing alloys – gears and drive shafts*
4. *Nickel powders – airbags*
5. *Nickel plating – connectors*
6. *Nickel-metal hydride – electric vehicles*
7. *Chromium-nickel plating – seatbelt fasteners, grills and wheels*

AT THE END LIFE OF A VEHICLE, NICKEL PARTS ARE FULLY RECYCLABLE.

REHABILITATION 2012

Orphaned or abandoned mines (OAMs) are mines for which the owner cannot be found, or for which the owner is financially unable or unwilling to carry out clean-up. These OAMs pose environmental, health, safety and economic problems to communities, the mining industry and government.

The Mineral Development Division (MDD) has initiated the development of a GIS-based database for cataloguing and prioritizing the rehabilitation of OAMs in the province; a risk-based approach will be used in ranking the sites. This project is in the initial stages and will progress as funds become available.

The division is continuing work on a number of projects:

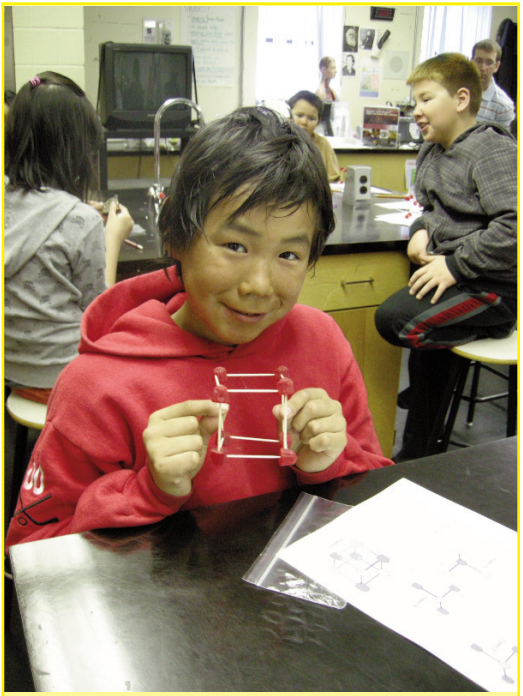
- Stantec Consulting Ltd. has completed phase II of the Dam Safety Review at three former mine sites; Whalesback, Gulbridge and Consolidated Rambler. MDD has budgeted approximately $700,000 to implement the recommendations put forth by Stantec to repair and rehabilitate these dams according to Canadian Dam Association Dam Safety Guidelines.
- MDD will carry out repair and maintenance of barriers and fences at a number of mine sites this summer and continue to collect information for these and other sites for the database project.
- MDD staff are collaborating with staff of Memorial University on research projects at selected OAMs in the province. An Earth science student will be starting a Master's project this fall concerning natural versus enhanced remediation of acid mine drainage at a former mine site. ❑

GEOSCIENCE AND MINERALS OUTREACH: *WORKING TOGETHER FOR EDUCATION*

In Spring 2012, the Geological Survey of Newfoundland and Labrador (GSNL) again joined forces with the Prospectors and Developers Association of Canada (PDAC) Mining Matters to resume joint efforts to deliver outreach and education initiatives in coastal Labrador communities.

Students identifying mineral samples during the *Mineral Resources Student Workshop Series*

This series of student-oriented workshops was a continuation of the Rural NL Workshop Series that was launched in April 2011. Outreach Geologist Amanda McCallum (GSNL) and Aboriginal Education Specialist Barbara Green Parker (PDAC Mining Matters) took their passion for Earth science and valuable teaching resources on the road to deliver interactive, hands-on workshops to classrooms of elementary, junior and senior high students. The workshops not only allowed students to fully participate in earth science learning, but also provided teachers with the opportunity to observe model presentations focused on rocks and minerals and the vital role they play in our everyday lives.



Student from Jens Haven Memorial School, Nain, displaying a cubic crystal structure.

The two-hour curriculum-linked workshops were delivered in schools in communities on the Labrador coast, including Nain, Hopedale, Postville and Rigolet (Labrador School Board) as well as the Sheshatshiu Innu School (Innu Education).

Providing balanced information through education prepares students to better understand the nature of our natural resources and to make informed decisions in the future regarding the mining and minerals industry. This project is one of several key elements of the Geological Survey's ongoing geoscience outreach and education program. ❑

APPOINTMENTS AND DEPARTURES

DIANA DALTON was appointed Deputy Minister of the Department of Natural Resources effective September 6, 2011. Ms. Dalton's most recent positions were Chair and Acting Chief Executive Officer of the Canada–Nova Scotia Offshore Petroleum Board, and as an independent consultant on international energy and mining projects.

DAVID LIVERMAN has been confirmed as Assistant Deputy Minister (Mineral Resource Management), Department of Natural Resources in March 2012. He had been serving in that position in an acting capacity since January 2011.

PAUL CARTER was appointed Executive Director (Iron Ore Industry) with the Department of Natural Resources in August 2011. Mr. Carter left this position to serve his appointment as the department's Assistant Deputy Minister (Royalties and Benefits) in April 2012.

TRINA ADAMS joined the Geological Survey in early February, 2012. Trina is now a MODS geologist in the Mineral Deposits Section; she replaces Heather Rafuse who is now with the Mineral Lands Division.

JAMES CONLIFFE joined the Geological Survey in December 2011 as a Project Geologist with the Mineral Deposits Section. James is studying the iron ore deposits in western Labrador.

ALANA HINCHEY started in her new position as Senior Geologist for the Regional Geology Section of the Geological Survey in February 2012.

APPOINTMENTS AND DEPARTURES (*Continued*)

PHIL SAUNDERS, who was geologist responsible for Exploration Monitoring in the Mineral Lands division, has been temporarily assigned to the Mineral Exploration Consultant position in the Geological Survey.

BERNADINE LAWLOR was appointed in August 2011 to the position of Mineral Industry Analyst II. Bernadine joined the Mineral Development Division from the Mineral Lands Division. Her training as a geologist will be valuable to the Mineral Industry Analysis group.

BYRON WAIGHT was appointed in September 2011 to the position of Geologist I with the Mineral Incentive Program, Mineral Development Division. Byron is responsible for the Prospector's Assistance Program.

ANDREA MILLS, formerly the geologist responsible for reviewing Assessment Reports, returned after a 12-month leave of absence. Upon her return on March 12, 2012, Andrea was temporarily assigned to the Exploration Monitoring Geologist position.

JUSTIN LAKE came to Mineral Lands from Mineral Development on June 30, 2011. Justin has temporarily taken on the position of geologist responsible for reviewing assessment reports.

STEPHEN HINCHEY is the latest member of the Hinchey clan to join the Mines Branch. Stephen joined Mineral Lands on July 6, 2011, in the position of geologist responsible for inspection of mineral exploration sites.

HEATHER RAFUSE came to Mineral Lands from the Geological Survey on October 17, 2011 to take on the position of geologist responsible for exploration approvals.

NORM MERCER retired from the Geological Survey on March 2, 2012. Norm had been with the Survey for over 32 years. As Mineral Exploration Consultant, he provided current information on most aspects of mineral exploration to companies, individuals interested in geology, but mainly to the province's prospectors. He was an active participant and volunteer with the local branch of the CIM. Norm is still involved with mineral exploration and recently had an initial meeting to determine the interest in a Prospectors Association. We wish him well in his new endeavours.

NED VUKOMANOVIC retired on June 30, 2011 after 27 years with government. Ned plans to spend his retirement travelling back to his homeland (Serbia) and spending time with his two sons on the mainland. He continues to drop by the office from time to time to help out the department's efforts towards compiling an inventory of orphaned and abandoned mines.

LEON NORMORE departed from the Geological Survey in January 2012 after three seasons of work on the Bonavista Peninsula. Leon is now located in Perth, Western Australia.

TWO MINING EXECUTIVES PASS AWAY

GERRY HULL, co-founder, builder and president of Puddle Pond Resources Inc., Triple Nine Resources Ltd. and Four Corners Mining Corporation, passed away on March 20, 2012 at the age of 64. Mr. Hull was a long-time supporter of the mining industry and participated in the discovery of a major iron ore (magnetite)–titanium–vanadium resource at the Four Corners Project located near the Burgeo Highway. Our sympathy is extended to the Hull family, and his many relatives and friends.

GORDON STOLLERY, a director of Canada Fluorspar Inc., and one of the company's founders, passed away on December 12, 2011 at the age of 64. Mr. Stollery, who made a significant impact on the company's progress to reactivate the St. Lawrence fluorspar mine, had been dedicated to the project since 1996. Our sympathy is extended to the Stollery family, and his many relatives and friends.

PHOTO CREDITS

Cover: Department of Natural Resources and John Clarke

Inside: Department of Natural Resources and Vale Newfoundland and Labrador Limited

UPCOMING EVENTS

RESOURCE INVESTORS FORUM 2012
September 18 - 19, 2012
St. John's, NL
Contact: Gerry O'Connell or Pauline Plowman
Mining Industry NL
Tel: (709) 722-9542
Email: goconnell@miningnl.com
Email: pplowman@miningnl.com
Web: www.investorsforum.ca/

PROVINCIAL MINING WEEK
October 28 - November 3, 2012
Contact: Amanda McCallum
Tel: (709) 729-6398
Email: amandamccallum@gov.nl.ca

MINERAL RESOURCES REVIEW
November 1 - 3, 2012
St. John's, NL
Contact: Len Mandville
Tel: (709) 729-6439
Email: lenmandville@gov.nl.ca
Phil Saunders
Tel: (709) 729-6193
Email: philsaunders@gov.nl.ca

QUÉBEC MINES
November 26 - 29, 2012
Québec City, QC
Contact: Québec Mines 2012
Tel: 1-866-249-0649 (toll free)
Fax: (418) 643-2816
Email: CarrefourQuebecMines@mrnf.gouv.qc.ca
Web: www.quebecmines.mrnf.gouv.qc.ca/english/index.asp

MINERAL EXPLORATION ROUNDUP 2013
January 28 - 31, 2013
Vancouver, BC
Contact: Association for Mineral Exploration British Columbia
Tel: 1-877-689-5554 (toll free)
Fax: (604) 682-5722
Email: roundup@amebc.ca
Web: www.amebc.ca/roundup/overview–2013.aspx

PDAC 2013
March 3 - 6, 2013
Toronto, ON
Contact: Prospectors & Developers Association of Canada
Tel: (416) 362-1969
Fax: (416) 362-0101
Email: info@pdac.ca
Web: www.pdac.ca/pdac/conv/

MINES BRANCH

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Assistant Deputy Minister..... (709) 729-2768

Director, Minerals Lands..... (709) 729-6425
Director, Mineral Development..... (709) 729-6379

Director, Geological Survey..... (709) 729-2453
Goose Bay Office..... (709) 896-5162

Geoscience Publications and Information..... (709) 729-3159

Information and statistics quoted are from data provided by government and/or industry publications: for details, the reader should direct their enquiries to the Mineral Development Division of the Department of Natural Resources.

Home Page
http:www.nr.gov.nl.ca/nr/mines/index.html