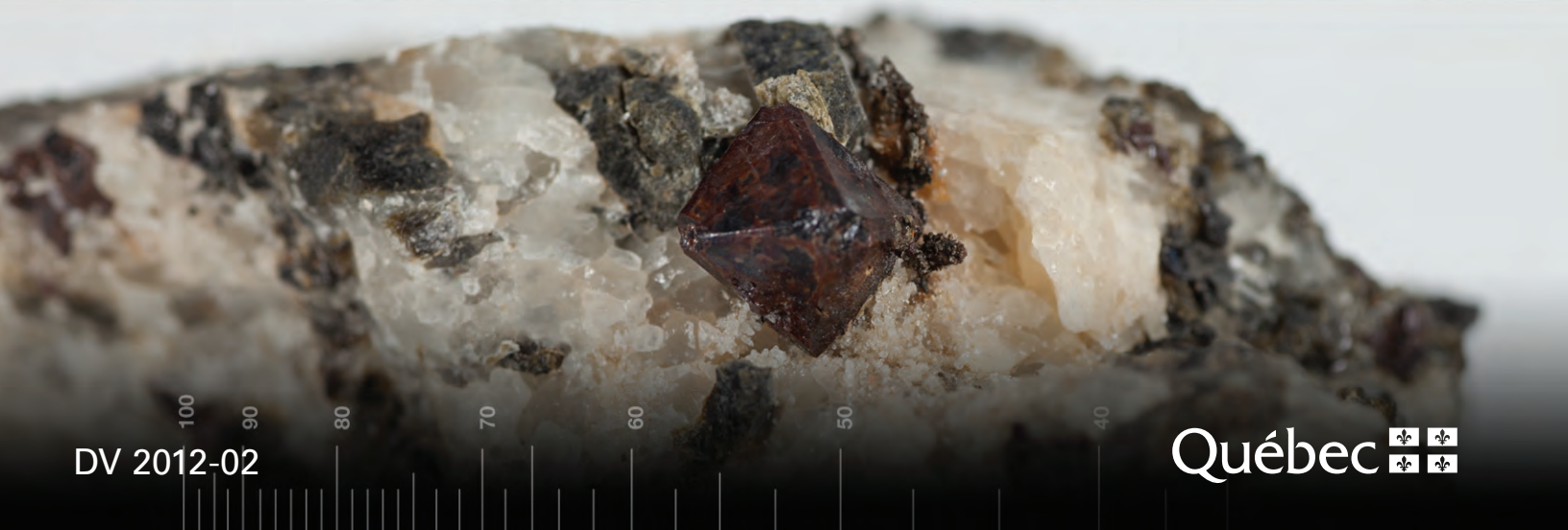
Report on Mineral Activities in Québec 2011



DV 2012-02

Québec

Report on Mineral Activities in Québec 2011

Disclaimer

The data compliled in this report comes from several sources, including questionnaires addressed to prospectors, to directors of regional First Nations and Inuit exploration funds, and to representatives of mining and exploration companies, as well as from their press releases. The accuracy and reliability of this information depend solely on these sources.

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Director General
Robert Giguère, by interim

Bureau de l'exploration géologique du Québec
Patrice Roy, geo., by interim

Direction de l'information géologique du Québec
Luc Charbonneau, by interim

IN COLLABORATION WITH THE "SECTEUR DES OPÉRATIONS RÉGIONALES"
AND THE "SECTEUR DES MINES"

Associate deputy minister for regional operations
Jean-Sylvain Lebel

Associate deputy minister for Mines
Robert Marquis, geo.

Coordination
Abdelali Moukhsil, geo., **James Moorhead**, geo.,
Joanne Nadeau and **Charlotte Grenier**

Translation
Venetia Bodycomb

Linguistic revision
Marie Racine

Graphic design
Michel Bouchard

Photos
1 - Nunavik Nickel Project. Photo courtesy of Canadien Royalties.
2 - Niobium oxide sample. Photo: MRNF (Francis Fontaine).
3 - 2011 summer field work, Northern Québec. Photo: MRNF.
4 - Nickel sulphide sample. Photo: MRNF (Francis Fontaine).
5 - Nunavik Nickel Project. Photo courtesy of Canadien Royalties.
6 - Nunavik Nickel Project. Photo courtesy of Canadien Royalties.
7 - 2011 summer field work, Northern Québec. Photo: MRNF.

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TABLE OF CONTENTS

CHAPTER 4

Mineral Exploration

CHAPTER 5

Deposit Appraisal and Mine Development

(Martin Bernatchez, Denis Blackburn, Germain Girard, Jacinthe Paquet and Denis Raymond)

CHAPTER 6

Mineral Production

CHAPTER 7

Mine Rehabilitation

(Philippe-André Lafrance, Johanne Cyr, Valérie Carange, Alexandre Couturier-Dubé, Jean Dionne, Robert Lacroix, Sophie Proulx and Malek Zetchi)

List of Figures

List of Tables

CHAPTER 1

2011 A landmark year

The mining sector in Québec once again experienced sustained growth throughout the year. Exploration, deposit appraisal and mine development activities continued to expand, the value of mineral shipments reached historic highs, and the Québec government collected fair compensation for the mining of mineral resources as a result of the revised mining duties regime.

In particular, here are the highlights[1] of 2011 in the mining sector in Québec.

MINERAL STRATEGY The future is taking shape

In June 2009, the Minister for Natural Resources and Wildlife launched Québec's Mineral Strategy[2] so as to prepare the future of Québec's mineral sector. As at December 31st of last year, the bulk of the strategy had already been implemented or was underway. Indeed, much progress was made in 2011:

- On May 12th, 2011, the Minister for Natural Resources and Wildlife introduced in the National Assembly of Québec, Bill 14 entitled "An Act respecting the development of mineral resources in keeping with the principles of sustainable development". This bill puts the Mineral Strategy into action, by reframing several provisions of the current Mining Act to take into account the principles of sustainable development. It is namely designed to:
  - Stimulate exploration work on claims;
  - Ensure mineral development remains environment-friendly;
  - Reconcile different land uses.
- The mining duties regime was re-examined and underwent a major revision, to ensure Québec receives its fair share of returns on the mining of its mineral resources, while taking into account the competitiveness of companies and maximization of benefits. The new mining duties regime is better suited to today's reality in the mineral sector. The new provisions came into effect when the Mining Tax Act was adopted on June 6th, 2011.

1- The 2011 highlights were prepared by Martin Labrecque, Philippe-André Lafrance and James Moorhead.
2- For more information about Québec's Mineral Strategy: www.quebecminier.gouv.qc.ca.

PLAN NORD Accelerating the mineral development of Northern Québec

Unveiled by the Prime Minister of Québec in May 2011, the Plan Nord[1] is designed to promote the sustainable development of the province's economic potential in various economic sectors, one of which is the mineral resource sector.

The Plan Nord territory

The Plan Nord territory encompasses all of Québec's landmass located north of the 49th parallel, north of the Saint Lawrence River and the Gulf of Saint Lawrence. It covers 72% of Québec's surface area and is already the source of Québec's entire production of nickel, cobalt, platinum group elements, zinc, iron ore, and ilmenite, and accounts for a significant proportion of its gold production. This territory also holds lithium, vanadium, and rare earth elements, used in a variety of energy, transportation, and high-technology applications. The potential for uranium and diamonds is also remarkable, as evidenced by projects in the deposit appraisal phase located in the Monts Otish area.

New mining projects launched in the Plan Nord territory could generate investments of $8.24 billion.

Overview of the 2011-2016 action plan for the mining sector:

- Invest in the acquisition of geoscience information and its integration in SIGÉOM (see inset entitled *Increasing our knowledge on mineral potential*);
- Coordinate government initiatives to rehabilitate the railway line between Emeril Junction in Labrador and Schefferville;
- Examine the possibility of establishing a biodiversity tax credit to encourage investors to participate in ecosystem development or restoration projects.

Increasing our knowledge on mineral potential

The launch of Québec's Mineral Strategy in 2009 had already stimulated geoscience knowledge acquisition across the Plan Nord territory and in areas already hosting mining operations. Our understanding of the mineral potential of Northern Québec, and all across Québec, has continued to improve in 2011 following the investment of more than $11.6 million in geoscience knowledge acquisition work by the *Ministère des Ressources naturelles et de la Faune* (MRNF). As at December 31st, work carried out by the MRNF led to the identification of 62 new geological exploration targets, 10 new geochemical exploration targets, and 120 new geophysical targets.

Having a say in their resources

To ensure that northern populations and all Quebecers may benefit from the development of our natural resources, the Québec government will negotiate interests in the most promising projects. To do so, a $500 million fund will be allocated by the government over the next five years. This new allocation will be managed by *Investissement Québec*.

1- For more information about the Plan Nord, visit: **plannord.gouv.qc.ca/english**.

Facilitating access to northern lands

The government also announced in 2011 investments in transportation infrastructure, to provide access to areas that currently show the strongest potential for economic development in Northern Québec. These initiatives include:

- Extending Route 167 to the Monts Otish area from Chibougamau via Mistassini (see inset *A partnership to pave the way*);
- Upgrading Route 389 between Baie-Comeau and Fermont, near the border with Labrador.

A partnership to pave the way

The extension of Route 167 to the Monts Otish area will be funded by the Québec government and the mining company Stornoway Diamonds, who will also fund maintenance work on the new road segment. Stornoway will invest approximately $44 million in capital by the year 2025 for road construction and about $1.2 million per year starting in 2015 to maintain the new segment that will provide, among other things, access to Stornoway's Renard Project in the Monts Otish area.

Private companies will invest

$44 M

for the construction of a new road section

MINING REGIME More competitive and better returns

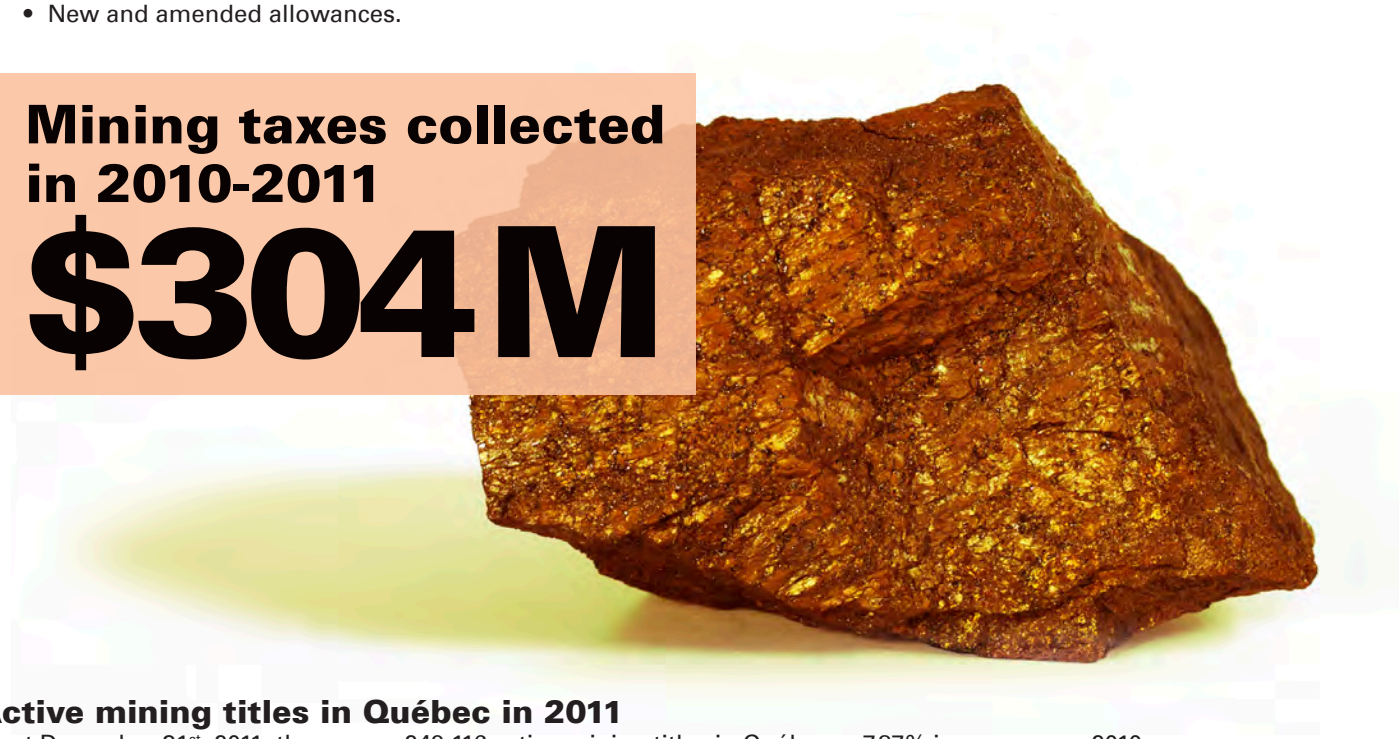
The overhaul of the mining regime is already reaping results: $304 million in mining taxes were collected in 2010-2011. This is higher than the total amount of mining duties paid over the last ten years by mining companies to the Québec government!

The new mining duties regime[1] is characterized by:

- A "mine by mine" approach, such that losses relating to one mine may not be used to reduce profits at another mine;
- A gradually increasing tax rate;
- A new rate for the credit on duties refundable for losses;
- New and amended allowances.

Mining taxes collected in 2010-2011

$304M



Active mining titles in Québec in 2011

As at December 31st, 2011, there were 249,116 active mining titles in Québec, a 7.87% increase over 2010. These mining titles covered a total surface area of 11,463,198 hectares, up by 10.67% from the previous year (see Figure 2.1, Chapter2).

More specifically, there were 245,961 exploration titles in 2011 compared to 226,003 in 2010. Most administrative regions benefited from this increase:

- The number of exploration titles jumped by 49% in the Outaouais region, by 32.2% in the Laurentides region, 29.1% in Gaspésie–Îles-de-la-Madeleine, and 25.6% in the Capitale-Nationale region (see details in Table 2.1, Chapter 2).

Including mining leases and leases to mine surface mineral substances, there were 3,155 extraction titles as at December 31st, 2011 (see details in Table 2.2, Chapter 2).

Active mining titles across the Plan Nord territory

The number of exploration titles across the Plan Nord territory increased by 7.8% from 2010 to 2011, going from 163,457 to 176,249. The surface area covered by these titles was 8,116,149 hectares as at December 31st, 2011.

1- See the chapter entitled *Mining Regime and Land Access* for more information

METAL MARKETS Steady growth

The mining sector, much like the global economy, experiences periods of growth and periods of slowdown. After a sluggish period in the early part of the decade, the mining sector entered a new era of growth in 2003, shortly interrupted by a slowdown in 2008 but rebounding very rapidly.

Overall, mineral commodity prices were higher in 2011 than in 2010.

Prices for most mineral commodities increased overall through 2009 and 2010. They continued their upward trend in the first half of 2011, and some metal prices even reached historic highs. However, uncertainty about the stability of the global economy, tighter economic measures implemented by China, and lower demand in manufactured products led to a drop in the price of several metals in the second half of the year. According to many analysts, this decline is cyclical and in the long term, demand from BRIC (Brazil, Russia, India, China) should lead to further growth.

Table 1.1 - **AVERAGE PRICES OF CERTAIN METALS** ($US)

ANNUAL AVERAGE	GOLD[1] per troy ounce	SILVER[2] per troy ounce	PLATINUM[3] per troy ounce	ZINC[4] per pound	NICKEL[5] per pound	COPPER[6] per pound	IRON[7] per tonne
2001	271.04	4.37	529.04	0.40	2.70	0.72	12.99
2002	309.73	4.60	539.13	0.36	3.07	0.71	12.68
2003	363.38	4.89	691.31	0.41	4.37	0.81	13.82
2004	409.72	6.67	845.31	0.48	6.27	1.30	16.39
2005	444.74	7.32	896.87	0.63	6.68	1.67	28.11
2006	603.46	11.55	1142.31	1.48	11.00	3.05	33.45
2007	695.39	13.38	1303.05	1.47	16.88	3.23	36.63
2008	871.96	14.99	1573.53	0.85	9.57	3.15	61.57
2009	972.35	14.67	1203.49	0.75	6.65	2.34	79.99
2010	1224.50	20.19	1608.98	1.00	9.85	3.35	146.72
2011	1568.59	35.11	1720.10	0.99	10.38	4.00	167.79
MONTHLY AVERAGE FOR 2011							
January	1356.40	28.40	1786.95	1.08	11.63	4.33	179.63
February	1372.72	30.78	1825.90	1.12	12.81	4.48	187.18
March	1424.01	35.81	1770.17	1.07	12.16	4.32	169.36
April	1473.81	41.97	1794.28	1.08	11.94	4.30	179.26
May	1510.44	36.75	1784.15	0.98	10.98	4.05	177.10
June	1528.66	35.80	1768.50	1.01	10.14	4.10	170.88
July	1572.81	37.92	1759.76	1.08	10.76	4.36	172.98
August	1755.81	40.30	1804.23	1.00	10.02	4.10	177.45
September	1771.88	38.15	1748.11	0.94	9.25	3.77	177.23
October	1665.21	31.97	1535.19	0.84	8.57	3.33	150.43
November	1738.98	33.08	1596.98	0.87	8.11	3.43	135.50
December	1652.31	30.41	1466.94	0.87	8.23	3.43	136.46

Sources
1, 2 and 3: London Metal Exchange according to Kitco. Average prices at noon.
4, 5 and 6: London metal exchange. Reference price.
7: International Monetary Fund. Iron ore imports from China at the Port of Tianjin (62% Fe).

EXPLORATION Diversification and expansion

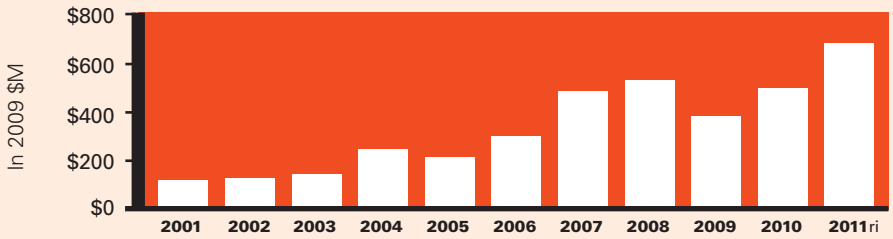
For several years now, mineral exploration work has been on the rise in Québec, as in many parts of the world. The search is on for everything, and increasingly so for strategic metals such as rare earth elements or lithium that are used in many different fields such as high technology and green technology (computers, touch screens, electric vehicles, wind turbines, etc.).

In each of the past five years, exploration, deposit appraisal, and mine development expenditures in Québec have exceeded $350 million per year[1].

Exploration and deposit appraisal expenditures in Québec have also increased significantly since the start of the new millennium. In 2010[2], they reached $512 million, for a 35% increase in one year.[3] In 2011, they reached $718 million according to the revised spending intentions reported by mining companies.

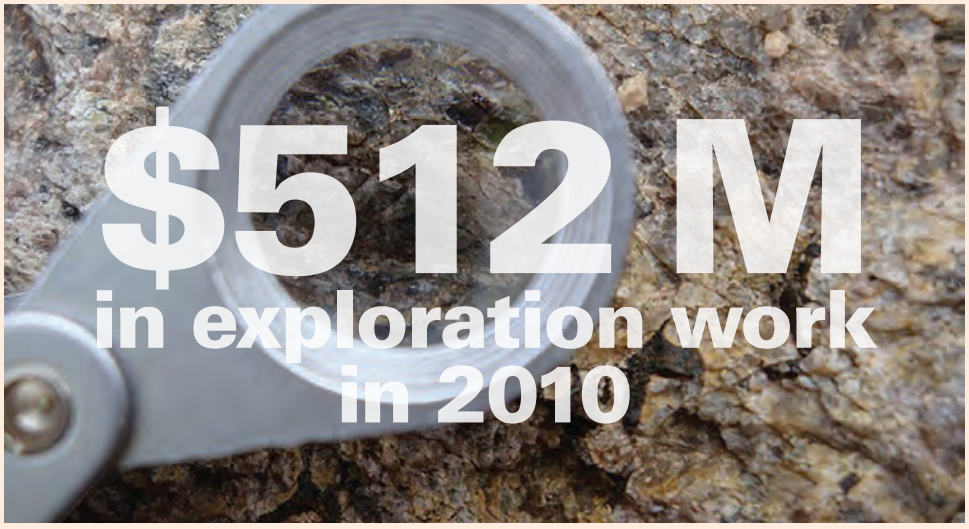
Figure 1.1

Expenditures for exploration and deposit appraisal work in Québec from 2000 to 2010



Source: *Institut de la statistique du Québec*. Data for 2011 represent the revised spending intentions (ri) reported by mining companies.

As at September 1st, 2011, there were 245,961 claims[4] in Québec covering a total surface area of 11.1 million hectares, which represents 6.7% of the territory (details provided in Table 2.1, Chapter 2).



1 and 2- Based on data from the *Institut de la statistique du Québec*.
3- In 2009, the global financial crisis had a negative impact on investments.
4-The claim is the only exploration title granted for the search for mineral substances in the domain of the State.

New resource estimates

A large number of exploration projects reached important milestones in 2011, including resource estimates. These projects are described in greater detail in Chapter 4 of this report.

Iron, rare earth elements (REE), lithium, and gold were the main attractions for mineral exploration in Québec in 2011:

- **Iron**: many exploration projects already underway in the Labrador Trough were the focus of new iron ore resource estimates. Most of these projects are located near Ungava Bay, Schefferville, or Fermont;
- **REE**: new resource estimates were released for four REE exploration projects located in the Témiscamingue region, north of Lebel-sur-Quévillon, south of Kuujjuaq, and north of Schefferville;
- **Lithium**: start-up of development and construction work at the Quebec Lithium mine in the Abitibi region, and publication of resource estimates for three advanced exploration projects in the Abitibi and Baie-James regions;
- **Gold**: publication of nine new resource estimates for advanced exploration projects, most of which are located in southern Abitibi, north of the Cadillac Tectonic Zone. Five mines located near the Cadillac Tectonic Zone also released new resource and reserve estimates.

Exploration hot spots

In 2011, the number of exploration titles increased in almost all regions across Québec, for a global increase of 8.8%. Noteworthy trends include:

- In the Nord-du-Québec region, east of the Detour Lake mine, the regional Sunday Lake Fault Zone has become an important gold exploration play.
- The Labrador Trough, from Fermont in the south to Ungava Bay in the north, has seen a significant increase in the number of exploration titles and the level of exploration activity for iron, nickel, copper, platinum group elements (PGE), and rare earth elements (REE).

New projects in the deposit appraisal and mine development phases

In 2011, 27 mining projects reached or remained in the deposit appraisal phase, whereas nine (9) other projects reached the mine development phase (details provided in Chapter 5).

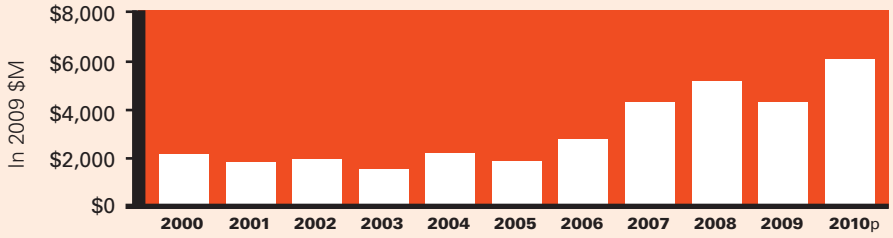
MINERAL PRODUCTION Creating new wealth

Based on preliminary data, the value of mining product shipments (metallic and non-metallic minerals) reached $6.8 billion in 2010, rising by 21% relative to 2009. This is a new record that outranks even historic results obtained in 2008 ($6.2 billion).

The value of mineral shipments was reportedly up by 30% in 2011, in excess of $8 billion.[1]

Figure 1.2

Value of Québec's mineral products shipments from 2000 to 2010



Source: *Institut de la statistique du Québec.* Data for 2010 are preliminary.

The value of mining product shipments increased in most administrative regions of Québec, but most notably in the Côte-Nord region, where shipments went from $1,109 million in 2009 to $1,912 million in 2010 (see Table 6.1, Chapter 6).

In terms of value, iron, gold, nickel, crushed stone, zinc, titanium, and cement are the main commodities produced in Québec.

As at December 31st, 2011, there were 25 active mines across Québec.

Mine openings and closures

In May, Osisko Mining Corporation officially inaugurated the Canadian Malartic gold mine, located in the heart of the Abitibi gold belt. The Canadian Malartic mine began commercial production on May 19, 2011.

In October, Agnico-Eagle Mines announced the suspension of mining operations and gold production at its Goldex mine in Val-d'Or.

In November, Lab Chrysotile announced the suspension of activities at its Lac d'Amiante mine in Thetford Mines. Lab Chrysotile filed for bankruptcy a few months later.

1- Based on provisional data.

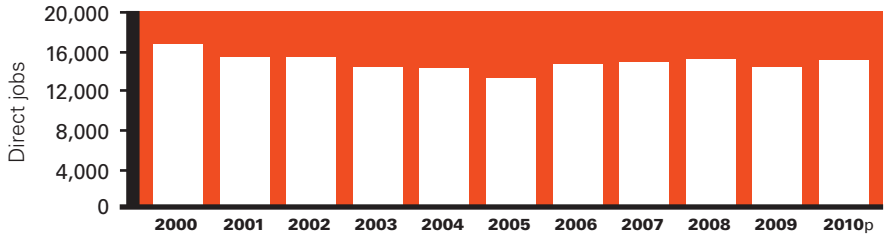
Job creation

In 2010, mining activities in Québec generated 10,515 direct jobs (based on preliminary data) distributed in all of Québec's regions, but mostly in Abitibi-Témiscamingue, Côte-Nord, and Nord-du-Québec. Including primary processing activities and diamond drilling, the mining sector in Québec accounted for 15,109 direct jobs in 2010, a 5% increase relative to 2009.

Based on a study of economic benefits released in May 2011, the *Ministère des Ressources naturelles et de la Faune* estimates that the mining sector generates about 34,000 direct and indirect jobs in Québec.[2]

Figure 1.3

Number of direct jobs in the mining sector in Québec from 2000 to 2010



Source: *Institut de la statistique du Québec*. Data for 2010 are preliminary.

2- More information is provided at the following address:
www.mrnf.gouv.qc.ca/publications/mines/statistiques/etude-impact-economique-secteur-minier.pdf.

REHABILITATION For better environmental protection

Anyone who conducts mining operations in Québec must submit, prior to the commencement of activities, a rehabilitation plan along with a description of the financial guarantee representing 70% of the cost of rehabilitation for accumulation areas.

- As at December 31st, 2011, 22 mine sites that are subject to the obligation to submit a rehabilitation plan and a financial guarantee were in operation.
- A total of $41.4 million was submitted in financial guarantees by mining operators in 2011, bringing the total amount held in trust to $117.8 million. Of this amount, $34 million comes from the 22 mines in operation.

Bill 14 increases the amount required in financial guarantee to 100% of the cost of rehabilitation work for the entire mine site.

Preventing hazards

In 2011, 158 mine sites were inspected by the *Ministère des Ressources naturelles et de la Faune* to identify potential hazards to the environment and personal safety and, as needed, to plan maintenance, securement, and rehabilitation work. Various types of maintenance and securement work were carried out in five different regions across Québec.

Assuming the past

The inventory of sites under the responsibility of the State was completed on March 31, 2011. Of the 679 mine sites that appear on the list, 136 have already undergone rehabilitation work, including:

Aldermac: one of the biggest revegetation projects
Rehabilitation work at the Aldermac mine site, located 15 km west of Rouyn-Noranda, began in September 2008 and ended in the summer of 2011. In addition to the confinement of mine tailings, the strong focus on revegetation, in order to better integrate the site into its surroundings and promote biodiversity, makes Aldermac one of the biggest mine site revegetation projects completed to date in Québec.

East Malartic: sharing the cost of rehabilitation
The former East Malartic gold mine was one of the most important mines in the Abitibi-Témiscamingue region: a total of 18.3 million tonnes of ore was extracted, leading to the creation of six tailings accumulation areas. Since 2010, Osisko Mining Corporation has been responsible for the management and rehabilitation of the site, in accordance with an agreement executed with the *Ministère des Ressources naturelles et de la Faune*. The cost of rehabilitation is estimated at $23 million, and the contribution of the State will not exceed $11.5 million. Furthermore, the rehabilitation plan presented in 2009 by Osisko for the entire site was approved during the BAPE public hearings held in June 2011.

Principale Mine: sustained involvement of the Cree
This former copper mine was one of the largest in Chibougamau. Involved since the very beginning of the rehabilitation project, the Cree community in Oujé-Bougoumou took part in the process to select the firm that completed the site characterization study and more recently, to select the firm that will prepare the rehabilitation plan. Several technical studies were completed in 2011, and preparation of the rehabilitation plan commenced toward the end of the year.

CHAPTER 2

MINING REGIME AND LAND ACCESS

Dorra Djemal, Roch Gaudreau, Jocelyne Lamothe

2.1 Basic principles

The mining regime in Québec is based on the following principles:

- Access to the province's mineral resources is open on the largest possible expanse of land in the domain of the State in order to promote the discovery of rich metal and mineral deposits hidden in Québec's subsurface.
- Applicants are treated on an equal basis for mining title acquisition. The first to submit a compliant application obtains the exclusive right to search for all mineral substances in the domain of the State on the designated land parcel (claim).
- In the event of a discovery of mineable mineral substances, the claim holder has a reasonable assurance of obtaining the right to mine the discovered resource (lease). The lease application must comply with conditions stipulated in the Mining Act and applicable regulations.

The Mining Act is designed to promote prospecting, exploration and mining of mineral substances, while taking into consideration other possible uses for the territory.

2.2 Mining titles

Mining rights, granted as mining titles, are real and immovable rights that may be the object of transactions. However, mining rights and land rights are unrelated. A mining right constitutes a property that is distinct from a surface property.

There are two types of mining titles for mineral substances in the domain of the State, other than petroleum, natural gas and brine: titles that authorize the search for mineral substances, known as "Exploration Rights", and titles that authorize the mining of mineral substances, known as "Extraction Rights".

Exploration rights

The claim gives the holder the exclusive right to explore for all mineral substances in the domain of the State within the confines of the claim. Map designation via GESTIM Plus is the main mode of acquisition. Claims are valid for a term of two years and may be renewed.

Extraction rights

There are two types of extraction rights in Québec. Depending on the type of substance to be extracted, a mining lease or a lease to mine surface mineral substances may be issued.

a) The mining lease

A mining lease is required to mine any mineral substance other than surface mineral substances. The surface area covered by the lease may not exceed 100 hectares. The initial term of the lease is 20 years, and it may be renewed every 10 years for up to three terms.

To obtain a mining lease, the applicant must:

- Submit a report from an engineer or geologist describing the nature, extent and probable value of the ore deposit;
- Pay the annual rent;
- Submit a survey plan;
- Obtain authorization from the surface landowner, if any;
- Submit a rehabilitation plan and a financial guarantee;
- Obtain a forest management permit, if warranted;
- Obtain a certificate of authorization from the Ministère du Développement durable, de l'Environnement et des Parcs;
- Obtain authorization from the Minister of Natural Resources and Wildlife for the location of a processing plant and a tailings pond.

To renew a mining lease, the lease holder must have complied with the measures of the Mining Act and applicable regulations during the term of the lease and must, among other things, demonstrate that mining operations have taken place on the land covered by the mining lease for at least two of the last ten years of the term of the lease.

b) Leases and authorization to mine surface mineral substances

- The **exclusive lease** is issued for consolidated surface mineral substances, also for unconsolidated deposits when a guaranteed supply is required for an industrial activity or for the State to build public roads or other works. This authorization gives the lessee the exclusive right to mine, which comes with the environmental liability for the site.
- The **non-exclusive lease** is issued for unconsolidated deposits (sand, gravel, and common clay) to be used for construction purposes.
- The **authorization to mine without a lease** is issued for a one-time occurrence, when time constraints are critical.

2.3 Active mining titles

As at December 31, 2011, the number of active mining titles across Québec was 249,116, for a total surface area of 11,463,198 hectares, which represents an increase relative to 2010 of 7.87% in the number of active mining titles and 10.67% in the total surface area covered by such titles (Figure 2.1).

The number of exploration titles has increased relative to 2010 in most administrative regions of Québec, most notably in Outaouais (49%), Laurentides (32.2%), Gaspésie–Îles-de-la-Madeleine (29.1%) and Capitale-Nationale (25.6%) (Table 2.1).

The number of exploration titles in the Plan Nord region is 176, 249, for a total surface of 8,116,149 hectares, which represents 72% of the active exploration titles in Québec. (Table 2.3).

The number of extraction titles in Québec as at December 31, 2011 was 3,155, including mining leases and leases to mine surface mineral substances (Table 2.2).

2.4 The "GESTIM Plus" mining title management system

In Québec, mining title management is computerized and easily accessible on the Internet via the "GESTIM Plus" geomatics application. This system provides instant access to up-to-date data in the Register of Real and Immovable Mining Rights in Québec, and namely makes it possible to:

- Reduce the cost of acquiring and monitoring mining titles for mineral exploration stakeholders;
- Consult and download data from the public registry of mining titles by selecting the desired parameters;
- View mining title maps and download them free of charge in PDF format;
- Generate mining title maps tailored to your needs;
- File a map designation application or a claim renewal application;
- Pay the required fees electronically in a totally secure environment.

The Mine Sector is resolutely taking to the web by expanding its services offered through GESTIM Plus. Indeed, the only accepted means to submit a notice of map designation is online through the GESTIM Plus system. Accepted modes of payment when a notice of map designation is filed are by credit card or, in the case of "Privilège" members of GESTIM Plus, through the client's MRNF account. Because the time of receipt for notices of map designation is used to establish the order in which the Registrar will process the notices, the time of receipt is based on the time of the GESTIM Plus server.

The online address of the GESTIM Plus system is: gestim.mines.gouv.qc.ca

NEW DEVELOPMENTS IN 2011

In order to continue modernizing and improving its services, the MRNF has issued new directives relating to notices of staking, claim renewals, and reports on the extraction and alienation of surface mineral substances.

As of April 1, 2011, the only accepted means to submit a notice of staking, an application to renew a claim, or a report on the extraction and alienation of surface mineral substances is online through the GESTIM Plus system. Accepted modes of payment are by credit card or, in the case of "Privilège" members of GESTIM Plus, through the client's MRNF account. For a notice of staking, all supporting documents must be filed with the office of the Minister within the twenty days following the date of staking.

www.mrnf.gouv.qc.ca/english/mines/rights/rights-directives.jsp

2.5 Relations with Aboriginal communities

Over the last few decades, the Supreme Court of Canada has rendered many decisions about Aboriginal rights that emphasize the importance of balancing the interests of Aboriginal peoples and society in general. This search for balance aims to satisfy the fundamental objective of section 35 of the Constitutional Act of 1982, which recognizes and affirms the "aboriginal and treaty rights of the aboriginal peoples of Canada". In their pursuit of conciliation, the courts have insisted that governments respect the concept of the honour of the Crown in its relations with Aboriginal peoples and any obligations that may ensue.

Among the obligations that come with the honour of the Crown, as described by the Supreme Court in the Haida and Taku River decisions of 2004, is the obligation to consult Aboriginal communities and to accommodate them, if possible, when contemplating an action that could have a prejudicial effect on any rights such communities may claim and to which they may be entitled.

In accordance with decisions rendered by the Supreme Court of Canada, the MRNF has complied with its obligation to consult and accommodate Aboriginal communities since 2006, particularly before issuing any mining title, such as a mining lease, an exclusive lease to mine surface mineral substances, a non-exclusive lease to mine surface mineral substances, or an authorization to mine without a lease. The Mine Sector is also involved in consultations for all major exploration work, including excavations that require displacing more than 10,000 m^3 of unconsolidated deposits, bedrock stripping, removing or displacing 500 or more metric tonnes of mineral substances for geological or geochemical sampling purposes, and the dewatering of mine shafts and mine workings, as well as the sinking of access ramps, shafts or any other type of excavation.

In other matters, Aboriginal communities are expressing a greater desire to participate in development projects taking place on lands to which they claim rights and interests. As outlined in Québec's Mineral Strategy, the government is committed to promoting dialogue between mining companies and Aboriginal communities in the hopes that it will lead to agreements on the impacts and benefits of mining and mineral activities, thus gaining wider social acceptance for mining projects.

2.6 Land protection

In order to accommodate other possible uses for the territory, the Minister may, pursuant to section 304 of the Mining Act, reserve to the State or instead withdraw from staking, map designation, mineral exploration or mining any land in the domain of the State containing mineral substances required for any purpose deemed to be in the public interest, namely to perform work such as:

- Mining, industrial, port, airport, or communications facilities;
- Development and use of waterpower, power transmission lines, storage tanks or underground reservoirs;
- Creation of parks or ecological reserves;
- Classification as an outstanding forest ecosystem;
- Designation of a biological refuge.

The Minister may also, by order, delimit territories for non-exclusive purposes of recreation, tourism, or vegetation and wildlife conservation.

In addition, the Minister may, by order and subject to conditions he may set on lands reserved to the State, determine that certain specific mineral substances may, in accordance with the Mining Act, be the object of mineral exploration or mining.

The ministerial order comes into effect the day of its publication in the Gazette officielle du Québec or at any other later date that is stipulated.

Prior to an order, the Minister may temporarily suspend, for a period of 18 months, the right to stake and map-designate lands within the boundaries indicated on maps kept at the Registrar's office. This suspension comes into effect after a notice has been submitted to the Registrar's office, on the date indicated on the notice.

2.7 Restrictions on mineral exploration

As of December 31, 2011, lands subject to major restrictions, with a ban on mineral exploration, covered a total of 15.2 M hectares or 9.1% of Québec's surface area. Lands subject to temporary suspension covered 10.6 M or 6.38% of Québec's surface area. Lands subject to minor restrictions, where exploration is allowed under certain conditions, covered a surface area of 10.0 M hectares or 6% of Québec. Lands subject to major restrictions where mineral exploration is permitted with municipal consent covered 1.6 M hectares or 0.97% of Québec's surface area. (Figure 2.2).

Lands recognized as Protected Areas according to the International Union for Conservation of Nature cover 8.35% of Québec's territory and are included in the territory subject to restrictions on mineral exploration.

2.8 Delegation of sand and gravel management to MRCs

In the fall of 2008, the Cabinet authorized the Minister of Municipal Affairs and Regions and the Minister of Natural Resources and Wildlife to sign an agreement with the Fédération québécoise des municipalités (FQM) and the Union des municipalités du Québec (UMQ). One of the goals of the agreement was to delegate to regional county municipalities (municipalités régionales de comté - MRC) the management of sand and gravel mining on lands in the domain of the State. In June 2009, the Cabinet adopted an order-in-council to decentralize sand and gravel management.

More than 3,000 leases and authorizations to mine sand and gravel are managed annually in Québec. The royalties and rental fees paid across Québec are on the order of $3.2M per year. The bulk of this amount comes from the Nord-du-Québec, Saguenay–Lac-Saint-Jean, Côte-Nord, and Abitibi-Témiscamingue regions (Table 2.3).

Half (50%) the collected royalties and rental fees are retained by the delegate MRCs.

The powers and responsibilities vested to MRCs with regard to sand and gravel are:

- The granting, renewal, revocation and registration in the Register of Real and Immovable Mining Rights, of authorizations to mine and leases to mine sand and gravel;
- The issuance of certificates of authorization pursuant to section 22 of the Environment Quality Act;
- The inspection and monitoring of the mining operations for these substances;
- The collection of rental fees and royalties;
- The rehabilitation of sand and gravel pits.

The MRCs of the Saguenay–Lac-Saint-Jean, Laurentides, Lanaudière, and Bas-Saint-Laurent regions were the first to take over the management of sand and gravel.

In 2011, it was the turn of the MRCs of the Capitale-Nationale, Mauricie and Côte-Nord regions to manage sand and gravel mining (Figure 2.3).

Other administrative regions have expressed an interest in this management delegation project. New agreements with other MRCs may be reached over the course of 2012.

2.9
Bill 14:
An Act respecting the development of mineral resources in keeping with the principles of sustainable development

On May 12, 2011, the Minister for Natural Resources and Wildlife presented Bill 14, titled *An Act respecting the development of mineral resources in keeping with the principles of sustainable development*, to the National Assembly of Québec. Bill 14 aims to amend the existing Mining Act.

Recall that in December 2009, following the launch of Québec's Mineral Strategy, the Minister for Natural Resources and Wildlife introduced, in the National Assembly, Bill 79 to amend the Mining Act. This initial bill barely made it through the public consultation step. Bill 14 replaces Bill 79. It presents, once again, proposed changes to the Mining Act, as well as additional measures following the public consultations that were held with respect to Bill 79 in 2010.

Bill 14 was the subject of a special consultation before the parliamentary committee, involving 19 stakeholder groups with an interest in Québec's mining sector. This consultation took place on August 23-25, 2011. It was followed by a detailed study by the Committee on Agriculture, Fisheries, Energy and Natural Resources of the National Assembly.

With a view to attaining the dual goals of sustainable development and developing Québec's mineral potential, Bill 14 marks a major turning point by strengthening and updating several provisions of the current Mining Act to bring it in line with the principle of sustainable development. It focuses primarily on three key themes of sustainable development: the creation of wealth (economic aspect), mineral development that respects the environment (environmental aspect), and the reconciliation of different land uses (social aspect).

The main amendments proposed under Bill 14 are outlined below.

Stimulate exploration work on claims:

- Limit the duration of work credits to 14 years;
- Double the amount of the exemption in the case of non-executed work;
- Reduce at 4 km the radius to which excess work on a claim can be applied to renew other claims;
- Eliminate the possibility of using work credits on a mining lease or a mining concession;
- Eliminate the possibility of making a payment instead of performing work on a mining concession;
- Obligation to report all work performed, including activities for which an allowance for exploration or an allowance for pre-production appraisal and development work could be claimed under the Mining Duties Act.

Ensure mineral development that respects the environment:

- Obtain approval for the rehabilitation and restoration plan and deposit the financial guarantee before beginning any exploration work covered by the regulation;
- In the case of an open-pit mine, include in the rehabilitation and restoration plan an assessment of the pit backfill material when the mine is less than 5 km from an urbanization perimeter;
- Extend the scope of the financial guarantee to cover rehabilitation and restoration for the entire mine site;
- Increase from 70 to 100% the coverage of the guarantee ensuring rehabilitation and restoration work;
- Obtain approval for the rehabilitation and restoration plan before being issued a mining lease;
- Obtain a certificate of authorization in accordance with section 31.5 of the Environment Quality Act before being issued a mining lease;
- Pay the financial guarantee over 3 years (50%, 25%, 25%) and harmonize the regimes over 3 years;
- Pay 50% of the financial guarantee before the start of mining operations;
- Pay a penalty of 10% of the total guarantee in the case of non-payment by the deadline;
- Increased penal sanctions and additions;
- Obligation to carry out restoration work within three years following the cessation of activities. An additional delay of up to three years may be granted;
- Obtain a positive decision from the *Ministère du Développement durable, de l'Environnement et des Parcs* (MDDEP) before being issued a certificate of release;
- Obligation for any claim holder who discovers or extracts mineral substances containing uranium to meet regulatory safety measures or those laid out by the Minister.

Reconcile different land uses:

- The Minister may reserve land to the State or withdraw land from all mining activities after taking into consideration, in particular, regional land use planning, so as to avoid conflicts with other uses for the territory;
- The Minister may refuse an application for a lease to mine surface mineral substances (SMS) on the grounds of public interest;
- The Minister may refuse an application for a lease to mine sand and gravel in order to avoid conflicts with other uses for the territory;
- The Minister may terminate a lease at any time on the grounds of public interest; in such a case, compensation will be awarded for losses suffered;
- With respect to lands granted, alienated or leased by the State, the claim holder must notify the owner or the lessee in writing within 60 days following the entry of the claim into the public registry of mining titles;
- The claim holder is obliged to obtain a landowner's written authorization before accessing his/her private property to perform mineral exploration work;
- Any mineral substance that falls within an urbanization perimeter or a residential sector incompatible with mining activity or an area dedicated to recreational tourism or vacationing, as defined in the

Land Use Planning and Development Act, is withdrawn from mining activity;
- The withdrawal stipulated in section 91 is effective as of the date it is reproduced on maps kept at the Office of the Registrar;
- No lands can be added to the territory designated as a residential sector incompatible with mining activity or an area dedicated to recreational tourism or vacationing, as stipulated in section 304.2, for 20 years after the date it was reproduced on maps kept at the Office of the Registrar;
- The holder of a claim on land affected by section 91 must obtain the consent of the local municipality concerned in order to carry out work;
- If such consent is not obtained, the claimholder may request the services of a mediator to facilitate exchanges between the parties;
- No compensation is paid by the State for the consequences of an inability to perform work due to a failure to obtain such an authorization, except for reimbursement by the State for expenses incurred for the execution of work pursuant to section 72 since October 24, 1988;
- At the request of the regional county municipality or the metropolitan community concerned, the Minister can terminate the withdrawal of all or part of the area or instead reserve it to the State, allowing the mineral exploration and mining the Minister determines;
- The holder of a claim on municipal land must inform the municipality in writing of the work to be performed, at least 90 days before the work begins;
- The claim holder is obliged to provide, for each claim, a yearly work plan and a summary of work performed during the year;
- It is mandatory to declare the search for uranium upon application for a claim, and mandatory to declare a discovery of mineral substances containing more than 0.05% uranium oxide. The information must be recorded in the registry of mining titles;
- When exploring for uranium, it is prohibited to drill at a distance of less than 500 metres from a groundwater catchment work without written authorization from the owner of the work;
- Surface mineral substances on private lands must be surrendered to the landowners. These surface mining operations will henceforth be under the municipality's control;
- The construction or operation of a mineral treatment plant and the opening or operation of a mine (BM) shall be subjected to an impact study in accordance with section 96.2 of the Regulation respecting environmental impact assessment and review;
- If requested, a public consultation hearing must be held before the Bureau d'audiences publiques sur l'environnement (BAPE) for a mining lease;
- The exclusive lease to mine surface mineral substances (BEX) shall not be subjected to an impact study in accordance with section 96.2 of the Regulation respecting environmental impact assessment and review;
- Before submitting an application for a lease to mine surface mineral substances (SMS), a mining operator is obliged to hold a public consultation hearing in the region concerned. Public consultation is obligatory for all mining extraction projects, including those for peat, quarries for ornamental stone, aggregate and sand, and commercial or industrial gravel;
- The Minister will make public a rehabilitation and restoration plan for the purpose of applying the procedure for environmental impact assessment and review;
- The holder of a mining lease or an SMS mining lease must, in the manner prescribed by regulation, form a committee that will monitor the project and ensure maximum economic benefits;
- The committee will monitor the work activities relating to the mining lease and will endeavour to keep as many jobs, contracts and economic benefits as possible for the local communities;
- An authorization to mine without a lease is only granted in cases of property dammage or loss.
- The Minister may subject the mining lease to conditions designed to avoid conflicts with other uses of the territory;
- The Minister may subject the SMS exclusive mining lease to conditions designed to avoid conflicts with other uses of the territory or to take into consideration comments received during the public consultation;
- It is no longer possible for a mining company to expropriate for the purposes of mineral exploration;
- If a mining company needs to acquire a residential family property for the purposes of a mining project, the company must assure the owner of the property the financial assistance required to negotiate an agreement with the company, up to a maximum amount representing 10% of the value of the property as set out in the municipal assessment role;
- All government authorizations must be obtained before a mining company can move a residential family property (BM, CA and order-in-council).

2.10 Mining taxation

Mining taxation in Québec is distinct from that in other Canadian provinces and territories, namely with regard to tax incentives designed to stimulate mineral exploration as well as the development of new mines. The main tax incentives available to the mining sector are:

- Québec's flow-through share regime, which allows individual investors to claim deductions reaching up to 150% of their investment cost;
  www.mrn.gouv.qc.ca/english/mines/fiscal/fiscal-incentives-shares.jsp
- The refundable tax credit for resources, introduced in 2001, which grants companies a refund reaching up to 38.75% of eligible exploration expenditures incurred in Québec;
  www.mrn.gouv.qc.ca/english/mines/fiscal/fiscal-incentives-resources.jsp
- The credit on duties refundable for losses, a unique measure in Canada, introduced in 1985, which allows mining operators to receive a refund for the tax value of certain exploration, deposit appraisal and mine development investments prior to production. This credit gives rise to a refund equivalent to 15% in 2011 and 16% starting on January 1, 2012.
  www.mrn.gouv.qc.ca/english/mines/fiscal/fiscal-regime-losses.jsp

2.11 Mining Tax Act

Québec's Mineral Strategy, announced on June 29, 2009, called for a careful examination of the mining duties regime, to ensure Québec receives its fair share of returns on the mining of its mineral resources, while taking into account the competitiveness of companies and the need to maximize benefits.

Since that time, the mining duties regime has been studied in detail and the government has proposed a major revision to adapt it to the new reality of the mining sector. The Mining Tax Act, which brought into force the provisions outlined in the reform, was sanctioned on June 6, 2011.

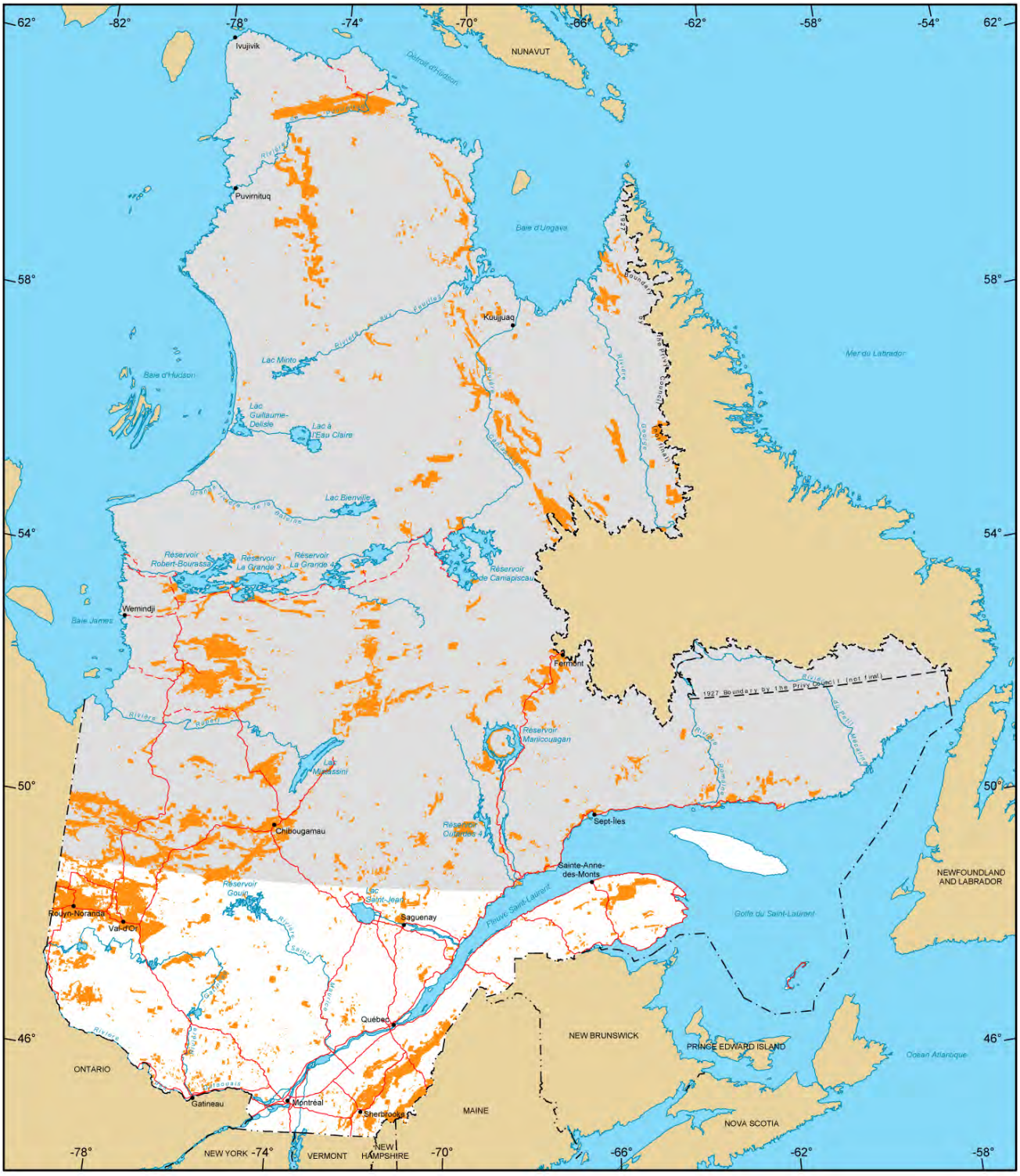
www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/I_0_4/I0_4_A.html

The revised regime is characterized by:

- A "**mine-by-mine**" approach. This approach will apply to an operator's fiscal year beginning after March 30, 2010 for mine operators, and stipulates that losses relating to one mine may not be used to reduce the profits at another mine;
- The concept of eligible operator;
- A gradually increasing mining duties rate;
- A new rate for the credit on duties refundable for losses;
- Changes and additions to the following allowances:
  - Additional Allowance for a Mine Located in Northern Québec
  - Depreciation Allowance
  - Exploration Allowance
  - Allowance for Mineral Deposit Evaluation and Mine Development before Production
  - Allowance for Mineral Deposit Evaluation and Mine Development after Production
  - Processing Allowance
- New rules for work financed by flow-through shares, for which certain expenses are excluded;
- Rules applicable in the case of gemstones;
- The continuance of environmental trusts.

  www.mrn.gouv.qc.ca/english/mines/fiscal/fiscal-regime.jsp

Figure 2.1 - **Mining titles in Québec.**



Active mining titles
On December 31st, 2011
Number : 249 116
Area : 11 463 198 ha

Territory covered by the Plan Nord

Metadata

Coordinate System
Conic Conformal Lambert with two standard parallels (46° and 60°)

1/10 000 000
0 200 km

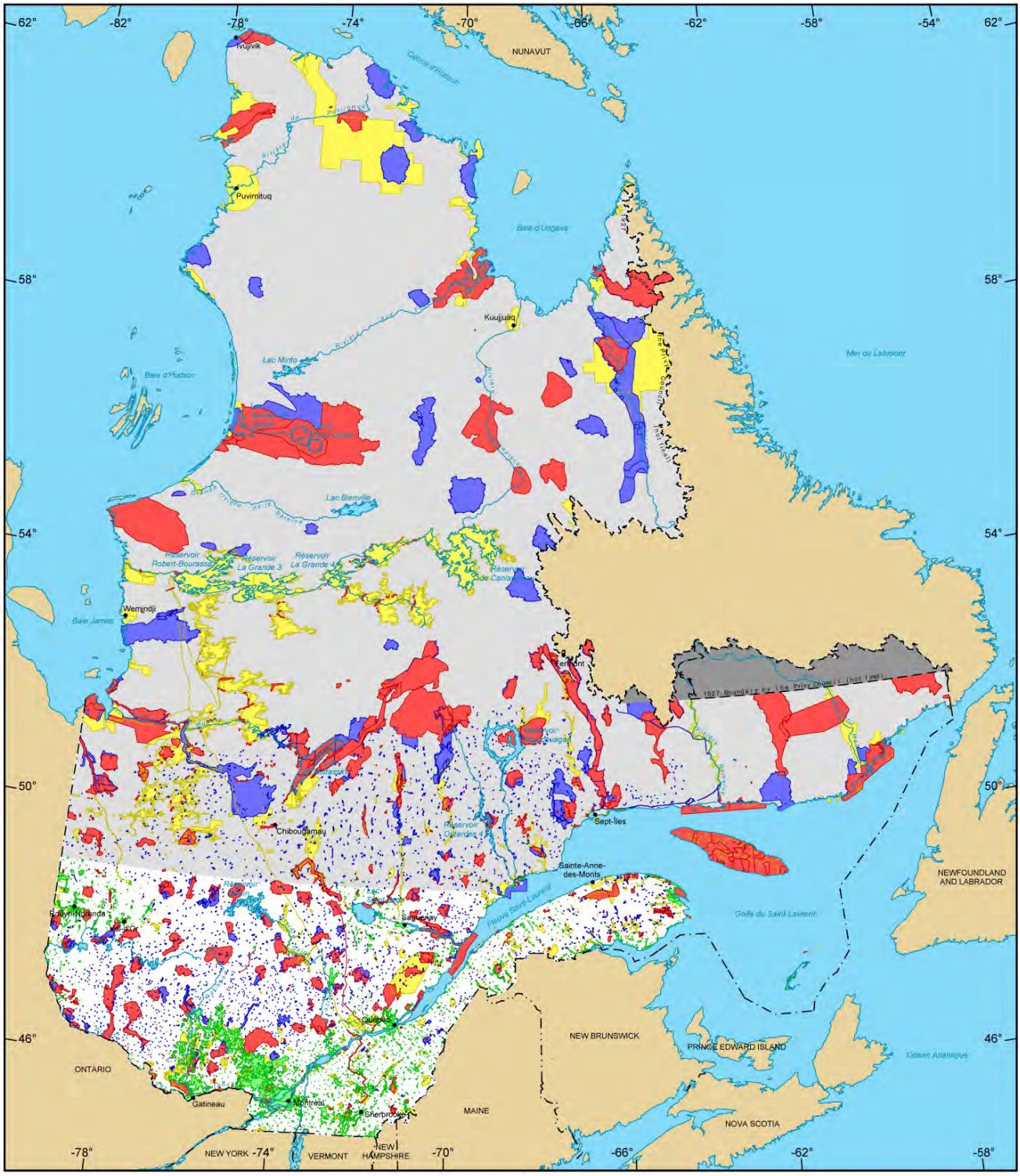
Sources

Mining data, MRNF, 2012
Cartographic Reference, MRNF, 2011
(BDGA 1M, BDGA 5M)

Realization

Ministère des Ressources naturelles et de la Faune
Direction des titres miniers et des systèmes
Note : This document has no legal value.

Figure 2.2 - **Restriction on mineral exploration in Québec.**



Mining restrictions

- Major
  Exploration prohibited
  15 152 952 ha
- Major
  Exploration permitted with municipal consent
  1 626 490 ha
- Major
  Land suspended temporarily
  10 635 261 ha
- Major
  Withdrawl from staking, Order in Council
  2 897 400 ha
- Minor
  Exploration under specific conditions
  9 986 314 ha
- Territory covered by the Plan Nord

Metadata

Coordinate System
Conic Conformal Lambert with two standard parallels (46° and 60°)

Sources
Mining data, MRNF, 2012
Cartographic Reference, MRNF, 2011 (BDGA 1M, BDGA 5M)

Note : The areas calculated represent the sum of the surface area of each individual mining restriction. The calculation does not take in consideration the possible overlapping of some areas.

1/10 000 000
0 200 km

Realization

Ministère des Ressources naturelles et de la Faune
Direction des titres miniers et des systèmes
Note : This document has no legal value.

Figure 2.3 - **Delegation of sand and gravel mining management.**

Administrative regions delegatee of the management of sand and gravel on the land of the State

Delegatees on December 31st, 2011

01- Bas-Saint-Laurent
02- Saguenay-Lac-Saint-Jean
03- Capitale-Nationale
04- Mauricie
09- Côte-Nord
14- Lanaudière
15- Laurentides

Metadata

Coordinate System
Conic Conformal Lambert with two standard parallels (46° and 60°)

1/10 000 000

0 200 km

Sources

Cartographic Reference, MRNF, 2011
(BDGA 1M, BDGA 5M)

Realization

Ministère des Ressources naturelles et de la Faune
Direction des titres miniers et des systèmes
Note : This document has no legal value.

TABLE 2.1 - **Distribution of mining exploration titles per administrative region in Québec.**

		NUMBER OF TITLES (CL, CDC, CLD, PRF)		CHANGE IN %	AREA[1] (ha)		CHANGE IN %
N°	**ADMINISTRATIVE REGION**	**2010**	**2011**		**2010**	**2011**	
1	Bas-Saint-Laurent	1 224	1 219	(0.4)	61 486	61 106	(0.6)
2	Saguenay–Lac-Saint-Jean	6 627	7 903	19.3	349 355	424 453	21.5
3	Capitale-Nationale	1 508	1 122	(25.6)	82 008	60 435	(26.3)
4	Mauricie	1 844	1 853	0.5	99 759	100 201	0.4
5	Estrie	6 661	6 666	0.1	389 446	389 410	(0.0)
6	Montréal	0	0	-	0	0	-
7	Outaouais	2 668	3 976	49.0	152 981	228 450	49.3
8	Abitibi-Témiscamingue	34 143	38 951	14.1	1 325 174	1 564 892	18.1
9	Côte-Nord	20 890	22 781	9.1	1 059 546	1 168 895	10.3
10	Nord-du-Québec	139 442	148 831	6.7	6 094 318	6 694 811	9.9
11	Gaspésie–Îles-de-la-Madeleine	3 564	4 600	29.1	167 583	236 598	41.2
12	Chaudière-Appalaches	6 277	6 763	7.7	333 223	361 393	8.5
13	Laval	0	0	-	0	0	-
14	Lanaudière	436	453	3.9	24 806	25 947	4.6
15	Laurentides	1 901	2 513	32.2	106 384	141 506	33.0
16	Montérégie	357	339	(5.0)	20 522	19 233	(6.3)
17	Centre-du-Québec	1 022	1 013	(0.9)	60 429	59 929	(0.8)
	Total*	**226 003**	**245 961**	**8.8**	**10 214 647**	**11 381 530**	**11.42**

Active titles as at December 31, 2011

1- Surface area in UTM NAD 83

*Titles that overlap more than one administrative region are compiled in each of the regions. Consequently, the sum of titles per region does not equal the total number of titles.

TABLE 2.2 - **Distribution of mining extraction titles per administrative region in Québec.**

		NUMBER OF TITLES		
N°	**ADMINISTRATIVE REGION**	**(BEX,CM,BM, ASB,BEF,BEP)**	**AREA[1] (ha)**	**NUMBER OF TITLES (BNE)**
1	Bas-Saint-Laurent	20	640	77
2	Saguenay–Lac-Saint-Jean	43	11 539	262
3	Capitale-Nationale	35	1 429	56
4	Mauricie	11	709	228
5	Estrie	4	229	12
6	Montréal	0	0	0
7	Outaouais	6	238	138
8	Abitibi-Témiscamingue	181	16 958	607
9	Côte-Nord	206	31 971	546
10	Nord-du-Québec	108	10 673	259
11	Gaspésie–Îles-de-la-Madeleine	36	4 247	29
12	Chaudière-Appalaches	11	597	15
13	Laval	0	0	0
14	Lanaudière	12	306	86
15	Laurentides	25	2 158	120
16	Montérégie	2	16	0
17	Centre-du-Québec	0	0	1
	Total*	**719**	**81668**	**2436**

Active titles as at December 31, 2011

1- Surface area in UTM NAD 83

*Titles that overlap more than one administrative region are compiled in each of the regions. Consequently, the sum of titles per region does not equal the total number of titles.

TABLE 2.3 - **Mining titles in the Plan Nord.**						
	NUMBER OF TITLES		**CHANGE IN %**	**AREA[1] (ha)**		**CHANGE IN %**
	2010	**2011**		**2010**	**2011**	
Exploration titles (CDC,CLD,CL,PRF)	163 457	176 249	7.8	7 328 611	8 116 149	10.7
Extraction titles (BEX,BM,CM,ASB,BEF,BEP)	334	308	(7.8)	40 239	40 365	0.3
BNE	1 209	981	(18.9)	-	-	-
Total	**165 000**	**177 538**	**7.6**	**7 368 850**	**8 156 514**	**10.7**

1- Surface area in UTM NAD 83

TABLE 2.4 - **Distribution of active mining titles for the management of sand and gravel mining in 2010-2011.**		
	NUMBER OF ACTIVE LEASES BNE/BEX	**NUMBER OF ACTIVE ASB AUTHORIZATIONS**
Capitale-Nationale *	78	7
Mauricie *	254	4
Estrie	15	16
Outaouais	143	1
Abitibi-Témiscamingue	689	22
Côte-Nord *	645	10
Nord-du-Québec	464	40
Gaspésie–Îles-de-la-Madeleine	26	28
Chaudière-Appalaches	21	4
Montérégie	0	0
Saguenay–Lac-Saint-Jean *	424	0
Bas-Saint-Laurent *	77	1
Lanaudière *	83	0
Laurentides *	141	1

*Delegate administrative regions

CHAPTER 3

GEO-SCIENCE WORK IN QUÉBEC IN 2011-2012

Sylvain Lacroix. Patrice Roy, Abdelali Moukhsil, Charles Maurice and Jean-Yves Labbé

The mandate of the *Bureau de l'exploration géologique du Québec* (BEGQ) is to acquire and process geoscience knowledge from across the province. Its goal is to disseminate data and knowledge in order to promote the mineral potential of all regions of Québec, with a view to sustainable development.

With the creation of the Mining Heritage Fund following the announcement of the Mineral Strategy in 2009, $11.6M was invested in the acquisition of geoscience knowledge across Québec. The budget for carrying out acquisition and geoscience data processing activities was $12M in 2010-2011 (Table 3.1). An additional amount of $300,000 was also made available following the signing of a multi-year agreement with the *Ministère du Développement durable, de l'Environnement et des Parcs* (MDDEP) to perform Quaternary deposit mapping in the areas of municipalized regions targeted by the Groundwater Knowledge Acquisition Program.

In 2011-2012, the BEGQ will complete 17 geoscience knowledge acquisition projects: six geological surveys, five inventories of Quaternary deposits, one geochemical survey, and five geophysical surveys (Figure 3.1).

3.1 Geological surveys

Five geological surveys are part of the extensive multidisciplinary geoscience knowledge acquisition program that was developed to stimulate exploration in Northern Québec.

The Churchill–Kuujjuaq project (No. 1), which covers the areas north and east of Kuujjuaq, marks the beginning of the second phase of mapping in the southeast Churchill Province at a scale of 1:250 000. The first phase of mapping in the Churchill Province was carried out east of Schefferville at a scale of 1:50 000 in 2009-2010 and 2010-2011.

The Baie James–Lac Nochet project (No. 2) consists of a 1:50 000 survey of the La Grande Subprovince, north of the Opinaca Subprovince. This survey represents the eastern continuation of the mapping project performed over the last two years near the La Grande 3 Reservoir.

The Grenville–Tétépisca project (No. 3) is a new mapping project, at a scale of 1:50 000, in the paragneiss, quartzite and amphibolite units encircling the Manicouagan Reservoir in the Grenville Province. It is the southwest continuation of the geological inventory of the Lac du Milieu region that was carried out last year.

Two geological surveys at 1:20 000 scale were conducted in the Matagami (No. 4) and Chapais-Chibougamau regions (No. 5). The aim is to produce a synthesis for each of these two major mining camps in the Abitibi Subprovince.

Finally, the area northeast of Sherbrooke (No. 6) in the Appalachians was the subject of mapping and compilation work as part of a partnership with *Université du Québec à Montréal.*

3.2 Quaternary surveys

Three Quaternary deposit mapping projects (Nos. 7, 8, 9) at 1:50 000 scale targeted the Montérégie, Capitale-Nationale and Outaouais regions. Project No. 7, which is in its second year, is being carried out internally by the BEGQ. Projects Nos. 8 and 9, which began in 2011, will be spread over two years and will be respectively carried out in collaboration with *Université Laval* and *Université du Québec à Montréal.* The goal of these projects is to support the MDDEP's Groundwater Knowledge Acquisition Program for municipalized Québec in the southern part of the province.

The Salluit community benefited from the expertise of two BEGQ geologists (No. 10). Their role was to assess the availability of new sources of aggregate material in the vicinity of Salluit, which are needed meet the pressing needs of this region where accelerated melting of the permafrost melting is endangering infrastructure. The contribution of these geologists was the BEGQ's response to a request from the *Ministère des Affaires municipales*, des Régions et de l'Occupation du territoire, a request that was also backed by the Kativik Regional Government.

The last project (No. 11) will take place in winter in the Lac Wawagosic region of the Abitibi, between Amos and Matagami, in the western extension of the Octave project. The objective of this sonic drill core program is to gather geological information on the stratigraphy of Quaternary deposits and basement rocks in an area with strong mineral potential but few outcrops and a layer of lacustrine sediments that considerably reduces the effectiveness of geophysical methods.

3.3 Geochemical surveys

An update of the geochemistry database for lake-bottom sediments in Québec, which began in 2007, will continue in 2011-2012. Project No.12 is a lake-bottom sediment sampling program covering the Ungava Peninsula, north of the 61st parallel. The goal is to extend the coverage of the geochemistry program completed in 1997-1998 as part of the Far North Program.

3.4 Geophysical surveys

Project No. 13 consists of an airborne magnetic and spectromagnetic survey flown directly south of Kuujjuaq. It represents the first phase of a multiyear geophysical program undertaken by the BEGQ, with an aim of providing geophysical coverage for the Labrador Trough that is equivalent in scope to the coverage attained over the last few years in the region east of James Bay. This project follows last year's aeromagnetic survey to the west of Kuujjuaq, carried out by the Geological Survey of Canada as part of their GEM Project (Geomapping for Energy and Minerals).

Three airborne magnetic surveys were performed in 2011-2012. The first completed the continuous coverage of the Abitibi and Baie-James regions north of Matagami (project No. 14), notably including the coverage of the western part of the Frotet-Evans Volcano-sedimentary Belt.
The second survey covers the Manicouagan Reservoir region north of Baie-Comeau in the Grenville Province (project No. 15). This survey was supported by mapping and mineral exploration work taking place in the same area. The third survey, carried out in partnership with the Geological Survey of Canada as part of their GEM Program, covers the southeast part of the Ashuanipi Subprovince between Fermont and Schefferville, at the border between Québec and Labrador (project No. 16).

Finally, project No. 17 is a helicopter-borne magnetic survey flown over the Malartic region in the Abitibi. This high-resolution survey is supported by geological revision work that will begin in the same area in 2012-2013.

3.5 Publications

In 2011, the MRNF published 94 original documents, including 49 geological maps, and 11 reports translated into English, all of which are available in the public SIGÉOM database. In addition to the geological maps, documents include geoscientific surveys, geological compilations and promotional or public outreach documents realized by the MRNF or its partners.

The locations of the NTS map sheets covered by the new maps are shown in Figure 3.2. Geological maps (20) and accompanying reports (5), geological compilation maps (20; many regions in the province), maps of regional geophysical surveys (91 in the Baie-James region, 12 in the Lac Shabogamo area), and maps for secondary environment geochemistry surveys (Saguenay–Lac-Saint-Jean region) and reanalyses (Fermont and Rivière George regions) are shown on Figure 3.2 and are available in SIGÉOM à la carte. The promotional documents (7), public outreach posters (4), and mineral potential assessments (2) are all available in SIGÉOM Examine.

Lastly, 614 statutory work reports and the new lake sediment geochemistry data from the regional county municipality (MRC) of Minganie were entered into the SIGEOM database.

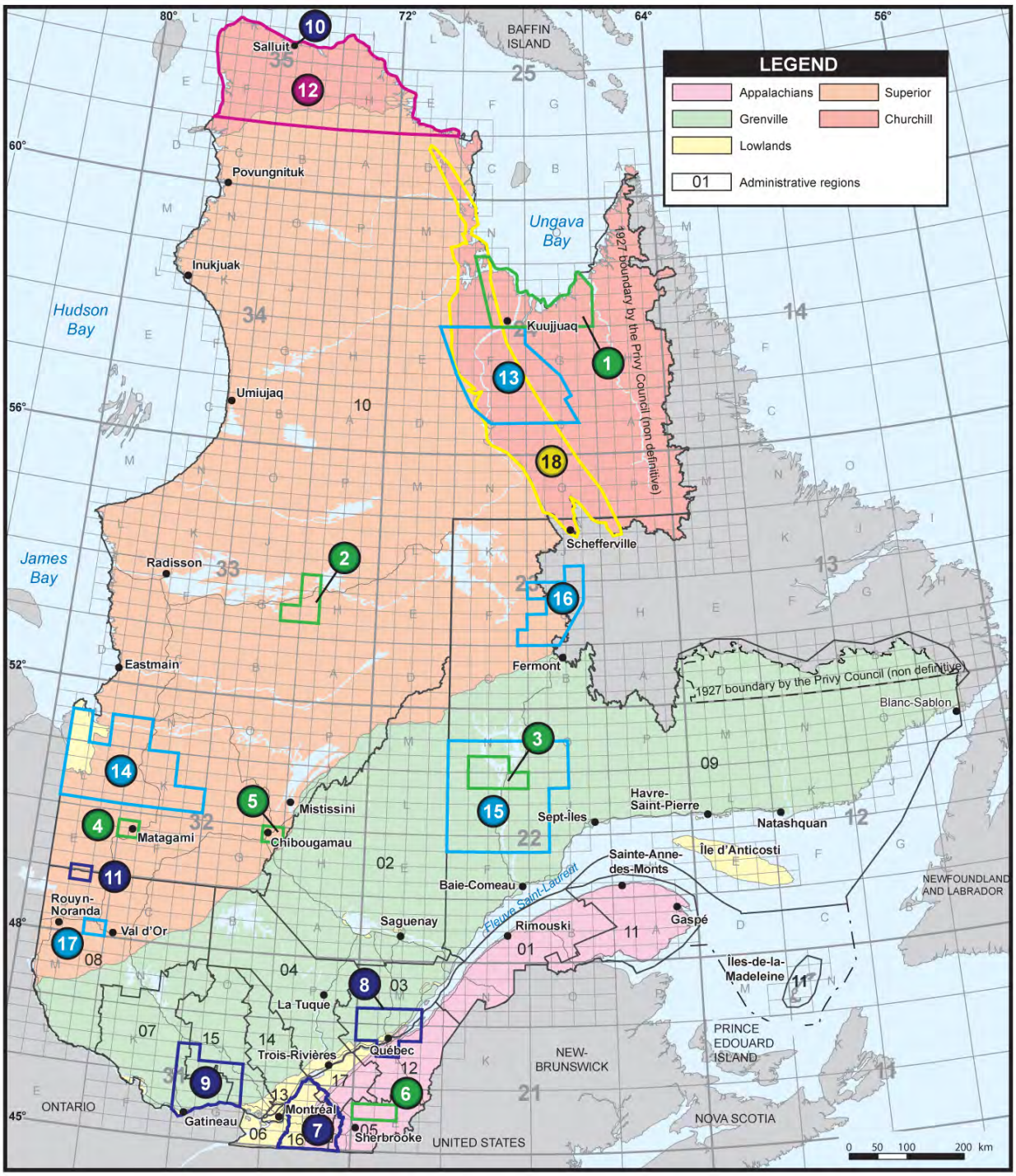
3.6 Exploration targets

The acquisition of new geoscience knowledge in 2011 revealed 62 exploration targets that were unveiled at the Québec Exploration 2011 event (PRO 2011-06). Most of these targets are in the Nord-du-Québec region and relate to various commodities, namely gold, copper, nickel, platinum group elements, zinc, and rare earth elements. Targets for gold, copper, silver, and zinc were also identified in the Abitibi-Témiscamingue region. In the Côte-Nord region, targets for copper, nickel, platinum group elements and rare earth elements were also proposed. Some 120 new geophysical targets (for diamonds and uranium) were reported following the interpretation of a new geophysical survey (magnetic and spectrometric) in the Baie-James territory. In addition, the updating of the coverage for secondary environment geochemistry in the Grenville Province Saguenay–Lac-Saint-Jean and Côte-Nord (Fermont) regions defined a number of nickel and rare earth element geochemical targets. The locations of all these targets may be viewed on both GESTIM and the MRNF website.

www.mrnfp.gouv.qc.ca/english/mines/publications/publications-promotion.jsp

www.mrnfp.gouv.qc.ca/english/mines/publications/publications-maps.jsp

Figure 3.1 - **Geoscientific projects in 2011-2012.**



2011-2012 Geoscience work

GEOLOGICAL SURVEYS

1. Churchill - Kuujjuaq project
2. Baie-James - Lac Nochet project
3. Grenville - Tétépisca project
4. Matagami project
   - 4a *3D modelling*
5. Chapais - Chibougamau project
6. Appalaches project

QUATERNARY SURVEYS

7. Montérégie project (MDDEP-MRNF)
8. Québec project (MDDEP-MRNF)
9. Outaouais project (MDDEP-MRNF)
10. Salluit project
11. Wawagosic project (rock and quaternary)

GEOCHEMICAL SURVEYS

12. Ungava - lake-bottom sediment survey

GEOPHYSICAL SURVEYS

13. Labrador Trough - magnetic and gamma-ray spectrometry survey
14. Baie-James - aeromagnetic survey
15. Grenville - aeromagnetic survey
16. Shabogamo - aeromagnetic survey
17. Malartic - heliborne magnetic survey

MINERAL POTENTIAL ASSESSMENT

18. Besshi type massive sulfide deposits - Labrador Trough

January 2012

Figure 3.2 - **New geoscientific publications in 2011.**

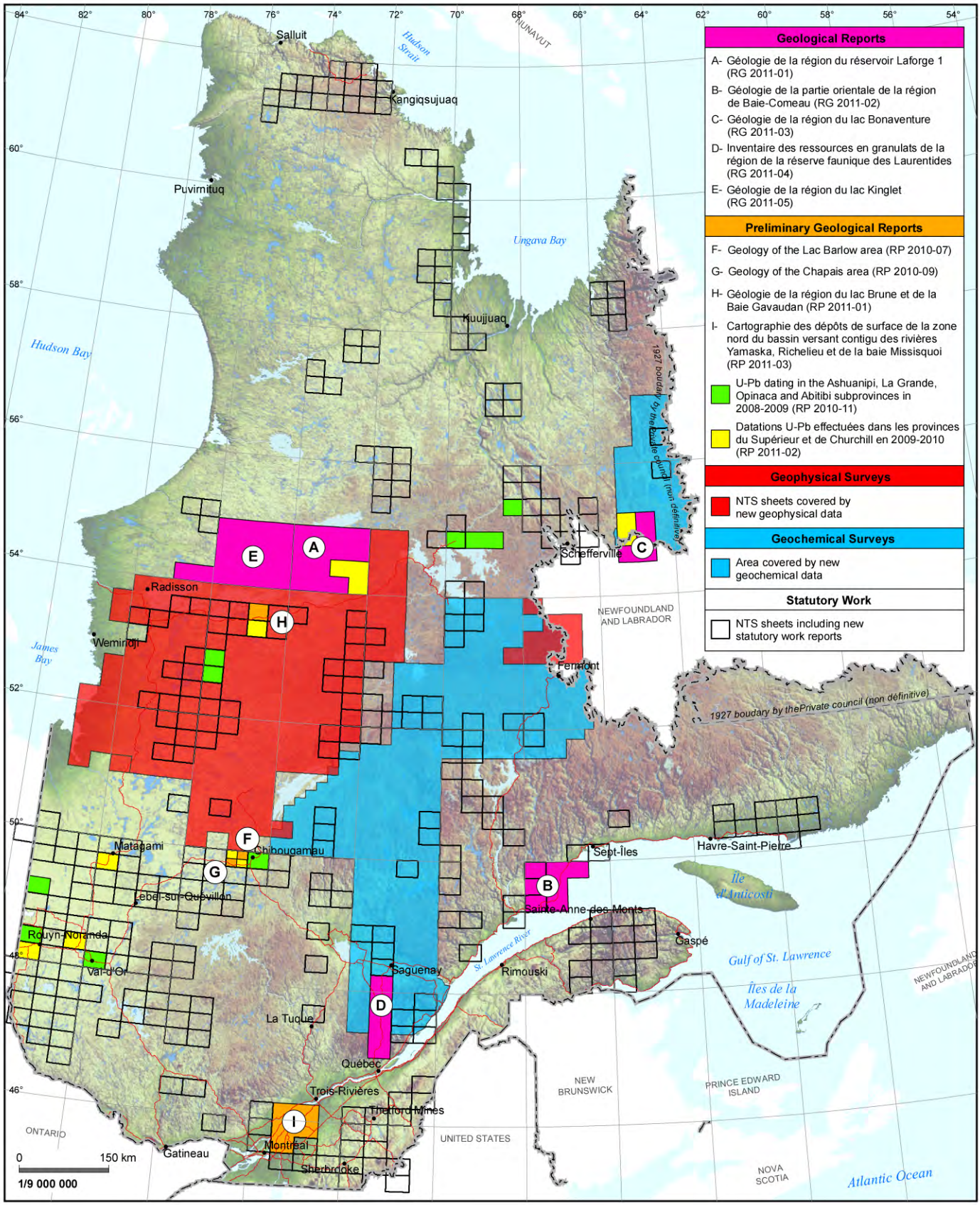


TABLE 3.1 - **Distribution by administrative region of the expenditures for geoscience knowledge acquisition work carried out by the *Ministère des Ressources naturelles et de la Faune*.**

N°	ADMINISTRATIVE REGION	EXPENDITURES IN 2008-2009 (in 000$)	EXPENDITURES IN 2009-2010 (in 000$)	EXPENDITURES IN 2010-2011 (in 000$)	EXPENDITURES IN 2011-2012 (in 000$)*
1	Bas-Saint-Laurent	770.0	28.8	0.0	0.0
2	Saguenay–Lac-Saint-Jean	472.9	0.0	919.7	0.0
3	Capitale-Nationale	610.6	314.3	599.0	285.7
4	Mauricie	242.7	201.2	1.0	0.0
5	Estrie	0.0	58.7	6.3	57.1
6	Montréal	0.0	0.0	0.0	0.0
7	Outaouais	54.8	58.3	0.0	118.8
8	Abitibi-Témiscamingue	1499.3	941.5	352.7	1065.9
9	Côte-Nord	825.0	1722.7	1566.3	1521.5
10	Nord-du-Québec	5391.8	4168.1	7907.6	7869.4
11	Gaspésie–Îles-de-la-Madeleine	121.2	47.5	0.0	0.0
12	Chaudière-Appalaches	0.0	0.0	85.3	61.6
13	Laval	0.0	0.0	0.0	0.0
14	Lanaudière	3.6	0.0	0.0	0.0
15	Laurentides	9.4	0.0	0.0	79.2
16	Montérégie	0.0	65.3	63.236	148.7
17	Centre-du-Québec	0.0	46.5	138.13	792.1
	Total	**10 001.3**	**7652.8**	**11 639.3**	**12 000.0**

* estimated expenditures

CHAPTER 4

MINERAL EXPLORATION

4.1 Introduction

Martin Labrecque

Targeted commodities

In 2010[1], nearly 300 mining companies reported exploration or deposit appraisal work in Québec as project operator. Expenditures totalled $512M, of which $201M was for major companies, $299M for junior companies, and $12M for public corporations. The head offices of these companies are located in Québec (36%), Ontario (28%), British Columbia (27%), and 9% are based elsewhere in Canada or abroad.

As in every year, exploration and deposit appraisal work is largely focused on precious metals ($277M, 54%) and base metals ($87M, 17%). Nevertheless, within the past few years, exploration and development started up for some other metals and quickly intensified, accounting for the growth in expenditures for substances that Québec does not yet produce. This is true of the expenditures for, among others, uranium, lithium, and rare earth elements; these amounted to $80M in 2010, compared to a total of less than $5M in 2005.

Interest in these substances—for which there is ever-increasing demand notably for high-technology products, rechargeable batteries and "green" technologies—should continue to grow for years to come.

Exploration and deposit appraisal expenditures by region

In 2010, most of the $512M in exploration and deposit appraisal expenditures was divided between three administrative regions: Nord-du-Québec ($261M, 51%), Abitibi-Témiscamingue ($182M, 36%), and Côte-Nord ($45M, 9%). Therefore, more than half the exploration and deposit appraisal expenditures were spent in the area covered by the Plan Nord, which primarily consists of the Côte-Nord and Nord-du-Québec regions.

In 2011, revised spending intentions for exploration and deposit appraisal activities increased considerably, reaching $718M. These findings confirm the upward trend for exploration and deposit appraisal that has been observed since the early 2000s.

Jobs in the mineral exploration sector

Data on the number of workers involved in the mineral exploration sector are not compiled within the scope of the ISQ's mining statistics program. Based on information provided by the companies regarding their exploration expenditures, the Ministère des Ressources naturelles et de la Faune (MRNF) estimates that exploration and deposit appraisal activities create more than 2200 direct jobs and more than 1600 indirect jobs throughout much of Québec.[2]

4.2 Mineral Exploration Highlights

James Moorhead, Patrick Houle, Pierre Doucet and Suzie Nantel

This section summarizes the main exploration projects in Québec that have experienced notable progress in terms of:

- a new resource calculation;
- the discovery of a new mineralized zone;
- a mineralized intersection in the extension of a known zone.

Details about these exploration projects are presented in tables 4.3, 4.4 and 4.5.

Copper and zinc

Globex Mining Enterprises carried out a drilling program to assess the Lac Tom showing on the Tonnancour property in the Lebel-sur-Quévillon area. Hole GT11-01 intersected, near the surface, massive to semi-massive sulphides with grades of 5.23% Cu, 13.12% Zn, 41 g/t Ag and 0.718 g/t Au over 4.55 m.

A stripping and channel sampling program by **Cartier Resources** on the site of the polymetallic Langlade (Zn-Cu-Ag-Au) deposit revealed disseminated to massive sulphides. Channel No. 7 returned 1.0% Cu, 1.3% Zn, 80 g/t Ag and 0.5 g/t Au over 32 m.

In the Barraute area, a drilling program intended to increase resources and reserves on the Abcourt-Barvue (Zn-Ag) (**Abcourt Mines**) property intersected Zone 1 (8.8 m @ 155.5 g/t Ag and 2.29% Zn; hole AB10-12) and Zone 2 (5.8 m @ 108.56 g/t Ag and 5.81% Zn; hole AB11-47).

The objective for **Abcourt Mines** on the Vendome property, near Barraute, was to confirm, through drilling, the historical data for the Vendome, Barvallée, and Belfort volcanogenic massive sulphide (Zn-Cu-Ag-Au) deposits for which historical resources have been calculated. Hole V11-04 intersected 11.05% Zn, 0.32% Cu, 0.67 g/t Au and 16.88 g/t Ag over 3.6 m.

In the Chibougamau region, **Cogitore Resources** announced a new resource estimate for eight lenses and two zones of mineralized veinlets on the Lac Scott property. The results defined inferred resources totalling 5.3 Mt @ 1.1% Cu, 4.7% Zn, 0.3 g/t Au and 35 g/t Ag.

South of Lac Chibougamau, **Western Troy Capital Resources** intersected 2.4% Cu over 3.3 m in a hole drilled into a copper-silver-gold-molybdenum porphyry-type system on the Lac Chibougamau Copper property.

The companies **Donner Metals** and **Xstrata Canada Corporation (Zinc)** jointly published measured resources for the PD1 deposit of 0.6 Mt @ 4.34% Zn, 0.83% Cu, 19.59 g/t Ag and 0.12 g/t Au (from 25 to 100 m below surface). This deposit is located 31.4 km west-northwest of Matagami.

As part of its Carheil Project, **Exploration NQ** confirmed the continuity of the Ag1 Zone, from surface to a depth of 600 m. Hole CA2011-24 intersected 4.43% Zn, 1.38% Cu, 0.30 g/t Au, 106.9 g/t Ag and 0.21% Pb over 2.0 m.

In the vicinity of lens 16-17 on the Coulon property (**Virginia Mines**), hole CN-11-223 intersected 3.86% Zn, 0.7% Cu and 75.09 g/t Ag over 44 m at a vertical depth of 350 metres. This intersection is interpreted as a new lens called "Lens 223".

Rare earth elements

One of the highlights in 2011 was the publication of resource estimates for four rare earth element (REE) exploration projects.

In the Témiscamingue region, **Matamec Explorations** continued working its Zeus Project. A resource calculation, published in June, estimated indicated resources of 12 472 000 tonnes @ 0.512% total rare earth oxides (TREO,) and 0.913% ZrO_2 and inferred resources of 3 842 000 tonnes @ 0.463% TREO and 0.912% ZrO_2 (cut-off grade of 0.3% TREO).

On the Montviel property, located 97 km north of Lebel-sur-Quévillon, **GéoMégA Resources** established indicated resources of 183.9 Mt @ 1.45% TREO and inferred resources of 66.7 Mt @ 1.46% TREO. A second phase of drilling extended the main zone by at least 300 m to the west, with hole MVL-11-21 intersecting 0.89% TREO and 0.12% Nd_2O_5 over 94 m.

On the Arques property, in the Baie-James region, **Monarques Resources** discovered a new alkaline intrusive complex containing rare earth elements. An intersection in hole RUP-11-05 graded 1.50% total rare earth oxides over 1 m.

About 130 km south of Kuujjuaq, **Commerce Resources Corporation** published the first resource estimate for the Eldor Project. In the Ashram Zone, inferred resources are estimated at 117 Mt @ 1.74% total rare earth oxides (TREO), 0.04% Y_2O_3 and 5.56% CaF_2 (cut-off grade of 1.25% TREO).

In the Labrador Trough, drilling by **Quest Rare Minerals** on the Strange Lake property extended the northern limit of the B Zone under Lac Brisson. The zone was intersected in several places, including hole BZ11099 that yielded 1.16% TREO over 143.2 m. A revised resource estimate for the B Zone, using a cut-off grade of 0.95% TREO, confirmed indicated resources of 36.4 Mt @ 1.16% TREO, 2.17% ZrO_2, 0.24% Nb_2O_5, 0.05% HfO_2 and 0.12% BeO.

Iron

In 2011, several major exploration projects for iron, underway for several years now, produced new resource calculations or drill results.

In the Côte-Nord region, partners **Champion Minerals** and **Fancamp Exploration** calculated a new resource estimate for some of the deposits on the Fire Lake North block (Fermont Iron Project). For the East, West, and Don deposits, combined measured resources are 8.4 Mt @ 35.0% FeT (Fe total), whereas indicated resources are 391.7 Mt @ 30.5% FeT and inferred resources are 661.2 Mt @ 27.7% FeT; the resources were calculated using a cut-off grade of 15% FeT.

In November 2011, **Fancamp Exploration** announced the results of drilling on its Lac Lamelée iron project. Hole LS-2011-08 intersected two sections, one of 52.0 m grading 20.2% FeT and one of 185.9 m grading 25.5% FeT.

Thirty kilometres south of Radisson, **Augyva Mining Resources** and its partner **Century Iron Mines Corporation** confirmed the presence of iron mineralization over a distance of 2.3 km for deposit No. 3 (hole DUN-11-349: 163.4 m @ 23.4% Fe) and over a distance of 1.0 km for deposit No. 6 (hole DUN-11-81: 88.4 m @ 30.2% Fe).

Century Iron Mines Corporation intersected an interval of 341.1 m @ 28.4% Fe in hole RL11-0002 on its Lac Sunny Project (Lac Rainy block), located 85 km northwest of Schefferville.

About 160 km northwest of Schefferville, **Adriana Resources** published an estimate of measured resources totalling 4.89 billion tonnes @ 29.0% Fe and inferred resources of 1.56 billion tonnes @ 29.6% Fe on the south zone of its Lac Otelnuk Project.

In the Labrador Trough, **Zone Resources** announced the discovery of a new iron zone on its Girard Project, specifically 35.64% Fe over 137.0 m in hole ZR11-09.

On the Lac Ritchie property in the Labrador Trough, **New Millenium Iron Corporation** demonstrated, through drilling, the potential of a magnetic taconite deposit by intersecting 31.82% Fe over 82.3 m (hole 11LR002D).

As part of its Hopes Advance Project, **Oceanic Iron Ore Corporation** calculated measured and indicated resources of 461 Mt @ 32.0% Fe and inferred resources of 1.03 billion tonnes @ 32.3% Fe for eight mineralized areas located near the Inuit community of Aupaluk.

Iron-Titanium-Vanadium

Argex Mining completed a new resource calculation for the East Hervieux and West Hervieux deposits on its La Blache Project. Measured and indicated resources total 30 888 000 tonnes @ 63.29% Fe_2O_3, 18.78% TiO_2 and 0.45% V_2O_5 in addition to inferred resources of 13 013 000 tonnes @ 63.06% Fe_2O_3, 18.67% TiO_2 and 0.43% V_2O_5.

On its Iron-T Project, located 18 km east of Matagami, **Apella Resources** confirmed the presence of iron-vanadium-titanium mineralization over a distance of 22.5 km, and published a resource update (inferred resources of 14.37 Mt @ 27.3% Fe, 0.42% V_2O_5 and 6.55% TiO_2).

Nevado Resources Corporation drilled several holes on their La Blache Project. On the Farrell-Taylor block, hole FT-10-25 intersected an interval of 71.1 m grading 65.2% Fe_2O_3 and 19.7% TiO_2. The company also conducted pilot plant-scale metallurgical tests to extract iron, titanium, and vanadium from the ore.

South of Chibougamau, **Blackrock Metals** completed a feasibility study on the Blackrock iron-vanadium-titanium project.

Lithium

With respect to lithium, highlights in 2011 were the development of a mining complex (Québec Lithium) and the publication of resource estimates for three advanced exploration projects.

Canada Lithium Corporation announced a new resource calculation for its Québec Lithium Project in early December of 2011. Located west of Barraute, the deposit contains measured and indicated resources of 33 239 000 tonnes @ 1.19% Li_2O and inferred resources of 13 757 000 tonnes @ 1.21% Li_2O (cut-off grade of 0.8% Li_2O). The positive results of the updated feasibility study were announced on June 13th, 2011.

Following the 2010-2011 drilling programs on the Authier Lithium property in the Abitibi region, **Glen Eagle Resources** and **Globex Mining Enterprises** produced a resource estimate. Indicated resources total 4 167 000 tonnes @ 1.04% Li_2O and inferred resources are 2.29 Mt @ 1.0% Li_2O. The resources were defined from surface to a depth of 75 m.

Critical Element Corporation published the results of a new independent resource estimate on its Rose Project, located in the Baie-James region. The Rose deposit contains indicated resources of 26.5 Mt @ 0.98% Li_2O and 163 ppm Ta_2O_5, and inferred resources of 10.7 Mt @ 0.86% Li_2O and 145 ppm Ta_2O_5.

Nemaska Lithium announced measured and indicated resources of 25 Mt @ 1.54% Li_2O and 140 ppm Be on its Whabouchi Project in the Baie-James region.

On the Pivert-Stairs property in the Baie-James region, drilling by **Jourdan Resources** intersected several new spodumene pegmatite dykes under the Lamothe showing, including hole PIV-11-15 where grades of 0.625% Li_2O and 1183 g/t Rb were obtained over 2.3 m.

Nickel, copper, cobalt, and platinum group elements (PGE)

On the Villebon property in the Abitibi region, **St-Georges Platinum and Base Metals** intersected, at shallow depths, the mineralized peridotite of the North and South zones, including 0.21% Cu, 0.24% Ni, 0.092 g/t Pt and 0.219 g/t Pd over 18.6 m (hole FV-10-01).

Roughly 25 km to the west of Lebel-sur-Quévillon, on the Laflamme property, **Midland Exploration** and **North American Palladium** discovered a new nickel-copper-PGE zone that yielded 0.66% Ni, 0.35% Cu, 0.17 g/t Pt, 0.16 g/t Pd, 0.11 g/t Au and 1.4 g/t Ag over 8.0 m in hole LA-11-08.

On the Valiquette property, 15 km southeast of the Nemiscau airport in the Baie-James region, **Monarques Resources** obtained a drill intersection of 2.66% Ni and 0.7% Cu over 3.2 m in peridotite intrusions at the contact of volcanogenic sediments belonging to the Lac des Montagnes Formation.

About 75 km northeast of Schefferville, **Match Capital Resources Corporation**, in partnership with **Western Troy Capital Resources**, confirmed polymetallic mineralization hosted by the Lac Thompson Formation. On the Indian Lake North property, hole ILN-01 intersected 0.43% Cu, 0.19% Ni, 0.63 g/t Pd, 0.05 g/t Pt, 0.04% Co, 0.21 g/t Au and 1.08 g/t Ag over 4.5 m.

In the Labrador Trough, **Rockland Minerals Corporation** intersected 0.62% Ni, 0.20% Cu, 0.106 g/t Pt and 0.214 g/t Pd over 4.0 m (hole 849-9) at the contact of a peridotite sill on its Retty Lake Project, adjacent to the Blue Lake Cu-Ni-PGE deposits.

Gold

For gold, the year 2011 was highlighted by the publication of nine new resource calculations for advanced exploration projects. The majority of the projects are in the southern Abitibi region, near or north of the Cadillac Tectonic Zone. Revised resource and reserve estimates were published for five mines, all near the Cadillac Tectonic Zone. In addition, on gold projects at the exploration stage, many drill holes intersected zones or their extensions.

Mines and projects with new resource calculations

Abitibi-Témiscamingue region

In October, **Xmet** completed a resource calculation for the Duquesne-Ottoman Project, northwest of Rouyn-Noranda. The deposit contains inferred resources of 4 171 000 tonnes @ 5.42 g/t Au, for a total of 727 000 ounces of gold.

Richmont Mines drilled many holes on their Wasamac property to the west of Rouyn-Noranda. Hole

WS-11-72 intersected a section of 31.40 m (true thickness) @ 7.28 g/t Au. A new resource calculation was underway during the fourth quarter. At the Joanna Project, **Aurizon Mines** completed a resource calculation over the course of the summer. The Hosco deposit contains measured and indicated resources of 54.14 Mt @ 1.29 g/t Au and inferred resources of 7.67 Mt @ 1.15 g/t Au (cut-off grade of 0.5 g/t Au). The feasibility study should be completed for the second quarter of 2012.

As part of its program to evaluate a possible open mine at the Monique Project, **Richmont Mines** identified indicated resources of 728 164 tonnes @ 2.35 g/t Au (55 112 ounces gold) on the G and J zones.

At the Lamaque mine, **Century Mining Corporation** began a development, exploration, and drilling program in 2010. The company updated its data and used the results to calculate measured and indicated resources of 3.67 Mt @ 4.96 g/t Au (586 000 ounces gold) and inferred resources of 9.16 Mt @ 6.29 g/t Au (1 853 000 ounces gold). Proven and probable reserves are 3.16 Mt @ 4.41 g/t Au (448 000 ounces gold).

At the Lac Herbin mine, **Alexis Minerals Corporation** established measured and indicated resources totalling 184 600 tonnes @ 8.2 g/t Au (48 700 ounces gold) and inferred resources of 283 500 tonnes @ 7.4 g/t Au (67 300 ounces gold). The exploration work focused on three gold zones with close to mining infrastructure: the Bonanza, FL, and Apex zones. Among the results: 12.24 g/t Au over 2.6 m in hole LH01-367 (Bonanza) and 10.0 g/t Au over 6.9 m in hole AMAR-75 (Apex).

At the Lamaque property, a resource calculation was prepared by **Integra Gold Corporation** for the N°. 4, Forestel, Parallel, and Triangle zones. Indicated resources are 0.8 Mt @ 6.33 g/t Au (162 962 ounces gold) and inferred resources now total 2.34 Mt @ 6.91 g/t Au (518 643 ounces gold).

At the Kiena mine complex, **Wesdome Gold Mines** defined measured and indicated resources totalling 1 365 000 tonnes @ 3.9 g/t Au (170 000 ounces gold). Based on these resources, proven and probable reserves were calculated as 1 097 000 tonnes @ 2.8 g/t Au (99 000 ounces gold). Definition drilling enlarged the Schist Zone (hole U5423: 5.0 g/t Au over 4.6 m) and the Martin Zone (hole S696: 11.72 g/t Au over 5.8 m).

Citing safety reasons, **Agnico-Eagle Mines** announced on October 19th, 2011, the suspension, for an indefinite period, of its mining operations and gold production at the Goldex mine. Following the announcement, Agnico-Eagle Mines reclassified its mining reserves at the Goldex mine as resources. Measured and indicated resources are now 33.6 Mt @ 1.75 g/t Au and inferred resources are 25.8 Mt @ 1.67 g/t Au. Inferred resources in the D lens, which occurs below the main GEZ lens, total 14.4 Mt @ 1.62 g/t Au (746 000 ounces gold). Drilling results in the D Zone include 1.5 g/t Au over 120 m (hole 84-067).

Adventure Gold and **Mazorro Resources** determined inferred resources of 219 590 t @ 3.14 g/t Au (22 197 ounces gold) on the Lapaska Central Zone. Many holes intersected a veined zone over considerable widths, such as 103.4 m @ 1.0 g/t Au in hole LP-11-16.

The DAC deposit (**Pacific North West Capital Corporation, Next Gen Metals** and **Alto Ventures**) contains indicated resources of 10.8 Mt @ 1.05 g/t Au (364 000 ounces gold) and inferred resources of 8.3 Mt @ 0.92 g/t Au (247 000 ounces gold), from surface to a depth of 400 m.

Osisko Mining Corporation published a new reserve and resource calculation for the Canadian Malartic and Barnat South deposits. The calculation includes new resources defined by the drilling program currently underway, particularly in the Barnat Extension and Gouldie zones. Proven and probable reserves are 343.7 Mt @ 0.97 g/t Au (10.7 million ounces). Indicated resources (out-of-pit) are 47.6 Mt @ 0.77 g/t Au (1.18 million ounces gold) and global inferred resources are 33.9 Mt @ 0.78 g/t Au (0.85 million ounces gold).

At the Brosnor Project, **Upper Canyon Minerals Corporation** calculated inferred resources of 451 480 t @ 2.46 g/t Au (35 780 ounces gold) for the Norcourt Zone and inferred resources of 864 350 t @ 1.29 g/t Au (35 862 ounces gold) for the Adelmont Zone. Reconstruction work on an old exploration ramp began in December 2011.

Exploration projects

Rouyn-Noranda area

Gold Bullion Development Corporation continued drilling its Granada Project south of Rouyn-Noranda. Hole GR-11-256 intersected a section of 98.00 m @ 1.21 g/t Au, including 29.50 m @ 2.34 g/t Au.

Partners **Aurizon Mines** and **Typhon Exploration** planned a 50 000-metre drilling program in 2011 on the Fayolle Project. Hole FAX-11-55 intersected 30.0 m @ 14.9 g/t Au, including 6.0 m @ 60.9 g/t Au. The partners also carried out airborne magnetic and electromagnetic surveys, prospecting, and geological mapping.

Vantex Resources drilled holes on its Galloway property west of Rouyn-Noranda. Hole VPE-11-40, drilled on the Moriss Zone, intersected sections of 1.50 m @ 48.91 g/t Au, 1.10 m @ 3.49 g/t Au and 1.30 m @ 2.28 g/t Au.

Val-d'Or area

At its Sleepy Project, **Alexandria Minerals Corporation** intersected a new gold zone, the South Zone, 100 m south of the Main Zone. Hole SAX-11-04 graded 28.75 g/t Au over 8.4 m, including 248.8 g/t Au over 0.5 m.

Blue Note Mining drilled holes with the aim of expanding known mineral resources to the east and west on its Croinor Project. Best results included 7.03 g/t Au over 0.9 m (hole CR-11-379) in the eastern area, and 9.62 g/t Au over 2.5 m in the west.

As part of its South Bay Project, prospecting by **Threegold Resources** revealed a series of gold-mineralized outcrops with a maximum value of 5.9 g/t Au. The mineralized zone is 250 m east of the main North Zone.

Drilling by **Galahad Metals** intersected gold-bearing quartz-tourmaline veins near drifts of the former Regcourt mine. The best results include 10.5 g/t Au over 0.65 m (hole RG11-06) and 39.5 g/t Au over 1.2 m (hole RG11-08).

Adventure Gold revealed a network of shallow-dipping structures near the former Lucien Béliveau gold mine. The best results include 2.7 g/t Au over 65.1 m (hole PC-11-30).

Alexis Minerals Corporation intersected mineralized intervals along the western extension of the Beaufor mine (19.0 g/t Au over 1.2 m; hole 17421-34) and at the Standard Gold showing (3.4 g/t Au over 1.3 m; hole 17408-05).

On the East-West property, **Knick Exploration** intersected, in the Raven Zone, quartz veins with altered gold-bearing selvedges, with a grade of 6.1 g/t Au over 6.7 m, among others.

Adventure Gold and **Agnico-Eagle Mines** explored the western extension of the Québec Explorer gold deposit. Hole 160-11-03 intersected 3.0 g/t Au over 5.5 m in a section of 57.7 m grading 0.5 g/t Au.

Drilling by **Wesdome Gold Mines** intersected gold-bearing intervals on the Kiena Bloc Sud property (29.38 g/t Au over 0.9 m in hole S681).

On the Simkar property, belonging to **Eloro Resources**, a drilling program, designed to test the depth extension of known gold zones in the former Louvicourt Goldfields mine, intersected a zone of auriferous quartz-tourmaline veins with a grade of 3.14 g/t Au over 7.0 m, including 8.1 g/t Au over 1.9 m.

Near the Akasaba mine (Au-Cu), drilling by **Alexandria Minerals Corporation** intersected low-grade mineralized horizons over considerable thicknesses, such as 1.01 g/t Au over 47.26 m (hole IAX-10-110).

At the Beaufor mine, **Richmont Mines** started the construction of a ramp to access the W gold zone, which occurs at a shallow depth near the mine.

Globex Mining Enterprises discovered a new gold zone through drilling on its Beacon East property. The best grade is 5.19 g/t Au over 2.9 m.

Malartic area

As part of its Marban Block Project, **Niogold Mining Corporation** and **Aurizon Mines** explored the area of the Marban deposit and the area between the Marban and Nolartic deposits. On the Marban deposit, hole MB-11-224 intersected 9.8 g/t Au over 5.8 m in the high-grade West Zone and hole MB-08-56ext intersected 5.9 g/t Au over 3.6 m in the down-dip East Zone.

As for **Osisko Mining Corporation's** Barnat Extension Project (Mammoth Zone), the gold mineralization intersected in drill holes lies within or just beyond the limits of the modelled pit in the eastern portion of the Barnat deposit. The best results include 126.5 m @ 1.7 g/t Au (hole BA11-4000).

Osisko Mining Corporation and **Abitibi Royalties** carried out a definition drilling program on the Jeffrey Zone of the Malartic CHL property. The best results included 1.5 g/t Au over 63.6 m (hole CHL10-2351).

Savant Exploration and **Globex Mining Enterprises** performed a drilling program with the aim of defining near-surface gold mineralization in the Discovery and No. 2 zones on the Parbec property. At the Discovery Zone, hole Par-11-01 intersected 24 m @ 1.03 g/t Au. Hole Par-11-03 graded 2.45 g/t Au over 7.5 m in the No. 2 Zone.

As part of its Malartic Block Project, **Niogold Mining Corporation** intersected the auriferous Ludovick shear zone, located 2.7 km west of the former Camflo mine. This zone yielded an interval grading 8.17 g/t Au over 3.1 m (hole CW-11-021).

Other areas

On the Trécesson property, **Knick Exploration** completed a shallow drilling program on the Cossette North and Cossette South zones. Results included 14.22 g/t Au over 3.8 m (hole REE-11-61).

Near the open-pit Barry mine, drilling by **Metanor Resources** intersected pyrite-pyrrhotite veins in wide deformation zones. The best grades included 2.36 g/t Au over 2.9 m (hole MB-10-516).

Nord-du-Québec region

Abitibi North area

East of Lebel-sur-Quévillon, **BonTerra Resources** confirmed the continuity of gold mineralization (24.78 g/t Au over 2.0 m and 7.32 g/t Au over 1.0 m; hole BA-11-34A) on its Eastern Extension Project.

On its Lac Windfall property, east of Lebel-sur-Quévillon, **Eagle Hill Exploration Corporation** announced indicated resources totalling 1.1 Mt @ 9.10 g/t Au and inferred resources of 1.69 Mt @ 6.70 g/t Au for the 17, Main, and East Extension zones. In addition to confirming the continuity of the 27, Mallard, and Caribou zones, they also discovered a new gold zone (7.47 g/t Au over 14.2 m: hole EAG-11-288) with a potential extension of 7 km.

As part of the Comtois Project, **Maudore Minerals** identified many new gold intersections in the Bell (158.5 g/t Au over 1.5 m: hole COM-11-573), Midway (127.5 g/t Au over 1.3 m: hole COM-11-651), Osborne, and Camten areas.

About 850 m west of the Lac Bachelor mine, between 100 and 330 metres below surface, **Metanor Resources** intersected several gold intervals in the Hewfran A West Zone, including 10.30 g/t Au over 7.89 m (hole B11-159).

Aurvista Gold Corporation intersected 8.4 g/t Au over 6.8 m (hole DO-11-61) along the eastern extension of the Zone 10 deposit (Douay Project).

At the Casa Berardi mine, **Aurizon Mines** continued exploring the depth extensions of the 123 and 148 zones, and continued its assessment of the open-pit potential of Zone 160 near the East mine facilities.

On the Martinière East property, **Balmoral Resources** identified four new gold zones and discovered a volcanogenic massive sulphide system.

Hole MDE-11-11 encountered 9.43 g/t Au over 7.19 m in the East Zone, and hole MDE-11-16 intersected 12.93 g/t Au over 9.33 m (zone ME-16).

Balmoral Resources announced the extension of the mineralized zone on its Martinière West property, as demonstrated by the results from hole MDW-11-41A, which intersected an interval of 164.0 m grading 0.84 g/t Au, including 4.24 g/t Au over 22.59 m.

On its Grasset property in the Detour-Sunday Lake deformation corridor, 8.8 km east of the Fenelon gold deposit, **Balmoral Resources** intersected a new gold zone grading 1.66 g/t Au over 33.0 m in hole FAB-11-44.

James Bay area

On its Clearwater Project, **Eastmain Resources** intersected new gold- and tellurium-bearing intersections in the GAP, 850 West, and 450 West zones, including 19.5 g/t Au and 23.0 g/t Te over 2.5 m (hole ER11-305: 850 West Zone). In addition, a resource update for the Clearwater deposit established measured and indicated resources of 3.35 Mt @ 5.39 g/t Au (632 000 ounces gold) and inferred resources of 5.3 Mt @ 5.96 g/t Au (1 020 000 ounces gold).

Virginia Mines obtained numerous gold-bearing intersections in the Jedi and Hope areas along a multi-kilometre corridor on the Lac Pau property. Hole PAU-11-040 intersected an interval grading 3.56 g/t Au over 5.5 m (including 12.05 g/t Au over 1.25 m) in the northeast extension of the Jedi showing.

Estrie region

Near Asbestos, drilling by **Bowmore Exploration** on the Wotton NW Zone (Saint-Victor property) returned grades between 0.21 and 0.35 g/t Au over lengths ranging from 18.0 to 115.0 m. The true minimum width is estimated to be 80 m. Elsewhere, drilling on the Wotton and Gérard zones yielded gold anomalies of 0.10 to 0.16 g/t Au over tens of metres, as well as an intersection of 0.21 g/t over 8 m.

Uranium

In the Otish sedimentary basin, drilling by **Strateco Resources** confirmed the presence of uranium mineralization between lenses MT-22 and MT-34 on the Matoush Project. Hole MT-11-004 intersected a grade of 0.82% U_3O_8 over 1.9 m at a vertical depth of 519 m.

Uracan Resources completed a resource calculation for its North Shore Project. The Double S Zone contains indicated resources of 21 504 000 tonnes @ 0.014% U_3O_8 and inferred resources of 59 960 000 tonnes @ 0.012% U_3O_8 (cut-off grade of 0.010% U_3O_8).

4.3 Nord-du-Québec (region 10)

Patrick Houle

This section presents on overview of all the exploration work carried out in the Nord-du-Québec region. Table 4.3 provides the descriptions of mineral exploration and deposit appraisal projects in the Superior and Churchill provinces that were the subject of work programs in 2011. The locations of these projects are shown on figures 4.1, 4.2 and 4.3.

As at December 31st, 2011, there were 148 831 active mineral exploration titles in the Nord-du-Québec region, compared to 139 442 active titles as at December 31st, 2010, for an increase of 6.7% (Table 2.1). Consequently, the Nord-du-Québec titles represent 60% of all exploration titles granted in Québec in 2011. In 2011, there were 228 exploration projects in this region, compared to 204 in 2010. This slight increase (10%) was mainly due to the rising number of gold and base metal projects in the Abitibi Subprovince, and iron exploration projects in the Labrador Trough.

There were four metal mines operating in the Nord-du-Québec region in 2011: two gold mines (Casa Berardi of **Aurizon Mines**, and Sleeping Giant of **North American Palladium**) and two polymetallic mines Perseverance (Zn-Cu-Ag-Au), **Xstrata Zinc Canada**, and Raglan (Cu-Ni-Co-PGE), **Xstrata Nickel Canada**. Several advanced exploration projects continued with deposit appraisal work: the Bracemac-McLeod project (Zn-Cu-Ag-Au) of **Xstrata Zinc Canada**, the Eleonore project (Au) of **Les Mines Opinaca** (**Goldcorp**), the Nunavik Nickel project (Cu-Ni-Co-PGE) of **Jien Canada Mining**, the Langlois mine project (Zn-Cu-Ag-Au) of **Nyrstar Canada Corporation**, the Vezza project (Au) of **North American Palladium**, and the Lac Bachelor mine project (Au) of **Metanor Resource**s.

Superior Province

In the Nord-du-Québec region, the Superior Province extends across the entire Baie-James region and much of Nunavik. The seven geological subprovinces in the Baie-James region are, from north to south: Bienville, La Grande, Eastmain, Opinaca, Nemiscau, Opatica, and Abitibi. The territory of Nunavik, north of the 55th parallel, is covered by nine geological subprovinces in whole or in part: Bienville, La Grande, Ashuanipi, Tikkerutuk, Lac Minto, Qalluviartuk, Goudalie, Utsalik, and Douglas Harbour. Comprising volcano-plutonic and sedimentary assemblages, the subprovinces of the Superior Province are transected by a series of shear zones trending E-W to WNW-ESE and NE-SW. Volcanic assemblages are metamorphosed to the greenschist facies in the centre, grading to upper amphibolite near their margins. These assemblages are intruded by a number of granitic intrusions assigned to various plutonic suites (Moukhsil *et al.*, 2003). The metamorphic grade in sedimentary assemblages ranges from amphibolite to granulite facies.

In the southern part of the Baie-James region, in the Abitibi Subprovince, the Matagami, Chapais, and Chibougamau mining camps continued to attract exploration companies in the search for base and precious metals, as did the known major deformation corridors, including the

Urban-Barry Volcanic Belt. Elsewhere, in the Lebel-sur-Quévillon–Desmaraisville area, exploration projects were largely focused on the search for gold with a growing interest in rare earth elements in the Grevet and Montviel townships. In the Near North, most fieldwork and surface activities were carried out around the Opinaca Reservoir and in the Nemaska, Monts Otish, and La Grande Belt areas. Finally, the Far North experienced a significant increase in the amount of exploration work for iron, copper, and nickel in the Labrador Trough.

Churchill Province

The Churchill Province lies in the north and northeast part of Nunavik. It mainly consists of Paleoproterozoic rocks of the New Québec (Labrador Trough), Torngat, and Ungava (Cape Smith Belt) orogens and their respective hinterland (the Core Zone, largely composed of Archean rocks [James *et al.*, 1996; Wardle *et al.*, 2002]).

New Québec Orogen

Also referred to as the Labrador Trough, or simply "the Trough", the New Québec Orogen ranges in age from 2.17 to 1.79 Ga and forms a fold and thrust belt along the margin of the Superior Province. The Trough is composed of rocks belonging to two volcano-sedimentary cycles and a third cycle of metasedimentary rocks (Clark and Wares, 2006). The main commodities of interest in the New Québec Orogen are iron, copper, nickel, platinum group elements (PGE), gold, and zinc.

Torngat Orogen and Core Zone

The Paleoproterozoic Torngat Orogen is bounded to the east by Archean rocks of the Nain Province and to the west by Archean and Paleoproterozoic rocks of the Core Zone. This orogen is divided into lithotectonic domains and complexes separated by ductile shear zones.

Located in the southeast part of the Churchill geological province, the Core Zone (formerly known as the Rae Province) lies between the Labrador Trough hinterland and the Torngat Orogen foreland. It is largely composed of Archean gneisses with bands of Paleoproterozoic supracrustal rocks. These rocks were subsequently deformed and metamorphosed during the Paleoproterozoic. The Core Zone is divided into a series of lithotectonic domains separated by wide deformation zones (Wardle *et al.*, 2002). The main commodities of interest in the Torngat Orogen and the Core Zone are uranium, diamonds, copper, and rare earth elements (REE).

Ungava Orogen

The Ungava Orogen (Ungava Trough or Cape Smith Belt) consists of a Paleoproterozoic volcano-sedimentary belt that stretches some 370 km along an ENE-WSW axis. The region is divided into four main tectonic units: a) the autochthonous Archean basement of the Superior Province; b) the allochthonous accretionary belt or Ungava Trough; c) the Paleoproterozoic Narsajuaq Terrane; and d) the parautochthonous Archean basement (Lamothe, 1994). The Ungava Trough continues to attract much attention from exploration companies searching for nickel, copper, cobalt, and platinum group elements (PGE), in addition to the expansion of the Raglan mine and the development of the Nunavik Nickel mining project.

Exploration outlook

Within the Nord-du-Québec region, the Abitibi Subprovince between the 49th and 50th parallels is renowned for its rich endowment in precious metal (Au-Ag) and polymetallic ore deposits (Cu-Zn-Au-Ag and Cu-Au) that gave rise to the Chapais, Chibougamau, and Matagami mining camps, However, recent mapping work in the Chapais-Chibougamau area by the Bureau exploration géologique du Québec (MRNF) tends to demonstrate the emergence of a promising corridor for orogenic gold exploration in the northern part of the Abitibi Subprovince, near the southern limit of the Opatica Subprovince. This corridor extends about 350 km from west (Detour East, Ontario) to east (Lac France-Faribault-Croteau corridor, Chibougamau), and appears to be associated with known gold showings and a distinct magnetic lineament.

In the Baie-James region, recent mapping by the MRNF in the Opinaca and La Grande subprovinces, combined with new airborne geophysical coverage in the central part of the territory, have defined new gold, polymetallic, diamond, and uranium targets.

In 2011, a number of companies performed major exploration work for iron, copper, nickel, platinum group elements (PGE), and rare earth elements (REE) in the Labrador Trough, along the Schefferville-Kuujjuaq axis. This work led to, among other findings, the confirmation of major iron resources, namely the Lac Otelnuk project of **Adriana Resources - Wisco**, the Kémag project of **New Millennium Iron Corporation - Tata Steel**, and the Hopes Advance project of **Oceanic Iron Ore Corporation**. Various companies also announced the drilling intersection of new iron zones. Finally, **Commerce Resources Corporation** published its first resource estimate for total rare earth oxides (TREO) on the Eldor project, establishing a new world-class area for rare earth element exploration in Québec.

4.4 Abitibi-Témiscamingue (region 08)

Pierre Doucet, James Moorhead, Denis Lesage and Suzanne Côté

The Abitibi-Témiscamingue administrative region is located in western Québec and comprises three major geological assemblages, which are, from north to south, the Abitibi and Pontiac subprovinces (Superior Province) and the Grenville Province.

The Abitibi and Pontiac subprovinces occupy the southern part of the Superior Province in Québec. The Abitibi Subprovince is the largest,

one of the most studied, and among the richest, Archean greenstone belts in the world. It comprises granitoid intrusions and volcano-sedimentary belts broadly trending E-W (Figure 4.4), ranging in age from 2.75 to 2.67 Ga. The Abitibi Belt is transected by several E-W or NW-SE-trending, generally reverse faults, as well as sinistral NE-trending and dextral SE-trending faults.

The Pontiac Subprovince is separated from the Abitibi Subprovince by the Cadillac Tectonic Zone, a structure that hosts many gold deposits. The Pontiac Subprovince comprises granitoid intrusions and orthogneisses in its central part, along with detrital sedimentary rocks and paragneisses with a few volcanic sequences. The latter form ultramafic, mafic, and felsic assemblages in the southwest part of the subprovince. A few thin bands of mafic to ultramafic volcanic rocks are also present along its northern edge.

The Grenville Province is separated from the Pontiac and Abitibi subprovinces by the Grenville Front, a NE-trending tectonic zone characterized by a steep metamorphic gradient toward the SE. The Grenville is composed of Archean and Proterozoic orthogneisses, intrusive rocks, metasedimentary rocks, and migmatites.

The Abitibi Subprovince is renowned for the great number and richness of its precious metal (Au-Ag) and polymetallic mines (Cu-Zn-Au-Ag and Cu-Au). A few metal deposits, architectural stone quarries, and industrial mineral deposits (lime, quartz, kyanite, mica, garnet) are also exploited in the Pontiac Subprovince. Mining and exploration have made this territory one of the most important mining regions in Québec for close to a century.

Table 4.4 provides a description of exploration and deposit appraisal projects in the Abitibi and Pontiac subprovinces and in the western Grenville Province. Figures 4.4, 4.5 and 4.6 show the locations of these projects.
In 2011, eight metal mines were in operation in the Abitibi-Témiscamingue region, namely one polymetallic mine (LaRonde [Au-Zn-Cu-Ag-Pb], **Agnico-Eagle Mines**) and seven gold mines:

- Kiena (Au-Ag), **Wesdome Gold Mines**;
- Lac Herbin (Au-Ag), **Alexis Minerals Corporation**;
- Beaufor (Au-Ag), **Richmont Mines**;
- Mouska (Au-Cu-Ag), **IAMGOLD Québec Management**;
- Goldex (Au-Ag), **Agnico-Eagle Mines**;
- Canadian Malartic (Au-Ag), **Osisko Mining Corporation**;
- Lapa (Au-Ag), **Agnico-Eagle Mines**.

Several major exploration projects took place at these mines or in close proximity.

As at December 31st, 2011, there were 38 951 active exploration titles in the Abitibi-Témiscamingue region, which represents an increase of 18.1% relative to 2010 (Table 2.1). In 2011, the number of exploration projects stood at 187, compared to 186. Most of the exploration work targeted gold mineralization along major tectonic breaks, such as the Porcupine-Destor Fault and the Cadillac Fault. Seven new resource estimates were performed for the following advanced exploration or deposit appraisal projects:

- Duquesne-Ottoman project, **Xmet**;
- Joanna project, **Aurizon Mines**;
- Monique project, **Richmont Mines**;
- Lamaque property, **Integra Gold Corporation**;
- Lamaque mine (in development), **Century Mining Corporation**;
- Lapaska Central Zone, **Adventure Gold** and **Mazorro Resources**;
- Brosnor project, **Upper Canyon Minerals Corporation**;
- Destiny project (DAC ore deposit), **Pacific North West Capital Corporation, Next Gen Metals** and **Alto Ventures**.

Over the course of the year, interest for rare earth metal exploration grew in the Kipawa area of the Témiscamingue region in response to the publication of a new resource calculation for the Zeus project (Matamec Explorations).

Work on known lithium deposits and showings in the Preissac-La Corne area continued all through 2011, in parallel with construction work on the Québec Lithium deposit by **Canada Lithium Corporation**.

4.5 Regions of Québec outside Abitibi-Témiscamingue and Nord-du-Québec

Suzie Nantel, Steve Ouellet, Louis Madore, Pierre Doucet and Denis Lesage

This section of the report deals with all of the administrative regions of Québec except Abitibi-Témiscamingue (08) and Nord-du-Québec (10). Most of these regions are underlain by three geological provinces: the Grenville, the Appalachians, and the St. Lawrence Platform (Figure 4.7).

The Outaouais (07), Laurentides (15), Mauricie (04), Saguenay–Lac-Saint-Jean (02), and Côte-Nord (09) administrative regions, as well as parts of the Lanaudière (14) and Capitale-Nationale (03) regions, are primarily located within the Grenville Province (Figure 4.7). This geological province is mainly composed of Archean and Proterozoic orthogneisses, intrusive rocks, metasedimentary rocks, and migmatites that were affected by a series of magmatic and tectonic events, starting with the Labradorian orogeny (1710-1600 Ma) and ending with the Grenvillian orogeny (1090-980 Ma). The Grenville is a good place to search for copper, nickel, platinum, palladium, zinc, uranium, iron, titanium oxide, niobium, tantalum, and rare earth elements (REE), as well as for industrial minerals (quartz, mica, graphite) and architectural stone.

The Estrie (05), Bas-Saint-Laurent (01), and Gaspésie–Îles-de-la-Madeleine (11) administrative regions, as well as parts of the Montérégie (16), Chaudière-Appalaches (12), and Centre-du-Québec (17) regions, are for the most part located within the Appalachian Province (Figure 4.7). This geological province is composed of Phanerozoic sedimentary, volcanic, and intrusive rocks that were emplaced and deformed during the Taconian (460-440 Ma), Acadian (410-380 Ma), and Alleghanian (320-220 Ma) orogenies, although the effects of the latter are mostly restricted to the east-central and southeastern United States. Exploration companies are attracted to the Appalachian Province for its copper, zinc, silver, gold, chromium, and aluminous clay potential, whereas companies that have long been active in the non-metallic sector continue to develop and extract its industrial minerals (chrysotile, talc, quartz, halite, clay), construction materials, aggregates, and architectural stone, as well as natural gas, brine, and peat.

Finally, the Montréal (06) and Laval (13) administrative regions, as well as parts of the Centre-du-Québec (17), Lanaudière (14), Mauricie (04), and Capitale-Nationale (03) regions, belong to the St. Lawrence Platform (Figure 5.6). This geological province is composed of undeformed limestone and sandstone deposited during Cambrian (544-500 Ma) and Ordovician time (500-440 Ma). It is mainly characterized by its industrial and building stone resources (limestone, dolomite, sandstone), and for its natural gas potential.

In 2011, exploration work was carried out in most of these administrative regions. The description of exploration activities in the search for metals, industrial minerals, and industrial stone are presented in Table 4.5, and their locations are shown in Figure 4.7. Oil & gas exploration, which is quite active in the St. Lawrence Platform and Appalachian geological provinces, is not discussed in this report.

EXPLORATION WORK IN THE GRENVILLE PROVINCE: OUTAOUAIS (07), LAURENTIDES (15), MAURICIE (04), CAPITALE-NATIONALE (03), SAGUENAY–LAC-SAINT-JEAN (02) AND CÔTE-NORD (09)

In 2011, exploration for zinc was reported in the Outaouais region, as was the search for copper, niobium, and rare earth elements in the Laurentides region. A number of projects were abandoned or suspended following the introduction of Bill 14, which includes provision 91 prohibiting mineral exploration in areas dedicated to recreational tourism. Other projects are at the consultation phase with Native communities, municipalities, or landowners. By the end of the year, four companies had acquired several graphite properties in the Outaouais and Laurentides regions. The renewed interest in this commodity is due to new applications, namely in the field of batteries (lithium-ion batteries, fuel cells), and the solar energy and nuclear energy sectors. The market is also growing for traditional graphite applications, such as steel and the automotive industry. These demands partly explain the 32% increase in the number of claims in the Laurentians in 2011, compared to data from 2010. In all, 3976 claims were active in the Outaouais region in 2011, representing an increase of 49% relative to 2010 (Table 2.1). Some of the new claims are registered for copper, nickel, and rare earth elements (REE).

In the Mauricie region, exploration work focused on the development of two phlogopite (mica) properties in the area of the Lac Letondal mica mine, about 14 km northwest of the small locality of Casey. Approximately 90 km west of La Tuque, an exploration project is focusing on an alkaline granite associated with REE geochemical anomalies.

In the Capitale-Nationale region, the main mineral activity is the development of architectural stone projects in the MRC of Portneuf. The company **Bordures Polycor** will invest more than a million dollars to diversify production at its Rivière-à-Pierre plant, by developing a range of new architectural stone products.

In the Saguenay–Lac-Saint-Jean region, several exploration projects for industrial and strategic minerals are underway, particularly the phosphorous exploration project in the Pipmuacan Reservoir area. On this same subject, in November 2011, **Arianne Resources** announced that the prefeasibility study for its Lac à Paul project has confirmed the viability of an open pit mine with a lifespan of 25 years. The company is continuing its development of the deposit.

North of Lac Saint-Jean, **MDN** is proceeding with deposit appraisal work at its tantalum and niobium on its Crevier project by investing in a feasibility study that started in March 2010. The company also carried out exploration work to extend the mineralized zone.

Also in the Saguenay–Lac-Saint-Jean region, **IAMGOLD Corporation** announced that it has completed a premilinary economic assesment for the expansion of its Niobec mine. The company also carried out exploration work for rare earth elements in the vicinity of the mine. In the same area, **Dios Exploration** explored for niobium and rare earth elements in the Shipshaw Carbonatite Complex. A former iron and titanium deposit in the Saint-Charles area, on the north shore of the Saguenay, was re-assessed for its rare earth element and vanadium potential, whereas in the northwest part of the region, at the boundary between the Grenville and Superior geological provinces, several projects are actively exploring for gold, copper, and uranium.

In the Côte-Nord region, the number of exploration titles in 2011 increased by 9% relative to the previous year (Table 2.1). Exploration focused on iron in the Fermont area (projects 27, 29 and 30), on iron-titanium-vanadium to the northwest of Baie-Comeau (projects 22, 23 and 24) and on rare earth elements in the areas northeast of Sept-Îles and east of Natashquan (projects 31, 33 and 35). Four companies announced a new resource calculation for their respective

projects: **Argex Silver Capital** (La Blache project), partners **Champion Minerals** and **Fancamp Exploration** (Fermont project), **Focus Metals** (Lac Knife project) and **Uracan Resources** (North Shore project) (Table 4.5).

EXPLORATION WORK IN THE APPALACHIAN PROVINCE: ESTRIE (05), CENTRE-DU-QUÉBEC (17), CHAUDIÈRE-APPALACHES (12), BAS-SAINT-LAURENT (01) AND GASPÉSIE–ÎLES-DE-LA-MADELEINE (11)

In 2011 in the Estrie region, the number of claims saw very little change compared to the previous year (Table 2.1), still covering 37% of the total surface area of the region. The most active companies in 2010 were again the most active in 2011, whether exploring for low-grade high-tonnage gold deposits, or for copper and zinc associated with gold.

In the Chaudière-Appalaches region, exploration continued to focus on gold, particularly in the sedimentary Appalachian rocks along the Baie Verte–Brompton Line. Gold-bearing paleoplacers were also the target of exploration activities.

In 2011, slate quarries were still active in the Saint-Marc-du-Lac-Long area of the Bas-Saint-Laurent region. New slate beds suitable for quarrying are sought after in this region.

In the Gaspésie region, base and precious metals were the target of exploration work in the northwest part of the Chic-Chocs wildlife reserve and near the former Gaspé Mines smelter at Murdochville. In November 2011, **Orbite Aluminae** announced it had received a favourable preliminary assessment for its metallurgical alumina plant project at Cap-Chat. Exploration work was also carried out on red argillite deposits in the Grande-Vallée area.

Figure 4.1 - **Exploration projects in the Nord-du-Québec, Nunavik territory, in 2011.**

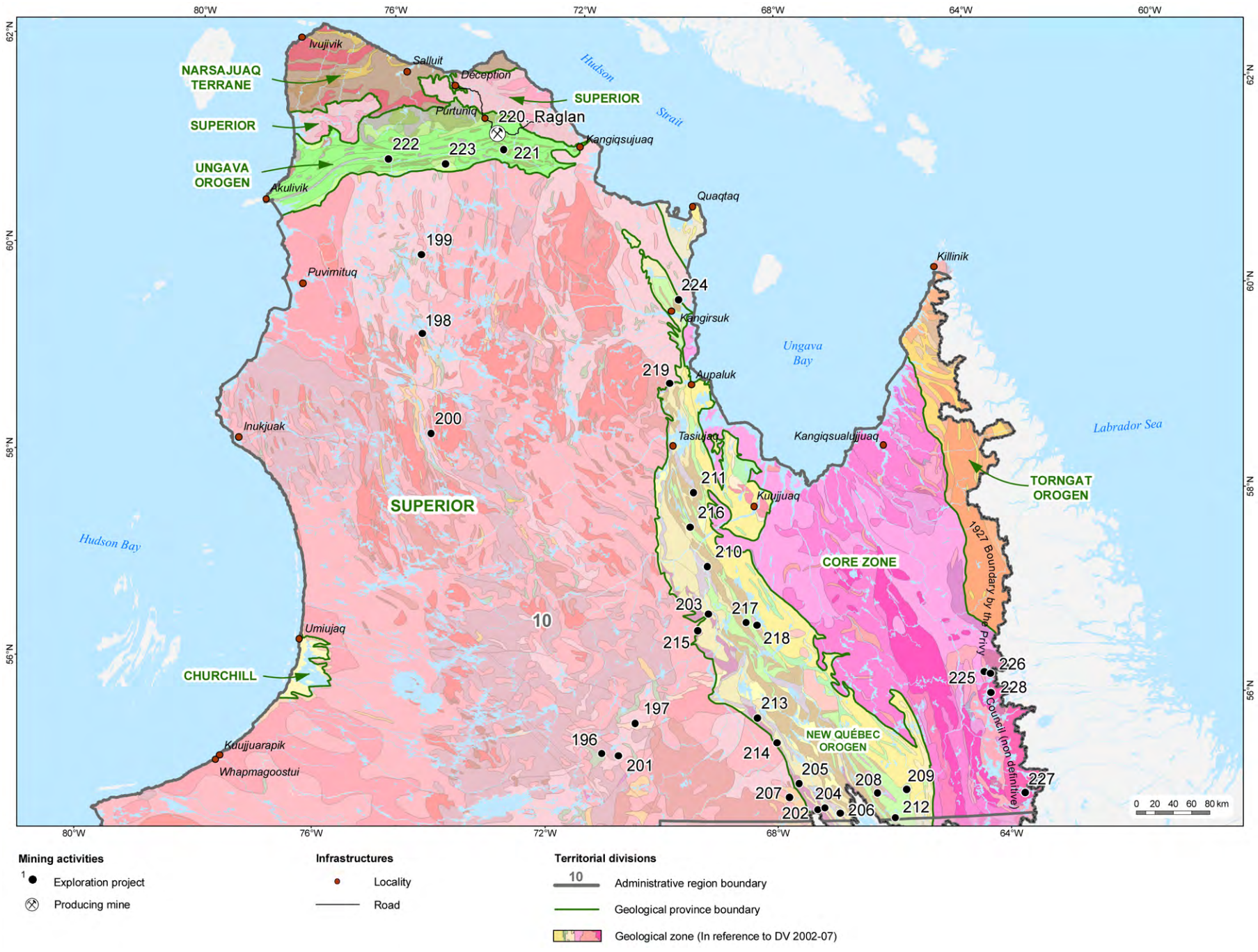


Figure 4.2 - **Exploration projects in the Nord-du-Québec, Baie-James territory, in 2011.**

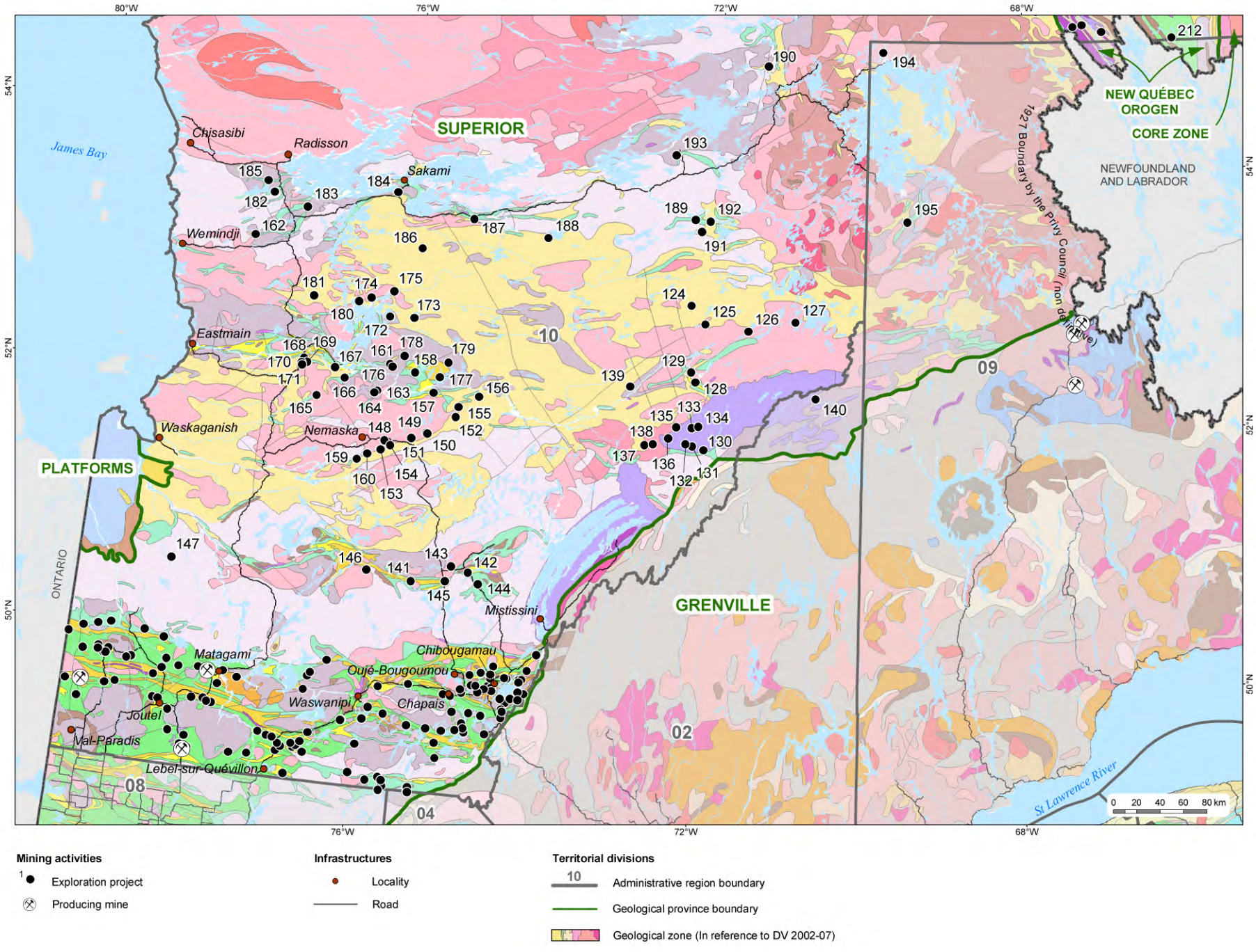


Figure 4.3 - **Exploration projects in the Nord-du-Québec, Matagami-Chibougamau sector, in 2011.**

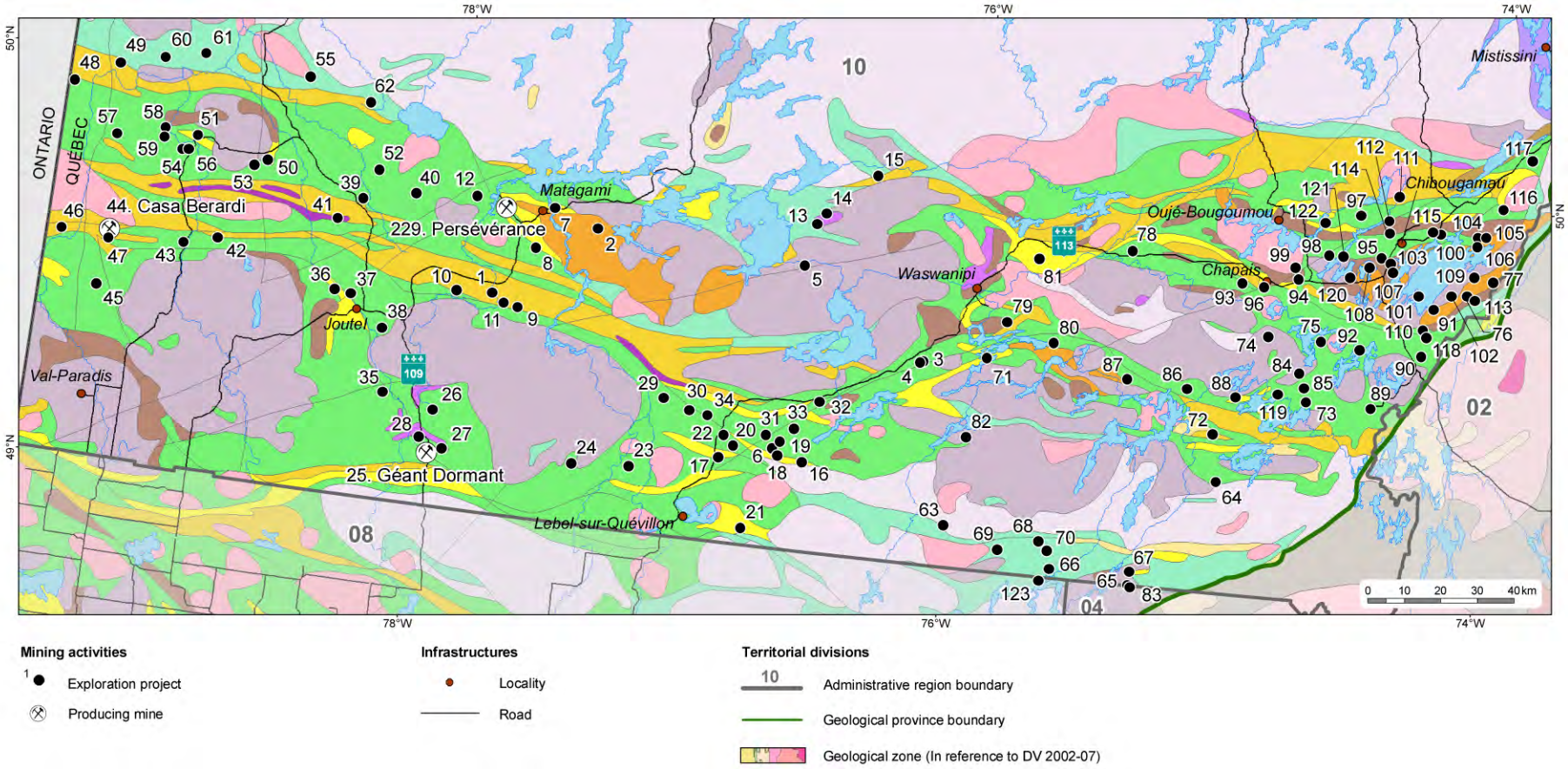


Figure 4.4 - **Exploration projects in Abitibi-Témiscamingue in 2011.**

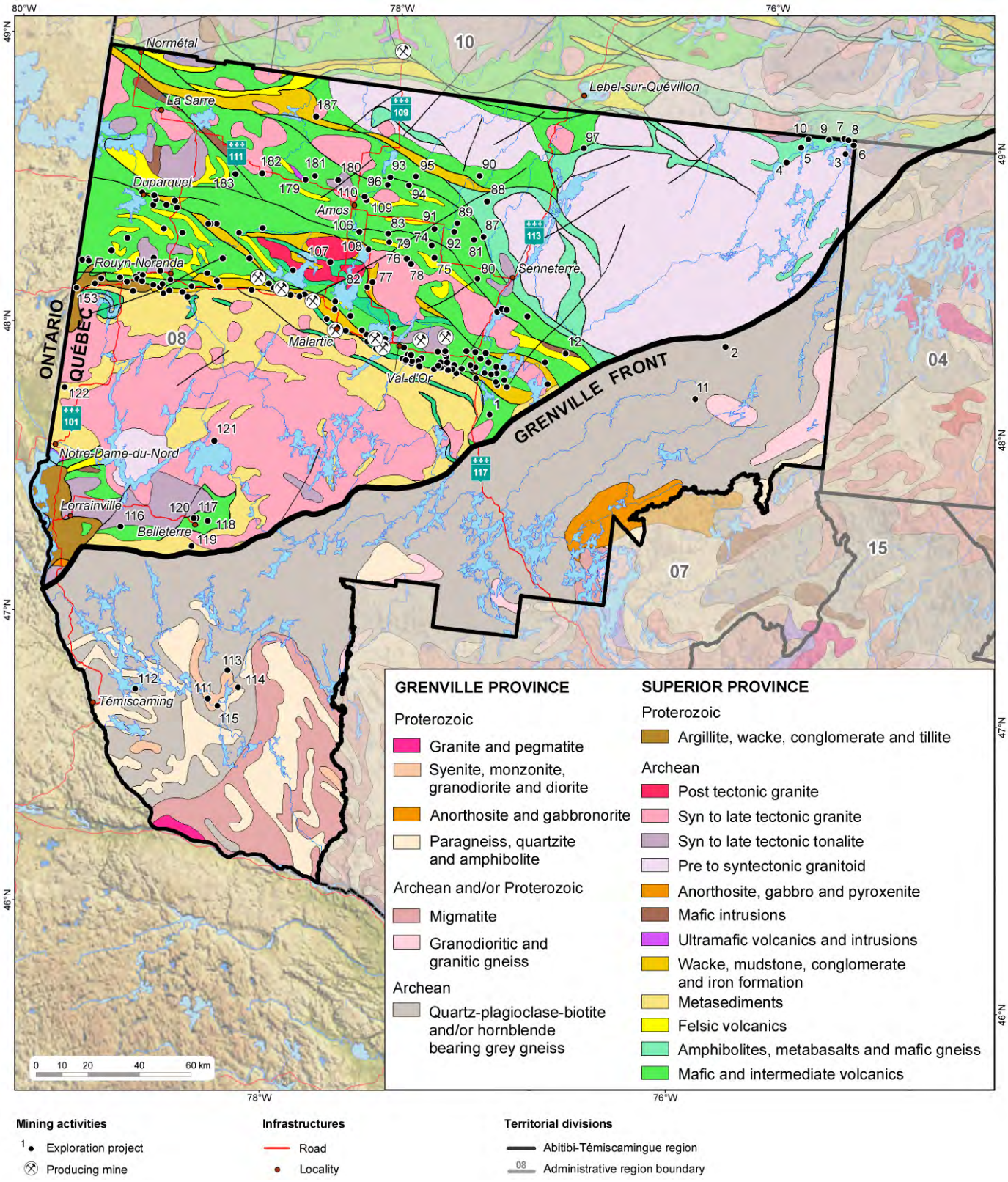


Figure 4.5 - **Exploration projects in Abitibi-Témiscamingue, Rouyn-Noranda–Cadillac sector, in 2011.**

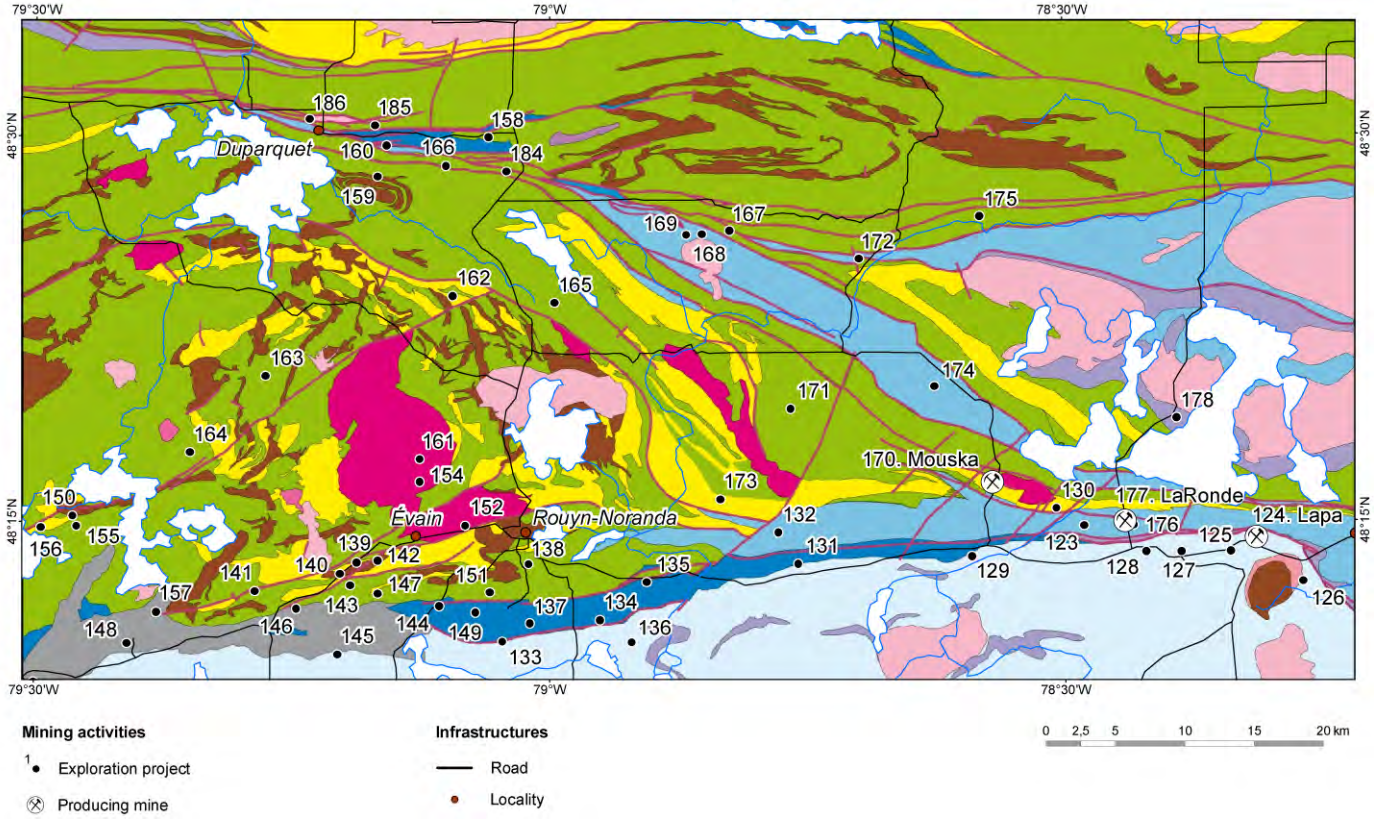


Figure 4.6 - **Exploration projects in Abitibi-Témiscamingue, Malartic–Val-d'Or sector, in 2011.**

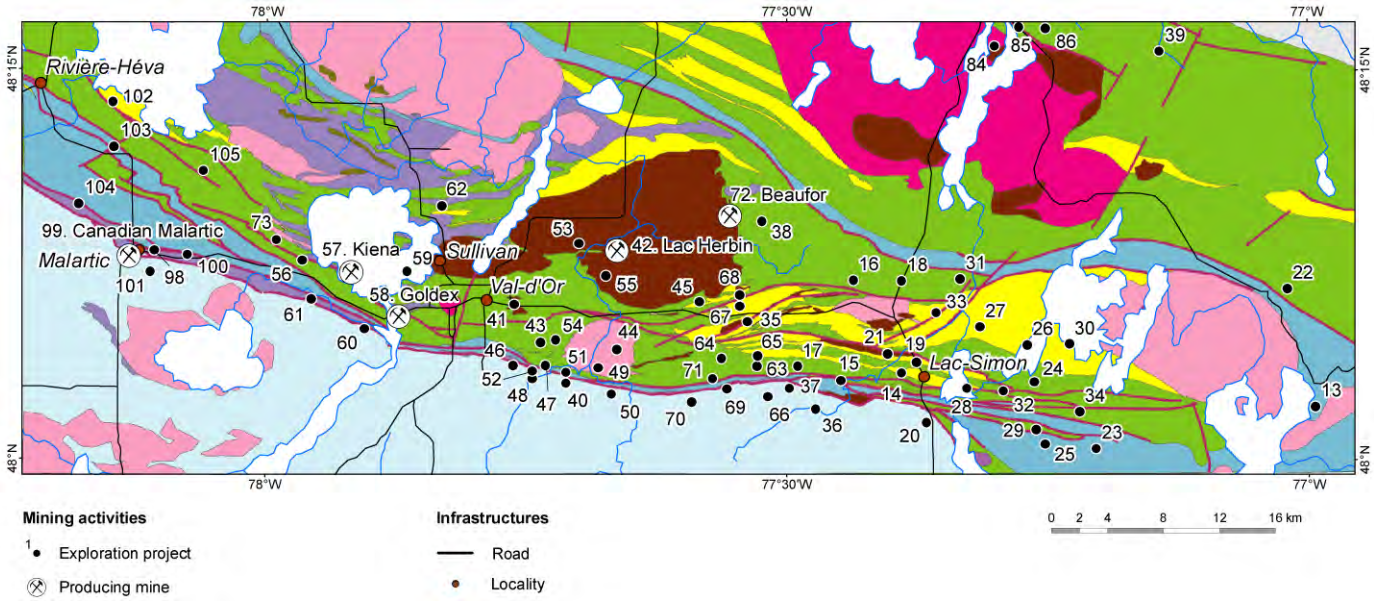


Figure 4.7 - **Exploration projects in Québec's administartive regions except Abitibi-Témiscamingue and Nord-du-Québec, in 2011.**

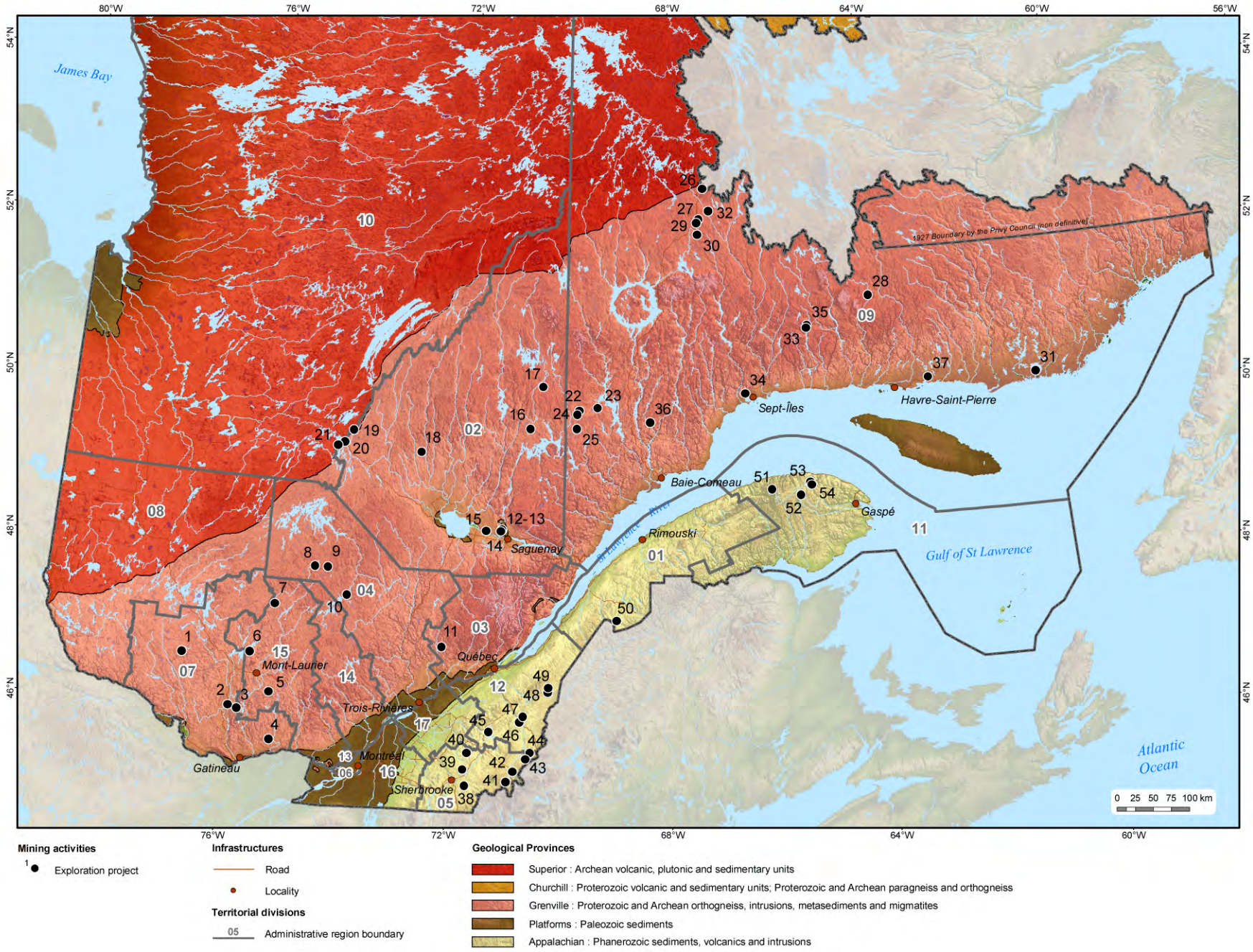


TABLE 4.1 - **Exploration and development expenditures in $M for Québec.**

SUBSTANCES	2005	2006	2007	2008	2009	2010
Precious metals	116	145	226	263	231	277
Base metals	53	71	118	122	59	87
Diamonds	23	29	27	13	10	14
Ferrous metals	1	22	29	24	15	32
Uranium	4	22	71	87	48	41
Lithium	-	-	-	0.2	6.4	20.0
Rare earth elements	-	-	-	1.3	2.8	16.4
Other substances	8	6	5	15	7	24
Total	**205**	**295**	**476**	**526**	**379**	**512**

Source: *Institut de la statisque du Québec*

TABLE 4.2 - **Distribution of exploration and mining development expenditures by administrative region.**

ADMINISTRATIVE REGIONS	EXPENDITURES FOR 2009 (in M$)	EXPENDITURES FOR 2010 (in M$)	% OF TOTAL EXPENDITURES FOR 2010
01 Bas-Saint-Laurent	c	c	-
02 Saguenay–Lac-Saint-Jean	7.6	5.7	1.1 %
03 Capitale-Nationale	c	0.02	0.005 %
04 Mauricie	1.1	0.3	0.1 %
05 Estrie	0.5	2.9	0.6 %
06 Montréal	-	-	-
07 Outaouais	0.3	0.9	0.2 %
08 Abitibi-Témiscamingue	166.4	181.7	35.5 %
09 Côte-Nord	13.5	45.4	8.9 %
10 Nord-du-Québec	184.8	261.3	51.1 %
11 Gaspésie–Îles-de-la-Madeleine	1.9	7.0	1.4 %
12 Chaudière-Appalaches	1.8	5.4	1.1 %
13 Laval	-	-	-
14 Lanaudière	-	c	-
15 Laurentides	1.1	0.5	0.1 %
16 Montérégie	c	c	-
17 Centre-du-Québec	-	c	-
Total	**379.3**	**511.6**	**100 %**

c: confidential data
Source: *Institut de la statisque du Québec*

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
1	**32F12**	**Vezza, Noyon**	**North American Palladium / Mines Agnico-Eagle**	**Vezza Gold**	**Au**	**B (40 000:x), D (117:18 703), Pr, Met, Re, Dewatering**
	Project description: A new resource estimate for the Vezza deposit established measured and indicated resources totalling 1714 Mt @ 5.8 g/t Au (320 900 ounces) and inferred resources of 0.633 Mt @ 5 g/t Au (102 100 ounces). The cut-off grade was 3.0 g/t Au. Drill holes intersected gold mineralization beyond the envelope used for the resource calculations. The best result consisted of 8.6 m grading 14.6 g/t Au (hole V-10-210). Dewatering of the 740-m shaft is complete. Underground rehabilitation and bulk sampling (40 000 metric tonnes) started in 2011.					
2	32F11, 12	Lozeau, Comporté, Galinée, Isle-Dieu	Apella Resources	Iron-T (Audand option)	Fe-Ti-V	D (19:2821), GpMa(G), Re, TE
	Project description: Apella Resources confirmed the presence of iron-vanadium-titanium mineralization over a distance of 22.5 km and published an updated resource (inferred resource of 14.37 Mt @ 27.3% Fe, 0.42% V_2O_5 and 6.55% TiO_2).					
3	**32F08, 09**	**Le Sueur**	**Metanor Resources**	**Bachelor Lake Mine**	**Au**	**B (5000:X), D, FM**
	Project description: The shaft was deepened to 163 m. The development of three new levels and the extraction of a 5000-tonne bulk sample are planned for 2012. Based on the 2005 resource calculation and using a cut-off of 3.43 g/t Au, the estimated proven and probable resources are 843 772 t @ 7.38 g/t Au (200 177 ounces of gold) for the Bachelor and Hewfran zones. At 850 metres to the west of the Lac Bachelor mine, between 100 and 330 metres below surface, several gold-bearing intervals were detected in the Hewfran A-West Zone, including 10.30 g/t Au over 7.89 m (hole B11-159).					
4	32F08, 09	Le Sueur	Metanor Resources	Zone 3 (Hewfran)	Au	D (33:7388)
	Project description: In 2010, the surface discovery of a gold shear zone (Zone 3), 2 km west of the Bachelor mine mill, returned up to 14.80 g/t Au in grab samples. The mineralization consists of quartz-tourmaline-pyrite veins, oriented east-west. In 2011, drill holes cut the shear zone over a length of 250 m and up to a depth of 80 m. The best results for the holes were 1.42 g/t Au to 8.48 g/t Au over lengths of 0.95 m to 8.5 m.					
5	32F10	Ailly, Vignal	Atocha Resources	Tresor Sud	REE	TE
6	**32F02, 07**	**Grevet**	**Nyrstar Canada Corporation**	**Langlois Mine**	**Zn-Cu-Ag**	**D, TE**
	Project description: The mine closed in November 2008. In 2010-11, development work on two access ramps in zones 3, 4 and 97, and exploration drilling, all still underway at the mine, should allow commercial production to start up again in 2012.					
7	32F12, 13	Isle Dieu	Xstrata Zinc Canada Corporation / Donner Metals	Flanc Nord (Radiore, Lac Garon, and Bell Channel)	Zn-Cu-Au-Ag	D (8:x)
	Project description: In the area of the former Radiore mine, hole DR-11-05 cut 1.8 m of massive pyrrhotite with traces of chalcopyrite. Grades were 0.04% Zn, 0.70% Cu, 0.05 g/t Au, and 2.2 g/t Ag. In the Lac Garon area, hole GL-11-15 intersected massive sulphides over 1.05 m (4.94% Zn, 0.20% Cu, 2.95 g/t Ag and 0.02 g/t Au).					
8	**32F12**	**Galinée**	**Xstrata Zinc Canada Corporation / Donner Metals**	**South Flank (including Bracemac-McLeod)**	**Cu-Zn-Au-Ag**	**FM, TE, Ramp**
	Project description: The construction of the Bracemac-McLeod mine started on July 9, 2010. According to the feasibility study, the proven and probable resource is 3.73 Mt @ 9.60% Zn, 1.26% Cu, 28.25 g/t Ag and 0.43 g/t Au. The mine will operate for 4 years at a production rate of 2500 t/d. The estimated inferred resource for the McLeod Deep Zone is 2.47 Mt @ 9.21% Zn, 1.22% Cu, 39.81 g/t Ag and 1.12 g/t Au. This new zone occurs at the Key Tuffite stratigraphic marker horizon. Excavation of the ramp continued in 2011, and by early December, it was more than 2300 m long.					
9	32F05, 12	Noyon	Balmoral Resources / American Bonanza Gold Corporation	N2 (Noyon-Northway)	Au	GpEm(A,G), GpMa(A)
10	32F12	Vezza	Abcourt Mines	Vezza	Au	D (5:1218)
11	32F12	Noyon, Vezza	Vior Mining Exploration Company	Vezza-Noyard	Au	D (x:x), Gs(sl)
12	32F12, 13	Daniel, Cavalier	Xstrata Zinc Canada Corporation / Donner Metals	Central Camp (DJV, West New Hosco and Allard River)	Zn-Cu-Au-Ag	D (8:x)
13	32F15	Montviel	Canada Rare Earths	Goéland	REE	D (14:4050), TE

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

N°	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
14	32F15, 16	Montviel, Urfé	GeoMegA Resources / Niogold Mining Corporation	Montviel	REE-Nb	D (22:9100), Met, Min, Pg, Re,T,TE
	Project description: The following were calculated for the Montviel carbonatite: indicated resources of 183.9 Mt @ 1.45% total rare earth oxides ($TREE_2O_3$) including 0.24% Nd_2O_3, 0.0072% Y_2O_3 and 0.12% Nb_2O_5, and inferred resources of 66.7 Mt @ 1.46% $TREE_2O_3$, including 0.24% Nd_2O_3, 0.0078% Y_2O_3 and 0.14% Nb_2O_5. The second phase of the drilling program extended the main zone by at least 300 m to the west with hole MVL-11-21, which returned 0.89% $TREE_2O_3$ including 0.12% Nd_2O_3. Preliminary metallurgical tests on a 600-kg sample of ferro-carbonatite drill core are underway.					
15	32F16	Monseignat	Atocha Resources	Tresor Nord	REE	GpEm(G), GpMa(G), Gs(h)
16	32F01,02	Mountain	Nyrstar Canada Corporation	Orphée	Cu-Zn-Au-Ag	D (x:18 386), GpEm(A)
17	32F02	Franquet, Grevet	Nyrstar Canada Corporation	Rivière Wedding	Au	D (x:1695), GpEm(G), S
18	32F02	Grevet, Mountain	Nyrstar Canada Corporation	Grevet B	Zn-Cu-Ag-Au	D (35:x)
19	32F02, 07	Duplessis, Grevet	Nyrstar Canada Corporation	Langlois North	Zn-Cu-Ag-Au	GpEm(G), S
20	32F02	Grevet	Amex Exploration	Cameron	Au	D (4:927)
	Project description: In 2010, stripping work revealed a gold-bearing structure comprising a sheared and altered (pyrite-sericite) quartz-feldspar porphyry intrusion. A channel yielded 1.07 g/t Au over 2.3 m. In 2011, hole CA-11-02 intercepted the structure (1.1 g/t Au over 7.5 m, including a section grading 4.1 g/t Au over 1.5 m).					
21	32F02	Verneuil	Viking Gold Exploration / Golden Tag Resources	Verneuil	Au	D (22:4200), G, GpEl(G), GpMa(G), Pr, S,T
	Project description: Trench excavation and channel sampling activities were carried out on the Toussaint, Benoist and JD showings. The best results were 15.3 g/t Au for the Toussaint showing, 1.70 g/t Au over 2.0 m for the Benoist showing, and 0.301 g/t Au over 1.0 m for the JD showing. Five shallow holes were drilled over the Toussaint showing, with the best result being 7.74 g/t Au over 1.0 m (hole VP-11-03).					
22	32F02, 07	Grevet, Franquet	Kirrin Resources / M. Proulx	Grevet ETR	REE	D (15-25:1500-2500), G, GpGr(G), GpMa(G), Gs(sl,h), Pr, S, T,TE
	Project description: A sampling program identified several rare earth showings. One sample, taken from a carbonatite dyke, returned 20% total rare earth oxides ($TREE_2O_3$) of which light rare earth (La, Ce, Pr, Nd, Sm) oxides account for almost the entire amount. On other showings, 4 samples returned more than 10% $TREE_2O_3$ and 10 samples between 1 and 10% $TREE_2O_3$.					
23	32F03, 04	Comtois, Fraser, Quévillon, Cramolet, Themines	Maudore Minerals	Comtois (North Shore, Comtois SW, Bell, Osborne)	Au-Zn-Cu-Ag	D, Env, Met, Re, TE
	Project description: In 2010, a new resource estimate was completed for 17 distinct gold zones. From surface to a depth of 150 m, the inferred resource is 4.87 Mt @ 3.2 g/t Au (504 384 ounces) using a cut-off grade of 1.0 g/t Au. Below a depth of 150 m, the inferred resource is 3.25 Mt @ 6.8 g/t Au (1 212 793 ounces) using a cut-off grade of 4.6 g/t Au. In 2011, many new gold-bearing intersections were reported for the Bell (158.5 g/t Au over 1.5 m; hole COM-11-573), Midway (127.5 g/t Au over 1.3 m; hole COM-11-651), Osborne and Camten areas.					
24	32F03, 04	Cramolet, Comtois, Themines, Fraser, Fonteneau, Barrin	Midland Exploration / North American Palladium	Laflamme	Au-Ag-Ni-Cu-PGE	D (5:1784), GpEm(A,G), GpMa(G)
	Project description: A drilling program was carried out to test the VTEM geophysical anomalies. At a depth of 60 m, hole LA-11-08 cut sulphide minerals occurring as disseminations, veins and semi-massive bodies in a sequence of ultramafic rocks. Grades are 0.66% Ni, 0.35% Cu, 0.17 g/t Pt, 0.16 g/t Pd, 0.11 g/t Au and 1.4 g/t Ag over 8.0 m. Hole LA-11-11 intercepted a new gold zone (9.71 g/t Au over 1.0 m). Mineralization consists of quartz-pyrite veins (2-3%) cutting an altered shear zone in the core of a gabbro.					

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
25	32F04	Chaste, Glandelet	North American Palladium	Sleeping Giant Mine	Au-Ag	D (7:3000), GpEl(G), Rcd(x:x), Re; Shaft deepening (200 m)
	Project description: The first gold pour took place on October 6, 2009. Underground production gradually increased until the start of commercial production on January 1, 2010. In 2011, the production shaft was deepened by another 200 m and the development of three new levels began. Drill holes intersected the extensions of zones 20, 30, 30W and 8N18, and cut new zones (106DL, 117RB and Zlam H East); ex: 16.1 g/t Au over 1.6 m (hole 66-1018-10; zone 117RB).					
26	32F04	Soissons	J.Frigon	Soissons	Cu	Pr
27	32E01, 32F04	Maizerets, Chaste, Glandelet, Soissons	North American Palladium	Dormex	Au	D (7:3000), GpEl(G), Rcd(x:x)
28	32E01, 32F04	Maizerets, Chaste, Soissons	North American Palladium	Harricana North	Au	D (6:2965)
29	**32F06**	**Bruneau, Desjardins**	**North American Palladium**	**Discovery**	**Au**	**D(18:7438), Re**
	Project description: Drilling extended the mineralized zone. Results included 9.5 g/t Au over 1.0 m (hole B-10-181).					
30	32F06, 07	Desjardins	North American Palladium / Canadian Royalties	Cameron Shear	Au	D (x:1800), Gp(G)
31	32F07	Grevet	Nyrstar Canada Corporation	Grevet A	Zg-Ag	GpEm(G), S
32	32F07	Duplessis	Nyrstar Canada Corporation	Duplessis	Au	GpEl(G), GpEm(G), S
33	32F07	Duplessis, Mountain	Nyrstar Canada Corporation	Duplessis-Mountain	Au	D (x:3000), GpEm(B)
34	32F07	Desjardins	North American Palladium	Flordin	Au	B (10 000:x), D (36:4858), Re, TE
	Project description: A resource update was performed; the measured and indicated resource is 2796 Mt @ 1.8 g/t Au (162 035 ounces gold), and the inferred resource is 1916 Mt @ 1.59 g/t Au (97 651 ounces gold).					
35	32E08, 09	Douay, Joutel	Aurvista Gold Corporation / Vior Mining Exploration Company	Douay, Douay-Ouest, Douay-Est, Bloc Joutel	Au	*Douay O: D (x:12 000), GpEl(G), GpMa(A); Zone 10 : D (16:6329), Re, 3D*
	Project description: A new resource estimate for the Douay West deposit was completed in 2010, establishing a measured and indicated resource of 313 000 t @ 7.75 g/t Au (78 000 ounces) and an inferred resource of 267 000 t @ 8.53 g/t Au (73 232 ounces). In 2011, hole DO-11-61 cut 8.4 g/t Au over 6.8 m in the eastern extension of the Zone 10 deposit on the Douay Project. Gold mineralization in Zone 10 occurs at the contact between siltstones and mafic volcanics along a vertical, east-west shear zone.					
36	32E08, 09, 10	Joutel, Valrennes, Douay	Mines d'Or Visible / Mines Agnico-Eagle	Joutel Extension	Au-Cu-Zn-Ag	D (27:7500), TE
37	32E09	Joutel	Vanstar Mining Resources	Joutel	Cu-Zn-Au-Ag	D (x:750)
38	32E09	Sauvé	Ressources Explor / 3421856 Canada	Sauvé	Cu-Zn-Au-Ag	D, G, Gp, Pr, TE
39	32E09, 16	Joutel, Aloigny, Bapst, Ste-Hélène	Exploration Midland	Valmond	Au	GpMa(A), TE
40	**32E09, 16**	**La Gauchetière**	**Xstrata Zinc Canada Corporation / Donner Metals**	**West Camp (including PD1)**	**Zn-Cu-Au-Ag**	**D (2:x), FM, Re**
	Project description: A resource estimate for the PD1 deposit established measured resources of 0.6 Mt @ 4.34% Zn, 0.83% Cu, 19.59 g/t Ag and 0.12 g/t Au, from 25 to 100 metres below surface. A feasibility study is underway for an open-pit mine. From a depth of 25 to 515 m, measured and indicated resources amount to 1737 Mt @ 4.55% Zn, 1.16% Cu and 19.88 g/t Ag . Mineralization is present as massive sulphides, mainly pyrite, accompanied by sphalerite, chalcopyrite and pyrrhotite.					

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
41	32E09, 10	Montgolfier, Aloigny, Orvilliers, Puiseaux	Barlow Exploration	Iron Hills	Fe	D (25:5559), GpEl(G), GpMa(G,3D)
42	32E10	Estrées, Estrades, Orvilliers	Cogitore Resources	Estrades	Zn-Cu-Au-Ag	Pr, TE
43	32E10, 11	Estrées	Cogitore Resources / IAMGOLD Corporation	Caribou	Zn-Cu-Au-Ag	D (4:1055), GpEm(B,G), Gs(r),TE
44	32E11	Casa Berardi	Aurizon Mines	Casa Berardi Mine	Au	EF, Er, Gp, D (49:11 500)
	Project description: A drilling program explored zones 123 and 148 at depth, as well as the open-pit potential of Zone 160, which occurs near the infrastructure of the East mine. Work to deepen the shaft of the West mine has begun. Reserves were increased by 44%, prolonging the life of the mine from six to ten years. Proven and probable reserves are: 4057 Mt @ 7.7 g/t Au (1005 million ounces of gold) underground, and 3796 Mt @ 3.7 g/t Au (452 000 ounces of gold) for the open pit.					
45	32E11	Casa Berardi, Collet, Laberge	Seagreen Capital Corporation / Explorers Alliance Corporation	Casa Berardi North	Au	GpEm(A)
46	32E11	Dieppe	Agnico-Eagle Mines	Dieppe	Au	D (x:4340)
47	32E11	Casa Berardi	Antoro Resources	Golden Knight	Au-Ni-Cu-Pb	Gs
48	32E13, 14	Massicotte	Detour Gold Corporation	Massicotte	Au	GpEl(G), Pr
49	32E13, 14, 32L03, 04	Massicotte, Manthet, Martigny, La Peltrie	Balmoral Resources / Radisson Mining Resources	Detour East (Massicotte-Gignac)	Au-Cu-Zn-Ag	D (5:1200), GpEl(G), GpMa(G), Pr
	Project description: The aim of a drilling program was to test geophysical (IP: induced polarization) anomalies. No significant mineralization was encountered.					
50	32E15	Beschefer	SOQUEM	Beschefer	Cu-Au-Zn-Ag	GpEl(G)
51	32E14, 15	Brouillan	SOQUEM	Wagosic	Cu-Au-Zn-Ag	GpEl(G)
52	32E15	Bapst, Ste-Hélène, La Gauchetière	SOQUEM / Nyrstar Canada Corporation	Samson	Cu-Au-Zn-Ag	GpEm(G)
53	32E15	Beschefer	Seagreen Capital Corporation / Explorers Alliance Corporation / Lateegra Gold Corporation	Beschefer (B-14)	Cu-Au-Zn-Ag	D (5:1520), GpEl(G), GpMa(G),TE
	Project description: Drill holes intersected the B-14 Zone, which consists of altered and sheared volcanic rocks with local concentrations of quartz veins and pyrite enrichment. The best result was 3.80 g/t Au over 4.35 m (hole BE11-001).					
54	32E14, 15	Brouillan, Carheil	Exploration NQ	Carheil	Cu-Zn-Au-Ag	D (15:5133), GpEm(B), S,TE
	Project description: At the Ag1 Zone, drill holes encountered altered (silica, albite) and mineralized (silver-zinc, locally copper and gold) felsic volcanics. Mineralization presents as pyrite, brown sphalerite, and traces of galena, systematically occurring around the chloritized core of an alteration pipe. The best intersections include 0.87% Zn, 231.7 g/t Ag and 0.26 g/t Au over 7.0 m within a mineralized envelope of 0.47% Zn and 23.4 g/t Ag over 140.85 m (hole CA-2011-14).					
55	32E15, 32L02	Fenelon, Caumont, Jérémie, Gaudet	Balmoral Resources	Fenelon	Au-Ni	D (35:13000)
	Project description: A drilling program extended the limits of the gold mineralization at the Fenelon Zone to a depth of 250 m, more than 100 m deeper than before. The best results include 3.65 m grading 11.37 g/t Au for Vein D (hole FAB-11-25). The Fenelon Zone consists of a series of subvertical veins (A to F) occurring within, and adjacent to, an ultramafic intrusion.					
56	32E14, 15	Brouillan	Xstrata Canada Corporation / Virginia Mines	Puiseaux Creek	Zn-Cu-Au-Ag	D (6:3390), GpEm(B), Gs(r), TE
57	32E14	Carheil, Enjalran	Harmony Gold Corporation Canada / F. Valiquette	Foubert Lake	Zn-Cu-Au-Ag	TE

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
58	32E14	Carheil, Brouillan	Cogitore Resources	Selbaie West	Zn-Cu-Au-Ag	GpEm(G), Pr, TE
59	32E14	Carheil	NQ Exploration / D'Arianne Resources	Brouillan (West)	Zn-Cu-Au-Ag	D, Gp
60	32E14,15, 32L02, 03	Martigny, La Peltrie, Lanouiller	Midland Exploration / Osisko Mining Corporation	Casault, Casault West, Casault South	Au	D (3:669), G, GpEm(A), GpMa(A), TE
61	32L02, 03	La Martinière, Lanouiller, Martigny	Balmoral Resources / Amercian Gold Bonanza Corporation	Martinière (East and West)	Au-Cu-Zn-Ag	D(43:15 000), GpEl(G), GpEm(A), GpMa(A,G), TE
	Project description: Drill holes extended the Martinière West Zone, and returned gold grades over a distance of 380-m and to a depth of 170 m. Hole MDW11-01 cut 72.0 m grading 2.4 g/t Au, including a section of 12.0 m grading 11.18 g/t Au. The zone occurs in a gabbro intrusion, at the contact between felsic lavas and sedimentary rocks, within a deformation zone. Gold mineralization is associated with the silicified, tourmalinized and sulphidized rocks of this deformation zone. In the Martinière East area, four new gold zones and a volcanogenic massive sulphide system were identified. Hole MDE-11-11 returned 9.43 g/t Au over 7.19 m, and hole MDE-11-16 yielded 12.93 g/t Au over 9.33 m.					
62	32E15, 16, 32L01	Grasset, Du Tast, Subercase, Fenelon	Balmoral Resources	Grasset	Au	D (4:1100), GpEm(A), GpMa(A)
	Project description: The company intersected a new gold zone along the Detour-Lac Sunday deformation corridor, 8.8 km east of the Fenelon gold deposit. The new zone graded 1.66 g/t Au over 33.0 m in hole FAB-11-44. The gold mineralization occurs in a 50-m wide gabbro zone, cut by quartz-carbonate veins.					
63	32F01, 32G04	Effiat	Semeco	Urban	Au	G, Pr, S
64	32G02, 03, 06, 07	Lespinay, Hazeur, Druillettes, Pambrun, Machault, Langloiserie, Bressani	Northerrn Superior Resources	Surprise Lake	Au	GpMa(A), Gs(sl), Pr
65	32G03, 32B14	Buteux	L. Desgagné	Concession	Zn-Au	S, T
66	32G04	Urban	Amseco Exploration / Beaufield Resources	Rouleau Lake	Au	D (6:1950), GpEl(G), GpMa(G), Met, Re, T
67	32G03	Buteux	Hinterland Metals	Fecteau Lake	Au-Cu-Zn-Ag	GpEl(G)
68	32G04	Urban	Eagle Hill Exploration Corporation / Noront Resources / Ressources Murgor / Cliffs Natural Resources	Windfall Lake	Au	D(x:16 400), G, GpEl(G), Re, S, T, TE
	Project description: Eagle Hill Exploration announced indicated resources totalling 1.1 Mt @ 9.10 g/t Au and inferred resources of 1.69 Mt @ 6.70 g/t Au in the 17, Main and East Extension zones, and also confirmed the discovery of a new gold zone (7.47 g/t Au over 14.2 m; hole EAG-11-288) with the potential to extend for 7 km and possibly connect with the 27, Mallard and Caribou zones.					
69	32G04	Urban, Carpiquet	Amseco Exploration	Urban-Barry	Au-Cu-Zn	D (6:2400), GpEl(G), GpMa
	Project description: Hole RL11-01 intersected a highly silicified zone cut by veins of white or black quartz, which can be correlated with Zone 18. The best values included 4.01 g/t Au over 1.33 m within an interval of 20.33 m at 0.842 g/t Au.					
70	32G04	Urban	Alto Ventures	Alcudia	Au	D (11:1688)
	Project description: A drilling program designed to test IP (induced polarization) geophysical anomalies was completed. The IP anomalies were mostly explained by the presence of sulphides, mainly pyrite and pyrrhotite. Gold was detected in one hole (0.235 g/t Au over 1.0 m).					
71	32G05, 12	Lespérance, Gand, Le Sueur	Northern Superior Resources / Explorations Matamec / Corporation IAMGOLD	Wachigabau	Au-Cu-Zn-Diamant	D (5:1600)
	Project description: In 2010, a drilling program began with the aim of defining the gold-bearing structures previously identified in historical drill holes. The best intersections were 1.69 g/t over 0.82 m (hole LS10-020) and 0.56 g/t Au over 0.8 m (hole LS10-018). Additional holes were drilled in late 2011. Results are expected in 2012.					

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
72	32G06, 07	Gradis, Druillettes	Paget Minerals Corporation	Lac Doda	Au	D (2:x)
73	32G07, 10	Rale, Hazeur, Gamache	Visible Gold Mines	Hazeur	Au	D (5:x)
74	32G10	Rale, Brongniart, Lescure, Brochant	Fieldex Exploration / L. Desgagné	Moly-Desgagné (Lac Sébastien)	Mo-REE	D (5:640)
75	32G10	Brongiart, Rale, Fancamp, Hauy	Northern Superior Resources / G.L. Géoservice / M. Bouchard	WinWin	Au	Pg
76	**32G09, 16, 32H13**	**Lemoine, Rinfret, Dollier**	**Blackrock Metals**	**Blackrock**	**Fe-V-Ti**	**D (77:20 803), Env, FM, Met**
	Project description: South of Chibougamau, Blackrock Metals completed a feasibility study on the Blackrock iron-vanadium-titanium project.					
77	32G16, 32H13	Rinfret	Apella Resources	Lac Doré	Fe-V-Ti	TE
78	32G13, 14	Lamarck	Northern Superior Resources	Lamarck Creek (Lac des Orignaux)	Au-Ag	D (2:x), Gs(r), Gs(sl), Rcd (40:x)
79	32G12	Gand	NQ Exploration / Globex Mining Enterprises	Lac Shortt	Au-REE	D (3:393), Gp, S, T, TE
	Project description: A drill hole cut through two gold zones consisting of quartz vein injection zones in a sheared, carbonatized and weakly hematized mafic volcanic with 4-6% disseminated pyrite. Grades are 6.4 g/t Au over 1.2 m and 11.55 g/t Au over 1.3 m.					
80	32G12	La Ronde, La Roncière	Active Growth Capital / Diagnos	Wachigabau	Cu-Au	TE
81	32G13	La Ribourde	Ressources Metchib	Ruisseau des Alouettes	Cu-Zn-Au-Ag	Pg
82	32G05, 32F08	Margry, Le Tac	Fieldex Exploration / L. Desgagné	Nicobi	Cu-Ag-Au	D (4:1500), GpEl(G), GpEm(G), S, TE
83	32G03, 32B14	Buteux	L. Desgagné	Buteux	Au	S, T
84	32G10	Rale	Stellar Pacific Ventures / 9148-5706 Québec / G.L. Géoservice / M. Bouchard	Monster Lake	Au	D (24:2400), G, S, T, TE
	Project description: Started in 2010, a major stripping and channelling program was carried out on the Mégane showing, which consists of a mineralized and altered shear zone injected with black quartz veins. In drill holes, the best results were 76.53 g/t Au over 2.0 m (hole M-24-11) and 19.37 g/t Au over 2.0 m (M-37-11) below Showing 325.					
85	32G10	Rale	Northcore Resources / Vanstar Mining Resources	Little Monster	Au	Pr, TE
86	32G06, 11	Drouet, Gradis, Druillettes	Cartier Resources	Diego	Au	D (8:1914), GpMa(A)
87	32G11	Guercheville	SOQUEM	Fenton	Au	GpEl(G), S, T
88	32G07	Druillettes, Lescure	Ressources Metchib	Windy Lake	Cu-Zn-Au-Ag	Pg
89	32G08	Rohault, La Dauversière	Legault Métal	Joe Mann	Au-Cu-Ag	Met, R, TE
90	32G09	Charron, Dollier, La Dauversière, Queylus	D'Arianne Resources	R-14 (La Dauversière)	Au-Ag	S, T
91	32G09	Lemoine	Nuinsco Resources	Corner Bay	Cu-Ag	D (1:x), GpEm(B)
92	32G09, 10	Fancamp, Queylus, La Dauversière, Hauy	Tawsho Mining	Chevrier	Au	TE
	Project description: In 2010, a new resource estimate for the Chevrier deposit established inferred resources of 4.6 Mt @ 1.99 g/t Au (295 000 ounces) from surface to a depth of 250 m. The cut-off grade was 1 g/t Au. Gold-bearing mineralization is present as quartz-ankerite-pyrite veins cutting gabbros and volcanic rocks. The compilation and integration of geoscientific databases continued in 2011.					

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

N°	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
93	32G14, 15	Daubrée	2736-1179 Québec	Cavan Lake	Au-Cu-Zn-Ag	D (1:350)
94	32G15	Lévy	Pro Minerals	Lac Laura	Cu-Au-Ag	D (4:477), S,T
	Project description: Many channel samples returned significant results for structures trending N/NE, NW, and E-W, including 11.30 g/t Au, 5.50 g/t Ag and 0.07% Cu over 0.80 m and 21.86 g/t Au, 10.80 g/t Ag and 0.21% Cu over 1.0 m.					
95	32G16	Obalski	Pro Minerals	Copperville	Cu-Au-Ag	Pg, S
96	32G15	Lévy	M. Bouchard / G.L. Géoservice	Phoenix	Cu-Zn-Au-Ag-Co	S,T
97	32G15, 16	Barlow, Mckenzie	Northern Superior Resources / M. Bouchard / G.L. Géoservice	Croteau East	Au	D (12:3000), G, GpEl(G), GpMa(A,G), Pr, S,T,TE
	Project description: Visible gold was observed in three places down hole CRO11-05, which was drilled about 125 metres south of Trench #1 (Dede Zone: 3.23 g/t Au over 12.3 m in a channel; and Marco Zone: 2.11 g/t Au over 11.0 m in a channel).					
98	32G15	Scott, Lévy	Cogitore Resources	Scott Lake	Zn-Cu-Au-Ag	D (20:8036), G, GpEm(B,G), Gs(r), Re
	Project description: A new estimate of inferred resources was completed and includes eight lenses and two zones of mineralized veinlets: 5.447 Mt @ 1.2% Cu, 4.6% Zn, 0.2 g/t Au and 34 g/t Ag. Definition drilling in the central lens intersected two massive sulphide horizons. Among the best results were 5.0 m grading 12.3% Zn, 3.0% Cu, 74.0 g/t Ag and 0.3 g/t Au (hole SC-64).					
99	32G15	Lévy	2736-1179 Québec	Barrette North	Au-Ag-Cu-Zn	D (2:550), T
100	32G16	Roy	Xmet / Prodigy Gold	Roy	Cu-Au-Ag	D (2:800)
101	32G09,16	Obalski, Lemoine	Western Troy Capital Resources	Chibougamau Copper Lake	Cu-Ag-Au-Mo	D (1:792)
	Project description: South of Lac Chibougamau, Western Troy Capital Resources reported an intersection of 2.4% Cu over 3.3 m, at a vertical depth of about 420 m, within a copper-silver-gold-molybdenum porphyry-type system.					
102	32G16	Lemoine	2736-1179 Québec	Des Îles Lake	Au-Fe-V-Ti	D (4:1000), TE
103	32G16	Obalski	2736-1179 Québec	Porcupine Mount	Au-Cu-Fe-V-Ti	D (3:900), TE
104	32G16	Roy	2736-1179 Québec	Taché O'Leary Lake	Cu-Zn-Au-Ag	D (7:2000)
105	32G16	Roy	2736-1179 Québec	Lempira « AG »	Ag	D (4:900), TE
106	32G16	Roy	2736-1179 Québec	Taché Lake VMS	Cu-Zn-Au-Ag	D (19:6300), Pr, T,TE
107	32G15, 16	Obalski, Scott	2736-1179 Québec	Caché Lake-Obalski	Au-Cu-Fe-Ti-V	D (2:740)
108	32G15, 16	Scott, Obalski	2736-1179 Québec	David Lake	Au-Fe-V-Ti-P	D (6:900), Pr,TE
109	32G16	Lemoine	2736-1179 Québec	Chibougamau Lake	Fe-V-Ti	D (2:500), TE
110	32G09	Obalski, Scott	2736-1179 Québec	Queylus	Cu-Au-Ag	D (1:x)
111	32G15, 16, 32J01, 02	Barlow. Blaiklock, McKenzie, Richardson	Murgor Resources	Waconichi	Au	D (5:1000), G, GpEl(G), Gs(t), Pr
112	32G16	Mckenzie	Globex Mining Enterprises	Berrigan	Zn-Au-Ag-Co-Pb	TE
113	32G09, 16, 32 H13	Lemoine, Rinfret	Cogitore Resources	Lemoine	Cu-Zn-Au-Ag	D (1:685), GpEm(B), Gs(r)
114	32G16	McKenzie	SOQUEM / MDN	McGold (MOP II)	Au-Cu	D(14:3118), GpEl(G)
	Project description: The first holes drilled near the centre of the McGold deposit encountered gold mineralization at shallow depths. Results included 1.18 g/t Au over 54.5 m (hole 1206-10-32).					
115	32G16	McKenzie	SOQUEM	Bruneau	Cu-Au	D (1:423), GpEl(G)

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

N°	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
116	32G16, 32H13, 32I04, 32J01	McCorkill	Typhoon Exploration	Monexco	Au-Ag	D (6:x)
117	32I04	Bignell, O'sullivan	Fuhua Mining	Bignell	Cu-Au-Ag	Pg, S
118	32G09	Dollier, Queylus	Golden Valley Mines	Jolt	Au-Ag-Cu-Zn	Gp
119	32G10	Hauy	Golden Valley Mines	Cataract	Cu-Ni-PGE	Pg
120	32G15	Scott	Golden Valley Mines	Bearmac	Au	Pg
121	32G15	Scott	Golden Valley Mines	Bejopipa	Au-Ag-Cu-Zn	D, Pg
122	32G15	Barlow	Golden Valley Mines	Kharlamov	Au-Ag-Cu-Zn	Pg
123	32B13	Barry	Golden Valley Mines	Lac Barry	Au	Gp
124	**33A16**		**Stornoway Diamond Corporation / SOQUEM**	**Renard**	**Diamond**	**Env, FM**
	Project description: The joint venture completed a feasibility study, as well as a study on the environmental and social impacts of the Renard diamond project.					
125	33A10, 15, 16, 33H01, 23D12,13		Dios Exploration	33 Carats	Diamond	Gp
126	23D11, 12, 14		Dios Exploration	14 Karats	Au-diamond	G, Gs(t), Pr
127	23D10, 15		Dios Exploration	Carbon 14	Nb-REE	Gs(t)
128	33A07, 08		Eastmain Resources	Eastmain Mine	Au-Ag-Cu	D (28:13062), G, Pr
	Project description: Hole EM-11-52 intersected two gold zones in the A Zone, including 5.04 g/t Au and 0.38% Cu over 2.0 m at a down-hole depth of 424 metres, and 5.84 g/t Au and 0.26% Cu over 5.5 m at a depth of 443 metres. Many of the drill intersections confirmed the lateral and depth extensions of the A, B and C zones that constitute the gold deposit of the mine.					
129	33A08		Dios Exploration	33 Carats South	Au	Pg
130	32P16, 22M13		Cameco Corporation / AREVA Resources Canada	Camie River	U	D (4:1084), G, GpEm(A), GpMa(A), Gs(sl), Qs
131	32P16, 22M13		Cameco Corporation	Otish South	U	D(8:4213), G, GpEm(A), GpMa(A), Gs(sl), Qs
132	33A01		Ditem Explorations	Henri Lake	REE	G, GpRa(G), Pr, S
	Project description: Grades of up to 1.99% total rare earth oxides were obtained from channel samples (0.5-1 m each), and up to 0.29% total rare earth oxides from grab samples, taken from a felspar-quartz pegmatite with thorium and urano-thorium minerals.					
133	32P16, 33A01		Strateco Resources	Matoush	U	D (42:24 103), GpRa(G), Pg, Re
	Project description: Uranium mineralization was confirmed between lenses MT-22 and MT-34, as demonstrated by hole MT-11-004 which returned 0.82% U_3O_8 over 1.9 metres, at a vertical depth of 519 metres. A new resource estimate was published for the project: indicated resources of 453 000 t @ 0.78% U_3O_8 (zones AM-15 and MT-34) and inferred resources of 2 041 000 t @ 0.43% U_3O_8 (zones AM-15, MT-02, MT-06, MT-22, MT-34, MT-36).					
134	32P16, 33A01		Strateco Resources	Matoush Extension	U	GpRa(G), Pg
135	32P16		Strateco Resources	Éclat	U	GpRa(G), Pg

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TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
136	32P16		Strateco Resources / Pacific Bay Minerals	Pacific Bay	U	D (10:5510), Pg
	Project description: Discovery of a uranium-bearing structure known as "Faille Alfred", displaying similar geology and alteration as the Matoush Fault at the Matoush Project (deposit) located 5 km to the southwest.					
137	32P07, 10, 14, 15, 16		Strateco Resources / Majescor Resources	Mistassini	U	D (5:467), GpRa(G), Pg
138	32P10, 15, 16, 22M13, 33A01		Dios Exploration	Hotish	U-REE	G, Pr, S,T
	Project description: Discovery of a mineralized lens, along a north-south structure, which yielded 0.621% U_3O_8 over 3.0 m, including 1.85% U_3O_8, 0.5% Pb, 0.17% Cu, 0.5% V over 1.0 m for channel sampling (Godzilla trench).					
139	**33A02**		**Western Troy Capital Resources**	**Lac Macleod**	**Cu-Mo-Ag-Au**	**D (3:402), Env, FM**
	Project description: The company commenced a feasibility study and an environmental and social impact study for the project in view of exploiting it as an open-pit mine.					
140	23D02		Virginia Energy Resources	Otish	U-Au	D (13:1959), Gs(sl), Pr,T
	Project description: Hole 2011-04 on the Lac Castor showing in the Peribonka claim block returned 0.10% U_3O_8 over 9.0 m, including 0.188% U_3O_8 over 3.0 m.					
141	32J11		Monarques Resources	Sirmac	Li	G
142	32J09, 10, 11, 15, 16, 32O01		Beaufield Resources / Melkior Resources	Troilus JV	Cu-Zn-Au-Ag-Li	D (25:4261), GpEl(G), Met, Pr
143	32J14, 15, 32O02		Habanero Resources	Lezai	Cu-Zn-Au-Ag	G, Pr, S
144	32J10		Landore Resources Canada	Lessard	Cu-Zn-Au-Ag	G, Gs(r)
145	32J11		Atocha Resources	Descouverte	Cu-Zn-Au-Ag	GpEm(A), GpMa(A)
146	32K09		Canadian Royalties	Huskies-Wildcats-Tiger-Rampard	Cu-Ni-PGE	GpEm(A), GpMa(A)
147	32L09		M.G. Drapeau / Somdra	Suzane	Au	Pg, S,T
148	**32O12**		**Nemaska Lithium**	**Whabouchi**	**Li-Rb-Be**	**D (41:9260), FM, Met, Re**
	Project description: Nemaska Exploration announced measured and indicated resources of 25 Mt @ 1.54% Li_2O and 140 ppm Be for the Whabouchi Project.					
149	32O11, 12, 14		Monarques Resources	Nisk (Lac Levac)	Cu-Ni-Co-PGE-Au	D (9:2972), G, GpEl(G), GpEm(B), GpMa(G),T
150	32O11, 12, 14		Monarques Resources	Lemare	Cu-Ni-PGE-Au	D (2:498), GpEm(A), GpMa(A)
151	32O14		Monarques Resources	Arques	REE-Nb-Ta	D (6:1577), GpRa(G)
	Project description: Discovery of a new syenodiorite intrusive complex containing rare earth elements, as validated by hole RUP-11-05 in which a 1.0-metre interval contained 1.50% total rare earth oxides.					
152	32O14,15		Monarques Resources	Bourier	Cu-Zn-Pb-Ag-Au	D (15:2214), G, GpEm(A), GpMa(A), Gs(sl), Pr, S,T
	Project description: Hole BOU-11-09 confirmed a SEDEX-type zinc-silver mineralized zone, returning 1% zinc over 1.0 metre.					

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TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

N°	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
153	32O12		Monarques Resources	Duval	Cu-Ni-Co-PGE-Au	D (6:1338), GpMa(G)
154	32O12, 32N09		Monarques Resources	Valiquette	Cu-Ni-PGE	D(14:2672), GpEm(A,B), GpMa(A,G), Pr
	Project description: Drill intersections of 2.66% Ni and 0.7% Cu over 3.2 m, and 1.15% Ni and 0.39% Cu over 8.3 m, were reported in peridotite intrusions at the contact of volcanogenic sedimentary rocks of the Lac des Montagnes Formation.					
155	32O11, 33B03		Monarques Resources	Amiral	Cu-Ni-Zn-Au	GpEm(A), GpMa(A)
156	33B02		Monarques Resources	Rosebay	Cu-Zn-Au	GpEm(A), GpMa(A)
157	33B02, 03, 04		Goldcorp / Azimut Exploration	Wabamisk	Au-Ag-Cu-Zn-Pb-Mo	Pg, S,T
158	33B04, 05		Eastmain Resources	Clearwater	Au-Bi-Te	D (68:26 323), G, Gs(sl), Pr, Re, S,T
	Project description: Drilling by Eastmain Resources intersected new gold- and tellurium-bearing intersections in the GAP, 850 West and 450 West zones, including 19.5 g/t Au and 23.0 g/t Te over 2.5 m (hole ER11-305 in the 850 West Zone). In addition, an update of the mineral resource for the Clearwater Project established measured and indicated resources of 3.35 Mt @ 5.39 g/t Au and inferred resources of 5.3 Mt @ 5.96 g/t Au.					
159	32N07, 08, 09		Monarques Resources	Caumont	Cu-Ni-PGE	G, GpEm(A), GpMa(A), Pr, S,T
160	32N09		Monarques Resources	Dumulon	Cu-Zn-Ag	GpEm(A), GpMa(A)
161	33C01, 33B04		Dios Exploration / Osisko Mining Corporation	AU33 West	Au	G, Gs(t), Pr
162	33F04		Eastmain Resources / Honeybadger Exploration	Radisson	Au	GpMa(G), Gs(r), Gs(t), Pr, S
163	33C01		Jourdan Resources	Pivert East / Stairs	Li-REE	D (20:3053)
	Project description: Drill holes passed through numerous spodumene-bearing pegmatite dykes under the Lamothe showing, including hole PIV-11-15 that returned values of 0.625% Li_2O and 1183 g/t Rb over 2.3 metres.					
164	**33C01**		**Critical Elements Corporation**	**Rose**	**Li-Ta**	**D (75:12 000), G, Met, Pr, Re, S, TE**
	Project description: Critical Elements Corporation published the results of a new independent resource evaluation for its Rose Project in the Baie-James region. The Rose deposit contains indicated resources of 26.5 Mt @ 0.98% Li_2O and 163 ppm Ta_2O_5, and inferred resources of 10.7 Mt @ 0.86% Li_2O and 145 ppm Ta_2O_5.					
165	32N14, 15, 16, 33C01, 02		Sirios Resources / Dios Exploration	Pontax	Au-Ag-Cu-Zn-Pb-diamond	D (12:1683)
166	33C01, 02		D'Arianne Resources / Virginia Mines	Opinaca	Au-Cu-Zn	Gs, Pg
167	33C01, 02, 07		Virginia Mines	Anatacau / Wabamisk	Au	D(6:1272), G, GpEl(G), GpMa(G), Gs(t), Pr, S,T
	Project description: Discovery of a dozen new surface gold showings, mainly in the northeast part of the property.					
168	**33C03**		**Lithium One / Galaxy Resources**	**James Bay Lithium**	**Li**	**FM**
	Project description: Start of a definitive feasibility study for the project.					

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N°	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
169	33C03		J.P. Frigon	Lithium	Li-Au	Pg
170	33C02, 03, 06, 07		RockTech Lithium	Kapiwak	Li-REE	GpEm(A), GpMa(A), GpRa(A)
171	33C03		Y. Lemelin	Val Joe Lin	Au-Cu	S,T
172	**33B12, 33C09**		**Goldcorp (Opinaca Mines)**	**Éléonore**	**Au**	**D (50:24 000), G, Re, S,T**
	Project description: Continued work on a new 750-m-deep exploration shaft known as "Gaumond", and the start of work on a 5.3-km-long ramp.					
173	33C16, 33B12, 13		Golden Valley Mines / Sirios Resources	Cheechoo B	Au	G, Pg, S
174	33C09, 33B12, 13		Aurizon Mines / Azimut Exploration	Opinaca	Au	D (15:3803), G, Gs(sl, t), Pr, S
175	33C09, 16, 33B12		Aurizon Mines / Azimut Exploration	Wildcat	Au	D (17:2093), G, Gs(sl,t), Pr, S
176	33C08, 33B05		Dios Exploration	Shadow	Au-diamond	G, Gs(t), Pr
	Project description: Presence of kimberlite indicator minerals near Lac Caron.					
177	33B03, 06		NQ Exploration / CHS Resources	Eastmain North	Au-Ag-Cu-Zn	GpEm(G)
178	33B05		Dios Exploration	LeCaron	Au	G, Gs(t), Pr
179	33C08, 09, 10, 33B02, 03, 06		Midland Exploration	James Bay Eleonore	Au	Gs(r), Gs(sl), Pr, S
180	33C09, 10		Virginia Mines	Regional Eleonore	Au	D (3:665), G, GpEl(G), Gs(t), Pr
181	33C11		Amseco Exploration	Yasinski	Au	G, Pr, S
182	33F05, 12		Augyva Mining Resources / Century Iron Mines Corporation	Duncan Lake	Fe	D(25:8404), Env,TE
	Project description: The joint venture announced the confirmation of iron mineralization over a distance of 2.3 km at deposit No. 3 (hole DUN-11-349; 163.4 m @ 23.4% Fe), and over 1.0 km at deposit No. 6 (hole DUN-11-81; 88.4 m @ 30.2% Fe).					
183	33F06		Pro-Or Mining Resources / Everett Resources	Menarik	Cr-Ni-Cu-Au-Pt-Pd	D
184	33F09		Amseco Exploration	Chika	Cu-Au	G, Pr, S
185	33F12		NQ Exploration / Murray Brook Minerals	Duncan West	Cu-Zn-Au	G, Pr, S
186	33G04		Pro-Or Mining Resources	Ewart Lake	Au	D
187	33G05, 06, 07, 11		Virginia Mines	Poste Lemoyne Extension	Au	D (13:4020), G, GpEl(G), GpMa(G), Gs(t), S,T
	Project description: Discovery of a new showing, named Charlie, that returned 3.68 g/t Au over 5 m in channel samples.					
188	33G08, 33H05		Virginia Mines / Goldcorp	Corvand East	Au	GpMa(A), Gs(t), Pg
189	33H01, 08, 09		Virginia Mines	Escale-Trieste	Au	G, GpEl(G), Gs(t), Pr

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N°	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
190	23L11,14		Virginia Mines	Coulon	Cu-Zn-Ag	D (15:7952), GpEm(B,G)
	Project description: Drilled in the vicinity of lens 16-17, hole CN-11-223 yielded 3.86% Zn, 0.7% Cu and 75.09 g/t Ag over 44 metres. This intersection, encountered at a vertical depth of 350 metres, is interpreted as a new lens (lens 223). It it is possible it represents the depth extension of lens 201.					
191	33H08, 09		Virginia Mines	Nichicun	Au	G, GpEl(G), GpMa(A), Gs(t), S,T
	Project description: Two new surface gold showings were discovered in the northeast extension of the Portageur Zone. Channel sampling yielded 1.22 g/t Au over 8.0 m, including 3.44 g/t Au over 2.0 m in sedimentary rocks with disseminated arsenopyrite.					
192	33H09		30987994 Québec / Somdra	Duhesme Lake	Au-Cu-Ag-Li	S,T
193	33I02		Golden Tag Resources / Sirios Resources	Aquilon Main	Au	Met,TE
194	23K13		Virginia Mines / IAMGOLD Corporation	Pau Lake	Au-Cu	D (16:2776), G, GpEl(G), GpMa(G), Gs(r), S,T
	Project description: Virginia Mines obtained several gold-bearing intersections in the Jedi and Hope areas along a multi-kilometre corridor on its Lac Pau property. Hole PAU-11-040 returned an interval grading 3.56 g/t Au over 5.5 metres, including 12.05 g/t Au over 1.25 m, in the northeast extension of the Jedi showing.					
FAR NORTH (figure 4.1)						
195	23F11,12, 14		Virginia Mines / Anglo American Exploration (Canada)	Ashuanipi	Cu-Zn-Ag-Au-Mo	GpEl(G), GpMa(A), Pr,T
	Project description: An 8-km-long mineralized corridor was identified.					
196	23M09, 10, 11		Virginia Mines / Quadra FNX Mining	Gayot Lake	Cu-Ni-PGE	G
197	23M15, 16, 24D01, 02		Fission Energy Corporation	Dieter Lake	U	D (19:2000), GpMa(G), S
198	34O07, 09, 10, 14, 15		Azimut Exploration / Aurizon Mines	Rex South	Cu-Au-Ag-W-Zn-Mo	D (53:4938), GpEl(G), Gs(l), Gs(r), Pr, Rcd (x:467), S
	Project description: Different mineralized systems were identified on the property, including a Cu-Au-W-Sn-Bi porphyry system centred on a fluorine-enriched intrusive complex, a system of quartz-tourmaline veins associated with a gold-bearing shear zone, and a fracture zone with alteration similar to that of IOCG-type deposits.					
199	35C09, 35O14, 15, 35B02, 03, 04, 05, 06, 07, 10, 11, 12, 13, 14		Azimut Exploration	Rex	Cu-Au-Ag-W-Zn-Mo	D (28:2110), GpEl(G), GpMa(G), Gs(l), Gs(r), Pr, Rcd (1:36), S
200	34O01,02, 34J09, 10, 15, 16		Azimut Exploration	Nunavik Copper Gold	Cu-Au-Ag	Gs(l), Pr, S
201	23M07, 10		Stornoway Diamond Corporation	Aeon	Diamond	GpEm(A), GpMa(A), Gs(sl,t), Pr
LABRADOR TROUGH (figure 4.1)						
202	23O03		New Millennium Iron Corporation	KeMag	Fe	D (x:5500), Env, FM, S
	Project description: A feasbility study was started for the Taconite-iron project (Kemag-LabMag).					

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

N°	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
203	24C14, 24F03, 04, 05, 12, 24E08		Zone Resources	Moore-Girard	Fe	D (9:1688), GpGr(G), GpMa(A)
	Project description: Zone Resources announced the discovery of a new iron zone on its Girard claim group: 35.64% Fe	over 137.0 m in hole ZR11-09. Hole ZR11-08, drilled 21 km west of hole ZR11-09, obtained 35.77% Fe over 243.0 m.				
204	23O03		Beaufield Resources	Schefferville	Au-Zn-Fe	G, GpGr(A,G), Gs(r), Gs(t), Pr, S,TE
205	23O03, 05, 06		Century Iron Mines Corporation	Sunny Lake (Rainy Lake and Le fer Lake Blocks)	Fe	D (x:6000)
	Project description: Located roughly 85 km northwest of Schefferville, the company reported the discovery of a new taconite zone they named "Full Moon Prospect" with an intersection of 318.2 metres grading 29.5% Fe, starting from a down-hole depth of 5.4 m in RL-11-0401 (Lac Rainy block). This zone was tested over a distance of 6.5 km.					
206	23O02, 23J15		Century Iron Mines Corporation / Champion Minerals / Labec Century Iron Ore	Attikamagen (Hayot Lake)	Fe	D (x:x)
207	23O04,05, 23J13, 14		Western Troy Capital Resources / Rockland Minerals Corporation	Shefferville Gold	Au-Ag-Zn-Pb	D, G, GpMa(A), Pr, S
208	23O08		Rockland Minerals Corporation / E.D. Black	Retty Lake	Cu-Ni-PGE	D(10:1500)
	Project description: The company reported an intersection of 0.62% Ni, 0.20% Cu, 0.106 g/t Pt and 0.214 g/t Pd over 4.0 m (hole 849-9) at the contact of a folded peridotite sill, adjacent to the Blue Lake Cu-Ni-PGE deposits.					
209	23P05		Western Troy Capital Resources	Deborah Lake	Cu-Au-Ni	D (24:2370)
	Project description: Hole N°. 6 encountered 0.41% Cu over 4.2 m.					
210	24F06, 24F11		Rio Silver / Ressources Tectonic	Kan	Au-Ag-Cu-Zn-Pb	G, GpEm(A), Gs(sl), Pr, S
	Project description: Discovery of a new gold showing: channel sampling on Proterozoic iron formations returned 3.12 g/t Au over 13.89 m.					
211	24K04		Virginia Mines / Nunavik Mining Exploration Fund	Labrador Through 2011	Au-Cu	Pg, S
	Project description: Values for channel samples of 3.0 g/t Au over 3.0 m and 3.3 g/t Au over 3.5 m were reported for disseminated sulphide zones (pyrrhotite-chalcopyrite-pyrite-arsenopyrite).					
212	23P04, 23O01, 08		Western Troy Capital Resources / Match Capital Resources Corporation	Indian Lake	Cu-Zn-Au-Ag-Ni-PGE	D (9:1173), Gp
	Project description: The joint venture confirmed the polymetallic mineralization of the Lac Thompson Formation. Hole ILN-01 returned 0.43% Cu, 0.19% Ni, 0.63 g/t Pd, 0.05 g/t Pt, 0.04% Co, 0.21 g/t Au and 1.08 g/t Ag over 4.5 metres, in the northern part.					
213	23N16, 24C01, 02		Adriana Resources / WISCO International Resources Development & Investment	Otelnuk Lake	Fe	D (113:16 000), Env, Met, Re
	Project description: Publication of the resource estimate for the South Zone, 160 km northwest of Schefferville: measured and indicated resources of 4.89 billion tonnes @ 29.0% Fe and inferred resources of 1.56 billion tonnes @ 29.6% Fe.					
214	23N16, 23O09, 12, 13		New Millennium Iron Corporation	Ritchie Lake Taconite	Fe	D (40:3808)
	Project description: New Millennium Iron Corporation demonstrated, through drilling, the potential for a magnetic taconite deposit with an intersection grading 31.82% Fe over 82.3 m (hole 11LR002D).					

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.3 - **Exploration projects in the Baie-James and Nunavik regions in 2011**[1] (see figures 4.1. 4.2 and 4.3).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
215	24F03, 04, 05, 24C12, 13, 14		Cap-Ex Ventures	Connelly Lake	Fe	D, G, GpGr(A), Met, Min, Pr, S
216	34K04, 05, 24F13, 14		Canadian Royalties	Gerido	Ni-Cu-Co-PGE	G, GpEm(G), GpMa(G), Pg, S
217	24C15, 16, 24F02		Nunavik Nickel Mines	Marymac Prospect	Ni-Cu-PGE	GpMa(A), GpEm(A)
218	24C15, 16, 24F01		Commerce Resources Corporation	Eldor	REE-Ta-Nb-U-F	D (33:10 120), Env, GpGr, Min, Met, Pr, Re, T
	Project description: Commerce Resources published their first resource estimate for the Eldor Project, 130 km south of Kuujjuaq. On the Ashram Zone, inferred resources were estimated as 117 Mt @ 1.74% total rare earth oxides, 0.04% Y_2O_3 and 5.56% CaF_2 (cut-off grade of 1.25% total rare earth oxides). Among the best results, hole EC11-076A returned 1.56% total rare earth oxides over 176.43 m.					
219	24M01, 08, 24N05		Oceanic Iron Ore Corporation	Hopes Advance	Fe	D (115:11 618), Met, Re, S, TE
	Project description: Measured and indicated resources of 461 Mt @ 32.0% Fe, and inferred resources of 1.03 billion tonnes @ 32.3% Fe, were calculated for eight (8) different mineralized areas.					
UNGAVA TROUGH (figure 4.1)						
220	35G09, 35H11, 12		Xstrata Canada Corporation - Xstrata Nickel Canada Division	Raglan Mine	Ni-Cu-Co-PGE	D (149:56 494), GpEm(B)
	Project description: Discovery of new mineralized lenses around active mines.					
221	**35G, 35H**		**Canadian Royalties / Jien Canada Mining / Goldbrook Ventures**	**Nunavik Nickel**	**Ni-Cu-Co-PGE**	**D (21:2 671), G, GpEm (B,G), GpMa(G), Pr, S**
222	35F08, 35G05, 06		Anglo American Exploration (Canada) / Knight Metals	West Raglan	Ni-Cu-Co-PGE-Zn-Au	Env, M
223	25C04, 25D01, 08		Mines Virginia / Anglo American Exploration (Canada)	Baie Payne	Ni-Cu-PGE	G, GpEm(G), GpMa(A), Pr
224	25C04		Oceanic Iron Ore Corporation	Roberts Lake	Fe	D (11:1086)
TORNGAT OROGEN AND CORE ZONE (figure 4.1)						
225	24A08		Quest Rare Minerals	Strange Lake	REE-Y-Zr-Nb-La	D (212:24 500), G, Gs(r), Met, Pr, Re, S, T, TE
	Project description: Holes intersected the northern extension of the B-Zone, under Lac Brisson; ex: hole BZ11099 with 1.16% total rare earth oxides over 143.2 metres. A revised resource estimate for the B-Zone, using a cut-off grade of 0.95% total rare earth oxides, confirmed an indicated resource of 36.4 Mt @ 1.16% total rare earth oxides, 2.17% ZrO_2, 0.24% Nb_2O_5, 0.05% HfO_2 and 0.12% BeO.					
226	24 A/08		Quest Rare Minerals / Search Minerals / Alterra Resources	Strange Lake / Search and Alterra	REE-Y-Zr-Nb-La	D (4:310)
227	13 M/05		Quest Rare Minerals	Misery Lake	REE-Y-Zr-Nb-Ti	D (6:1 900), G, Gs(r), Gs(t), Pr, S
228	24A01, 08, 14D04, 05, 13 M12, 13, 13L13		Midland Exploration / Japan, Oil, Gas and Metals National Corporation	Ytterby	REE	D (1:183), G, Gs(r), Pr, T
229	*32F12, 13*	*Daniel*	*Xstrata Canada Corporation*	*Perseverance Mine*	*Zn-Cu-Au-Ag*	*D (x:x)*

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
East part of region 08: Val-d'Or – Amos area						
1	31N14	Villebon	St-Georges Platinum and Base Metals	Villebon	Au-Ni-Cu-PGE	D (x:2100), TE
	Project description: Drill holes intersected mineralized peridotite at shallow depths (35-110 m) over thicknesses ranging from 3 to 41 m. The peridotite is altered, brecciated, deformed and locally mineralized. Grades include 0.21% Cu, 0.24% Ni, 0.092 g/t Pt and 0.219 g/t Pd over 18.6 m (hole FV-10-01).					
2	32B04, 05, 32C01	Baudin, Trevet	Ressources Cartier	Cadillac Extension	Base metals-Bi	D (x:1200), GpEl(G), Gs(h,t), Pr, S, T
	Project description: A stripping and channel sampling program at the site of the polymetallic Langlade (Zn-Cu-Ag-Au) deposit revealed disseminated to massive sulphides over an surface area of 4 000 m2. The work revealed a silver+gold-enriched zone 120 m long. Channel sample results included 7 m grading 109.26 g/t Ag and 0.95 g/t Au (channel No. 3). Channel Nº. 7 intersected a 32-metre interval grading 1.0% Cu, 1.3% Zn, 80 g/t Ag and 0.5 g/t Au. At the Bongard showing, 19 km NE of the Langlade deposit, grab samples taken form a pyrite-chalcopyrite zone yielded maximum grades of 0. 6 g/t Au, 24 g/t Ag and 0.2% Cu. In an area measuring 15 by 15 km, NE of the Langlade deposit, a number of till samples yielded anomalous gold results (0.1 - 4.3 g/t Au).					
3	32B13	Souart, Barry	Solitaire Minerals Corporation	Windfall Lake	Au	GpEl(G), GpEm(G), GpMa(G), Pr
4	32B13	Souart, Barry	Atocha Resources	Trove	Au-Base metals	G, GpEm(G), GpMa(G), Gs(h), S, TE
5	32B13	Souart, Barry	KeyGold Holding / Rivercrest Resources / Glen Eagle Resources	Souart Gold	Au	D (15:2750), Re, TE
6	32B13, 14	Bailly, Lacroix	Atocha Resources	Bijou	Au	TE
7	32B13, 32G04	Bailly, Barry	BonTerra Resources / Ressources Abitex	Eastern Extension	Au	D (39:13 500), GpEl(G), GpMa(G), Pr, S, TE
	Project description: Drill holes intersected two mineralized zones of smoky quartz veins and sulphides (pyrite, pyrrhotite and chalcopyrite) in altered rocks (silica, carbonate, chlorite, tourmaline and sericite alteration). Hole BA-11-23 intersected 8.95 g/t Au over 6.20 m. A new vein was discovered at an outcrop 700 m away from holes drilled in 2011. A sample taken from the vein, named the Rivage Zone, returned a grade of 204 g/t Au and 25.8 g/t Ag.					
8	32B13, 32G04	Bailly, Urban, Lacroix	BonTerra Resources	Lavoie Gold	Au	GpMa(G)
9	32B13, 32G04	Barry	BonTerra Resources	Urban - Barry (Lac Barry)	Au	Pr, S, ET
10	32B13, 32G04	Barry, Urban	Metanor Resources	Mine Barry	Au	D (15:4127), GpEl, GpMa
	Project description: In 2010, a resource calculation for the Barry deposit, including the Principale, West, 43 and 45 zones, established indicated resources of 7701 Mt @ 1.25 g/t Au and inferred resources of 10411 Mt @ 1.41 g/t Au, using a cut-off grade of 0.5 g/t Au, from surface to a depth of 125 m. IP geophysical anomalies were verified by drilling. The best grades, which included 2.36 g/t Au over 2.9 m (hole MB-10-516), were for pyrite-pyrrhotite veins contained within wide NE-trending deformation zones near the pit.					
11	32C01	Pétain, Esperey	Les Investissements Pierre et Mica	Lac Néron 002	REE, Industrial minerals	G, Pr, S
12	32C02	Tavernier	Ressources Aurtois	Stella	Au	D (11:7500), Re
	Project description: The goal of a drilling program was to validate and confirm at depth the Main Zone of the former Lacoma mine containing historical resources of 179 369 t @ 6.8 g/t Au. Results included 6.53 g/t Au over 1.15 m in hole STE06-11. Mineralization consists mainly of quartz veins with variable amounts of pyrite and pyrrhotite, cutting chloritized and hematized basalts.					

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
13	32C02, 03	Pershing	Forest Gate Energy	Pershing	Au-Fe	D (25:x), GpEm(A), GpMa(A)
	Project description: A drilling program targeted areas with a weak magnetic signature for a magnetite iron formation. On the Marquis block, in an unexplored part of the property, drill hole FG11-05 encountered a mineralized interval grading 44.6 g/t Au over 0.3 m.					
14	32C03	Louvicourt	Alexandria Minerals Corporation	Sleepy	Au	D (x:11 000), GpMa(A), Re,TE
	Project description: Hole SAX-11-01 intersected a mineralized interval grading 3.81 g/t Au, 5.01 g/t Ag and 0.37% Zn over 14 m, at a depth of 400 m, and 100 m below the Main Zone. The Main Zone contains resources totalling 1.5 Mt @ 3.0 g/t Au (150 000 ounces of gold), as defined in 2009. A new zone, called the South Zone, was encountered during drilling to the south of the Principale Zone. The South Zone occurs at the sheared contact between a diorite sill and intermediate volcanics. It is characterized by quartz and quartz-carbonate veins, strong chloritization, weak carbonatization, and traces of sulphides. Hole SAX-11-04 yielded 28.75 g/t Au over 8.4 m, including 248.8 g/t Au over 0.5 m.					
15	32C03	Louvicourt	Alexandria Minerals Corporationa	Trivio	Au	GpMa(A)
16	**32C03**	**Louvicourt**	**Richmont Mines / SOQUEM**	**Monique**	**Au**	**D (71:12 446), GpEl(3D), Pr,TE**
	Project description: A drilling program in the G and J gold zones is underway. Among the key results: 15.28 m @ 4.77 g/t Au (hole MO-122-04) in the G Zone, and 4.57 m @ 4.39 g/t Au (hole MO-120-07) in the J Zone. Mineralization is present as a stockwork of quartz-carbonate-tourmaline veins in altered rocks containing disseminated sulphides. Geotechnical, geomechanical and hydrogeological studies were carried out as part of an open-pit mine assessment. The G and J zones contain indicated resources of 728 164 t @ 2.35 g/t Au (55 112 ounces of gold). A capping grade of 26 g/t Au was applied.					
17	32C03	Louvicourt	Alexandria Minerals Corporation	Orcour	Au	GpMa(A)
18	**32C03**	**Louvicourt**	**Upper Canyon Minerals Corporation / Exploration GYG**	**Brosnor**	**Au**	**B (5000:x), D (7:7000), GpEl(G), GpMa(G) Re,TE, Ramp**
	Project description: At the Norcourt Zone, inferred resources of 451 480 t @ 2.46 g/t Au (35 780 ounces gold) were established. The Adelmont Zone contains inferred resources totalling 864 350 t @ 1.29 g/t Au (35 862 ounces gold). No cut-off grade was applied. The gold mineralization forms a zone 50-100 m thick in ultramafic lava units containing quartz-carbonate-tourmaline veins, which cut mafic lavas, diorite intrusions, and quartz-feldspar porphyry dykes. A ramp rehabilitation program is planned once the necessary permits have been acquired.					
19	32C03	Louvicourt	Alexandria Minerals Corporation	Bloc Sud Trivio	Au	GpMa(A)
20	32C03	Louvicourt, Vauquelin	Alexandria Minerals Corporation	Bloc Sud Trivio Extension	Au	GpMa(A)
21	32C03	Louvicourt, Vauquelin	Alexis Minerals Corporation	Courageous-Lugold-Sleepy Lake	Zn-Cu-Au	G, GpEm(G), Gs(r), TE
22	**32C03**	**Pershing**	**Blue Note Mining / Critical Elements Corporation**	**Croinor 1**	**Au**	**D (60:15 509), Re**
	Project description: The goal of the 2011 drilling program was to enlarge the existing mineral resources eastward and westward. Among the best results: 7.03 g/t Au over 0.9 m (hole CR-11-379) in the eastern area, and 9.62 g/t Au over 2.5 m in the western area. The prefeasibility study is currently being updated to include the results from the 2010 and 2011 drilling programs. The prefeasibility study completed in 2010 presented a proposed scenario with a production rate of 500 tpd, a mine life of 5 years, and proven+probable reserves of 689 829 t @ 8.35 g/t Au for a total of 180 629 ounces of gold. Mineralization is distributed among 23 distinct zones, and consists of quartz veins with pyritized and altered selvages in a diorite sill.					

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TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
23	32C03	Vauquelin	Plato Gold Corporation / Globex Mining Entreprises	Nordeau	Au	D (9:5000), TE
	Project description: Hole NE-11-02 encountered a section of 1.5 m grading 6.01 g/t Au in argillite containing 1% pyrrhotite and 1% pyrite. The Nordeau East property covers a highly deformed sequence of greywacke, iron formation and mafic lavas along the eastern extension of the Cadillac Fault. Generally, gold mineralization consists of quartz-sulphide veins (arsenopyrite-pyrite-pyrrhotite).					
24	32C03	Vauquelin	Threegold Resources / P.T. Coyle	South Bay	Au	D (22:3 000), G, GpEl(B,G), GpEm(A), GpMa(A), Pr, S, T, TE
	Project description: Prospecting revealed a series of gold-mineralized outcrops, with a maximum value of 5.9 g/t Au, located 250 m east of the main North Zone. The North Zone consists of silicified and sericitized, strongly sheared intermediate to felsic intrusives cut by folded quartz-pyrite veins. A new gold zone, located 900 m north of the main North Zone, is represented by outcrops of sheared volcanics cut by quartz veins. Grab sample grades vary from 0.81 to 1.71 g/t Au. Elsewhere on the property, other grab samples yielded up to 0.2 g/t Au and 135 g/t Ag.					
25	32C03	Vauquelin	Blue Note Mining / Critical Elements Corporation	Chimo	Au	D (8:12 500), Re
	Project description: Drill holes intersected gold mineralization in the dyke zone on the Nova property, which lies southwest of the location of the former Chimo mine. Among the best results: 2.79 g/t Au over 5.5 m within a zone of 1.31 g/t Au over 14.6 m (hole CH-11-09).					
26	32C03	Vauquelin	170364 Canada / Seafield Exploration	Rayon d'Or	Au-Ag	Gs(r)
27	32C03	Vauquelin	Galahad Metals	East End Granodiorite (EEG)	Au	G, Gp(G), Gs, Pr, S, T, TE
28	32C03	Vauquelin	Alexandria Minerals Corporation	Vaumon	Au	GpMa(A)
29	32C03	Vauquelin	Richmont Mines	Chimo	Au	TE
30	32C03	Vauquelin	Z-Gold Exploration	Vauquelin	Au	D (1:300), GpEl(G), GpEm(G), GpMa(G), Pr
31	32C03	Vauquelin	Plato Gold Corporation	Horseshoe	Au	Gs(sl)
32	32C03	Vauquelin	Plato Gold Corporation	Hop O' MyThumb	Au	TE
33	32C03	Vauquelin, Louvicourt	Galahad Metals	Regcourt	Au	D (13:3226), GpEl(B,S), TE
	Project description: Drill holes intersected gold-bearing quartz-tourmaline veins associated with shear zones in a granodiorite dyke near the drifts of the former Regcourt mine. The best results include: 10.5 g/t Au over 0.65 m (hole RG11-06) and 39.5 g/t Au over 1.2 m (hole RG11-08).					
34	32C03	Vauquelin, Pershing	Plato Gold Corporation	Nordeau East - Bateman East	Au	D (27:11 966)
35	32C03, 04	Bourlamaque, Louvicourt	Alexis Minerals Corporation	Dunraine-Louvex	Base metals	D (3:1112), GpEm(G)
36	32C03, 04	Louvicourt	Alexandria Minerals Corporation	New Claims	Au	GpMa(A)
37	32C03, 04	Louvicourt	Alexandria Minerals Corporation	DeKeyser	Au	GpMa(A)
38	32C03, 04	Pascalis, Louvicourt	Adventure Gold	Pascalis-Colombière	Au	D (19:7342), GpEl(G), S, T
	Project description: A drilling program near the former Lucien Béliveau mine revealed a network of gold-bearing ENE-trending structures with a dip of about 30 degrees to the south. Mineralization consists of disseminated pyrite in quartz-tourmaline veins cutting highly altered rocks. The best result was 2.7 g/t Au over 65.1 m in hole PC-11-30. A stripping program also revealed a mineralized zone (the Loraine Zone) north of the Highway gold showing. Channel sample results included 5.9 g/t Au, 0.4% Cu and 8.0 g/t Ag over 4.4 m.					

TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
39	32C03, 06	Tiblemont, Tavernier	Adventure Gold	Mégiscane-Tavernier	Au-Cu	GpMa(G)
40	32C04	Bourlamaque	Alexandria Minerals Corporation	Orenada	Au	Gs(sl), GpMa(A)
41	**32C04**	**Bourlamaque**	**Century Mining Corporation**	**Complexe Lamaque**	**Au**	**D (x:x), Re**
	Project description: An underground appraisal and exploration drill program totalling 45 000 m was started in 2010 and will take three years to complete. Underground operations at Lamaque were suspended on July 2, 2008, but started up again in January 2010. The first gold pour was on May 3, 2010. Production is from three separate zones: Lamaque Flats, Bédard Dyke and North Wall. At Lamaque, the mineralization consists of shallow-dipping gold-bearing quartz vein with thicknesses ranging from 5 to 90 cm. Work to update the resource model and data under the Sigma pit in certain mine areas (Lamaque Nº 2, Lamaque main mine, North Wall Shears, North Wall Dykes, Sigma Polygons and Cross-Over) was used to calculated measured and indicated resources of 3.67 Mt @ 4.96 g/t Au (586 000 ounces gold) and inferred resources of 9.16 Mt @ 6.29 g/t Au (1 853 000 ounces gold). Proven and probable reserves are 3.16 Mt @ 4.41 g/t Au (448 000 ounces gold).					
42	*32C04*	*Bourlamaque*	*Alexis Minerals Corporation*	*Lac Herbin mine*	*Au*	*D (x:x), Re*
	Project description: A new resource calculation established measured and indicated resources of 184 600 t @ 8.2 g/t Au (48 700 ounces of gold) and inferred resourcesof 283 500 t @ 7.4 g/t Au (67 300 ounces of gold). A minimum width of 1.5 m and a cut-off threshold of 5.0 g/t Au were used for the resource calculation. Based on these resources, the proven and probable reserves were determined to be 138 000 @ 6.81 g/t Au (30 200 ounces of gold). The Aurbel mill, located less than a kilometre from the Lac Herbin mine, started up on February 25, 2010. Mineralization occurs as gold-bearing quartz-pyrite veins in shear zones (ex: HW, WE, HW2, Bonanza, S3, LH and S1) that cross-cut the Bourlamaque Batholith. In 2011, exploration work focused on three gold-bearing zones — Bonanza, FL and Apex — all located near mining infrastructure. Among the results: 12.24 g/t Au over 2.6 m in hole LH01-367 (Bonanza Zone) and 10.0 g/t Au over 6.9 m in hole AMAR-75 (Apex Zone).					
43	32C04	Bourlamaque	Integra Gold Corporation	Lamaque	Au	D (68:28 000), FM, Re, TE
	Project description: Following a major drilling program, a new resource calculation was performed for the Nº. 4, Forestel, Parallel and Triangle zones on the Lamaque property. Inferred resources are now 2.34 Mt @ 6.91 g/t Au (518 643 ounces gold) and indicated resources are 0.8 Mt @ 6.33 g/t Au (162 962 ounces gold).					
44	32C04	Bourlamaque	Alexis Minerals Corporation	Annamaque-Auriac-Faraday	Au-Cu-Zn	D (16:5302), GpEl(G), GpEm(G)
45	32C04	Bourlamaque	Globex Mining Entreprises	Wrightbar	Au	D (x:x)
46	32C04	Bourlamaque	Integra Gold Corporation / Alexandria Minerals Corporation	Airport	Au	D (x:x), GpMa(A)
47	32C04	Bourlamaque	Alexandria Minerals Corporation	Robert	Au	GpMa(A)
48	32C04	Bourlamaque	Alexandria Minerals Corporation	Robert Extension	Au	GpMa(A)
49	32C04	Bourlamaque	Alexandria Minerals Corporation	Ducros	Au	GpMa(A)
50	32C04	Bourlamaque	Alexandria Minerals Corporation	Oramaque	Au	GpMa(A)
51	32C04	Bourlamaque	Alexandria Minerals Corporation	Mid Canada	Au	GpMa(A)
52	32C04	Bourlamaque	Golden Valley Mines / Monarch Energy	Centremaque	Au	D (x:1400), GpEl(G), GpMa(G), TE
53	32C04	Bourlamaque	Alexis Minerals Corporation	Lac Herbin Ouest	Au	D (15:4300)
54	32C04	Bourlamaque	Globex Mining Entreprises	Farquharson (Donald)	Base metals	D (x:x)

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
55	32C04	Bourlamaque, Senneville	Alexis Minerals Corporation	Aurbel	Au-Ag	D (14:4610), GpEl(B),TE
	Project description: The objective of the drilling program was to verify whether gold mineralization, similar to the deposits of the Lac Herbin and Beaufor gold mines, is present in certain areas of the Bourlamaque Batholith. Mineralized intervals were intersected at some locations: 1) the western extension of the Beaufor mine (19.0 g/t Au over 1.2 m; hole 17421-34); 2) the Standard Gold showing (3.4 g/t Au over 1.3 m; hole 17408-05); and 3) the eastern extension of the Dumont shear zone (1.0 g/t Au over 1.1 m; hole 17421-24).					
56	32C04	Dubuisson	Knick Explorations	East-West	Au	D (x:5000), S,T
	Project description: 3D geological modelling of the East-West property identified drill hole targets in the Gilbert, Raven, East, North East and Grand Canyon zones, all of which occur near the Marbenite deformation zone. In the Raven Zone, hole EW-11-30 passed through quartz veins and their altered selvedges, yielding a an interval of 6.7 m grading 6.1 g/t Au. This zone was stripped at surface over a length of 250 m, revealing gabbros, feldspathic porphyries, and intermediate volcanics cross-cut by a gold-bearing shear zone.					
57	*32C04*	*Dubuisson*	*Wesdome Gold Mines*	*Kiena Complex*	*Au*	*D (235:73 249), Re, Drifts*
	Project description: The mine's reserves and resources were reviewed and revised. Measured and indicated resources are 1.365 Mt @ 3.9 g/t Au (170 000 ounces gold). Within these resources, proven and probable reserves totalling 1.097 Mt @ 2.8 g/t Au (99 000 ounces gold) were calculated. Definition drilling enlarged the Schist Zone, which consists of quartz-albite veins in a talc-carbonate schist. Hole U5423 intersected 5.0 g/t Au over 4.6 m. Surface drill holes cut the upper part of the Martin Zone (ex: 5.8 m grading 11.72 g/t Au in hole S696), in which mineralization occurs as quartz-albite-pyrite veins injected in brecciated tholeiitic basalts.					
58	*32C04*	*Dubuisson*	*Agnico-Eagle Mines*	*Goldex*	*Au-Ag*	*D (x:58 200)FM, Re,TE*
	Project description: On October 19, 2001, citing safety reasons, Agnico-Eagle Mines announced the suspension, for an indefinite period, of its mining operations and gold production at the Goldex mine. Fracturing of volcanic rocks in the hanging wall of the GEZ lens allowed groundwater to infiltrate the mine. Following the announcement, Agnico-Eagle Mines reclassified its mining reserves at the Goldex mine as resources. Measured and indicated resources are now 33.6 Mt @ 1.75 g/t Au and inferred resources 25.8 Mt @ 1.67 g/t Au. Inferred resources have been defined in the D lens, which occurs below the main GEZ lens, totalling 14.4 Mt @ 1.62 g/t Au (746 000 ounces gold). This lens extends from a depth of 840 to 1 350 m, is 60-120 m thick and about 350 m wide, and remains open at depth. A 300-m exploration ramp was excavated to reach the D Zone. Exploration drill holes encountered gold mineralization beyond the limits of the inferred resources for the D Zone. Results include 1.5 g/t Au over 120 m (hole 84-067).					
59	**32C04**	**Dubuisson**	**Wesdome Gold Mines**	**Dubuisson**	**Au**	**D (x:13 700), Re, Drifts**
	Project description: A new gold zone (the Dubuisson Zone) was discovered in 2008 at a distance of 3 km east of the Kiena mine. Mineralization consists of quartz-albite-tourmaline-pyrite veins in albitized diorites and fractured feldspar porphyries. The best results, obtained in 2009, included 10.3 m grading 26.1 g/t Au. An existing drift at a depth of 330 m will be extended by 1 km to reach the zone. In 2011, the work of this drift continued, and definition drilling commenced.					
60	32C04	Dubuisson	Adventure Gold / Agnico-Eagle Mines	Dubuisson	Au	D (12:4533)
	Project description: A drilling program revealed new gold intersections, from surface to a depth of 200 m, in the western extension of the Québec Explorer gold deposit containing historical resources of 261 000 t @ 6.6 g/t Au. Gold mineralization is associated with feldspar porphyry dykes and diorite that crosscut deformed ultramafic rocks. The best gold-bearing intervals are associated with zones displaying albite, silica, sericite and carbonate alteration, as well as disseminated sulphides. Hole 160-11-03 intersected 3.0 g/t Au over 5.5 m within an interval of 0.5 g/t Au over 57.7 m.					
61	32C04	Dubuisson	Wesdome Gold Mines	Kiena Bloc Sud	Au	D (13:3930)
	Project description: Drill holes encountered gold-bearing intervals in ultramafic and mafic rocks of the Piché Group in the Cadillac Fault Deformation Zone. Gold mineralization is associated with stockworks of quartz-carbonate-chlorite veins, in close proximity to greywackes, basalt and sheared gabbros. Among the best results: 29.38 g/t Au over 0.9 m in hole S681.					
62	32C04	Dubuisson, Vassan	Alexandria Minerals Corporation / Niogold Mining Corporation	Siscoe East / Vassan	Au	D (10:2545),TE

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TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
63	32C04	Louvicourt	Adventure Gold / Mazorro Resources	Lapaska	Au	D (22:7702), Re
	Project description: A new resource estimate for the Lapaska Central Zone established inferred resources totalling 219 590 t @ 3.14 g/t Au (22 197 ounces gold), using a cut-off grade of 2.0 g/t Au. Mineralization is associated with quartz-carbonate-tourmaline-pyrite veins in silicified and magnetic felsic volcanics. A number of drill holes intersected a network of veins over considerable lengths, such as 103.4 m grading 1.0 g/t Au in hole LP-11-16.					
64	32C04	Louvicourt	Eloro Resources	Simkar	Au	D (14:6710)
	Project description: At the former Louvicourt Goldfields gold mine, the 2011 drilling program targeted the depth continuation of known gold zones (A, B, South and New zones). Hole SK11-09 cut through a zone of gold-bearing quartz-tourmaline veins grading up to 3.14 g/t Au over 7.0 m, including an interval of 8.1 g/t Au over 1.9 m.					
65	32C04	Louvicourt	Alexandria Minerals Corporation	Lourmet	Au	GpMa(A)
66	32C04	Louvicourt	Alexandria Minerals Corporation	Bloc Sud Ouest	Au	GpMa(A)
67	32C04	Louvicourt	Alexis Minerals Corporation	Beacon	Zn-Cu	D (1:345)
68	32C04	Louvicourt	Globex Mining Entreprises	Beacon Est	Au	D (1:426)
	Project description: A drill hole in the Bourlamaque Batholith, near the contact with the surrounding volcanic rocks, intersected a new gold zone with a grade of 5.19 g/t Au over 2.9 m.					
69	32C04	Louvicourt, Bourlamaque	Alexandria Minerals Corporation	Akasaba	Au-Ag-Cu	D (25:20 000), G, GpMa(A),TE
	Project description: A key event was the intersection, near the former Akasaba (Au-Cu) mine, of thick low-grade intervals, such as 1.01 g/t Au over 47.26 m (drill hole IAX-10-110). Higher grade intersections were also present, such as 23.90 g/t Au over 0.30 m (hole IAX-11-131). Hole IAX-11-76 intersected a mineralized horizon 350 m below the underground workings of the Akasaba mine, with grades that included 7.07 g/t Au over 12.2 m including 14.10 g/t Au over 5.0 m.					
70	32C04	Louvicourt, Bourlamaque	Alexandria Minerals Corporation	Sabourin	Au-Ag-Cu	GpMa(A)
71	32C04	Louvicourt, Bourlamaque	Alexandria Minerals Corporation	Valdora	Au-Ag-Cu	GpMa(A)
72	*32C04*	*Pascalis*	*Richmont Mines / Louvem Mines*	*Mine Beaufor*	*Au-Ag*	*D (x:30 000), Re, Ramp*
	Project description: The construction of a ramp commenced in November 2011. It will be used to access the shallow W gold zone near the mine. The near-surface W, 350 and 367 zones were drilled. Gold mineralization consists of quartz-tourmaline-pyrite veins.					
73	32C04, 32D01	Malartic, Fournière, Dubuisson, Vassan	Niogold Mining Corporation / Aurizon Mines	Bloc Marban	Au	D (135:37 419), S
	Project description: In 2011, the drilling program focused on the Marban deposit and the area between the Marban and Nolartic deposits. At the Marban deposit, hole MB-11-224 intersected 9.8 g/t Au over 5.8 m in the high-grade West Zone and hole MB-08-56ext intersected 5.9 g/t Au over 3.6 m in the down-dip East Zone. In 2010, a new resource calculation was performed for the Nolartic-Kierens deposit: 1) Near-surface (0-200 m) indicated resources of 5.9 Mt @ 1.59 g/t Au and inferred resources of 4.4 Mt @ 1.26 g/t, using a cut-off grade of 0.5 g/t; and 2) Deeper (200-630 m) indicated resources of 0.9 Mt @ 3.96 g/t Au and inferred resources of 0.58 Mt @ 3.88 g/t Au, using a cut-off grade of 2.5 g/t). For the Marban deposit: indicated resources of 1.24 Mt @ 4.55 g/t Au and inferred resources of 0.87 Mt @ 4.08 g/t Au (cut-off grade of 2.5 g/t Au).					
74	32C05	Barraute	Golden Valley Mines	Oregon	Au	S
75	32C05	Fiedmont	Abcourt Mines	Vendome	Base metals	D (4:658)
	Project description: The aim of the drilling program was to confirm historical data for the Vendome, Barvallée and Belfort volcanogenic massive sulphide deposits (Zn-Cu-Ag-Au), which contain historical resources. Hole V11-04 intersected sulphides in a brecciated andesite near a felsic horizon: 3.6 m grading 11.05% Zn, 0.32% Cu, 0.67 g/t Au and 16.88 g/t Ag.					

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TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
76	**32C05**	**La Corne**	**Canada Lithium Corporation**	**Québec Lithium**	**Li**	**D (56:10 300), FM, Re**
	Project description: A 56-hole drilling program (10 300 m) was completed during the summer. The goal was to delineate the projected in-pit resource and verify the lateral and depth extensions of the pegmatite dykes. Measured and indicated resources are 33.24 Mt @ 1.19% Li_2O and inferred resources total 13.76 Mt @ 1.21% Li_2O, using a cut-off grade of 0.80% Li_2O. Metallurgical tests and prefeasibility and feasibility studies were completed in 2010. The proposed scenario is an open-pit mine with a production rate of 2950 tpd, with the production start-up scheduled for 2013 and a mine life of at least 14.8 years, with the possibility of up to 30 years. Construction of the plant's foundations is underway.					
77	32C05	Lacorne	Jourdan Ressources / A Better Search	Baillargé Lithium	Li, REE (Technology metals)	D (x:2000), TE
78	32C05	Lacorne, Fiedmont	Jourdan Ressources / A Better Search	Vallée Lithium	Li, REE (Technology metals)	D (21:4256), TE
79	32C05	Landrienne	Cogitore Resources	Landrienne	Base metals	G, Gs(r), Pr, S, TE
80	32C05, 06	Courville, Fiedmont, Carpentier	Pershimco Resources	Courville	Au - Tonalite	GpEl(A,G), Pr
81	32C05, 06, 11, 12	Carpentier	Agnico-Eagle Mines	43-Carpentier	Au	D (x:480)
82	32C05, 32D08	Malartic, La Motte, La Corne, Vassan	Romios Gold Resources	La Corne Molybdenum	Mo-Li-Mica	S
83	32C05, 32D08, 09	Figuery, Landrienne	Pershimco Resources / Mazorro Resources	Figuery	Base metals	TE
84	32C06	Tiblemont	Iledor Exploration Corporation/ Les Explorations Carat / J. Robert	Îledor	Au	GpEl(G), GpEm(G), GpMa(G), Rsi, TE
85	32C06	Tiblemont, Senneterre	Globex Mining Entreprises	Puits Smith	Au	D (x:x)
86	32C07	Tiblemont, Senneterre	Globex Mining Entreprises	Smith-Zulapa	Au	D (x:x)
87	32C11	Carpentier	Hinterland Metals	Mozart	Au	Pr, S, T, TE
88	32C11	Rochebeaucourt	Threegold Resources	Charlemagne	Au	Pr, TE
89	32C11, 12	Barraute, Carpentier	Agnico-Eagle Mines	137-Swanson	Au	D (x:1 611)
90	32C11, 12, 13, 14	Despinassy, Rochebeaucourt	Pacific North West Capital Corporation / Next Gen Metals / Alto Ventures	Destiny	Au	D (3660), Gs(sl), Re
	Project description: A new resource estimate was published for the DAC deposit. It includes 7600 m of drilling carried out since the last resource estimate in 2007. Using a cut-off grade of 0.5 g/t Au, the DAC deposit contains, from surface to a depth of 400 m, indicated resources of 10.8 Mt @ 1.05 g/t Au (364 000 ounces gold) and inferred resources of 8.3 Mt @ 0.92 g/t Au (247 000 ounces gold).					
91	32C12	Barraute	Abcourt Mines	Abcourt-Barvue	Ag-Zn	D (50:13 400)
	Project description: A drilling program has been underway since 2010 with the goal of increasing resources and reserves on the Abcourt-Barvue property. Among the results: 8.8 m grading 155.5 g/t Ag and 2.29% Zn (Zone 1; hole AB10-12) and 5.8 m grading 108.56 g/t Ag and 5.81% Zn (Zone 2; hole AB11-47).					
92	32C12	Barraute	Threegold Resources	Barraute	Au	Pr, TE
93	32C12	Duverny	Tres-Or Resources / Sementiou / Globex Mining Entreprises / Aurizon mines	Duvay	Au	B(20:x), D (13:1262), Gs(sl,t), S
	Project description: Shallow drill holes intersected a gold zone consisting of a stockwork of gold veins accompanied by disseminated sulphides in the core of a strongly carbonatized zone. Hole DV-008-11 yielded an interval of 5.21 g/t Au over 1 m.					

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TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
94	32C12	Duverny	Threegold Resources / Bowmore Exploration	Standard Gold	Au	D (10:5000), TE
95	32C12	Duverny, Castagnier, La Morandière	Aurizon Mines	Duvernay	Au	Gs(r,sl), Pr, S
96	32C12	Duverny, Dalquier	Bowmore Exploration	Duvernay Gold	Au	D (x:2000)
97	32C15	Tonnancour, Josselin, Holmes	Globex Mining Enterprises	Tonnancour	Base metals	D (27:x), GpEm(A,G)
	Project description: A drilling program was carried out to assess the Lac Tom showing. Hole GT11-01 intersected, near the surface, massive and semi-massive sulphides with grades of 5.23% Cu, 13.12% Zn, 41 g/t Ag and 0.718 g/t Au over 4.55 m.					
98	32D01	Fournière	Osisko Mining Corporation	Barnat Extension	Au	D (x:x), Re
	Project description: A drilling program focused on the Barnat Extension (Mammoth) zone, in Pontiac sediments near the Cadillac Fault. Host rocks are porphyry intrusives and silicified metasedimentary rocks. The gold mineralization encountered in drill holes occurs within or just beyond the modelled pit outline in the E portion of the Barnat deposit. Among the best results: 126.5 m grading 1.7 g/t Au in hole BA11-4000. The Barnat Extension consists of two mineralized zones: the northern extension (Sheehan Zone), located within the Cadillac Fault and enclosed in a mineralized porphyry hosted by altered and sheared ultramafic rocks; and the southern extension (Mammoth Zone), south of the Cadillac Fault in Pontiac sediments.					
99	*32D01*	*Fournière*	*Osisko Mining Corporation*	*Canadian Malartic*	*Au*	*D (x:x), Re*
	Project description: A new reserve and resource calculation was published for the Canadian Malartic and South Barnat deposits. The estimate incorporated new resources defined by the ongoing drilling program on the Barnat Extension and Gouldie zones. Proven and probable reserves are 343.7 Mt @ 0.97 g/t Au (10.7 millions ounces). Indicated resources (out-of-pit) are 47.6 Mt @ 0.77 g/t Au (1.18 million ounces gold) and global inferred resources are 33.9 Mt @ 0.78 g/t Au (0.85 million ounces gold). The first gold bar was poured on April 13. The official opening of the mine was on Monday, May 30, 2011, and commercial production started up on May 19, 2011.					
100	32D01	Fournière	Osisko Mining Corporation / Abitibi Royalties	Malartic CHL, Jeffrey Zone	Au	D (29:3223), Re, TE
	Project description: A definition drilling program in the Jeffrey Zone was carried out on sections spaced 25 m apart along an E-W length of 400 m and a N-S width of 135 m. Among the best results: 1.5 g/t Au over 63.6 m (hole CHL10-2351). The Jeffrey gold zone, located at the southern limit of the Cadillac Tectonic Zone, consists of disseminated pyrite in quartzo-feldspathic porphyry dykes affected by potassic alteration, in contact mainly with ultramafic lavas and, to a lesser extent, sedimentary rocks and gabbro-diorite intrusions.					
101	32D01	Fournière	Osisko Mining Corporation	Gouldie	Au	D (x:x)
102	32D01	Malartic	Golden Share Mining Corporation	Malartic Lakeshore	Au	D (3:1200)
	Project description: In 2009-2010, drill holes intersected zones containing abundant, altered feldspar porphyry dykes (silicification, sericitization, hematization), cut by quartz-tourmaline-pyrite veins. The best value, 2.88 g/t Au over 0.8 m, was from a quartz-pyrite-chalcopyrite vein. In 2011, drill holes intersected altered felsic volcanics and shear zones with local concentrations of quartz-pyrite veins. Analyses are underway.					
103	32D01	Malartic	Amseco Exploration / Les Mines J.A.G.	Malartic (Rivière Héva)	Au-Base metals	D (14:3474), GpEl(G), GpMa(G)
	Project description: A drilling program was carried out to explore the geophysical anomalies at the contact between sedimentary rocks of the Kewagama and Cadillac groups and the volcanic rocks of the Blake River Group. Other holes tested a segment of the Nolartic-Marbenite Fault. Hole DDH #M-2011-09A intersected a zone of arsenopyrite mineralization; grades included 7.48 g/t Au over 0.4 m.					
104	32D01	Malartic	Savant Exploration / Globex Mining Entreprises	Parbec	Au	D (5:1320)
	Project description: A drilling program was carried out to find near-surface gold mineralization in the Discovery and Nº. 2 zones, both of which lie within the Cadillac Tectonic Zone. At the Discovery Zone, hole Par-11-01 cut 24 m grading 1.03 g/t Au. Hole Par-11-03 intersected 2.45 g/t Au over 7.5 m in the Nº. 2 Zone.					

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TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
105	32D01	Malartic, Fournière	Niogold Mining Corporation	Bloc Malartic	Au	D (57:17 457)
	Project description: Drill holes intersected the auriferous Ludovick shear zone 2.7 km west of the former Camflo mine. The zone, consisting of altered, veined and sulphidized sedimentary rocks, yielded grades that included 8.17 g/t Au over 3.1 m (hole CW-11-021).					
106	32D08	Figuery	Pershimco Resources	Figuery	Au	D (1:500), G, GpEl(G), Pr, S
107	32D08	La Motte	Glen Eagle Resources / Globex Mining Entreprises	Authier Lithium	Li	D (4:4000), Re,T, TE
	Project description: Resources were calculated for the property following the 2010-2011 drilling program. Using a cut-off grade of 0.8% Li_2O, indicated resources were estimated at 4167 Mt @ 1.04% Li_2O and inferred resources at 2.29 Mt @ 1.0% Li_2O. The resources were defined from surface to a depth of 75 m. Among the best results, drill holes intersected a spodumene pegmatite with 34.5 m grading 1.25% Li_2O (hole AL-11-15).					
108	32D08	La Motte	Jourdan Ressources / A Better Search	Lacorne Lithium	Li, REE (Technology metals)	D (x:2000), TE
109	32D09	Dalquier	Abcourt Mines	Jonpol	Base metals	D (9:1659)
	Project description: Eight holes were drilled to test the western extension of a silver zone. Grades were low. The last hole intersected a mineralized zone with 0.24% Zn and 267.5 g/t Ag at a depth of 100 m, at the contact between a rhyolite and a tuff.					
110	32D09	Dalquier	Adventure Gold / Mazorro Resources	Dalquier	Base metals	GpMa(A), TE
Western part of region 08: Rouyn-Noranda - La Sarre - Témiscamingue area						
111	31L10, 14, 15	Gendreau, Mercier	Matamec Explorations	Zeus	REE-Nb	Met, TE, Re, FM, B(15 t), S, T, Pr, GpRa(A), Gc(sl), D (42:3 323)
	Project description: A resource estimate was published in June 2011. The deposit contains indicated resources of 12 472 Mt @ 0.512% REE_2O_3 and 0.913% ZrO_2 and inferred resources of 3.842 Mt @ 0.463% REE_2O_3 and 0.912% ZrO_2 (cut-off grade of 0.3% REE_2O_3). The preliminary economic assessment of the project was almost finished at the end of 2011. The company plans to construct two pilot plants in early 2012 to test the concentration and hydrometallurgical processes on the ore.					
112	31L15	Atwater	Hinterland Metals	Kipawa REE	REE-Y-Zr-Au	S, Gc(sl)
113	31L15, 16, 31M01, 02	Booth, McLachlin, Senezergues	Forum Uranium / Aurizon Mines	Kipawa	Au-REE	G, Gc(sl), Pr
114	31L16	Villedieu	Globex Mining Enterprises	Turner Falls	REE-Y	S, Gp, G
	Project description: Grab samples returned grades up to 5.27% REE_2O_3.					
115	31L16	Villedieu	Fieldex Exploration	Lac Sairs Kipawa	REE-Nb-Zr-Y	GpMa(G), D (15:2 250), S
	Project description: The Phase II drilling program (15 holes, 2250 m) included 6 holes that targeted the westward extension and nearby extensions of drill hole LS-10-19, and 9 holes were drilled in the eastern part of the property.					
116	31M06	Gaboury	Fieldex Exploration	Gaboury	Ni-Ag	GpEm(B), D (3:1 584)
117	31M07	Guillet	Conway Resources	Mine Belleterre	Au	S, T, Env, D (x:x), B(10 000 mt)
	Project description: Grab samples from a vein up to 3 m wide, which could be visibly traced for 240 m, yielded up to 12.38 g/t Au.					
118	31M07	Guillet	Exploration Aurtois	Belleterre Extrême Est	Au	D (x:x)
	Project description: Hole AUR-08-11 encountered an interval of 4.75 m grading 10.3 g/t Au.					

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
119	31M07	Guillet	Marathon Stone	Belleterre	DS	Pr, S
120	31M07	Guillet, Blondeau	Ressources Conway	Conway Paquin	Au	T, Met, S, B(x:x)
	Project description: Channel sampling on the Conway vein provided the following results: channel #3: 20.85 g/t Au; channel #5: 26.30 g/t Au; channel #2: 12.03 g/t Au; channel #4: 7.75 g/t Au. In addition, 6 tonnes of material were sent to the plant for processing.					
121	31M10	Delbreuil	Matamec Explorations	Tansim	REE	Pr, S
122	31M13, 14	Montreuil	Adventure Gold	Montreuil	Au	GpMa(G)
123	32D01	Bousquet	Agnico-Eagle Mines	Ellisson	Au	D (6:7584)
124	*32D01*	*Cadillac*	*Agnico-Eagle Mines*	*Mine Lapa*	*Au*	*D (17:1952)*
	Project description: The company began construction of two eastward drifts on levels 98 and 101 of the mine. Hole LA11-98-25 yielded a section of 2.8 m (true thickness) grading 15.5 g/t Au.					
125	32D01	Cadillac	Globex Mining Enterprises / Queenston Mining	Wood-Pandora	Au	D (7:x)
	Project description: Hole W-11-92 yielded a section of 4.9 m grading 28.86 g/t Au, including 1.1 m grading 121.70 g/t Au.					
126	32D01	Cadillac	Midland Exploration / Agnico-Eagle Mines	Maritime-Cadillac	Au	D (5:2145)
127	32D01	Cadillac	Radisson Mining Resources	O'Brien/Kewagama	Au	D (10:3050), Re
	Project description: The company obtained a certificate of authorization from the MDDEP to construct a 4600-m ramp to access levels located 350, 500 and 750 feet from Zone 36 in order to take a bulk sample and carry out underground exploration drilling. Hole RM 11-02 cut a section of 2.25 m grading 12.55 g/t Au.					
128	32D01	Cadillac	Renforth Resources	New Alger	Au	D (x:x),TE
	Project description: Hole REN-10-05 yielded a section of 18.2 m grading 3.10 g/t Au, including 1.00 m grading 10.60 g/t Au.					
129	32D02	Bousquet	IAMGOLD Corporation	Bousquet-Odino	Au	D (x:x)
130	**32D02**	**Bousquet**	**IAMGOLD Corporation**	**Westwood**	**Au**	**D (x:x), Re**
	Project description: Investments of $88.4 M were spent in 2011. Excavation of the shaft reached 1400 m; 2200 m of lateral and vertical development, as well as 15 000 m of exploration drilling, were carried out in the 3rd quarter.					
131	32D02	Joannès	Aurizon Mines	Joanna	Au	FM, Re, Met,TE, D (x:24 100)
	Project description: A resource calculation was announced in the summer of 2011. The Hosco Zone contains measured and indicated resources of 54.14 Mt @ 1.29 g/t Au and inferred resources of 7.67 Mt @ 1.15 g/t Au (cut-off of 0.5 g/t Au). The feasibility study should be finished for the second quarter of 2012.					
132	32D02	Joannès	Newbaska Gold and Copper Mines	Davidson Creek (Joannes)	Au-Cu-Ag	TE
133	32D02	Rouyn	Adventure Gold	Granada Extension	Au	D (4:900), G
134	32D02	Rouyn	RT Minerals Corp.	McWatters	Au	S, Pr,T, GpMa(G)
135	32D02	Rouyn	Savant Explorations	McWatters	Au	GpEl(B), D (4:2 433)
	Project description: Hole MCW-11-06 intersected 8.15 m grading 4.52 g/t Au including a section of 1.50 m grading 17.75 g/t Au.					
136	32D02	Rouyn	Threegold Resources / Osisko Mining Corporation	Adanac	Au	Pr, D (x:x), S, GpEm(B)
137	32D02	Rouyn	Gold Bullion Development Corporation	Mine Granada	Au	Re, D (224:41 230),TE
	Project description: Hole GR-11-256 intersected 98.00 m grading 1.21 g/t Au including an interval of 29.50 m grading 2.34 g/t Au.					

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
138	32D03	Rouyn	Visible Gold Mines	Stadacona-East	Au	D (2:x), Re
	Project description: A new resource calculation established inferred resources of 980 000 t @ 5.19 g/t Au, for 163 800 ounces of gold.					
139	32D03	Beauchastel	Cadillac Mining Corporation	Wasa	Au	G
140	32D03	Beauchastel	Pershimco Resources	Wasamac	Au-Ag	D (2:400), GpEm(G), S
141	**32D03**	**Beauchastel**	**Mines Richmont**	**Francoeur**	**Au**	**D (x:12 755)**
	Project description: 1249 m of development and 3718 m of definition drilling was carried out in the third quarter. A total of 8455 t of development ore was processed at the Camflo mill, yielding 702 ounces of gold. The start of commercial production is scheduled for the first half of 2012.					
142	32D03	Beauchastel	Richmont Mines	Globex option	Au	D (4:3350)
143	32D03	Beauchastel	Richmont Mines	Wasamac	Au	Re, D (94:51 938), GpEm(B)
	Project description: Hole WS-11-72 encountered an interval of 31.40 m (true thickness) grading 7.28 g/t Au. A new resource calculation was announced in December. The deposit contains measured and indicated resources of 6762 Mt @ 2.56 g/t Au and inferred resources of 25 686 Mt @ 2.58 g/t Au (calculated using a cut-off grade of 1.5 g/t Au). A drilling program of 32 000 metres is planned for early 2012.					
144	32D03	Beauchastel	RT Minerals Corp.	Bazooka	Au	D (x:x), GpMa(G), GpEm(G)
	Project description: Hole BRT-11-08 yielded an interval of 3.20 m with an average grade of 12.49 g/t Au.					
145	32D03	Beauchastel	Visible Gold Mines / Cadillac Mining Corporation	Kekeko	Au	D (2:1098)
146	32D03	Beauchastel	Visible Gold Mines / Cadillac Mining Corporation	Wasa Creek	Au	D (13:8 800), GpEm(G), GpEm(B)
	Project description: A 13-hole (8 800 m) drilling program was completed over the course of the summer. Hole LBCW-11-03 cut sections of 1.00 m @ 16.37 g/t Au, 1.50 m @ 19.73 g/t Au, and 3.50 m @ 2.76 g/t Au.					
147	32D03	Beauchastel	Visible Gold Mines / Cadillac Mining Corporation	Wasa East	Au	S, GpEm(G)
148	32D03	Beauchastel, Dasserat	Visible Gold Mines / Cadillac Mining Corporation	Kanasuta	Au	D (3:2 619)
149	32D02, 03	Beauchastel, Rouyn	Yorbeau Resources	Rouyn	Au	D (x:16 461), TE, Re
	Project description: On the Cinderella block, drill hole 11-CI-562 intersected 13.0 m grading 4.68 g/t Au, including 8.0 m grading 7.02 g/t Au (including 1.0 m @ 54.6 g/t Au).					
150	32D03	Dasserat	Richmont Mines	Lac Boissier	Au	GPEm(G)
151	32D03	Rouyn	Alexis Minerals Corporation / Thundermin Resources	Lac Pelletier	Au	FM
152	32D03	Rouyn	Visible Gold Mines / Cadillac Mining Corporation	Silidor	Au	D (28:8 000)
	Project description: Hole SI-11-30 returned a section of 13.50 m at 2.20 g/t Au.					
153	32D03, 04	Dasserat, Dufay	Semeco	Border	Au	S, Pr
154	**32D06**	**Beauchastel**	**Abcourt Mines**	**Mine Elder**	**Au**	**D (x:x), dewatering**
	Project description: Hole E10-45 cut an interval of 1.60 m grading 10.21 g/t Au. Dewatering of the underground workings, including 14 levels, started in May and should take 6 to 10 months.					
155	32D06	Dasserat	Richmont Mines	Lac Labyrinthe	Au	GpEm(G)
156	32D06	Dasserat	Rocmec Mining	Rocmec 1	Au	TE

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TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
157	32D06	Dasserat	Vantex Resources	Galloway	Au	D (x:x), TE, Re, B(3:x)
	Project description: Hole VPE-11-40 in the Moriss Zone returned sections of 1.50 m @ 48.91 g/t Au, 1.10 m @ 3.49 g/t Au and 1.30 m @ 2.28 g/t Au.					
158	32D06	Destor	Explor Resources	Destor	Au	TE, D (7:2487)
	Project description: Hole EXS-D-11-04 cut sections of 1.0 m grading 8.2 g/t Au and 1.0 m grading 2.25 g/t Au.					
159	32D06	Duparquet	Alexis Minerals Corporation	Baie D'Alembert	Au-Ag-Cu-Zn	D (2:654)
160	32D06	Duparquet	Brionor Resources	Pitt Gold	Au	Re, TE
	Project description: A resource calculation was completed over the course of the year. Indicated resources total 600 000 t @ 7.83 g/t Au, and inferred resources amount to 476 000 t @ 6.91 g/t Au (cut-off grade of 3 g/t Au).					
161	32D06	Duprat	Abcourt Mines	Tagami	Au	D (12:x)
	Project description: Hole T11-02 cut a section of 3.00 m grading 7.17 g/t Au.					
162	32D06	Duprat	Xstrata Canada Corporation / Alexis Minerals Corporation	NE Duprat	Au-Ag-Cu-Zn	D (2:1547)
163	32D06	Duprat	Xstrata Canada Corporation / Alexis Minerals Corporation	Rivière Mouilleuse	Au-Ag-Cu-Zn	D (1:579), G
164	32D06	Montbray	Xstrata Canada Corporation / Alexis Minerals Corporation	Lac Montbray-Four Corners	Au-Ag-Cu-Zn	G, S, Pr
165	32D06, 07	Dufresnoy	Xstrata Canada Corporation / Alexis Minerals Corporation	Dufresnor	Au-Ag-Cu-Zn	GpEm(G)
166	32D06, 11	Duparquet, Destor	Xmet / Globex Mining Enterprises	Duquesne-Ottoman	Au	Re, D (x:x), T, E
	Project description: A resource calculation was completed in October. The deposit contains an inferred resource of 4.171 Mt @ 5.42 g/t Au for a total of 727 000 ounces of gold. Hole DO-11-38 in the Shaft Zone returned an interval of 5.10 m grading 8.77 g/t Au.					
167	32D07	Aiguebelle	Typhon Exploration / Agnico-Eagle Mines	Aiguebelle-Goldfields	Au	D (3:1103)
168	32D07	Aiguebelle, Cléricy, Destor	Typhon Exploration / Aurizon Mines	Fayolle	Au-Ag	D (62:21 470), Re, T, S, GpEm(A), GpMa(A)
	Project description: The partners carried out airborne magnetic and electromagnetic surveys, prospecting, and geological mapping. A 50 000-metre drilling program was planned for the 2011 year. Hole FAX-11-55 yielded a section of 30.0 m grading 14.9 g/t Au including 6.0 m grading 60.9 g/t Au.					
169	32D07	Aiguebelle, Destor	Typhon Exploration / Diamond Frank Exploration	Destorbelle	Au	D (4:1322)
170	*32D07*	*Bousquet*	*IAMGOLD Québec Management*	*Mouska mine*	*Au*	*Er, D (x:14 829)*
171	32D07	Cléricy	Xstrata Canada Corporation / Alexis Minerals Corporation	Noralex	Au-Cu-Zn-Ag	D (15:4744), GpEm(G), Pr
	Project description: Hole NA 10-27 returned a section of 2.0 m grading 13.1 g/t Au including a zone of 0.5 m grading 48.97 g/t Au.					
172	32D07	Cléricy, La Pause	Midland Exploration / Osisko Mining Corporation	Dunn	Au	D (6:717)
173	32D07	Joannès	Xstrata Canada Corporation / Alexis Minerals Corporation	Ruisseau Davidson-Lac Marillac	Au-Ag-Cu-Zn	D (2:578)
174	32D07	La Pause, Cléricy	Midland Exploration / Aurizon Mines	Patris	Au	D (16:3 007), Pr, GpEm(G), T
175	32D07	Manneville	Xstrata Canada Corporation / Cartier Resources	Xstrata-option	Au-Cu-Zn-Ag	D (17:4 108), GpEm(G)
176	**32D08**	**Cadillac**	**Agnico-Eagle Mines**	**LaRonde Extension**	**Cu-Zn-Au-Ag-Pb**	
	Project description: On November 22, 2011, the company announced the start-up of production at the LaRonde Extension mine, which includes everything below level 245 of the Penna shaft. The LaRonde Extension mine is expected to operate until 2026.					

TABLE 4.4 - **Exploration projects in the Abitibi-Témiscamingue administrative region in 2011**[1] (see figures 4.4, 4.5 and 4.6).

Nº	NTS	TOWNSHIP	COMPANIES / PROSPECTORS	PROJECT	COMMODITIES	EXPLORATION WORK
177	*32D08*	*Cadillac*	*Agnico-Eagle Mines*	*Mine LaRonde*	*Cu-Zn-Au-Ag-Pb*	*D (x:19 300)*
	Project description: The company carried out exploration work to test the proposed scenario of mining the Bousquet 5 zone by open pit, and the Ellison Zone by underground methods, west of the LaRonde mine.					
178	32D08	Preissac	Golden Valley Mines	Steeloy	Mo-Ag	Pr, S, GpMa(G), GpEm(G)
179	**32D09**	**Launay, Trécesson**	**Royal Nickel Corporation**	**Dumont**	**Ni-PGE**	**D (170:63 000), Met, EF, Re, TE, GpEM(B)**
	Project description: A positive prefeasibility study was published in November 2011. Contingent on a positive feasibility study and successfully obtaining all necessary permits, the company is planning an open-pit mine with an initial production capacity of 50 ktpd, increasing to 100 ktpd by Year 5. Production is scheduled to start at the end of 2015, with a mine life of 31 years.					
180	32D09	Trécesson	Knick Exploration / Carat Exploration	Trecesson Gold	Au	S, D (x:2000)
	Project description: 65 samples were collected during field work. The best results include: 18.21 g/t Au (#21981); 9.50 g/t Au (#21911) and 5.07 g/t Au (#21967). The holes were drilled on the Cossette Nord and Cossette Sud zones. Hole TR-11-61 cut a section of 3.8 m grading 14.22 g/t Au.					
181	32D09	Trécesson	Pershimco Resources	Trecesson	Cu-Zn-Au-Ag	D (4:1600), GpEm(G)
182	32D10	Launay	Melkior Resources	Launay	Au	GpEm(G)
183	32D10	Privat	Trijet Mining Corporation	Letourneur	Au	D (12:2 600), GpEm(A), GpMa(A)
184	32D11	Destor	Clifton Star Resources	Duquesne	Au	D (x:x), Re, GpEm(A), GpMa(A), T, Pr
185	32D11	Duparquet	Clifton Star Resources	Donchester	Au-Ag	D (x:x), Re, GpEm(A), GpMa(A), T, Pr
186	32D11	Duparquet	Clifton Star Resources	Mine Beattie	Au-Ag	D (x:x), Re, GpEm(A), GpMa(A), T, Pr
	Project description: A new resource estimate was completed for the Beattie deposit, establishing an inferred resource of 56.2 Mt @ 1.53 g/t Au, for a total of 2.77 M ounces, using a cut-off grade of 0.67 g/t Au.					
187	32D16	Berry, Desboues	Exploration Canuck / Stratabound Minerals Corp.	Gemini Hill	Au	Pr, GpMa(G), GpEm(G), T

1- See legend of abreviations and the meaning of bold and italic types in Appendix 2.

TABLE 4.5 - **Exploration projects in Québec (Abitibi-Témiscamingue and Nord-du-Québec regions excluded) in 2011** [1] (see figure 4.7).

N°	NTS	ADMINISTRATIVE REGION / GEOLOGICAL PROVINCE	COMPANIES / PROSPECTORS	PROJECTS	COMMODITIES	EXPLORATION WORK
Outaouais administrative region (07)						
1	31K10, 15	07 / Grenville	Matamec Explorations	Vulcain	Ni-Cu	GpMa(A), GpRa, Pr
2	31J04	07 / Grenville	Midland Exploration / Zincore Metals	Gatineau Zinc (Leitch, Bouchette)	Zn	GpGr, D (10:1984), T
	Project description: An itersection graded 3.8% Zn over 1.85 m, including 6.6% Zn over 0.80 m, in the southern part of the Leitch property (hole GAT-11-03). Disseminated sphalerite was encountered in a hole drilled in the eastern part of the Bouchette property with 3.24% Zn over 2.0 m, including 6.68% Zn over 0.5 m (hole GAT-11-07).					
3	31J04	07 / Grenville	Canwealth Minerals Corp.	Golden Bear	Au-Ag-Cu	S
4	31G11,14	07 / Grenville	Canwealth Minerals Corp.	Shadow Mountain	Au-Ag-Cu-Ni-REE	S, D (x:x)
Laurentides administrative region (15)						
5	31J06	15 / Grenville	Richmond Minerals / Mag Copper	Bondy	Fe-Cu-Au-Ag	D (3:1000)
6	31J13	15 / Grenville	Canwealth Minerals Corp.	Winsome Lake	PGE-REE-U	S
7	31O06	15 / Grenville	Geomega Resources / Corporation minière NioGold	Pump Lake	Fe-Cu-Au-P-Mo-Nb-REE-U	G, Gs(sl), Pr
Lanaudière administrative region (14)						
	n/a	n/a	n/a	n/a	n/a	n/a
Mauricie administrative region (04)						
8	31O15	04 / Grenville	Globex Mining Enterprises	Lamy	Phlogopite (mica)	Pg
	Project description: In August 2011, Globex Mining Enterprises Inc acquired the Lamy property. This property is located at Parent, near a railroad. The deposit, discovered in 1964, contained 70 to 90% mica in addition to apatite as a secondary mineral.					
9	31O16	04 / Grenville	Globex Mining Enterprises	Siscoe	Phlogopite (mica)	Pg
	Project description: In August 2011, Globex Mining Enterprises acquired the Siscoe property. This property is located about 18 km east of Parent. This former mica and apatite mine was active from 1946 to 1948. It still contains 1.17 million tonnes of ore, comprising 60% phlogopite and 10% apatite.					
10	31P12	04 / Grenville	Canada Rare Earths	Manouane	REE	Pg
	Project description: In September 2011, Canada Rare Earths acquired the Manouane property on the edge of Lac Châteauvert, about 90 km west of La Tuque. The target is an alkaline granite near which the company's compilation work revealed historical geochemical data for yttrium, lanthanum and samarium anomalies in sediments.					
Capitale-Nationale administrative region (03)						
11	31P01	02 / Grenville	Bordures Polycor	Rivière à Pierre	Architectural stone	FM
	Project description: The *Ministère du Développement économique, de l'Innovation et de l'Exportation* granted $50 000 to the firm Bordures Polycor for an investment project worth over a million dollars, aimed at diversifying production at the Rivière-à-Pierre plant by developing a range of high-end natural stone products for outdoor residential use. The firm provides natural stone products all across North America from more than 35 quarries. Polycor holds several claims in the Portneuf area, as well as elsewhere in Québec, with the goal of opening new quarries for architectural stone.					

1- See legend of abbreviations and the meaning of bold and italic type in Appendix 2.

TABLE 4.5 - **Exploration projects in Québec (Abitibi-Témiscamingue and Nord-du-Québec regions excluded) in 2011** [1] (see figure 4.7).

N°	NTS	ADMINISTRATIVE REGION / GEOLOGICAL PROVINCE	COMPANIES / PROSPECTORS	PROJECTS	COMMODITIES	EXPLORATION WORK
Région administrative du Saguenay–Lac-Saint-Jean (02)						
12	***22D11***	***02 / Grenville***	***IAMGOLD Corporation***	***Mine Niobec***	***Nb***	***FM***
	Project description: In 2011, IAMGOLD performed a preliminary economic assesment study for an expansion project at its Niobec mine. The study determined that the company could triple its annual niobium production from its current level of 15 million kilograms per year. This represents an increase of 691% in measured and indicated resources, to 1.93 billion kilograms of Nb_2O_5 over the mine's 40-year life.					
13	22D11	02 / Grenville	IAMGOLD Corporation	Zone REE	REE	D (22:21 000)
	Project description: In 2011, IAMGOLD undertook rare earth exploration work in the area adjacent to its Niobec niobium mine. The work notably included a diamond drilling program totalling 21 000 metres, with 8500 metres directed at the rare earth zone. The main elements of interest were cerium (Ce), lanthanum (La), neodymium (Nd), praseodymium (Pr), samarium (Sm), gadolinium (Gd), europium (Eu), dysprosium (Dy) and terbium (Tb).					
14	22D11	02 / Grenville	Dios Exploration	Shipshaw	Nb-REE	D (19:4518), G, S
	Project description: The Shipshaw Carbonatite Complex was discovered in the spring of 2010 while drilling a strategic metals and rare earth target. The target consisted of a circular magnetic low located 7 km from the active Niobec niobium mine. A total of 19 drill holes totalling 4518.6 m tested the northern half of the Shipshaw anomaly in 2011. XRF analyses yielded grades of more than 0.05% Nb_2O_5 and up to 0.251% Nb_2O_5 over 33 metre-scale drill sections.					
15	22D11	02 / Grenville	Micrex Devolopment Corp.	Saint-Charles	REE-Ti-V-P	D (21:2100), Pg, S
	Project description: The Saint-Charles-de-Bourget iron and titanium deposit is being re-assessed for its rare earth and vanadium potential. This deposit is located on the north shore of Rivière Saguenay, midway between Alma and Jonquière. In 2011, the company completed a 21-hole drilling program, each hole measuring 100 metres long and spaced 100 m apart.					
16	**22E10, 15**	**02 / Grenville**	**Arianne Resources**	**Lac à Paul**	**P-Ti**	**FM, D (x:x)**
	Project description: In November 2011, Arianne Resources announced that its prefeasibility study for the Lac à Paul project confirmed the viability of an open-pit phosphorous mine with a mine life of 25 years. The measured and indicated resources amount to 348 million tonnes @ 6.50% P_2O_5. In 2011, 16 holes totalling 4664 m were drilled on the Paul Zone. Eighteen (18) other holes totalling 3561 m were drilled in the Nicole area. Holes were also drilled in the Lise and Traverse areas, totalling 1872 metres. The objective for drilling the Manouane Zone was to increase the resource and convert inferred resources into indicated or measured resources. The most significant intersections contained 5.22% P_2O_5 over 250.8 m and 6.79% P_2O_5 over 133.1 m. The Manouane Zone was enlarged by 56% and is now 1000 m long by 250 m wide. It remains open to the east along its length.					
17	22L07, 08	02 / Grenville	Glen Eagle Resources	Lac Lisette	P	Pg, S
	Project description: In 2011, Glen Eagle Resources acquired the Lac Lisette property 150 km north of Lac Saint-Jean, in the Lac-Saint-Jean Anorthosite Complex. Samples from surface channels contained high phosphate concentrations; the best results were 5.69 % P_2O_5 over 6.5 metres and 7.29 % P_2O_5 over 2 m.					
18	**32H07, 10**	**02 / Grenville**	**MDN**	**Anita**	**Ta-Nb**	**FM, D (8:1063)**
	Project description: MDN is continuing with its development of this project by investing in a feasibility study that began in March 2010. All 8 holes drilled in 2010 (total of 1 063 m) cut the nepheline syenite containing niobium and tantalum mineralization, and analytical results revealed that all holes had intercepted grades similar to the typical grades at the Crevier main deposit. This work extended the mineralized zone for another 400 metres to the south. The current measured and indicated resource for the Crevier deposit is 25.4 million tonnes grading 0.196% Nb_2O_5 and 234 ppm Ta_2O_5.					
19	32G09	02 / Superior	Ressources Cartier	Dollier	Au	D (x:3275), T, S
	Project description: The Main Gold Zone has been confirmed over more than a kilometre in length following stripping work carried out in 2010. The best gold values from channel samples were 2.08 g/t Au over 1.1 m and 0.88 g/t Au over 3.2 m. The 2011 drilling program totalled 3275 m. The aim was to define gold-enriched zones found within auriferous shear zones that can be traced for more than 2 km. Recent work demonstrated the gold potential at surface, with many channel samples yielding up to: 3.85 g/t Au over 3.2 m, including 9.17 g/t Au over 1.1 m; 7.94 g/t Au over 1.0 m; 7.08 g/t Au over 1.0 m; and 3.62 g/t Au over 2.0 m. Mineralization is associated with a deformation corridor, accompanied by mylonitized porphyry dykes.					
20	32G08, 09	02 and part of 10 / Grenville Front	Priority Uranium Corp.	Frontline - Lac Malo	U-Cu-Au	GpMa(G), Pr
21	32G08	02 and part of 10 / Superior	Priority Uranium Corp.	Joe Mann East	Au-Cu	GpMa(G), Pr

1- See legend of abbreviations and the meaning of bold and italic type in Appendix 2.

TABLE 4.5 - **Exploration projects in Québec (Abitibi-Témiscamingue and Nord-du-Québec regions excluded) in 2011** [1] (see figure 4.7).

N°	NTS	ADMINISTRATIVE REGION / GEOLOGICAL PROVINCE	COMPANIES / PROSPECTORS	PROJECTS	COMMODITIES	EXPLORATION WORK
Côte-Nord administrative region (09)						
22	22K04	04 / Grenville	Nevado Resources Corporation	La Blache #1 Iron-Titanium-Vanadium	Fe-Ti-V	D (36:12 603), Met, S, Re
	Project description: On the Farrell-Taylor block, hole FT-10-25 intersected a section of 71.1 m grading 65.2% Fe_2O_3 and 19.7% TiO_2. Pilot plant-scale metallurgical tests were also conducted to extract iron, titanium and vanadium.					
23	22K04, 03	09 / Grenville	Nevado Resources Corporation	La Blache #2	Fe-Ti-V	Pr, S, D (x:x), GpMa(A)
	Project description: In all, 179 grab and channel samples were collected at 18 new showings. The average Fe and Ti grades for 5 areas were announced. At the Prospector Lake South showing, the average for 19 samples yielded 42.43% Fe(total) and 21.87% TiO_2. Vanadium results are pending.					
24	22K04	09 / Grenville	Argex Silver Capital	La Blache (East and West Hervieux)	Ti-Fe-V-Mg	Re, FM, TE, Met, Env, D (x:x)
	Project description: A resource estimate was completed for the East Hervieux and West Hervieux deposits. Measured and indicated resources amount to 30 888 Mt @ 63.29% Fe_2O_3, 18.78% TiO_2 and 0.45% V_2O_5, and inferred resources total 13 013 Mt @ 63.06% Fe_2O_3, 18.67% TiO_2 and 0.43% V_2O_5 (cut-off grade of 40% Fe).					
25	22F13	09 / Grenville	Jourdan Resources	Dissimieux Lake Titanium-Phosphate-Rare Earth Elements	Ti-P-REE	Pr, G, S
	Project description: Grab samples yielded the following results: 7.90% P_2O_5 (J413055) and 6.19% P_2O_5 (J413042).					
26	*23B14*	*09 / Grenville*	*Cliffs Natural Resources*	*Lac Bloom*	*Fe*	
	Project description: On May 13, 2011, the company announced it had acquired the mine from Consolidated Thompson Iron Mines.					
27	23B06	09 / Grenville	Champion Minerals / Fancamp Exploration	Fermont (17 properties)	Fe	Re, Met, D (x:+ de 60 000m), Env, TE, FM
	Project description: A resource estimate was completed for the East, West and Don deposits on the Fire Lake North block. These three deposits contain measured resources of 8.4 Mt @ 35.0% Fe(total), indicated resources of 391.7 Mt @ 30.5% Fe(total) and inferred resources of 661.2 Mt @ 27.7% Fe(total) [cut-off grade of 15% Fe(total)]. On the Oil Can block, hole OC11-02 yielded a section of 401.50 m with an average grade of 30.7% Fe(total).					
28	22P08, 12M05	09 / Grenville	Fancamp Exploration	Magpie	Fe-Ti-Cr	D (31:8124), Re, Met
	Project description: Hole PM-11-09 yielded an interval of 274.5 m grading 42.72% Fe(total), 11.26% TiO_2 and 1.58% Cr_2O_3.					
29	23B06	09 / Grenville	Fancamp Exploration	Lamellée Lake	Fe-Mg	GpMa(A), GpGr(A), G, D (17:5864)
	Project description: Hole LS-2011-08 yielded an interval of 52.0 m grading 20.2% Fe(total) and 185.9 m grading 25.5% Fe(total).					
30	23B06	09 / Grenville	Nevado Resources Corporation	Fermont	Fe	GpMa(A)
31	12K07	09 / Grenville	Ditem Explorations	Lalande	REE	Pr, G, Gp(G), S
	Project description: A total of 173 samples were collected in four areas, including the A Zone where two showings were identified at surface with grades up to 5.6% and 6.13% REE_2O_3, including up to 1.4% La_2O_3, 0.4% Pr_2O_3, 1.4% Nd_2O_3, 0.14% Dy_2O_3 and 1.05% Y_2O_3.					
32	23B11	09 / Grenville	Focus Metals	Lac Knife	Graphite (C)	Re, FM, B (x:x), D (12:1233)
	Project description: A resource estimate was published at the end of 2011. The measured and indicated resource is 4 972 140 t @ 15.67% carbon-as-graphite (Cgr), and the inferred resource is 3 000 225 t @ 15.58% Cgr (cut-off grade of 5% Cgr).					

1- See legend of abbreviations and the meaning of bold and italic type in Appendix 2.

TABLE 4.5 - **Exploration projects in Québec (Abitibi-Témiscamingue and Nord-du-Québec regions excluded) in 2011** [1] (see figure 4.7).

N°	NTS	ADMINISTRATIVE REGION / GEOLOGICAL PROVINCE	COMPANIES / PROSPECTORS	PROJECTS	COMMODITIES	EXPLORATION WORK
Région administrative de la Côte-Nord (09)						
33	22P03	09 / Grenville	Gitennes Exploration	Blue Ice	REE-Li-Be-Ni-Cu	G, S, Pr
	Project description: Grab samples yielded grades up to: La - 306.8 ppm; Ce - 1031.6 ppm; Sm - 422.7 ppm; Zr - 476.1 ppm; Nb - 18571 ppm and Ta - 4905.8 ppm (sample 31788).					
34	22J07	09 / Grenville	SOQUEM / Yara	Sept Îles	P	D (8:2604)
35	22P03	09 / Grenville	Focus Metals / SOQUEM INC.	Kwyjibo	REE-P-F-Mo-U-Au-Cu	GpEm(G), T, Met (100 kg), G, D (12:2604)
	Project description: Holes drilled on various showings were re-analyzed: at the Josette showing, hole 1088-95-29 yielded an interval of 29.98 m grading 2.52% REE_2O_3, 0.15% Cu, 3.70% P_2O_5 and 49.9% Fe_2O_3; at the Fluorine showing, hole 1088-94-24 yielded a section of 15.33 m grading 0.80% REE_2O_3, 0.01% Cu, 3.04% P_2O_5 and 46.84% Fe_2O_3.					
36	22F16	09 / Grenville	St-Georges Platinum and Base Metals	North Shore Flagship (Julie and Isukoustouc)	Pt-Pd-Rh-Cu-Co-Ni	S, D (x:2100), GpMa(A), GpGr(A), GpEm(A)
	Project description: On the Julie block, sampling along a 1.5-km-long zone yielded the following results: 0.36% Cu, 1.85% Ni and 20.10% Fe (#2221) and 0.35% Cu, 2.09% Ni and 22.00% Fe (#2228).					
37	12K12, 12L07, 08, 09	09 / Grenville	Uracan Resources	North Shore	U	Pr, S, G, Re, Gs(I), GpRa(A) (G), D (x:x)
	Project description: A resource estimate was completed for the Double S Zone. It contains an indicated resource of 21.504 Mt @ 0.014% U_3O_8 and an inferred resource of 59.960 Mt @ 0.012% U_3O_8 (cut-off grade of 0.010% U3O8). In the Costebelle area, 18 holes were drilled for a total of 3156 m. In the A4 Zone, hole CA4-11-42 yielded sections of 10.5 m grading 0.048% U_3O_8 and 43.5 m grading 0.019% U_3O_8. In the Pontbriand area, work included mapping, prospecting and channel sampling on the A, B, C and D zones. Channels yielded sections of 7.0 m grading 0.041% U_3O_8 and 17.0 m grading 0.039% U_3O_8.					

1- See legend of abbreviations and the meaning of bold and italic type in Appendix 2.

TABLE 4.5 - **Exploration projects in Québec (Abitibi-Témiscamingue and Nord-du-Québec regions excluded) in 2011** [1] (see figure 4.7).

Nº	NTS	ADMINISTRATIVE REGION / GEOLOGICAL PROVINCE	COMPANIES / PROSPECTORS	PROJECTS	COMMODITIES	EXPLORATION WORK
Estrie administrative region (05)						
38	21E04, 05	05 / Appalachians	Uragold Resources	McDonald	Au	Gs(t)
39	21E12	05 / Appalachians	Fancamp Exploration	Stoke	Au-Cu-Zn	Gp, Pr, D (x:x)
	Project description: An intersection of 6.40 m grading 7.29% Cu was obtained (hole ST-2011-06) in sequence of highly altered volcanic rocks belonging to the Ascot-Weedon Volcanic Belt.					
40	21E05, 11, 12, 13, 14, 31H01, 08, 09	05 / Appalachians	Bowmore Exploration	St-Victor (Wotton, Wotton nord-ouest, Gerard)	Au	D (8:1627)
	Project description: Bowmore drilled gold-bearing zones about 15 km east of Asbestos in sedimentary rocks belonging to the Saint-Victor Formation. At the Wotton Zone in the northwest part of the St-Victor property, a hole returned 0.35 g/t gold over 155 m and three other holes returned between 0.21 and 0.30 g/t Au for sections measuring 18 to 58 m. Elsewhere, in holes drilled on the Wotton and Gerard zones, gold grades of 0.10 to 0.16 g/t Au were obtained over thicknesses of tens of metres; a drill hole on the Wotton Zone yielded 0.21 g/t over 8 m.					
41	21E07	05 / Appalachians	Fancamp Exploration	Clinton	Cu-Zn	D (x:x)
	Project description: Hole CL-2011-03 returned an intersection grading 1.90% Cu over 3.0 m, including 3.15% Cu, 1.88% Zn and 0.25% Pb over 1.60 m.					
42	21E03,06, 07, 10, 11	05 / Appalachians	Oceanus Resources Corp.	Lac Mégantic	Au	S, G, Pr
43	21E10, 15, 16	05 and part of 12 / Appalachians	Fancamp Exploration	North Megantic	Cu-Zn	S, GpEm(A), D (2:x), T
44	21E15	05 / Appalachians	J.A.G. Mines	St-Robert	Pb-Zn-Ag-Cu-W-Sb-Mo-Au	G, Gc(ro), GpEm(S), GpGr, GpMt(S)
Centre-du-Québec administrative region (17)						
	n/a	n/a	n/a	n/a	n/a	n/a
Chaudière-Appalaches administrative region (12)						
45	21L03	12 / Appalachians	Diamond Discoveries International Corp.	Caribou	Cr-PGE	Pg
46	21L02	12 / Appalachians	Fancamp Exploration	Beauce	Au	GpEm(A)
47	21L02	12 / Appalachians	Uragold Bay Resources	Beauce Placer Gold	Au	D (11:390)
	Project description: Uragold Bay plans on working a paleoplacer that runs parallel to the south shore of Rivière Gilbert, previously mined by the Beauce Placer Company in the early 1960s. In 2011, the company drilled 11 holes in glacial deposits for a total of 390 metres. The work detected visible gold within a basal till. The work also succeeded in identifying an exploration target containing gold concentrations ranging from 0.3 g/m^3 in a volume of 930 000 m^3 and 3.69 g/m^3 in a volume of 100 000 m^3.					
48	21L09	12 / Appalachians	Golden Hope Mines	Bellechasse (Timmins)	Au	D (8:4800), T
	Project description: The Timmins gold deposit consists of quartz-carbonate-sulphide-gold veins in gabbro. The deposit was the target of 8 diamond drill holes in 2011. The best mineralized intersections graded 1.33g/t Au over 112 metres, 9.24 g/t Au over 13 metres, 3.13 g/t Au over 9 metres and 2.16 g/t Au over 6 metres. Trenches were also excavated on the property. The best assay results for trench samples were 6.49 g/t Au over 6 metres and 3.37 g/t Au over 6 metres.					
49	21L09	12 / Appalachians	Golden Hope Mines	Bellechasse (Champagne)	Au-Ag-Cu-Zn-Pb	D (x:x)

1- See legend of abbreviations and the meaning of bold and italic type in Appendix 2.

TABLE 4.5 - **Exploration projects in Québec (Abitibi-Témiscamingue and Nord-du-Québec regions excluded) in 2011** [1] (see figure 4.7).

N°	NTS	ADMINISTRATIVE REGION / GEOLOGICAL PROVINCE	COMPANIES / PROSPECTORS	PROJECTS	COMMODITIES	EXPLORATION WORK
Bas-Saint-Laurent administrative region (01)						
50	*21N06,07*	*01 / Appalachians*	*Ardoisière du Témis*	*Ardoise - Témiscouata*	*Ardoise*	*Pg*
Gaspésie–Îles-de-la-Madeleine administrative region (11)						
51	22G01	11 / Appalachians	Matamec Explorations	Valmont	Au-Ag-Zn-Pb	Gs, Pg
52	22A13	11 / Appalachians	Xstrata Canada Corporation	Mont Porphyre	Cu	D (9:1800), Pg
	Project description: Xstrata continued it copper exploration work on the Mont Porphyre property located near the former Murdochville mine. At least 9 holes totalling 1800 metres were drilled. The resource at Mont Porphyre is estimated at more than 200 million tonnes @ 0.73% Cu and 0.08% Mo. The great depth of the deposit will require specialized mining techniques.					
53	22H03	11 / Appalachians	Habanero Ressources	Grande-Vallée Nord	Al	Pg
54	**22H03**	**11 / Appalachians**	**Orbite Aluminae**	**Grande-Vallée**	**Al**	**TE, FM, B (3000 mt), D (45:4631)**
	Project description: In November 2011, Orbite Aluminae announced it had received a favourable preliminary economic assessment for its metallurgical aluminum pilot plant. The production capacity for the plant will be about 539 700 tonnes per year of alumina, 189 000 tonnes of pure hematite, 1.2 million tonnes of high-purity silica, 28 000 tonnes of magnesium oxides and 104 000 tonnes of other value-added oxides as well as 820 tonnes of rare earths in the form of oxides (dysprosium, erbium, europium, yttrium, cerium, neodymium, praseodymium, terbium and rare metals such as gallium and scandium). In parallel with the development of its plant, the company will continue its exploration work by drilling and bulk sampling its Grande-Vallée aluminous clay deposit.					

1- See legend of abbreviations and the meaning of bold and italic type in Appendix 2.

CHAPTER 5

DEPOSIT APPRAISAL AND MINE DEVELOPMENT

Martin Bernatchez, Denis Blackburn, Germain Girard, Jacinthe Paquet and Denis Raymond

During 2011, twenty-eight mining projects reached or remained in the deposit appraisal phase (Figure 5.1; Table 5.1) and nine projects were in the mine development phase (Figure 5.1; Table 5.2).

The **Plan Nord**, announced on May 9, 2011, has launched its first project – the construction of the "Route des Monts Otish". This long road will provide, among other things, improved access to a remote northern part of the province known for its strong mineral potential. A number of projects at the deposit appraisal or mine development phase are currently active in this region, including those for diamonds (Renard), uranium (Matoush) and copper (MacLeod Lake).

Several mining companies have shown an interest in the Plan Nord and being involved in the development of mining projects in the territory it covers, which includes, in whole or in part, the Nord-du-Québec, Côte-Nord, and Saguenay–Lac-Saint-Jean regions.

5.1 Deposit appraisal

Apatite

In Québec, two apatite projects are at the deposit appraisal phase. Firstly, the State-owned company **Investissement Québec** and the Norwegian company **Yara International ASA**, a world leader in fertilizers, are partners in the future **Arnaud** mine, located in Sept-Îles. The feasibility study for the **Arnaud** project was completed in November 2011. Development and construction work is scheduled to begin in 2013 and production in 2015, with an annual production of 1 million tonnes of apatite concentrate. The estimated cost for the project is $800M, and should generate jobs for about 200 people.

Secondly, the **Lac à Paul** project, property of **Phosphate Canada**, a subsidiary of **Arianne Resources**, is located south of the Chute-des-Passes electric power station in the Saguenay–Lac-Saint-Jean region. The feasibility study was filed in November 2011 and confirms the economic viability of the project. An environmental impact study is underway. The estimated cost for the project is $650M, with an expected annual production of two million tonnes of apatite concentrate. The project will create 250 jobs.

Copper-molybdenite

Northwest of the Otish Mountains, **Western Troy Capital Resources** plans to complete a feasibility study and an environmental and social impact study for its **MacLeod Lake** copper-molybdenite project during the second quarter of 2012. Construction will begin in 2012 and open-pit mining will start up in 2015. The estimated cost for the project is $210M.

Diamonds

North of the Otish Mountains and 360 km north of Chibougamau, **Stornoway Diamond Corporation** published the results of its feasibility study for the **Renard** diamond project in November 2011. The estimated cost for the project is $802M. Public hearings at the provincial and federal levels will be held during the first quarter in 2012. Construction will begin in July 2012 and production in July 2015. Operations at this mine will create 300 jobs.

The Québec government has committed to investing $279M in March 2011 for the northern extension of Route 167 towards the Otish Mountains. **Stornoway Diamond Corporation** will contribute $44M to building the 243-km road, and $1.2M each year for its maintenance. Construction will begin in spring 2012.

Rare earth elements

There are two major deposit appraisal projects for rare earth elements in the province. First, about 200 km northeast Schefferville, work by **Quest Rare Minerals** is progressing rapidly on its **B-Zone** project on the **Strange Lake** property, with a view to completing a feasibility study for an open-pit mine and a mill. The company plans on producing rare earth concentrate, as well as niobium, zirconium and hafnium concentrates. The estimated initial investment is $565M for an annual production of about 60 Kt of concentrate over at least 25 years. Mining will begin in 2016 and create 190 jobs.

In the Témiscamingue region, **Matamec Exploration** is continuing its geological work and assessment of the rare earth mineral resources at its **Kipawa** deposit on its **Zeus** property. The results of metallurgical tests were used to develop concentration and mining processes suitable for eudialyte ore. A non-binding letter of intent with **Toyota Tsusho Corporation** may facilitate project development. Heavy rare earths are the primary target. An open pit mine and an on-site mill are envisioned.

Iron

In April, **Adriana Resources** unveiled the main results of a preliminary economic assessment for its **Lac Otelnuk** project. The estimated initial investment is $13B for an annual production of 50 Mt of pellets over at least 35 years. The feasibility study is expected in early 2013. Mining may start up in 2016 and would potentially create about 200 jobs.

In September, **Oceanic Iron Ore Corporation** published the main results for a preliminary economic assessment for its Hopes Advance Bay project. The estimated initial investment is $3.7B for an annual production of 20 Mt of concentrate over at least 25 years. Mining may start up in 2016.

In November, **Champion Minerals** revealed the main results of a preliminary economic assessment for its **Fire Lake North** project. The estimated initial investment is $1.4B for an annual production of 8.7 Mt of concentrate over at least 40 years. The results were sufficiently encouraging to prompt the company to conduct a feasibility study. Mining operations could begin in 2015 and would create 475 jobs.

About 50 km northwest of Schefferville, **New Millennium Iron Corporation** and its Indian partner, **Tata Steel Minerals Canada**, have undertaken a feasibility study on their **Kémag Taconite** iron project. The estimated initial investment is $4.7B for an annual production of 22 Mt of pellets for 35 years. The results of the feasibility study are expected at the end of 2012. Mining could start in 2016 and would create 1,000 jobs.

The company **Century Iron Mines Corporation** is continuing to explore various iron properties, including the **Lac Duncan** project.

Iron-titanium-vanadium

South of Chibougamau, **Blackrock Metals** published the results of a feasibility study for its **Blackrock** vanadiferous magnetite project. The estimated initial investment is $600M for an annual production of 2.5 Mt of concentrate over 15 years. The announcement of the development and construction of this mine is expected in spring 2012. Mining could start up in 2013 and would create 165 jobs.

Graphite

Focus Metals, based in British Columbia, acquired the **Lac Knife** project, near Fermont, from IAMGOLD in 2010. The company intends to mine the graphite deposit in 2014 to supply the market for large format batteries for electric vehicles. A detailed resource report was filed in December 2011.

Lithium

At kilometre 383 of the road leading to Radisson, the **Lithium One – Galaxy Resources** partnership is actively working on the **James Bay Lithium** project. Various work, metallurgical testing, and technical studies for open-pit mining and an on-site mill are under way. The possibility of building a lithium carbonate production plant is also being assessed. A feasibility study is scheduled for 2013.

Located 30 km north of the Cree community of Nemaska, **Critical Elements Corporation** published the results of a preliminary economic scoping study for its **Rose Tantalum-Lithium** project in November 2011. The company plans to extract lithium and tantalum from an open-pit mine and concentrate it on site. It is also examining the option of building a lithium carbonate production plant in Québec; this would be a $270M project. The company has started various work, tests, and studies that will be used for the feasibility study scheduled for 2012.

Nemaska Lithium continued deposit appraisal work at its **Whabouchi** lithium and beryllium project. This project is located approximately 30 km east of the Cree community of Nemaska and about 280 km north of Chibougamau. The preliminary economic scoping study was completed in March 2011, and a NI 43-101 compliant resource estimate for the deposit was published in July 2011. The intended project, with an estimated cost of approximately $90M, would involve an open-pit mine and an on-site concentrator. Development and construction are expected to begin in April 2013, and the start-up of operations in August 2014. The company is also exploring the possibility of building a processing plant in Québec.

Located 100 km north of Chibougamau, the **Perilya Resources – SOQUEM** partnership has completed an exploration program and a new resource estimate for its **Moblan** project. Both partners are continuing various work and studies for a feasibility study.

In Abitibi, near Canada Lithium's Québec Lithium project, **Glen Eagle Resources** is continuing work on its **Authier** project, with the aim of doing a feasibility study. The results of the preliminary economic scoping study are expected at the beginning of the year.

Nickel, copper, cobalt, and platinum group elements (PGE)

In November, **Royal Nickel Corporation** unveiled the main results of a prefeasibility study for its **Dumont Nickel Project**, located west of Amos. The estimated initial investment is $1.1B, for an annual production of 45 Kt of concentrated nickel over at least 30 years. The company intends to begin open-pit mining operations in 2016.

Niobium

Niocan collected $3M worth of unsecured bonds will have the necessary funds to restart its mining project in **Oka**. A new board of directors was formed.

Niobium-tantalum

Northwest of Girardville in Lac-Saint-Jean, deposit appraisal work is continuing on **MDN**'s niobium-tantalum **Crevier** project. A feasibility study should be filed in the second quarter of 2012. The search for a strategic partner began in 2011, and an initial public offering was launched. Project costs are estimated at $350M, and 200 jobs will be created.

Gold

Aurizon Mines continued its work related to a feasibility study for the **Hosco** deposit, including metallurgical testing and a pilot plant – work which will continue in 2012. A resource update in 2011 increased the measured and indicated resources by 31%, for a new total 54.14 Mt at a grade of 1.29 g/t Au, or 2 245 000 ounces of gold.

Conway Resources constructed surface facilities to allow dewatering of the N°1 shaft in the old Belleterre mine. This work will allow them to better define the reserves and confirm grades.

South of Matagami, on its Vezza gold project, **North American Palladium** and **Agnico-Eagle Mines** are continuing the dewatering of the shaft, underground rehabilitation, and extraction of a 40 000 tonne bulk sample. Resource assessment work and ore sampling were also done on this project. Measured and indicated resources are approximately 1.7 Mt at a grade of 5.8 g/t Au. It has been announced that commercial production will begin in early 2012. Ore will be processed at the Sleeping Giant mill, located approximately 85 km further south.

Metanor Resources has completed deepening the shaft and has now started development on three new levels for the removal of a 40 000 tonne bulk sample from the **Bachelor Lake** gold mine. A feasibility study is scheduled for the first quarter of 2012.

Uranium

In the Otish Mountains area, following the project's environmental assessment and public hearings, **Strateco Resources** is awaiting final approval before excavating an exploration ramp that would allow the deposit to be assessed at depth. An agreement relating to communications and information was reached between Strateco and the Cree Nation in Mistissini. In 2011, the company actively continued exploration drilling on its **Matoush** property and the adjacent properties under option, with the goal of expanding the resources in the Matoush Zone.

Abitex Resources has obtained a report on its commitments relating to its option on the **Lavoie** property, located in the Otish Mountains, which allowed it to continue exploration and deposit appraisal work on this project. A preliminary economic assessment is expected in early 2012.

Zinc

In February 2011, **Xstrata Zinc** announced that **Donner Metals** would undertake a feasibility study for open-pit mining at the **PD1** deposit, northwest of Matagami. Xstrata Zinc plans to process the ore at its Matagami mill, located 25 km east of the PD1 deposit.

5.2 Mining development

Iron

New Millenium Iron Corporation and its Indian partner, **Tata Steel Minerals Canada**, invested $300M in the DSO project to resume the mining of iron deposits in the Schefferville region. The mines involved were closed in 1982 by **Iron Ore Company of Canada**. After screening, the iron ore will be transported by rail to Sept-Îles, and from there it will be shipped by boat to supply Tata Steel's European steel mills. Mining should begin in the fall of 2012, for an anticipated annual production of 4 Mt of iron ore, and will create 235 jobs.

Lithium

In the Abitibi region, west of Barraute, on the site of the former **Québec Lithium Mine**, the company **Canada Lithium** has begun constructing the infrastructure for a concentrator and lithium carbonate plant, to be supplied by ore extracted from an open-pit mine. Production is expected to be approximately 20 000 tonnes of lithium carbonate per year. Commercial production should begin late 2013 or early 2014, and will require an estimated investment of $200M. The financing and permit applications are underway.

Nickel, copper, cobalt, and platinum group elements (PGE)

At the northern tip of Québec, 20 km southeast of the Raglan mine, **Canadian Royalties**, a subsidiary of **Jien Canada Mining** and **Goldbrook Ventures**, continued building the infrastructure to mine four deposits on its **Nunavik Nickel** property, on the Ungava Plateau. Investment is estimated at $800M for an annual production of approximately 100 Kt of concentrate over at least 10 years. Mining is expected to begin in 2012, and 270 jobs will be created.

Niobium

Gestion Iamgold-Québec made **Niobec Mine** an independent company in September 2011, and has maintained an annual production at the mine of 4.4 million kilograms of ferroniobium. IAMGOLD has an expansion project estimated at $840M to triple its annual ferroniobium production to 15 million kilograms. A prefeasibility study will be filed in the first quarter of 2012. The project will prolong the life of the mine by 40 years, and create 200 new jobs.

Gold

In Baie-James, **Mines Opinaca**, a wholly owned subsidiary of **Goldcorp**, received a comprehensive certificate of authorization (Chapter II, EQA) for construction work at the **Éléonore** mine. The sinking of an exploration shaft, the construction of an exploration ramp, as well as the foundations for a production shaft, as well as the construction of a permanent road, are all underway. A collaboration agreement for the project's development and operation was signed February 21, 2011 with the Cree Nation of Wemindji, the Grand Council of the Crees, and the Cree

Regional Authority. The goal is to begin mining in late 2014 at 7000 tonnes of ore per day, for an average annual production of over 600 000 ounces of gold. Mining should continue for approximately fifteen years. The project represents an estimated investment of $1.4B.

Century Mining became an exclusive subsidiary of **White Tiger Gold** as of October 20, 2011. White Tiger Gold is working to increase production at the Lamaque mine to achieve commercial production. Development work at the North Wall Zone has resumed, and a consultant has been hired to improve productivity.

Since 2009, **Richmont Mines** has carried out preparation and development work at the former **Francoeur** gold mine. The company began processing development ore in the third quarter of 2011, and expects to reach the commercial production stage in the first quarter of 2012.

Agnico-Eagle Mines continued its extension project, started in 2006, at the **LaRonde** mine in order to access higher grade ore. At a depth of approximately 3.1 km, production from the extension began in November 2011 and will prolong mining until 2025. Full production capacity should be reached in 2013.

Zinc

The Belgian producer **Nyrstar Canada Corporation** has bought the mining company Breakwater Resources. Nyrstar, as the new owner of the **Langlois** mine near Lebel-sur-Quévillon, has continued the development work and confirmed that mining operations will resume in 2012.

South of Matagami, **Donner Metals** and **Xstrata Zinc** continue their development of the **Bracemac-McLeod** project. Investment is estimated at $160M, with an annual production of 220 Kt of concentrate over 4 years. Mining will begin in 2013.

Figure 5.1 - **Location of projects at the deposit appraisal or mine development phase in Québec in 2011.**

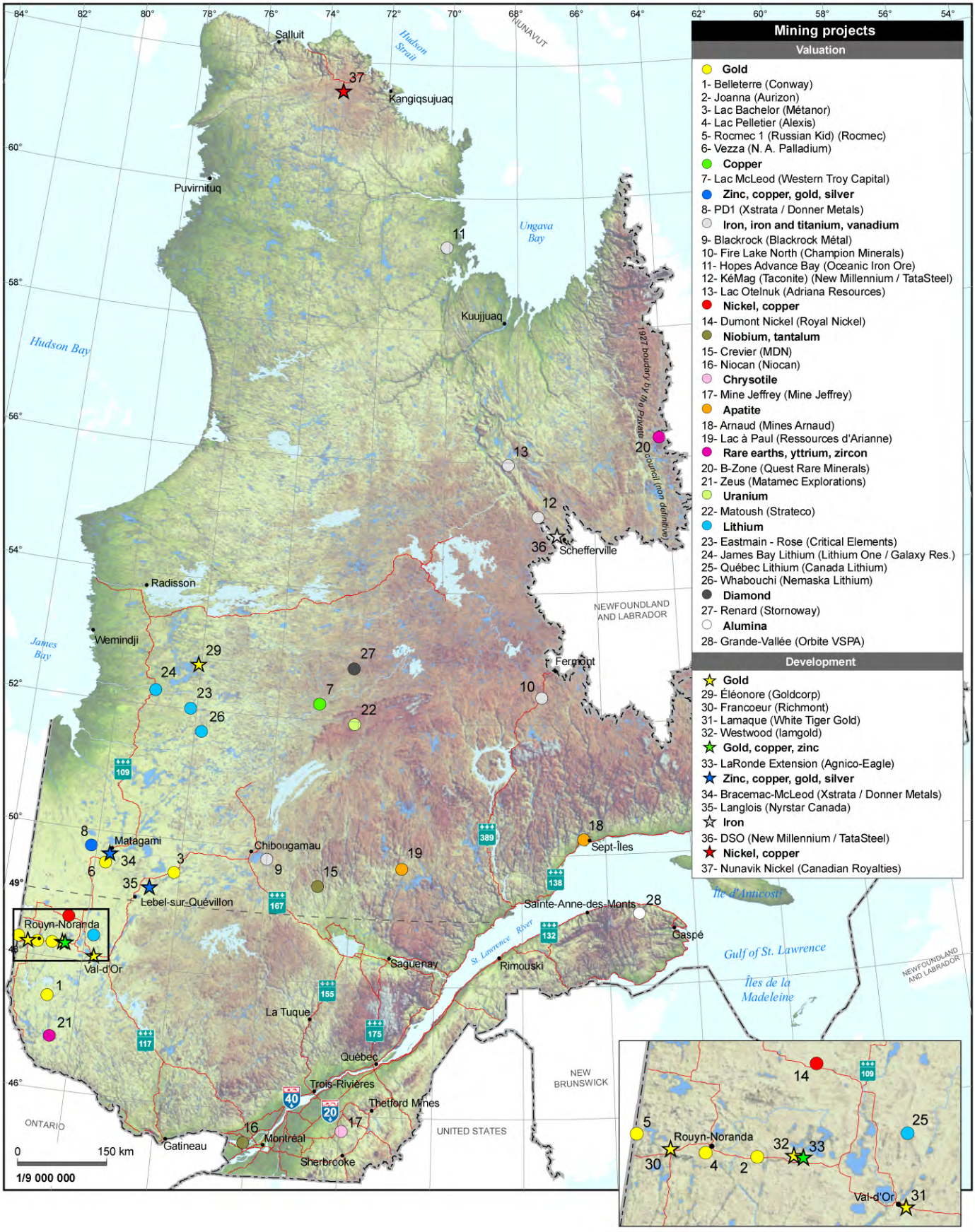

TABLE 5.1 - **Mining projects in the deposit apraisal phase in Québec as of December 31, 2011**[1] (see figure 5.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF THE PROJECT TYPE OF MINING PROJECT	COMMODITIES	PROVEN AND PROBABLE RESERVES	MEASURED RESSOURCES (M)	INDICATED RESSOURCES (I)	INFERED RESSOURCES (P)	EXPECTED DAILY PRODUCTION	EXPECTED START-UP DATE	EXPECTED MINE LIFE
Precious metals: gold												
1	Guillet / 31M07 / Abitibi-Témiscamingue	Belleterre	Ressources Conway	Orogenic lode gold Underground mine	Gold	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2	Joannès / 32D02 / Abitibi-Témiscamingue	Joanna	Mines Aurizon	Shear-related disseminated Gold sulphides and quartz veinlets Open pit mine	Gold	n/a	28.8 Mt at 1.37 g/t Au	25.3 Mt at 1.19 g/t Au	7.7 Mt at 1.15 g/t Au	n/a	n/a	n/a
3	Le Sueur / 32F08 / Nord-du-Québec	Lac Bachelor	Métanor Resources	Orogenic lode gold Underground mine	Gold	844 Kt at 7.4 g/t Au	192 Kt at 8.8 g/t Au	649 Kt at 7.5 g/t Au	426 Kt at 6.5 g/t Au	690 t/d	2012	n/a
4	Rouyn / 32D03 / Abitibi-Témiscamingue	Lac Pelletier	Corporation minière Alexis / Thundermin Resources	Lode gold: greenstone-hosted quartz-carbonate veins Underground mine	Gold	168 Kt at 6.5 g/t Au	58 Kt at 8.6 g/t Au	222 Kt at 8.6 g/t Au	420 Kt at 8.4 g/t Au	n/a	n/a	about 15 months (including 3 months of pre-production period)
5	Dasserat / 32D04 / Abitibi-Témiscamingue	Rocmec 1	Rocmec Mining Corporation	Lode gold: greenstone-hosted quartz-carbonate veins Underground mine	Gold	n/a	125 Kt at 7.0 g/t Au	445 Kt at 6.4 g/t Au	1.5 Mt at 7.4 g/t Au	n/a	n/a	n/a
6	32F12 / Nord-du-Québec	Vezza	North American Palladium	Orogenic lode gold Underground mine	Gold	n/a	190 Kt at 6.1 g/t Au	1.52 Mt at 5.8 g/t Au	633 Kt at 5.0 g/t Au	750 t/d	2012	n/a
Copper												
7	2331 / 33A02 / Nord-du-Québec	Lac McLeod	Western Troy Capital Resources	Cu-Au-Mo porphyry intrusions Open pit mine	Copper, molybdenum, gold, silver	n/a	n/a	18.2 Mt at 0.6% Cu 0.09% Mo 0.06 g/t Au 4.5 g/t Ag	1.9 Mt at 0.4% Cu 0.08% Mo 0.04 g/t Au 3.6 g/t Ag	6 Kt/d	n/a	9 years
Zinc, cuivre, or, argent												
8	La Gauchetière / 32E16 / Nord-du-Québec	PD1	Xstrata Zinc / Donner Metals	Volcanogenic massive sulfides Open pit mine	Zinc, copper, gold, silver	n/a	0.6 Mt at 4.3% Zn 0.83% Cu 19.6 g/t Ag	1.1 Mt at 4.7% Zn 1.33% Cu 19.6 g/t Ag	n/a	n/a	n/a	n/a

TABLE 5.1 - **Mining projects in the deposit apraisal phase in Québec as of December 31, 2011**[1] (see figure 5.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF THE PROJECT TYPE OF MINING PROJECT	COMMODITIES	PROVEN AND PROBABLE RESERVES	MEASURED RESSOURCES (M)	INDICATED RESSOURCES (I)	INFERED RESSOURCES (P)	EXPECTED DAILY PRODUCTION	EXPECTED START-UP DATE	EXPECTED MINE LIFE
Iron, iron-titanium-vanadium												
9	Lemoine, Rinfret, Dollier / 32G09, 32G16, 32H13 / Nord-du-Québec	Blackrock	Blackrock Metals	Titanium-vanadium magnetite Open pit mine	Iron, titanium, vanadium	152 Mt at 8.0% TiO 0.47% V_2O_5 29.1% Fe South-West Zone	24.5 Mt at 27.1% Fe South-West Zone	48.9 Mt at 24.9% Fe South-West Zone	n/a	20 K - 50 Kt/d	2013	15 years
10	23B06 / Côte-Nord	Fire Lake North	Champion Minerals	Specular hematite in metamorphosed Lake Superior-type iron formation Open pit mine	Iron	n/a	8.4 Mt at 35% Fe	392 Mt at 30.5% Fe	637 Mt at 27.7% Fe	65 Kt/d	2015	35 years
11	24M08 / Nord-du-Québec	Hopes Advance Bay	Oceanic Iron Ore Corp.	Taconite Open pit mine	Iron	n/a	n/a	360 Mt at 31.8% Fe	872 Mt at 32.4% Fe	70 K - 140 Kt/d	2016	24 years
12	23O03 / Nord-du-Québec	KeMag	New Millenium Tata Steel	Taconite Open pit mine	Iron	2141 Mt at 31.3% Fer	n/a	0.3 Mt at 31.3% Fe	1000 Mt at 31.2% Fe	200 Kt/d	2016	34 years
13	24C01 / Nord-du-Québec	Lac Otelnuk	Adriana Res./ Wisco	Taconite Open pit mine	Iron	n/a	4400 Mt at 29.1% Fe	490 Mt at 28.3% Fe	1560 Mt at 29.6% Fe	500 Kt/d	2016	n/a
Base metals: nickel, copper												
14	Launay / 32D09 / Abitibi-Témiscamingue	Dumont Nickel	Royal Nickel Corporation	Magmatic Ni-Cu-PGE Open pit mine	Nickel Copper	1070 Mt at 0.27% Ni (included in resources)	190 Mt at 0.29% Ni	1220 Mt at 0.27% Ni	695 Mt at 0.26% Ni	50 K - 100 Kt/d	2015	31 years
Niobium and tantalum												
15	Crevier / 32H07 / Saguenay–Lac-St-Jean	Crevier	MDN	Nepheline syenite dykes, alkaline igneous complex Open pit mine	Niobium Tantalum	n/a	12 Mt at 0.2% Nb_2O_5 0.02% Ta_2O_5	13 Mt at 0.19% Nb_2O_5 0.02% Ta_2O_5	15 Mt at 0.17% Nb_2O_5 0.03% Ta_2O_5	4 Kt/d	2013	18 years
16	Lac des Deux-Montagnes / 31G09 / Laurentides	Niocan	Niocan	Carbonatite-associated deposit Underground mine	Niobium	n/a	8.6 Mt at 0.64% Nb_2O_5 (historical data)	5.3 Mt at 0.64% Nb_2O_5 (historical data)	n/a	2 500 t/d	Pending CA from the MDDEP	17 years

TABLE 5.1 - **Mining projects in the deposit apraisal phase in Québec as of December 31, 2011**[1] (see figure 5.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF THE PROJECT TYPE OF MINING PROJECT	COMMODITIES	PROVEN AND PROBABLE RESERVES	MEASURED RESSOURCES (M)	INDICATED RESSOURCES (I)	INFERED RESSOURCES (P)	EXPECTED DAILY PRODUCTION	EXPECTED START-UP DATE	EXPECTED MINE LIFE
Chrysotile												
17	Shipton / 21E13 / Estrie	Mine Jeffrey	Mine Jeffrey	Chrysotite asbestos deposit in ultramafic rocks Underground mine	Chrysotile	120 Mt at 6% of chrysotile	n/a	n/a	n/a	12 Kt/d	2012	21 years
Apatite												
18	Arnaud / 22J02 / Côte-Nord	Arnaud	Mines Arnaud	Layered mafic complex Open pit mine	Apatite	n/a	(M+I) 238 Mt at 4.9% P_2O_5	n/a	n/a	23 Kt/d	2015	30 years
19	22E10, 22E15 / Saguenay–Lac-St-Jean	Lac à Paul	Ressources d'Arianne	Open pit mine	Apatite	n/a	(M+I) 348 Mt at 6.5% P_2O_5 8.43% TiO_2	n/a	114.3 Mt at 5.5% P_2O_5 6.2% TiO_2	33 Kt/d	2015	25 years
Uranium, lithium and rare earth elements												
20	24A08 / Nord-du-Québec	B-Zone	Quest Rare Minerals Corporation	REE- and yttrium-enriched pegmatites and aplites in peralkaline granite Open pit mine	REE Yttrium Zirconium Niobium	n/a	n/a	140 Mt at 0.933% OTRT 0.24% Y_2O_3 1.93% ZrO_2 0.18% Nb_2O_5	89 Mt at 0.882% OTRT 0.22% Y_2O_3 1.83% ZrO_2 0.16% Nb_2O_5	4 Kt/d	2015	25 years
21	Gendreau, Mercier 31L10, 31L14 / Abitibi-Témiscamingue	Zeuz	Exploration Matamec	REE-enriched syenite Open pit mine	REE Yttrium Zirconium Niobium	n/a	n/a	15.1 Mt at 0.434% OTRT 0.11% Y_2O_3 0.91% ZrO_2	3.8 Mt at 0.40% OTRT 0.10% Y_2O_3 0.91% ZrO_2	4 Kt/d	2016	13 years
22	32P16 / Nord-du-Québec	Matoush	Ressources Strateco	Shear-related uranium deposit Underground mine	Uranium	n/a	n/a	436 Kt at 0.78% U_3O_8	2.04 Mt at 0.43% U_3O_8	750 t/d	2013	7 years
23	33C01 / Nord-du-Québec	Eastmain Rose	Corporation Éléments Critiques	Spodumene-bearing granitic pegmatites Open pit mine	Lithium Tantalum	n/a	n/a	26.5 Mt at 0.98% Li_2O 163 ppm Ta_2O_5	10.7 Mt at 0.86% Li_2O 145 ppm Ta_2O_5	4 Kt/d	2013	17 years

TABLE 5.1 - **Mining projects in the deposit apraisal phase in Québec as of December 31, 2011**[1] (see figure 5.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF THE PROJECT TYPE OF MINING PROJECT	COMMODITIES	PROVEN AND PROBABLE RESERVES	MEASURED RESSOURCES (M)	INDICATED RESSOURCES (I)	INFERED RESSOURCES (P)	EXPECTED DAILY PRODUCTION	EXPECTED START-UP DATE	EXPECTED MINE LIFE
Uranium, lithium and rare earth elements												
24	33C03 / Nord-du-Québec	James Bay Lithium	Lithium One / Galaxy Res.	Spodumene-bearing granitic pegmatites Open pit mine	Lithium	n/a	n/a	11.7 Mt at 1.3% Li_2O	10.4 Mt at 1.2% Li_2O	n/a	n/a	n/a
25	La Corne / 32C05 / Abitibi-Témiscamingue	Québec Lithium	Canada Lithium Corporation	Spodumene-bearing granitic pegmatites Open pit mine	Lithium	15 Mt at 1.2% Li_2O	6.9 Mt at 1.18% Li_2O	26.3 Mt at 1.19% Li_2O	13.7 Mt at 1.21% Li_2O	2950 t/d	2013	15 years
26	33J12 / Nord-du-Québec	Whabouchi	Nemaska Lithium	Spodumene-bearing granitic pegmatites Open pit mine	Lithium	n/a	11.3 Mt at 1.58% Li_2O	13.7 Mt at 1.50% Li_2O	4.4 Mt at 1.50% Li_2O	3 Kt/d	2014	15 years
Diamond												
27	33A16 / Nord-du-Québec	Renard	Stornoway Diamond Corporation / SOQUEM	Kimberlite-hosted diamond deposit Open pit and underground mine	Diamond	23.1 Mt at 0.78 c/t	n/a	n/a	31 Mt at 0.56 c/t	6 Kt/d	2015	20 years
Alumina												
28	Denoue / 22H03 / Gaspésie–Îles-de-La-Madeleine	Grande Vallée	Orbite Aluminae	Claystone Open pit mine	Alumina (RRE, scandium)	n/a	n/a	998 Mt at 23.13% Al_2O_3	n/a	1500 t/j	2013	25 years

NOTES:

The list of abbreviations is provided in Appendix 2.

Data compiled in this table are preliminary and are based on information publicly released by mining companies.

The distinction between proven and probable reserves, and between measured, indicated, and inferred resources is defined in accordance with National Instrument 43-101.

MDDEP: *Ministère du Développement durable, de l'Environnement et des Parcs du Québec.*

TABLE 5.2 - **Mining projects in the development phase in Québec as of December 31, 2011**[1] (see figure 5.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF THE PROJECT TYPE OF MINING PROJECT	COMMODITIES	PROVEN AND PROBABLE RESERVES	MEASURED RESSOURCES (M)	INDICATED RESSOURCES (I)	INFERED RESSOURCES (P)	EXPECTED DAILY PRODUCTION	EXPECTED START-UP DATE	EXPECTED MINE LIFE
Precious metals: gold												
29	33B12 / Nord-du-Québec	Éléonore	Goldcorp	Disseminated-erplacement gold deposit in a highly metamorphosed sedimentary sequence Underground mine	Gold	12 Mt at 7.6 g/t Au	n/a	1.3 Mt at 11 g/t Au	n/a	7000 t/d	2014	15 years
30	Beauchastel / 32D03 / Abitibi-Témiscamingue	Francoeur	Mines Richmont	Shear-related alteration and replacement Underground mine	Gold	616 Mt at 6.9 g/t Au	n/a	706 Mt at 7.8 g/t Au	202 Mt at 6.0 g/t Au	600 t/d	2011 (commercial production in 2012)	4 years
31	Bourlamaque / 32C04 / Abitibi-Témiscamingue	Lamaque	WhiteTiger Gold	Orogenic lode gold Underground mine	Gold	6.7 Mt at 4.86 g/t Au	1.2 Mt at 5.46 g/t Au	2.5 Mt at 4.75 g/t Au	8.9 Mt at 6.5 g/t Au	2000 t/d	2011	11 years
32	Bousquet / 32D07 / Abitibi-Témiscamingue	Westwood	Gestion Iamgold-Québec	Gold-rich volcano-genic massive sul-phides, stockwerk and disseminated sulphides Underground mine	Gold	n/a	n/a	408 Mt at 7.5 g/t Au	9 Mt at 11.4 g/t Au	2300 t/d	2013	16 years
Gold, copper, zinc												
33	Bousquet / 32D08 / Abitibi-Témiscamingue	Extension LaRonde	Mines Agnico-Eagle	Gold-rich volca-nogenic massive sulphides Underground mine	Gold, silver, copper, zinc, lead	37.4 Mt at 4.3 g/t Au 4.2 g/t Ag 0.3% Cu 1.2% Zn 0.1% Pb	n/a	6.9 Mt at 1.9 g/t Au 4.0 g/t Ag 0.1% Cu 1.4% Zn 0.1% Pb	11.5 Mt at 3.7 g/t Au 2.2 g/t Ag 0.3% Cu 0.5% Zn 0.1% Pb	7200 t/d	2011 (full capacity in 2013)	15 years

TABLE 5.2 - **Mining projects in the development phase in Québec as of December 31, 2011[1]** (see figure 5.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF THE PROJECT TYPE OF MINING PROJECT	COMMODITIES	PROVEN AND PROBABLE RESERVES	MEASURED RESSOURCES (M)	INDICATED RESSOURCES (I)	INFERED RESSOURCES (P)	EXPECTED DAILY PRODUCTION	EXPECTED START-UP DATE	EXPECTED MINE LIFE
Base metals: zinc, copper, nickel												
34	Le Sueur / 32F12 / Ungava	Bracemac-McLeod	Donner Metals	Volcanogenic massive sulphides Underground mine	Zinc, copper, gold, silver	3.7 Mt at 9.6% Zn 1.3% Cu 28 g/t Ag 0.43 g/t Au	2.6 Mt at 11.3% Zn 1.6% Cu 37 g/t Ag 0.45 g/t Au	1.0 Mt at 8.9% Zn 1.3% Cu 21 g/t Ag 0.56 g/t Au	2.6 Mt at 8.8% Zn 1.1% Cu 39 g/t Ag 1.1 g/t Au	2500 t/d	2013	4 years
35	Grevet / 32F02 / Nord-du-Québec	Langlois	Ressources Breakwater	Volcanogenic massive sulphides Underground mine	Zinc, copper, gold, silver	5.1 Mt at 9.7% Zn 0.6% Cu 0.07 g/t Au 45 g/t Ag	2.4 Mt at 9.4% Zn 0.6% Cu 0.06 g/t Au 41 g/t Ag	4.3 Mt at 10.4% Zn 0.7% Cu 0.08 g/t Au 51 g/t Ag	1.5 Mt at 8.0% Zn 0.5% Cu 0.09 g/t Au 44 g/t Ag	2570 t/d	2012	10 years
Iron												
36	23J15 / Côte-Nord	DSO	New Millennium Capital Corp. / Tata Steel	Enriched iron formations Open pit mine	Iron	64 Mt at 60% Fe	22 Mt at 60% Fe	45 Mt at 58% Fe	7 Mt at 57% Fe	12 500 t/d	2012	15 years
Nickel, copper												
37	35H11 / Nord-du-Québec	Nunavik Nickel	Jien Canada Mining	Magamatic Ni-Cu-PGE Open pit and underground mine	Nickel, copper, cobalt, PGE, gold	n/a	560 Kt 0.93% Ni 1.10% Cu 0.04% Co 0.60 g/t Pt 2.7 g/t Pd 0.10 g/t Au	21 Mt at 0.93% Ni 1.15% Cu 0.05% Co 0.54 g/t Pt 2.27 g/t Pd 0.14 g/t Au	5 Mt at 0.72% Ni 0.92% Cu 0.04% Co 0.51 g/t Pt 2.0 g/t Pd 0.13 g/t Au	4500 t/d	2012	n/a

NOTES:

The list of abbreviations is provided in Appendix 2.

Data compiled in this table are preliminary and are based on information publicly released by mining companies.

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CHAPTER 6

MINERAL PRODUCTION

6.1 Economic data and statistics on mineral production

Martin Labrecque

Mineral shipments

In 2010, Québec ranked fourth among Canadian provinces in terms of the value of its mineral shipments, behind Ontario, Saskatchewan, and British Columbia. However, in metallic minerals, Québec was the top producer in Canada in 2009 and 2010, leading Ontario for the first time.

The value of Québec shipments in 2010 (metallic and non-metallic minerals) should reach a record peak of $6.8B, an increase of 20% relative to the previous year, and a value surpassing the last historic peak attained in 2008 ($6.2B). After falling considerably in 2009, the total value of mineral shipments for all of Canada in 2010 is 36% higher than in the previous year.

Recall that in 2009, the value of the mineral shipments from Québec had decreased by only 9% relative to 2008, while the value for all of Canada saw a reduction of 35%.

This situation can be explained by the collapse in 2008 and 2009 of the prices for several commodities that constitute significant portions of the mineral shipments from other Canadian provinces but are produced in very small quantities in Québec or not at all (potassium, sulphur, diamond, etc.).

Commodities produced in Québec

In Québec, iron, gold, nickel, crushed stone, zinc, titanium, and cement are the main commodities produced in terms of value of shipments. Québec also produces small quantities of antimony, bismuth, cadmium, and talc.

Jobs in the mining sector

In 2010, according to preliminary data, the total number of jobs related to mineral extraction activities in Québec (metallic and non-metallic) was 10,515. These jobs were distributed throughout all parts of Québec, particularly in the Abitibi-Témiscamingue, Côte-Nord and Nord-du-Québec regions. The total number of direct jobs in the mining sector in Québec was 15,109, including those in the primary processing and diamond drilling sectors, representing an increase of 5% relative to 2009. Note that the extraction of peat, sand, gravel, and crushed rock is so widespread that all regions of Québec are involved in the mining sector in one way or another.

In addition to these direct jobs, the MRNF estimates that 12,000 indirect jobs generated by the mining sector for production activities, and over 3000 for capital investments and the construction of new mines. Altogether, including jobs related to mineral exploration, Québec's mining operations generate 34,000 direct and indirect jobs.

TABLE 6.1 - **Value of mining product shipments per administrative region in Québec in 2009 and 2010.**

N°	REGIONS	2009	2010p
1	Bas-Saint-Laurent	c	c
2	Saguenay–Lac-Saint-Jean	c	c
3	Capitale-Nationale	160	162
4	Mauricie	21	29
5	Estrie	69	77
6	Montréal	c	c
7	Outaouais	31	18
8	Abitibi-Témiscamingue	909	1,054
9	Côte-Nord	1,109	1,912
10	Nord-du-Québec	1,305	1,440
11	Gaspésie–Îles-de-la-Madeleine	c	65
12	Chaudière-Appalaches	91	83
13	Laval	c	45
14	Lanaudière	196	165
15	Laurentides	94	79
16	Montérégie	1,197	1,375
17	Centre-du-Québec	34	28
Total		**5,627**	**6,810**

p: data for 2010 are preliminary
c: confidential data
Source: Institut de la statistique du Québec

Mining investments

In addition to exploration and deposit appraisal expenditures, the mining sector generates considerable investments in mine development, whether for new mining complexes or on existing mine sites. These investments include mine development work, capital assets, and repairs.

Primary processing activities

Primary processing activities include refineries, smelters (except for aluminum smelters) and clay, lime, and cement plants. These activities are often based outside of mining regions, which helps spread the economic benefits of the mining sector throughout the province. In 2010, the primary processing industry accounted for 3950 direct jobs in 12 plants located mainly in the Montérégie, Abitibi-Témiscamingue and Montréal regions. With the anticipated growth in mining activities, new primary processing plants should appear in Québec in the coming years.

TABLE 6.2 - **Mining product shipments from Québec by substance 2009 and 2010.**

SUBSTANCES	2009		2010p	
METALLIC MINERALS	**QUANTITY**	**VALUE ($M)**	**QUANTITY**	**VALUE ($M)**
Silver (t)	154	83	129	83
Cobalt (t)	496	22	561	27
Copper (t)	29,169	172	24,052	185
Iron (ore) (kt)	14,434	c	17,000	c
Ilménite (kt)	c	c	c	c
Nickel (t)	30,276	506	28,070	633
Niobium (t)	4,169	c	4,419	c
Gold (kg)	27,950	998	25,526	1,031
PGE (kg)	c	c	c	c
Lead (t)	80	< 1	1,554	3
Selenium (t)	20	1	21	2
Tellure (t)	2	< 1	3	< 1
Zinc (t)	192,915	364	201,627	452
Total - Metallic Minerals	**-**	***3,872***	**-**	***5,179***
NON-METALLIC MINERALS				
Chrysotile asbestos (kt)	c	c	c	c
Clay products (kt)	c	c	c	c
Lime (kt)	609	81	654	102
Cement (kt)	2,508	357	2,316	329
Graphite (t)	c	c	c	c
Mica (t)	c	c	c	c
Crushed stone (kt)	48,292	497	46,340	470
Sand and gravel (kt)	19,198	87	12,713	68
Salt (t)	c	c	c	c
Silica (kt)	399	11	388	17
Sulfur (kt)	183	26	166	25
Titanium (t) (dioxyde)	c	c	c	c
Peat (kt)	332	87	291	90
Total - Non-Metallic Minerals	**-**	***1,756***	**-**	***1,630***
GRAND TOTAL	**-**	**5,627**	**-**	**6,810**

p: data for 2010 are preliminary
c: confidential data
Sources: Institut de la statistique du Québec and Natural Resources Canada

6.2 Mineral production

Martin Bernatchez, Denis Blackburn, Germain Girard, Jacinthe Paquet, Denis Raymond and N'golo Togola

Figure 6.1 shows the location of active mines in Québec in 2011. Tables 6.7 and 6.8 provide mining statistics for production of metallic and non-metallic commodities in Québec, respectively.

Metal commodities

Iron

In the spring, A**rcelorMittal Mines Canada** announced a $2.1B investment, including $865M for its **Mont-Wright** mine to increase its annual production of iron concentrate by 8 Mt to reach 24 Mt. This investment will create 400 new jobs to be added to the existing 1100 jobs, and mining will be extended until 2040. Work began in 2011 and will end in 2013. AMMC is evaluating the possibility of increasing its production of iron pellets from 9.2 to 18.5 Mt.

On May 13, 2011, **Cliffs Natural Resources** announced the acquisition of Consolidated Thompson Iron Mines and its **Bloom Lake** mine. The company also announced an investment of $550M to increase its annual production capacity from 8 to 16 Mt of iron concentrate. Mining will begin once construction work ends in 2013.

In June, the company **Labrador Iron Mines** (LIM) restarted its mining of direct shipping ore (DSO) deposits in the Schefferville region, on the Labrador side, for a minimum period of 15 years. Iron Ore of Canada mined these deposits from 1954 to 1982.

Iron-titanium

In August, **Rio Tinto, Fer et Titane** announced an investment of $200M in its Lac Tio mine to continue mining until 2050. The planned annual production will be 3 Mt of ilmenite ore that would feed its Sorel-Tracy metallurgical complex. This investment would create 70 new jobs, to be added to the 270 existing jobs.

Nickel, copper, cobalt, and platinum group elements (PGE)

Xstrata Nickel announced investments of $530M to develop the **Qakimajurq** mine and for enlarging the infrastructure at its N°. 2 mine and the concentrator at its **Raglan** nickel mine, in Nunavik. Annual production will be 150 Kt of nickel concentrate over at least 20 years. The expansion will create 70 new jobs, to be added to the existing 700 jobs.

Niobium

IAMGOLD-Québec Management made **Mine Niobec** an independent company in September 2011. Mined since 1975, annual production at the Niobec mine has been maintained at 4.4 million kilograms of ferroniobium. IAMGOLD aims to triple its annual ferroniobium production to 15 million kilograms, with an expansion project estimated at $840M. A preliminary economic assessment was filed in 2011, which estimated reserves at 458 Mt of niobium oxide. The prefeasibility study will be filed in the first quarter of 2012. The project will extend the life of the mine to 40 years, and will create 200 new jobs.

Gold

At the **Casa Berardi** mine, **Aurizon Mines** experienced a year of record production, with nearly 164 000 ounces of gold processed from more than 698 000 tonnes of ore at a grade of 8.0 g/t. The company began to deepen the shaft in its West mine, which will increase its mineral reserves by 44%, increasing the life of the mine from six to ten years. For 2012, a significant investment in capital assets of $80M is planned for exploration and production, including deepening of the shaft.

Osisko Mining Corporation officially opened its **Canadian Malartic** mine on May 30, 2011, casting the first gold bar on April 13. In the first eight months of operation, it produced 200 000 ounces of gold from 10 Mt of ore extracted from the pit. Mining production is expected to more than triple in 2012.

At its **Sleeping Giant** mine, **North American Palladium** produced nearly 15 000 ounces of gold in 2011. The mine's production shaft was deepened by 200 metres in order to reach new ore reserves, including development work on three new levels. Because results have not met expectations, the mine will cease operations at the beginning of 2012. The 800 tonnes per day concentrator will remain active and will be used to process ore from the **Vezza** mine.

In October 2011, **Agnico-Eagle Mines** was forced to interrupt mining indefinitely at the **Goldex** mine due to problems with water infiltration and ground subsidence. The total

TABLE 6.3 - **Companies operating metallic ore mines in Québec.**

NAME OF MINE	NAME OF COMPANY	COMPANY STATUS	HEAD OFFICE
Beaufor	Mines Richmont	public	Rouyn-Noranda
Canadian Malartic	Osisko	public	Montréal
Casa Berardi	Mines Aurizon	public	Vancouver
Fire Lake	ArcelorMittal, Mines Canada	public	Luxembourg
Géant Dormant	North American Palladium	public	Toronto
Kiena	Mines d'Or Wesdome	public	Toronto
Lac Bloom	Cliffs Natural Resources	public	Cleveland (USA)
Lac Herbin	Corporation minière Alexis	public	Toronto
Lac Tio	Rio Tinto Fer et Titane	subsidiary of Rio Tinto Group	London (UK) and Melbourne (AUS)
Lapa	Mines Agnico-Eagle	public	Toronto
LaRonde	Mines Agnico-Eagle	public	Toronto
Mont-Wright	ArcelorMittal, Mines Canada	subsidiary of ArcelorMittal	Luxembourg
Mouska	Gestion Iamgold-Québec	subsidisary of Iamgold Corp.	Toronto
Niobec	Gestion Iamgold-Québec	subsidisary of Iamgold Corp.	Toronto
Persévérance	Xstrata Canada	subsidiary of Xstrata Plc	Zoug (Switzerland)
Raglan	Xstrata Canada	subsidiary of Xstrata Plc	Zoug (Switzerland)

Source: *Ministère des Resources naturelles et de la Faune*. Accurate as of October 2011.

proven and probable reserves were reclassified as mineral resources.

The **Kiena** mine, owned by **Wesdome Gold Mines**, produced 19 500 ounces of gold from 255 300 tonnes of mined ore with an average recovered grade of 2.38 g Au/t. In 2012, the company anticipates producing approximately 23 000 ounces of gold from 300 000 tonnes mined at an average recovered grade of 2.4 g Au/t.

Due to challenges encountered during the operation of the **Lac Herbin** mine, **Alexis Minerals Corporation** was forced to implement a turnaround plan in June 2011. The plan involved intensive underground development work, major exploration programs near the mine, and improved recovery rates at the Aurbel mill. While the turnaround plan was partly successful, improving recovery rates at the Aurbel mill remains an issue. Annual production increased to 10 197 ounces of gold from 80 417 tonnes of ore. For 2012, expected production for the **Lac Herbin** mine is between 18 500 and 20 500 ounces of gold.

During the first nine months of 2011, the **Beaufor** mine produced 19 942 ounces for **Richmont Mines**, which is very close to their annual production target of 20 000 to 25 000 ounces of gold in 2011.

IAMGOLD-Québec Management continued to use its processing facilities at the former **Doyon** mine, located in Preissac, to process ore from its **Mouska** mine. These facilities will remain operational and will eventually be used to process ore from its **Westwood** project in 2013.

TABLE 6.4 - **Distribution of direct jobs in the mining sector per administrative region in 2010p.**

N°	REGIONS	Total number of jobs in the mining sector	Paid wages and salaries ($M)	Paid hours (thousands)
1	Bas-Saint-Laurent	603	18	911
2	Saguenay–Lac-Saint-Jean	567	34	1,098
3	Capitale-Nationale	482	23	851
4	Mauricie	74	2	100
5	Estrie	310	14	510
6	Montréal	c	c	c
7	Outaouais	89	4	183
8	Abitibi-Témiscamingue	2,598	239	5,221
9	Côte-Nord	2,978	243	4,874
10	Nord-du-Québec	1,368	144	2,783
11	Gaspésie–Îles-de-la-Madeleine	c	c	c
12	Chaudière-Appalaches	c	c	c
13	Laval	c	c	c
14	Lanaudière	365	24	619
15	Laurentides	342	15	667
16	Montérégie	3,054	200	6,239
17	Centre-du-Québec	c	c	c
	Diamond drilling	639	31	1,150
Total		**15,109**	**1,088**	**28,316**

p: data for 2010 are preliminary
c: confidential data
Sources: Institut de la statistique du Québec

Zinc, copper, gold, and silver

Mining operations began at the **Perseverance** mine in the autumn of 2008, and are expected to continue until at least 2013, according to management at **Xstrata Zinc Canada**. In 2011, the volume of extracted ore exceeded 1.0 Mt; this level should be maintained in 2012.

Non-metallic commodities

The value of industrial mineral shipments, as established by the *Institut de la statistique du Québec*, is $734M in 2011 (provisional data) compared to $650M in 2010 (preliminary data), an increase of 13%. These figures do not include limestone and dolomite shipments, which are included with stone products, nor do they take into account the value of sand and gravel shipments.

Non-metallic commodities (industrial minerals) produced in Québec in 2011 include chrysotile asbestos, graphite, mica, rock salt, potassium feldspar, and silica. The data relating to these mines is compiled in Table 6.8, and Figure 6.1 shows the locations of the mines. Note that companies operating non-metallic mines currently hold mining leases.

Chrysotile

On November 13, 2011, the **Black Lake mine**, owned by **LAB Chrysotile**, ceased its production of chrysotile asbestos. The company is working on a recovery plan which will be made public within a few months.

Mine Jeffrey continued its initiative to finance its proposed $83M underground chrysotile mining project at Asbestos. The Québec government has agreed in principle to the proposed reopening of the **Jeffrey** mine by agreeing to guarantee a $58M loan, conditional on the contribution of $25M in private capital. At the end of 2011, **Mine Jeffrey** still had not raised the necessary funds.

Industrial minerals

Les Produits Mica Suzorite has been in operation in Haute-Mauricie since 1970 at the **Lac Letondal** mine. The next extraction program for this mine is planned for 2013. The company is mining ore over a five-year period to supply its processing plant in Boucherville. The deposit's reserves are sufficient for several more decades of mining.

Production at **Mines Seleine**, acquired from **Rohm & Haas** by the company **Dow Chemical** in 2009, is stable and the company is adjusting to market demand.

Flake graphite is extracted at the **Lac-des-Îles** mine to the south of Mont-Laurier by **Timcal Canada**. Reserves are sufficient for several more years.

Unimin Canada sources its silica from the mine at Saint-Canut because the mine in Saint-Donat has been closed since 2010. **Silicium Québec** and **Sitec** jointly operate the **Petit Lac Malbaie** mines, in the municipality of Charlevoix. Their production is used to supply foundries, glass factories, the Silicium Québec plants in Bécancour, and the Elkem Metal Canada plants in Saguenay.

Dentsply Canada extracts feldspar for the manufacture of dental ceramics at the **Othmer** mine site near Buckingham in the Outaouais region. Mining is sporadic, and excavation work is planned for 2012 to rebuild the reserves that supply their plants in the United States and Puerto Rico. These reserves are sufficient for several years.

The company **Glendyne**, in Saint-Marc-du-Lac-Long, reduced its inventories and optimized its operations in 2011. The company, which sells roofing slate, employs over 200 workers.

Industrial stone

The locations of industrial stone quarries in Québec are shown in Figure 6.2, and data relevant to these quarries arecompiled in Table 6.9.

Industrial stone produced in Québec in 2011 included limestone, dolomite, marble, quartzite, sandstone, and shale. Limestone, dolomite, and marble are mined for industrial purposes in fourteen quarries and used to produce quick lime, various aggregate products (soil amendments, mineral fillers, granules), or cement. The main sources of silica are quartzites, sandstones, and natural sand deposits. In the Montréal region, shale is quarried and used to manufacture bricks.

Architectural stone

Figure 6.3 shows the locations of architectural stone quarries in operation in Québec in 2011. Brief descriptions of each quarry are presented in Table 6.10.

Ninety-six (96) architectural stone quarries are currently active in Québec. The Rivière-à-Pierre area, with sixteen quarries in operation, constitutes the most important region in Québec for the production of dimension stone. Other attractive areas for the production of architectural stone are Saint-Nazaire and Chute-des-Passes (four quarries), and the Saint-Alexis-des-Monts and Saint-Didace areas (five quarries).

Granislab International has ceased extracting the "**Heritage Black**" stone from its quarry located northwest of La Tuque.

Les Entreprises Elie Grenier has ceased all dimension stone extraction at its quarry near Shawinigan.

Peat

Information regarding peat extraction sites in Québec is compiled in Table 6.11, and the locations of these sites are shown in Figure 6.2.

For the fiscal year 2010-2011, peat production in Québec was about 9 840 000 bags of 170 dm^3, for a total value of approximately $89 948 790. The peat sector in Québec represents some 600 direct jobs related to peatland harvesting and some 1500 direct jobs in the peat industry in general. In addition to peat harvesting, the industry includes the manufacture of value-added products (various types of horticultural compost), the design and development of harvesting and packaging equipment, and environmental applications (biofiltration, absorbents).

TABLE 6.5 - **Mining investments per administrative region in Québec (exploration and deposit appraisal, and mine development, in $M).**

	Abitibi-Témiscamingue			Côte-Nord			Nord-du-Québec			Other regions			Total		
	Expl. and dep. app.	Mine devel.*	Total	Expl. and dep. app.	Mine devel.*	Total	Expl. and dep. app.	Mine devel.*	Total	Expl. and dep. app.	Mine devel.*	Total	Expl. and dep. app.	Mine devel.*	Total
2007	152	330	481	40	252	291	270	509	780	15	57	72	$476	1,148	1,624
2008	182	426	608	32	382	413	290	602	891	22	76	98	$526	1,485	2,011
2009	166	820	987	14	497	510	185	263	447	15	82	96	$379	1,661	2,041
2010	182	1,236	1,418	45	561	607	261	484	746	23	124	147	$512	2,405	2,917
2011**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$718	2,184	2,902

*The "mine development" category includes investments for off-site capital assets and repairs.
**The data for 2011 represent revised spending intentions.
Source: Institut de la statistique du Québec

Québec has over a dozen producers, exploiting about thirty peat deposits. Production in Québec (based on the number of 170 dm^3 bags) is distributed among seven regions as follows: Bas-Saint-Laurent (±46%), Centre-du-Québec (±22%), Côte-Nord (±15%), Saguenay–Lac-Saint-Jean (±12%), Chaudière-Appalaches (±4%), Capitale-Nationale (±1%) and Gaspésie–Îles-de-la-Madeleine (±0.03%).

Approximately 63% of Québec peat production comes from deposits on privately owned land, while 37% comes from deposits on public lands.

On public lands, the distribution of rights and revenues relating to peat management for the fiscal year 2010-2011 is presented in Table 6.12 according to administrative region. Although 43 exclusive leases for mining surface mineral substances (BEX) and one mining lease are currently active, only 24 these lease holders have harvested peat, generating royalties of $181 665.

Of the 44 mining titles in effect, the Côte-Nord region accounts for thirty, and the Saguenay–Lac-Saint-Jean region accounts for ten. Peat harvesting on public lands in these two regions is expected to continue increasing due to declining reserves on private lands in the Bas-Saint-Laurent and Centre-du-Québec regions.

Recall that for 2006-2011, a strategic five-year plan for the VTTA (Peat Soil Development and Agri-environmental Technologies) niche of excellence was adopted under the ACCORD program (*Action Concertée de Coopération Régionale de Développement*). In the fall of 2011, the first wave of strategic five-year plans for the ACCORD niches of excellence had come to an end. In October 2011, at the *Grand rendez-vous des créneaux d'excellence*, the VTTA niche was nominated in all categories, including "*Créneau de l'année*" and "*Réalisation de l'année*". These nominations reflected the efforts of the industry and its partners, and their commitment to current projects. Currently in the renewal process with its financial partners, the VTTA niche committee is preparing a new strategic five-year plan which will allow it to continue to develop guidelines for the peat sector and explore new potential solutions for industry issues. The VTTA niche is coordinated by the Québec Peat Moss Producers Association (APTHQ).

TABLE 6.6 - **Refineries, smelters, and clay, lime and cement plants in Québec - 2010.**

TYPE	NAME	OWNER	LOCATION
Refinery	Canadian Copper Refinery (CCR)	Xstrata Copper	Montréal
Refinery	Canadian Electrolytic Zinc (CEZ)	Noranda Income Limited Partnership	Montérégie
Smelter	Horne smelter	Xstrata Copper	Abitibi-Témiscamingue
Smelter	RTFT metallurgical complex	Rio Tinto, Fer et Titane	Montérégie
Clay plant	Briqueterie Saint-Laurent	Briques Hanson	Montérégie
Lime plant	Joliette plant	Graymont	Lanaudière
Lime plant	Bedford plant	Graymont	Montérégie
Lime plant	Marbleton plant	Graymont	Estrie
Lime plant	Bas-Saint-Laurent plant	Coopérative de producteurs de chaux du Bas-Saint-Laurent	Bas-Saint-Laurent
Cement plant	Joliette plant	Holcim	Lanaudière
Cement plant	Ciment Québec	Ciment Québec	Québec
Cement plant	Lafarge Canada	Lafarge Canada	Montérégie

Figure 6.1 - **Active mines in Québec in 2011.**

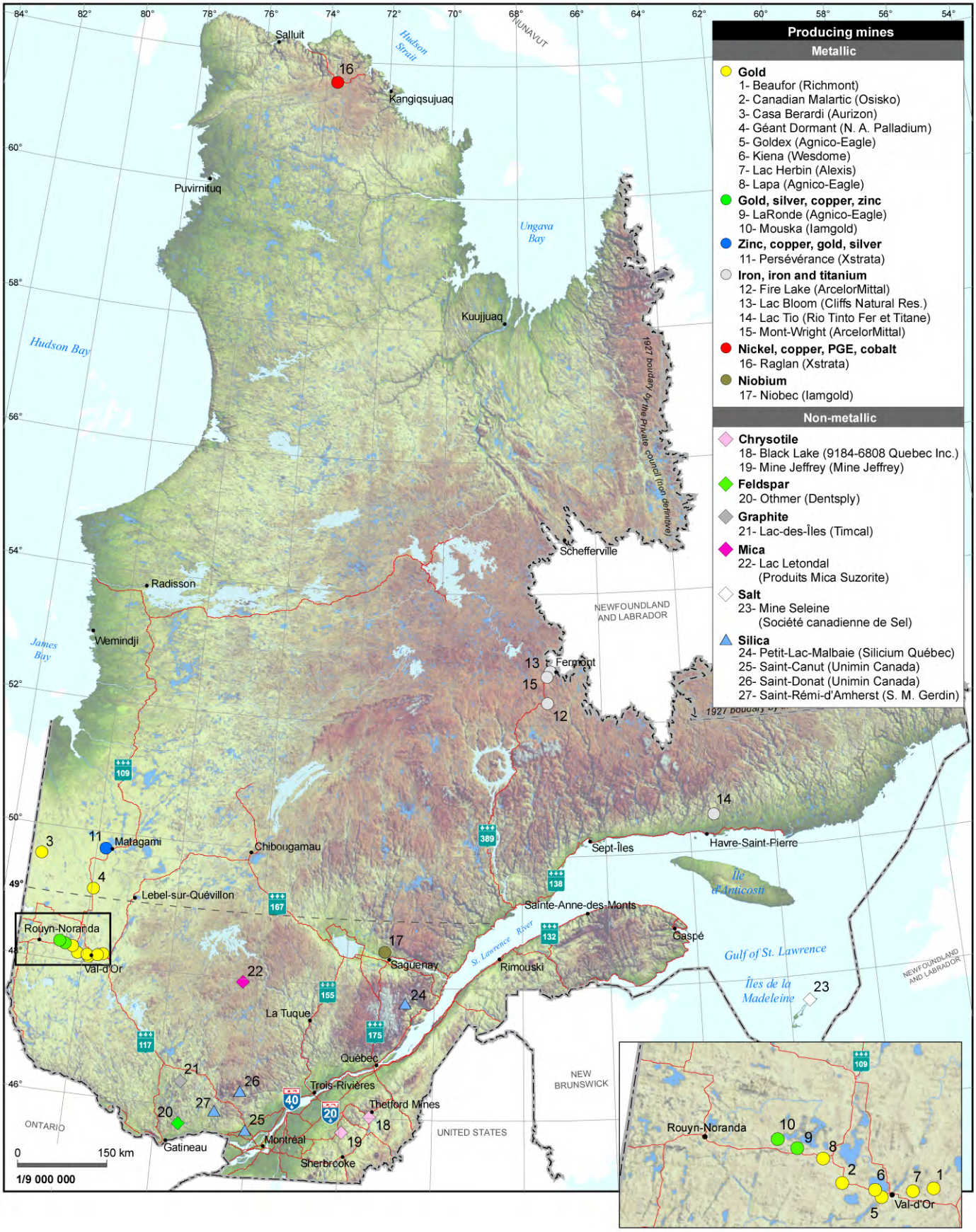


Figure 6.2 - **Industrial stone quarries and peatlands exploited in Québec in 2011.**

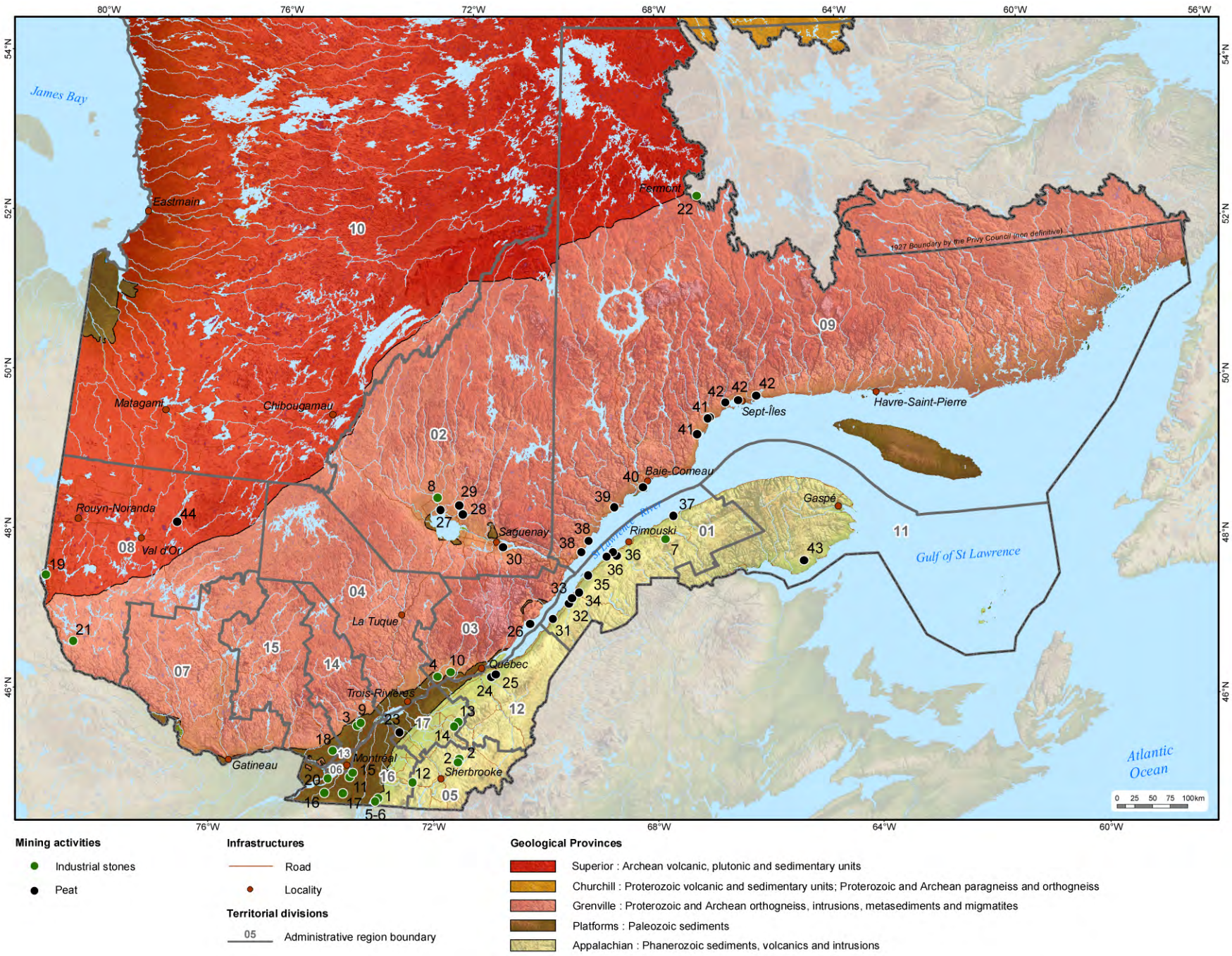


Figure 6.3 - **Architectural stone quarries exploited in Québec in 2011.**

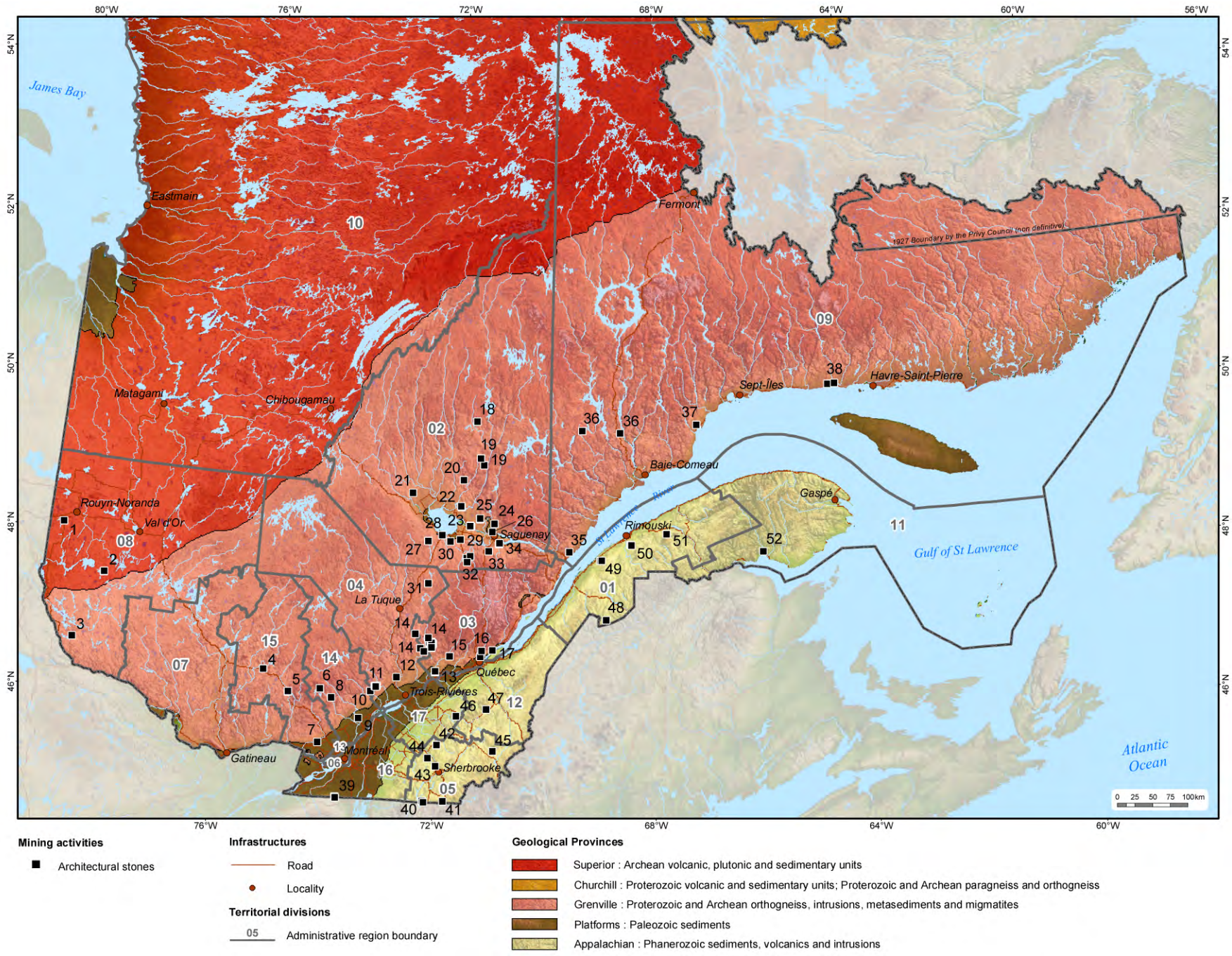


TABLE 6.7 - **Production of metal commodities in Québec as of December 31, 2011[1]** (see figure 6.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF ORE DEPOSIT AND TYPE OF MINE	ANNUAL PRODUCTION OF ORE MINED	DAILY PRODUCTION OF ORE MINED	NOMINAL DAILY CAPACITY OF THE MILL	ANNUAL METAL PRODUCTION	PROVEN AND PROBABLE RESERVES	AVERAGE NUMBER OF JOBS	YEARS OF PRODUCTION (NUMBER)
Gold											
1	Pascalis / 32C04 / Abitibi-Témiscamingue	Beaufor	Mines Richmont	Auriferous veins within E-W-trending shear zones along the margins of the Bourlamaque Batholith. Underground mine	98 074 t 7.80 g/t Au	400 t/d	1200 t/d Camflo mill	816 kg Au	*** 308 Kt 6.98 g/t Au	120	1933-1951 (18) 1996-2000 (4) 2002-20.. (9)
2	Fournière / 32D01 / Abitibi-Témiscamingue	Canadian Malartic	Corporation Minière Osisko	Porphyry gold Open pit mine	9.0 Mt 0.80 g/t Au	40 Kt/d	55 Kt/d	6225 kg Au 3550 kg Ag	335 Mt 0.97 g/t Au	550	2011-20.. (1)
3	Casa-Berardi / 32F11 / Nord-du-Québec	Casa Berardi	Mines Aurizon	Quartz-carbonate-pyrite-arsenopyrite veins in shear zones or stockwerks Underground mine	698 123 t 8.0 g/t Au	2 Kt/d	2400 t/d Casa Bérardi mill	5079 kg Au 1093 kg Ag	*** 7.85 Mt 5.8 g/t Au	500	1988-1997 (9) 2006-20.. (14)
4	Chaste / 32F04 / Nord-du-Québec	Géant Dormant	North American Palladium	Auriferous quartz-sulphide veins along contact between dacitic intrusion and volcanic flows Underground mine	74 153 t 6.31 g/t Au 9.26 g/t Ag	n/a	800 t/d	452 kg Au 687 kg Ag	*** 0.19 Mt 8.4 g/t Au	148	1987-1991 (4) 1992-2008 (16) 2009-2012 (3) (23)
5	Dubuisson / 32C04 / Abitibi-Témiscamingue	Goldex	Les Mines Agnico-Eagle	Quartz-tourmaline veins with Py-Cp cross-cutting granodiorite sills and dykes. Underground mine	2 476 515 t 1.49 g/t Au	n/a	8 Kt/d Goldex mill	4214 kg Au 38 kg Ag	0	243	2008-2011 (3)
6	Dubuisson / 32C04, 08 / Val-d'Or	Kiena	Les Mines d'Or Wesdome	Auriferous breccias and quartz veins lodged between two komatiitic flows Underground mine	255 300 t 2.38 g/t Au	850 t/d	2200 t/d	607 kg Au	*** 1.2 Mt 2.91 g/t Au	179	1981-2002 (21) 2006-20.. (5)
7	Bourlamaque / 32C04 / Abitibi-Témiscamingue	Lac Herbin	Corporation minière Alexis	Gold associated with quartz-pyrite veining in shear zones cross-cutting the Bourlamaque Batholith Underground mine	83 315 t 4.60 g/t Au	500 t/d	1 Kt/d Aurbel mill	317 kg Au	205 806 t 6.13 g/t	105	2008-20.. (3)
8	Dubuisson / 32C04 / Abitibi-Témiscamingue	Lapa	Les Mines Agnico-Eagle	Blue-grey quartz vein in biotite- and sericite-rich volcanic rock Underground mine	598 464 t 6.63 g/t Au	1725 t/d	1500 t/d Lapa at LaRonde site	3330 kg Au 58 kg Ag	2.7 Mt 6.71 g/t	294 (Lapa excluded)	2009-20.. (2)

TABLE 6.7 - **Production of metal commodities in Québec as of December 31, 2011**[1] (see figure 6.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF ORE DEPOSIT AND TYPE OF MINE	ANNUAL PRODUCTION OF ORE MINED	DAILY PRODUCTION OF ORE MINED	NOMINAL DAILY CAPACITY OF THE MILL	ANNUAL METAL PRODUCTION	PROVEN AND PROBABLE RESERVES	AVERAGE NUMBER OF JOBS	YEARS OF PRODUCTION (NUMBER)
Gold, silver, copper, zinc											
9	Bousquet / 32D08 / Abitibi-Témiscamingue	LaRonde	Les Mines Agnico-Eagle	Massive to semi-massive pyrite lenses in sericitized felsic volcanic rocks metamorphosed to andalusite-kyanite schists Underground mine	2 406 342 t 3.09% Zn 0.20% Cu 0.36% Pb 54.42 g/t Ag 1.79 g/t Au	7 Kt/d	7200 t/d LaRonde mill	64 572 t Zn 3636 t Cu 2472 t Pb 115 602 kg Ag 3862 kg Au	34.7 M t 0.3% Cu 0.1% Pb 4.2 g/t Ag 4.3 g/t Au	794	1988-20.. (23)
10	Bousquet / 32D07 / Abitibi-Témiscamingue	Mouska (Mine Doyon)	Gestion Iamgold Québec	Quartz veins in Mooshla diorite near the northern sheared contact Underground mine	57 375 t 13.89 g/t Au	285 t/d	2300 t/d Mine Doyon mill	733 kg Au 200 kg Ag 85 t Cu	** 162 Kt 12.4 g/t Au ?? g/t Ag ??% Cu	201	1991-20.. (21)
Zinc, copper, gold, silver											
11	Daniel / 32F12, 13 / Nord-du-Québec	Persévérance (Mine Matagami)	Xstrata Zinc	VMS-type in a mafic and felsic lava sequence Underground mine	1 086 284 t 13.22% Zn	3 Kt/d	3 Kt/d	134 999 t Zn 9750 t Cu 12 430 kg Ag	1 360 470 t	235	2008-20.. (3)
Iron, iron and titanium											
12	23B06 / Côte-Nord	Fire Lake	Arcelor Mittal Mines Canada	Specular hematite in metamorphosed Lake Superior-type iron formation Open pit mine	n/a	n/a	n/a	n/a	n/a	n/a	n/a
13	23B14 / Côte-Nord	Lac Bloom	Consolidated Thompson Iron Mines	Specular hematite in metamorphosed Lake Superior-type iron formation Open pit mine	16.6 Mt 33.39% Fe	53 Kt/d	58 Kt/d	n/a	1051 Mt 28.6% Fe	290	2010-20.. (1)
14	Parker / 12L09 / Côte-Nord	Lac Tio	Rio Tinto Fer et Titane	Massive hemo-ilmenite in anorthosite from the Havre-Saint-Pierre Intrusive Suite Open pit mine	2.84 Mt	18 500 t/d	10 Kt/d	n/a	n/a	~250	1950-20.. (61)
15	Normanville / 23B14, 23B11 and 23B09 / Côte-Nord	Mont Wright	Arcelor Mittal Mines Canada	Specular hematite in metamorphosed Lake Superior-type iron formation Open pit mine	n/a	n/a	n/a	n/a	n/a	~ 2000 (Mt-Wright and Port-Cartier)	1976-20.. (35)

TABLE 6.7 - **Production of metal commodities in Québec as of December 31, 2011[1]** (see figure 6.1).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF ORE DEPOSIT AND TYPE OF MINE	ANNUAL PRODUCTION OF ORE MINED	DAILY PRODUCTION OF ORE MINED	NOMINAL DAILY CAPACITY OF THE MILL	ANNUAL METAL PRODUCTION	PROVEN AND PROBABLE RESERVES	AVERAGE NUMBER OF JOBS	YEARS OF PRODUCTION (NUMBER)
Nickel, copper, PGE, cobalt											
16	35G09, 35H11 et 35H12 / Nord-du-Québec	Raglan Fonderie - Sudbury/ Raffinerie – Norvège	Xstrata Nickel	Magmatic Ni-Cu in massive sulphide lenses at the base of ultramafic flows Underground and open pit mine	1 300 000 t 2.45% Ni 0.68% Cu	3561 t/d	3600 t/d	27 274 t Ni 7215 t Cu 561 t Co + Pd, Pt, Rh, Ag, Ag	11.6 Mt 2.86% Ni 0.75% Cu 0.7 g/t Au	896	1998-20.. (13)
Niobium											
17	Simard / 22D11 / Saguenay–Lac-Saint-Jean	Niobec	Gestion Iamgold Québec	Pyrochlore in the St-Honoré Carbonatite Underground mine	2.1 Mt	6200 t/d	6240 t/d	6.7 M kg (Nb_2O_5)	51.6 Mt 0.53% Nb_2O_5	375	1976-20.. (35)

TABLE 6.8 - **Production of non-metal commodities in Québec as of December 31, 2011[1]** (see figure 6.2).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF ORE DEPOSIT AND TYPE OF MINE	ANNUAL PRODUCTION OF ORE MINED	DAILY PRODUCTION OF ORE MINED	NOMINAL DAILY CAPACITY OF THE MILL	ANNUAL METAL PRODUCTION	PROVEN AND PROBABLE RESERVES	AVERAGE NUMBER OF JOBS	YEARS OF PRODUCTION (NUMBER)
Chrysotile											
18	Irlande / 21L03 / Chaudière-Appalaches	Black Lake	Lac d'Amiante du Canada 9184-6808 Québec inc.	Network of veins in serpentinized ultramafics Open pit mine	2 Mt	22 000 t/d	19 500 t/d	66 000 t	n/a	~350	1957-2011 (54)
19	Shipton / 21E13 / Estrie	Mine Jeffrey	Mine Jeffrey	Network of veins in serpentinized ultramafics Open pit mine	0	0	25 000 t/d	0	120 Mt	~25	1878-20.. (133)
Feldspar											
20	Portland / 31G11 / Outaouais	Othmer	Dentsply Canada	Potassium feldspar from pegmatite Open pit mine	n/a	n/a	n/a	n/a	n/a	~10	2002-20.. (9)
Graphite											
21	Bouthiller / 31J05 / Laurentides	Lac-des-Îles	Timcal Canada	Graphite as disseminatied flakes in crystalline limestone Open pit mine	n/a	n/a	n/a	n/a	n/a	~55	1989-20.. (22)

TABLE 6.8 - **Production of non-metal commodities in Québec as of December 31, 2011[1]** (see figure 6.2).

SITE	TOWNSHIP / SNRC / ADMINISTRATIVE REGION	MINE	COMPANY	SUMMARY DESCRIPTION OF ORE DEPOSIT AND TYPE OF MINE	ANNUAL PRODUCTION OF ORE MINED	DAILY PRODUCTION OF ORE MINED	NOMINAL DAILY CAPACITY OF THE MILL	ANNUAL METAL PRODUCTION	PROVEN AND PROBABLE RESERVES	AVERAGE NUMBER OF JOBS	YEARS OF PRODUCTION (NUMBER)
Mica											
22	Suzor / 31O16 / Mauricie	Lac Letondal	Les Produits Mica Suzorite	Lenticular alkaline intrusion containing 80-85% phlogopite Open pit mine	n/a	120 st/d	140 st/d	24 266 st	7 Mst	~17	1970-20.. (41)
Salt											
23	Îles-de-la-Madeleine / 11N12 / Gaspésie–Îles-de-la-Madeleine	Seleine	Canadian Salt Company	Carboniferous salt diapir Underground mine	1.4 Mt	5600 t/d	5600 t/d	n/a	40 Mt	~160	1982-20.. (29)
Silica											
24	Charlevoix 3 / 21M15 / Capitale-Nationale	Petit-Lac-Malbaie	Silicium Québec and Sitec	Quartzite Open pit mine	n/a	n/a	n/a	n/a	n/a	~20	1977-20.. (34)
25	Lac des Deux-Montagnes / 31G09 / Laurentides	Saint-Canut	Unimin Canada	Postdam Group sandstone Open pit mine	195 Kst	975 st/d	400 st/yr	n/a	4.3 Mst 99,5% SiO_2	~23	1978-20.. (33)
26	Lussier / 31J08 / Lanaudière	Saint-Donat	Unimin Canada	Quartzite Open pit mine	0	0	n/a	0	n/a	0	1974-2010 (36) Closed in December 2010
27	Amherst / 31G15 / Laurentides	Saint-Rémi-d'Amherst	Société minière Gerdin	Quartzite Open pit mine	n/a	n/a	n/a	n/a	n/a	~20	1970-20.. (41)

NOTES:

1-The list of abbreviations is provided in Appendix 2.

Several figures compiled in this table are preliminary and were obtained from mining companies before they published their own official statements.

The distinction between proven reserves and probable reserves is defined in accordance with National Instrument 43-101.

The location where ore is processed is indicated in parentheses if it is different from the mining site.

Reserves listed in the table take into account:

* ore losses
** ore dilution
*** combined ore losses and ore dilution
**** none of these factors

TABLE 6.9 - **Industrial stone quarries in production in Québec in 2011** (see figure 6.3).

SITE	DEPOSIT	COMPANY	SUMMARY DESCRIPTION OF DEPOSIT	PRODUCTS	TOWNSHIP/NTS	ADMINISTRATIVE REGION
Limestone, dolomite and marble						
1	Bedford	Graymont (Qc) (Bedford division)	Corey Formation limestone	Quicklime, ground limestone products for industrial use, crushed stone	Stanbridge / 31H03	16
2	Domlim #5 and #6	Graymont (Qc) (Marbleton division)	Lac Aylmer Formation limestone	Quicklime, ground limestone products for industrial use, crushed stone	Dudswell / 21E12	12
3	Jolichaux	Graymont (Qc) (Joliette division)	Deschambault Formation limestone	Quicklime, ground limestone products for industrial use, crushed stone	Lavaltrie / 31I03	14
4	Calco	Graymont (Portneuf)	Deschambault Formation limestone	Crushed stone, ground limestone products for industrial use	Seigniory of Grondines / 31I09	3
5	Saint-Armand, Messier-Missisquoi	Omya Canada (St-Armand division)	Strites Pond Formation limestone	Pulverized limestone for use as mineral filler	Seigniory of Saint-Armand / 31H03	16
6	Saint-Armand Principale	Omya Canada (St-Armand division)	Strites Pond Formation limestone	Pulverized limestone for use as mineral filler, white terrazzo granules	Seigniory of Saint-Armand / 31H03	16
7	La Rédemption	Coopérative des Producteurs de chaux du Bas-Saint-Laurent	Dolomitic marble from the Sayabec Formation	Magnesian soil improvement	Awantjish / 22B05	1
8	Pères Trappistes	Les Calcites du Nord	Calcitic marble	White granules for artificial stone, masonry sand, soil improvement	Pelletier / 32A16	2
9	Ciment indépendant	Ciment St-Laurent (indépendant)	Limestone from the Trenton and Black River Groups	Cement production	Lanoraye / 31I03	14
10	Saint-Basile-sud	Ciment Québec	Limestone from the Trenton and Black River Groups	Cement production	Auteuil / 21L12	03
11	Ciment Lafarge	Lafarge Canada	Limestone from the Trenton and Black River Groups	Cement production	Sault-Saint-Louis / 31H05	16
12	Soca	Agrégats Waterloo	Dolomitic marble from the Stukely-South fault zone	Magnesium-rich soil improvement, terrazzo granules, decorative aggregate	Stukely / 31H08	5
13	Saint-Ferdinand	Les Carrières St-Ferdinand	Oak Hill Group dolomite	Magnesium-rich soil improvement, decorative aggregate	Halifax / 21L04	17
14	Trottier Mills	Les Carrières St-Ferdinand	Oak Hill Group dolomite	Magnesium-rich soil improvement	Chester / 21L04	17
Clay minerals						
15	Briqueterie Saint-Laurent	Les Briques Hanson	Nicolet Formation shale	Facing bricks	La Prairie / 31H06	16
Silica						
16	Ormstown	La Compagnie Bon Sable (Ormstown division)	Natural sand	Washed sand for sandblasting, smelting, ceramic glue mixtures	Beauharnois-2 / 31H04	16
17	Sainte-Clotilde	Les Sables Silco	Potsdam Group sandstone	Silica-rich crushed stone for cement plant and ferrosilicon	Beauharnois-1 / 31H04	16
18	Saint-Joseph-du-Lac	La Compagnie Bon Sable	Natural sand	Washed sand for masonry and sandblasting	Lac-des-Deux-Montagnes-1 / 31H12	15
19	Saint-Bruno-de-Guigues	OPTA Minerals	Ordovician sandstone	Sand for filtering, smelting, hydraulic fracturing	Guigues / 31M06	8
20	Chromasco	Carrières Sud-Ouest	Potsdam Group sandstone	Crushed stone and silica-rich aggregate for cement plant and ferrosilicon	Beauharnois / 31H05	16
21	Lac Beauchêne	Les Pierres du Nord	Muscovite quartzite from the Kipawa Formation	Quartz granules for artificial stone	Campeau / 31L10	8
22	Lac Daviault	Exploration Québec / Labrador	Quartzite from the Wishart Formation, Gagnon Group	Quartz granules for artificial stone	Lislois / 23B14	9

TABLE 6.10 - **Architectural stone quarries exploited in Québec in 2011**[(1)] (see figure 6.3).

SITE	LOCATION	COMPANY	TYPE OF ROCK-PRODUCT[1]	COMMERCIAL NAME	NTS	ADMINIS-TRATIVE AREA	TITLE
1	Beaudry	Les Pierres du Nord	Biotite schist - BS	Schiste Nordic	32D03	8	BEX 86
2	Winneway	Polycor	Granite - DS	Winneway	31M09	8	BEX 167
2	Winneway	Polycor	Granite - DS	Winneway	31M09	8	BEX 323
3	Téminscaming	Les Pierres du Nord	Muscovite quartzite - BS	Aventurine	31L10	8	BEX 355
4	Guénette	Rock of Ages du Canada	Monzogranite - DS, MO	Laurentian Pink, Autumn Pink	31J11	15	CM 79
5	Labelle	Les Pierres Mitchell	Paragneiss - BS	-	31J07	15	BEX 330
5	Labelle	Les Pierres Mitchell	Paragneiss - BS	-	31J07	15	BEX 337
5	Labelle	Les Pierres Naturelles Durand	Paragneiss - BS	-	31J07	15	BEX 76
6	Saint-Donat-de-Montcalm	Carrières F. L.	Gneiss - BS	-	31J08	14	BEX 140
7	Mirabel	Les Pierres Saint-Canut	Sandstone - BS	Saint-Canut Sandstone	31G09	15	-
8	Notre-Dame-de-la-Merci	A. Lacroix et Fils Granit	Anorthosite - DS	Orion	31I05	14	BEX 255
9	Joliette	Firstake Capital Corporation	Limestone - BS	Joliette Gris, Joliette Jaune	31I03	14	-
10	Saint-Didace	A. Lacroix et Fils Granit	Quartz mangerite - DS	Nordix Red	31I06	14	-
11	Saint-Alexis-des-Monts	A. Lacroix et Fils Granit	Quartz mangerite - DS	Autumn Brown	31I06	4	BEX 463
11	Saint-Alexis-des-Monts	Polycor	Quartz mangerite - DS	Newton Brown	31I06	4	BEX 174
11	Saint-Alexis-des-Monts	Granicor	Quartz mangerite – DS, CS	Autumn Brown	31I06	4	-
11	Saint-Alexis-des-Monts	Polycor	Quartz mangerite - DS	Newton Brown	31I06	4	-
12	Shawinigan À supprimer	Les Entreprises Élie Grenier	Gneiss - BS	-	31I10	4	-
13	Saint-Marc-des-Carrières	Graymont (Portneuf)	Limestone - DS	Saint-Marc Limestone	31I09	3	-
13	Saint-Marc-des-Carrières	Les Pierres de Rocaille du Québec	Limestone - DS	-	31I09	3	-
14	Rivière-à-Pierre	A. Lacroix et Fils Granit	Quartz mangerite - DS	Atlantic Blue	31P01	3	BEX 178 BEX 372
14	Rivière-à-Pierre	A. Lacroix et Fils Granit	Quartz mangerite - DS	Forest Green	31P01	3	BEX 349
14	Rivière-à-Pierre	A. Lacroix et Fils Granit	Farsundite - DS	Salmon Brown	31P01	3	BEX 366 BEX 367
14	Rivière-à-Pierre	A. Lacroix et Fils Granit	Gneiss - DS	Silver Mist	31P01	3	BEX 378
14	Rivière-à-Pierre	A. Lacroix et Fils Granit	Farsundite - DS	Deer Brown, Vert Atlantique, Deer Brown D.D.	31P01	3	BEX 723 BEX 746
14	Rivière-à-Pierre	A. Lacroix et Fils Granit	Farsundite, quartz mangerite quartzifère - DS	Forest Green, Atlantic Green, Atlantic Blue	31P01	3	BEX 488
14	Rivière-à-Pierre	Granicor	Farsundite - DS, CS	New New	31I16	3	-
14	Rivière-à-Pierre	Granicor	Farsundite - DS, CS	Abbey Rose	31P01	3	-
14	Rivière-à-Pierre	Granicor	Quartz mangerite and quartz jotunite - DS, MO, CS	Vert Prairie	31P01	3	BEX 164 BEX 165
14	Rivière-à-Pierre	Granicor	Quartz mangerite jotunite DS, CS	Nara	31P01	3	BEX 231
14	Rivière-à-Pierre	Granite D. R. C, Gesrock	Farsundite - DS, BS, CS	Canadian Caledonia, Boca Dark	31P01	3	-
14	Rivière-à-Pierre	Polycor	Farsundite - DS	Ashen Pink	31P01	3	-
14	Rivière-à-Pierre	Polycor	Farsundite - DS, UB	Caledonia, Caledonia Dark	31P01	3	-
14	Rivière-à-Pierre	Polycor	Farsundite - DS, CS	Caledonia Dark	31P01	3	BEX 33

TABLE 6.10 - **Architectural stone quarries exploited in Québec in 2011**[(1)] (see figure 6.3).

SITE	LOCATION	COMPANY	TYPE OF ROCK-PRODUCT[1]	COMMERCIAL NAME	NTS	ADMINIS-TRATIVE AREA	TITLE
14	Rivière-à-Pierre	Polycor	Farsundite - DS	Riviera	31I16	3	BEX 114
14	Rivière-à-Pierre	Polycor	Quartz mangerite - DS	Boreal Green	31I16	3	BEX 333
15	Saint-Raymond	A. Lacroix et Fils Granit	Gneiss - DS	Rainbow	21L13	3	-
16	Charlesbourg	Construction B.M.L.	Limestone - BS	-	21L14	3	-
16	Québec	Les Pierres S.D.	Limestone - BS	-	21L14	3	-
16	Sainte-Brigitte-de-Laval	Sablière Vallière	Granit block - BS	-	21L14	3	-
17	Château-Richer	Carrière Laplante	Limestone - BS	-	21L14	3	-
18	Chute-des-Passes	A. Lacroix et Fils Granit	Gneiss - DS	New Rainbow	22E14	2	BEX 377
19	Chute-des-Passes	A. Lacroix et Fils Granit	Gabbroic anorthosite - DS	Nordic Café	22E06	2	BEX 471
19	Chute-des-Passes	Polycor	Gabbroic anorthosite - DS	Kodiac	22E06	2	BEX 402
20	Chute-des-Passes	Polycor	Farsundite - DS	Astra	22E04	2	BEX 1
21	Saint-Thomas-Didyme	Granicor	Quartz mangerite - DS, CS	Acajou	32A15	2	-
22	Chute-du-Diable	Granicor	Anorthosite - DS, MO, CS	Canadian Black (Peribonka)	22D13	2	-
22	Chute-du-Diable	Granicor	Anorthosite - DS, MO, CS	Canadian Black (Peribonka)	22D13	2	BEX 449
23	Saint-Nazaire	A. Lacroix et Fils Granit	Leucogabbronorite - DS	Nordix Green, Atlantic Black, Black Forest	22D12	2	- (2 quarries)
23	Saint-Nazaire	A. Lacroix et Fils Granit	Leucogabbronorite - DS	Nordix Green, Atlantic Black	22D12	2	BEX 148
23	Saint-Nazaire	Granicor	Leucogabbronorite – DS, MO, CS	Cambrian	22D12	2	BEX 332
23	Saint-Nazaire	Polycor	Leucogabbronorite - DS, MO	Cambrian Black	22D12	2	BM 705 (2 quarries)
24	Saint-Honoré	Les Pierres Naturelles Tremblay	Limestone - BS	-	22D11	2	-
25	Bégin	A. Lacroix et Fils Granit	Quartz mangerite - DS	Atlantic Pink	22D11	2	-
25	Bégin	Granicor	Quartz mangerite – DS, CS	Granville	22D11	2	-
26	Tremblay	Carrière 500	Limestone - BS	-	22D06	2	-
27	Saint-François-de-Sales	A. Lacroix et Fils Granit	Quartz mangerite - DS	Spring Green	32A08	2	BEX 203
28	Chambord	A. Lacroix et Fils Granit	Limestone - DS	Chambord Limestone	32A08	2	-
29	Saint-André-du-Lac-Saint-Jean	Jean-Guy Simard et Fils	Quartz mangerite - DS	Saint-André Green	22D05	2	BEX 80
30	Métabetchouan	Polycor	Farsundite - DS	Canadian Violetta	22D05	2	-
31	La Tuque	Granitslab International	Gabbro - DS	Heritage Black	31P16	4	BEX 405
32	Réserve faunique des Laurentides	A. Lacroix et Fils Granit	Farsundite - DS	Autumn Harmony	22D03	2	BEX 225
32	Réserve faunique des Laurentides	Granicor	Quartz mangerite - DS, CS	Laurentian Green	22D04	2	BEX 221
32	Réserve faunique des Laurentides	Polycor	Quartz jotunite - DS, MO	Laurentian Green	22D04	2	BEX 210
33	Laterrière	Intergestion GL	Stromatolite dolostone block - BS	Pikauba	22D03	2	BEX 343
34	La Baie	Granicor	Farsundite - DS, CS	Polychrome	22D07	2	-
34	La Baie	Polycor	Farsundite - DS	Polychrome	22D07	2	-
34	La Baie	Sablière BY	Granit Block - BS	-	22D07	2	-

1- See legend abreviations in Appendix 2.

TABLE 6.10 - **Architectural stone quarries exploited in Québec in 2011**[1] (see figure 6.3).

SITE	LOCATION	COMPANY	TYPE OF ROCK-PRODUCT[1]	COMMERCIAL NAME	NTS	ADMINISTRATIVE AREA	TITLE
35	Grandes-Bergeronnes	Granicor	Gneiss – DS, CS	Tadoussac	22C04	9	-
36	Lac Poulin	Granijem	Granit - DS	Nordic Frost	22F14	9	BEX 490
36	Manic 3	Granijem	Gneiss - DS	Manic	22F15	9	BEX 489
37	Rivière-Pentecôte	Polycor	Anorthosite - DS	Nordic Black	22G14	9	BEX 155
38	Magpie	Granijem	Hypersthene Syenite - DS	Anticosti	22I08	9	BEX 436
38	Magpie	Polycor	Hypersthene Syenite - DS	Picasso	22I07	9	BEX 419
39	Havelock	Carrières Ducharme	Sandstone – BS	Ducharme	31H04	16	- (2 quarries)
40	Stanstead	Centre du Granite Beebe	Granite - DS, PS	Beverly Grey	31H01	5	-
40	Stanstead	Polycor	Granodiorite – DS, MO	Stanstead Grey	31H01	5	-
40	Stanstead	Rock of Ages du Canada	Granodiorite – DS, MO	Stanstead Grey	31H01	5	-
41	Stanhope	Granicor	Granodiorite – DS, MO, SC	Snow White	21E04	5	-
42	Asbestos	Ardobec	Slate – BS	-	21E12	5	-
43	Bromptonville	Ardoise 55	Slate – DS, BS	-	21E05	5	-
44	Melbourne	Maurice Houle	Slate - DS	-	31H09	5	-
45	Saint-Sébastien	Polycor	Granite - DS	San Sebastian Grey	21E10	5	-
46	Saint-Ferdinand	Les Carrières St-Ferdinand	Sanstone, dolomite - BS	-	21L04	17	-
47	East Broughton	Les Pierres Stéatites	Steatite, talc-carbonate rock, serpentinite - RS	-	21L03	12	-
48	Saint-Marc-du-Lac-Long	Glendyne	Slate - BS, RT	La Canadienne, La Québécoise	21N07	1	-
49	Saint-Mathieu-de-Rioux	J.-C. Ouellette	Sandstone - BS	-	22C03	1	-
49	Saint-Mathieu-de-Rioux	Les Pierres St-Mathieu	Sandstone - BS	Grès Basques	22C02	1	BEX 460
50	Mont-Lebel	Entreprises Antoine Jean	Siltstone - BS	-	22C08	1	-
50	Mont-Lebel	Les Pierres Naturelles du Québec	Siltstone - BS	-	22C08	1	-
51	Saint-Cléophas	Carrière Bernier	Siltstone - BS	-	22B05	1	- (2 quarries)
52	Maria	Polycor	Limestone breccia - DS, DeS	Cascapédia	22A04	11	-

1- See legend abreviations in Appendix 2.

TABLE 6.11 - **Peatland harvested in Québec in 2010-2011** (see figure 6.2).

SITE	DEPOSIT	COMPANY	SUMMARY DESCRIPTION OF DEPOSIT	PRODUCTS	TOWNSHIP/NTS	ADMINISTRATIVE REGION
23	Saint-Bonaventure	Fafard et Frères (Saint-Bonaventure division)	Peat	Sphagnum moss, potting soil, compost	Upton / 31H15	17
23	Saint-Valère	Fafard et Frères	Peat	Sphagnum moss	Bulstrode / 31I01	17
24	Saint-Henri-de-Lévis	Premier Horticulture (Saint-Henri division)	Peat	Sphagnum moss	Seigneurie Lauzon / 21L11	12
25	Saint-Charles	Les tourbes M.L. (Saint-Charles division)	Peat	Sphagnum moss, potting soil	Seigneurie Lauzon and fief de La Martinière (Beauchamp) / 21L10	12
26	Îsles-aux-Coudres	Tourbières Pearl	Peat	Sphagnum moss	Seigneurie Îsle-aux-Coudres / 21M08	3
27	Sainte-Marguerite	Fafard et Frères (Sainte-Marguerite division)	Peat	Sphagnum moss	Dolbeau / 32A16	2
28	Saint-Léon	Tourbières Lambert	Peat	Sphagnum moss	Labrecque / 22D12	2
28	L'Ascension Ouest	Tourbières Lambert (Ascension division)	Peat	Sphagnum moss	Garnier / 22D12, 22D13	2
29	Saint-Ludger-de-Milot SW	Fafard et Frères (Milot division)	Peat	Sphagnum moss	Milot / 22D13	2
30	La Baie	Gazon Savard Saguenay	Peat	Sphagnum peat blocks and sphagnum moss	Bagot / 22D07, 02	2
31	Rivière Ouelle	Tourbières Lambert (Rivière-Ouelle division)	Peat	Sphagnum moss, potting soil, floral moss	Seigneurie Rivière-Ouelle / 21N05	1
32	Saint-Alexandre	Tourbières Berger (Saint-Alexandre division)	Peat	Sphagnum moss	Seigneurie Islets-du-Portage and Lachenaie / 21N12	1
33	Notre-Dame-du-Portage	Premier Horticulture (Tardif division)	Peat	Sphagnum moss	Seigneurie Terrebois / 21N12	1
34	Rivière-du-Loup	Premier Horticulture (Premier division)	Peat	Sphagnum moss, potting soil, compost, endomycorrhiza, biofilters	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
34	Rivière-du-Loup	Premier Horticulture (Verbois division)	Peat	Sphagnum moss	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
34	Rivière-du-Loup	Premier Horticulture (Saint-Laurent division)	Peat	Sphagnum moss	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
34	Rivière-du-Loup	Tourbière Michaud	Peat	Sphagnum moss	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
34	Rivière-du-Loup	Les tourbes M.L. (Rivière-du-Loup division)	Peat	Sphagnum moss	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
34	Rivière-du-Loup	Tourbières Berger	Peat	Sphagnum moss, potting soil, peat granules	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
34	Rivière-du-Loup	Tourbière Henri Théberge et associés	Peat	Sphagnum moss	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
34	Rivière-du-Loup	Sun Gro Horticulture Canada (St-Arsène division)	Peat	Sphagnum moss	Seigneurie Rivière-du-Loup and Cacouna / 21N13, 14	1
35	Isle-Verte, Est	Tourbière Réal Michaud et fils	Peat	Sphagnum moss	Seingneurie Isle-Verte / 22C03	1
36	Saint-Eugène-de-Ladrière	La tourbière Yvon Bélanger	Peat	Sphagnum moss	Seigneurie Nicolas-Rioux 03 / 22C07	1
36	Saint-Fabien-sur-Mer	Tourbière Rio-Val	Peat	Sphagnum moss	Seigneurie Nicolas-Rioux 03 / 22C07	1

TABLE 6.11 - **Peatland harvested in Québec in 2010-2011** (see figure 6.2).

SITE	DEPOSIT	COMPANY	SUMMARY DESCRIPTION OF DEPOSIT	PRODUCTS	TOWNSHIP/NTS	ADMINIS-TRATIVE REGION
36	Saint-Fabien	Tourbière du Port-Pic	Peat	Sphagnum moss	Seigneurie Nicolas-Rioux 03 / 22C07	1
36	Saint-Fabien	Tourbières Berger (Saint-Fabien division)	Peat	Sphagnum moss	Seigneurie Nicolas-Rioux 03 / 22C07	1
37	Rivière-Blanche	Permier Horticulture (Saint-Ulric division)	Peat	Sphagnum moss	Matane / 22B13	1
37	Saint-Ulric	Les tourbes M.L. (Saint-Urlric division)	Peat	Sphagnum moss	Matane / 22B13	1
38	Les Escoumins	Tourbières Lambert (Anse-aux-Basques division)	Peat	Sphagnum moss	Bergeronnes / 22C06	9
38	La Petite Romaine	Tourbières Lambert (Saint-Paul-du-Nord division)	Peat	Sphagnum moss	Ibervile / 22C06	9
39	Sainte-Thérèse Colombier	Sun Gro Horticulture Canada (Colombier division)	Peat	Sphagnum moss	Betsiamites / 22C15	9
40	Pointe-Lebel	Pemier Horticulture (Sogevex division)	Peat	Sphagnum moss	Manicouagan / 22F01	9
41	Rivière-Pentecôte	Tourbières Berger	Peat	Sphagnum moss	Fitzpatrick / 22G14	9
41	Port-Cartier Ouest	Les tourbes M.L. (Port-Cartier division)	Peat	Sphagnum moss Sphagnum peat blocks	Babel / 22J02	9
41	Port-Cartier Ouest	Sun Gro Horticulture Canada	Peat	Sphagnum moss	Babel / 22J02	9
42	Clarke City	Les tourbes M.L.	Peat	Sphagnum moss	Arnaud / 22J02	9
42	Ville de Sept-Îles / Letellier	Les tourbes M.L. (Tourbières Sept-Îles division)	Peat	Sphagnum moss	Letelier / 22J01, 22J08	9
43	Saint-Jogues	Shigawake Organics	Peat	Sphagnum moss	Hope / 22A03	11
44	Senneterre	Corporation de développement économique de Senneterre	Peat	Sphagnum moss	Senneterre / 32C06	8

TABLE 6.12 - **Distribution of rights and revenues for peat management per administrative region for 2010-2011.**

ADMINISTRATIVE REGION	NO. OF LEASES	ROYALTIES	HARVESTED QUANTITY (bales)	LEASE INCOME
Abitibi-Témiscamingue	1	$8.82	176.4	$0.00
Bas-Saint-Laurent	1	$5504.40	110 088	$0.00
Chaudière-Appalaches	1	$1655.05	33 101	$0.00
Côte-Nord	30	$102 107.35	2 042 147	$214.57
Gaspésie–Îles-de-la-Madeleine	1	$0.00	0	$0.00
Saguenay–Lac-Saint-Jean	10	$72 389.50	1 447 790	$0.00
Total	**44**	**$181 665.12**	**3 603 502.4**	**$214.57**

CHAPTER 7

MINE REHABILITATION

Philippe-André Lafrance, Johanne Cyr, Valérie Carange, Alexandre Couturier-Dubé, Jean Dionne, Robert Lacroix, Sophie Proulx and Malek Zetchi

7.1 Introduction

Before the beginning of mining activities, the Mining Act requires that a rehabilitation and restoration plan be submitted, as well as details of the financial guarantee. This financial guarantee must cover 70% of the cost for restoring accumulation areas. It is paid according to a schedule based on the expected duration of the mining operation. The rehabilitation plan and financial guarantee must be reviewed every 5 years or less, or when there is a change in mining activities.

Some mining sites in Québec are designated as "abandoned" because the owners are unknown or insolvent. These sites become the responsibility of the State, as do sites that have reverted to the State in the past, or have been the subject of a certificate of release under section 232.10 of the Mining Act. Figure 7.1 shows the location of rehabilitation and securement work carried out at orphaned sites in 2011.

7.2 Active mines

After March 9, 1995, anyone carrying out mining activities was required to submit, before work began, a rehabilitation plan and the details of a financial guarantee equal to 70% of the cost of restoring the accumulation areas. Payment of the financial guarantee was made according to a schedule established at the time the rehabilitation plan was approved or reviewed, and was spread over the expected duration of the mining operation (to a maximum of 15 years).

To date, 67 mining sites have been required to file a rehabilitation plan and deposit a financial guarantee. Of these, 22 sites were still active as at December 31, 2011.

In 2011, operators paid $41.4M in financial guarantees, bringing the total of guarantees held by the MRNF to $117.8M. Of this amount, $34M came from the 22 active mines.

Bill 14 introduced measures to reduce the risk to the State of having to assume mine site rehabilitation costs. The amount of the required financial guarantee is now 100% of the cost of restoration work for the entire mine site. Furthermore, this guarantee must be paid over a period of three years (50% - 25% - 25%). If the financial guarantee is not paid, the operator will be subject to a fine of 10% of the total amount of the guarantee. The operator will be required to begin the rehabilitation and restoration work within three years after the cessation of mining activities.

7.3 Mine sites under the responsibility of the State (surrendered, released, or abandoned)

In 2006, to assess the extent of its environmental liabilities, the government requested that all ministries and government agencies compile an inventory of contaminated sites under the responsibility of the State. This inventory was completed on March 31, 2011.

The required rehabilitation work for mine sites in this inventory must be carried out by 2017. The necessary funds are recorded as a reduction in environmental liabilities with respect to the contaminated sites listed in the consolidated financial statements of the government.

As at March 31, 2011, a total of 679 mine sites were listed in the inventory of the Québec government's environmental liabilities, for a total of $891.6M. Of these:

- 488 are exploration sites:
  - 275 in Nunavik, most of which require cleanup due to waste left on-site. Work is already completed or underway on the 18 worst cases;
  - 213 on Cree territory, for which restoration work should begin in 2012;
- 181 are mining sites. Of these, 99 have had work done, including the securement of mine entrances and openings, the dismantling of infrastructure, site cleanup, and the restoration of tailings accumulation areas;
- 10 are quarries and sand pits. Restoration work has already been carried out at five sites.

In 2010-2011, the Mine Sector set aside $8M to carry out rehabilitation work on sites under the responsibility of the State. This brings the total amount for mine site rehabilitation since 2006 to $60.5M. The MRNF plans to spend over $23M in 2011-2012.

Abitibi-Témiscamingue (08)

Beattie

Located in the municipality of Duparquet, approximately 40 kilometres north of Rouyn-Noranda, the Beattie mine was active between 1933 and 1956. Mining was mostly underground, to a depth of over 300 metres, with some ore also extracted from a small open pit. The site's mill processed nearly 11 Mt of ore, some of which came from nearby mines. Recently, exploration has been conducted on the site with the aim of possibly reopening the mine.

The vast tailings site extends to Lac Duparquet, into which tailings were discharged without adequate containment. During the summer of 2011, an environmental characterization study was conducted in two areas of the tailings site to assess the environmental impact, particularly on lake water quality, with a view to rehabilitating the site. More than one hundred bore holes were drilled, and water, tailings and soil samples were analyzed.

Darius O'Brien, Pandora, Thompson Cadillac and Lapa (Zulapa)

Located on either side of Highway 17, near the Cadillac area, these four former gold mines were active until the 1960s.

The MRNF is committed to carrying out an environmental characterization of these four abandoned mine sites with the aim of eventual rehabilitation. Due to their similar environmental issues and proximity to each other, their assessment will be done jointly for logistical and economic reasons. This work will be carried out in 2012.

Preissac Molybdenite B

This is a former molybdenum and bismuth mine located near the municipality of Preissac, along Route 395, that was active mainly between 1962 and 1971, with 2.2 Mt of ore mined and processed on the site.

With the aim of restoring the site, the MRNF undertook an environmental characterization of the land affected by mining activities. The objectives of this study are to: characterize the tailings; confirm the location and extent of the accumulation areas and estimate the volume of waste; assess the environmental quality of the soils, surface water, sediments and groundwater; and assess the impacts caused by industrial activities (the burning of rubber waste) in order to define contaminant plumes in various media.

This work, carried out during the autumn of 2011, involved the sampling of surface water and sediments at five locations, the excavation of 48 exploration trenches, and the drilling of 19 boreholes, including the installation of 14 monitoring wells. In addition, field tests, site visits, reconnaissance visits, site surveys, and laboratory analyses were also conducted.

In the spring of 2012, a second surface water and groundwater sampling program will complement the environmental characterization project.

Siscoe

This gold deposit, located on the island of the same name, lies in the middle of Lac De Montigny, near Val-d'Or. It was mined between 1926 and 1949, with a final total of 3.3 Mt of extracted ore. From 1985 to 1988, the site was reassessed with a view to possibly reopening it, but the project never materialized.

The site consists of two tailings sites totalling approximately thirty hectares. To assess the potential impact of this site on the environment, an environmental characterization study was started in the autumn of 2011. The report is expected to be filed in March 2012. The next step will be to develop a restoration plan designed to minimize the environmental impact and preserve the recreation and tourism potential of the island.

Aldermac

Located 15 km west of Rouyn-Noranda, the Aldermac site was one of the most problematic abandoned mine sites in the Abitibi-Témiscamingue region. Discovered in 1925, this Cu-Zn deposit was mined from 1931 to 1943. During that period, about 1.5 Mt of tailings were produced and discharged into the surrounding environment, becoming a major source of acid mine drainage (AMD). Their dispersion covers an area of 76 ha, comprising a tailings area of approximately 50 ha (the main zone) and a spillage zone of approximately 26 ha.

The environmental characterization work combined with other studies clearly established the environmental problems. Restoration work began in September 2008 and ended in the summer of 2011. Given the variability of the characteristics in different areas of the site, several restoration options were pursued. One innovative approach consisted of establishing and maintaining a high groundwater level to contain saturated tailings under any circumstances. This approach, which is similar in concept to flooding, is not only safer but also requires less maintenance and monitoring. Another important feature of the restoration work at the Aldermac mine site was the particular attention given to revegetation, which promotes biological diversity and allows for a more harmonious integration with the site's surroundings. The result is that Aldermac represents one of the biggest mine site revegetation projects in Québec to date.

Manitou

The Manitou site is located about 10 km southwest of Val-d'Or. This zinc, copper, and iron deposit was mined between 1942 and 1979, producing approximately 11 Mt of acid-generating mine waste. These tailings, discharged into two tailings ponds without adequate confinement, have spread beyond the deposition zone and along Ruisseau Manitou over a distance of 6.5 km, to reach Rivière Bourlamaque. The total surface area disturbed by these tailings is over 200 ha, mainly due to wind and water erosion.

Following the bankruptcy of the last mining rights holder in 2002, the MRNF assumed control of the Manitou site. Rehabilitation work

The Aldermac site, before and after the restoration work.

began in 2006 under the terms of a partnership between the MRNF and Mines Agnico-Eagle (Agnico-Eagle). The agreement provides for cost-sharing established according to the overall cost of the project and the cost of constructing, operating, closing and monitoring a new tailings area that will be needed to operate the Goldex mine. The cost for the new tailings area, estimated at $14.1M, determines the contribution from Agnico-Eagle. The partnership with Agnico-Eagle allows the MRNF to carry out the rehabilitation of the Manitou site at a lower cost than if it were acting alone.

Technically, the project entails transporting tailings from the Goldex mine as a thickened pulp, containing 50% solids via a 23-km pipeline linking the Goldex and Manitou sites. It will take about 8 years to cover the Manitou site, and will require approximately 19 Mt of tailings.

The project required the construction of 30 km of roads, four bridges, and 8 km of dikes, as well as the installation of 23 km of telecommunications cables and the development of two emergency containment impoundments (at the southern Goldex tailings site and the East Sullivan tailings ponds). A network of drainage ditches along the edges of the Manitou site reduced the drainage area basin feeding Ruisseau Manitou from 1722 ha to 612 ha. During the winter of 2007, 350 000 m3 of tailings that had accumulated along the banks of Rivière Bourlamaque were removed and transported to the northwest sector of the tailings site.

To date, almost 8 Mt of neutral tailings from the Goldex mine have been transported to the Manitou site to cover the acid-generating tailings.

East Malartic

Located in the town of Malartic, this former gold mine was one of the largest in the Abitibi-Témiscamingue region. A total of 18.3 Mt of ore was excavated from the mine from 1939 to 1979. Following the bankruptcy of McWatters Mining in 2004, the Québec government became the owner of the East Malartic mine site that includes six accumulation areas collectively covering 500 ha. The tailings are a source of acid mine drainage. The MRNF assumed responsibility for monitoring the site from 2003 to 2010.

The MRNF and Osisko Mining Corporation (Osisko) signed an agreement for the East-Osisko Project in 2010, and Osisko has since been in charge of managing and rehabilitating the East Malartic mine site. This government-industry partnership stipulates that each party will pay an equal

The Manitou site, before the restoration, and the current work.

share of the estimated $23M rehabilitation cost ($11.5M for each partner).

To successfully complete this rehabilitation, Osisko had to upgrade portions of the original tailings area by adding several new dikes and a large settling pond, with a capacity of 6 Mm^3, called the Southeast basin.

The tailings produced by Osisko's mine since 2011 constitute non-leachable and non-acid-generating thickened tailings with 68% solids. They will be used to completely cover the old tailings area.

Osisko Mining Corporation originally filed a rehabilitation plan for the entire mine site back in 2009. This plan was approved in June 2011, and as announced at the BAPE public hearings, the company has paid 50% of the estimated cost for the complete restoration of the site.

Barvue

Located approximately 50 km north of Val-d'Or, in the township of Barraute, the Barvue mine site is a former zinc and silver producer, discovered in 1950. Over 5 Mt of ore were extracted and processed on site between 1952 and 1957. These operations created a roughly 32-hectare tailings pond that is the source of acid mine drainage.

A major breach of the north dike of the tailings pond occurred while the mine was still operating and resulted in the release of large amounts of tailings into Rivière Laflamme and its tributary, Ruisseau Marcotte.

The spillage zone extends over an area of approximately 28 ha.

In 2008-2009, the MRNF carried out an environmental characterization of the Barvue site that focused mainly on assessing the physical stability of the confinement dikes around the tailings pond, characterizing the surface water and groundwater, and evaluating the volume and thickness of tailings in the spillage zone.

During 2011, a restoration plan was developed for the entire Barvue site. Preparing the site for restoration began in December 2011, with the construction of an access road and tree removal in the area to be restored.

Bevcon

From 1947 to 1965, nearly 3 Mt of ore was extracted from this former gold mine located approximately 25 km east of Val-d'Or. The rehabilitation of the 56-hectare acid-generating tailings site is the result of a partnership between the MRNF and Biogénie, which specializes in waste decontamination and recovery.

The project, which ran from 2007 to 2011, consisted of covering the tailings area with a mixture comprising 22% ash from cogeneration plants, 11% biosolids, and 66% wood bark. The areas covered have since been revegetated.

Estrie (05)

Eustis

The former Eustis mine is part of the Capelton industrial and mining complex, which operated from 1865 to 1939. The mine site comprises a tailings area (Eustis 1) and two waste rock piles (Eustis 2 and 3), with a total area of approximately 15 ha. All Eustis mine tailings generate acid. In 2006, the MRNF began rehabilitation work on all three of these sites. Broadly speaking, the rehabilitation approach was to cover the tailings with an impermeable barrier to prevent oxidation and limit the infiltration of rain and meltwater, and consequently eliminate acid mine drainage.

Rehabilitation work on the Eustis 1 site consisted of first excavating and removing the tailings found in the floodplain bordering Rivière Massawippi, and then covering all the tailings with a layer of de-inking residues on the flat parts of the site or a geomembrane on sloped areas. These were topped with a final layer of soil, followed by revegetation. The project also includes wildlife habitat development in the floodplain. For the Eustis 2 and 3 sites, rehabilitation measures have consisted of containing the tailings under a waterproof cover (a geomembrane) topped with a layer of soil and vegetation.

The Eustis site, before and after the restoration work.

Mauricie (04)

Montauban

Located in the municipality of Notre-Dame-de-Montauban, this site encompasses the region's three former mine sites, all of which are under the responsibility of the State: Tétreault 1, Tétreault 2, and Montauban United. These zinc and lead mines extracted and processed 2.5 Mt of ore between 1913 and 1955, resulting in three tailings sites with a total area of approximately 20 ha.

In 2009, an initial characterization study was conducted to determine the size of the affected area and the nature and volume of the tailings. A complementary characterization study was carried out in July 2011, and the site rehabilitation plan is now being prepared.

Nord-du-Québec (10)

Principale mine

This former copper mine, one of the largest in Chibougamau, was active from 1953 to 1979. The mill, however, continued to be fed by neighbouring mines until 2005, when the State inherited the site after the mining company went bankrupt. The site comprises three tailings areas covering 170 hectares and a 100-hectare polishing basin.

Several studies were conducted in 2011: an environmental site characterization, a geotechnical study of the dikes, and a study of the site's general stability. Over the course of the summer, the buildings were demolished and securement work performed. By the end of 2011, a rehabilitation plan was being prepared.

The Oujé-Bougoumou Cree community has been involved with the project since its inception, and this involvement will continue throughout the rehabilitation process and the subsequent monitoring of the site. The Cree participated in the selection of the firm that conducted the site characterization study and, more recently, the selection of the firm preparing the rehabilitation plan.

Exploration sites in Nunavik

The inventory conducted in 2001 identified 275 abandoned mining exploration sites in Nunavik, of which 18 sites were classified as major, and the remaining 257 as intermediate or minor.

In 2007, the Québec government, the Kativik Regional Government, the Makivik Corporation, and the Nunavik Restor-Action Fund signed a partnership agreement with the aim of cleaning up the 18 top-priority exploration sites. By the end of 2011, the cleanup work at all but five of the sites was finished. The most significant of the unfinished sites, PJ-1 and SW-34, will require several summers' worth of work.

The agreement will be extended to 2017 to complete the cleanup of major sites and start the cleanup of intermediate sites.

7.4 Inspection and securement

The MRNF annually conducts a major inspection program of mine sites under the responsibility of the State, allowing it to identify potential risks to the environment and human safety, and to plan maintenance and securement work. The main purpose of this inspection is to secure former mine entrances and openings by installing fences and concrete slabs, or by backfilling. In some cases, grates are used to protect the former drift openings while still allowing bats to access the tunnel. Hibernating sites are also established in collaboration with the Wildlife Sector.

In 2011, 158 inspections were conducted, and maintenance and securement work was carried out in five regions of Québec.

Outaouais (07)

The entrances of the former Asselin, Blackburn (Vavasour), Gauthier, Grant, Horse Shoe, Lac Rhéaume, Robitaille, Matthewman, McDonald, North American and Pugh & Weart mine sites were backfilled in 2011.

The Lac Rhéaume site, before and after securement work.

Abitibi-Témiscamingue (08)

The fences securing the pits of the former McWatters and Lucien Béliveau mines have been repaired.

The Sullivan site, located at the edge of Lac De Montigny, was rehabilitated in the early 2000s. An access road to the lake was built in 2011.

Nord-du-Québec (10)

The pits of the former Certac and Chesbar mines, near Desmaraisville, were secured in 2011. The area around each pit was cleared of brush and levelled, and 2.5-metre-high enclosures installed around the perimeter. The sites have been cleared of all debris and waste.

Estrie (05)

Mine entrances in the former Yale, Howard and St-François mine sites, near Sherbrooke, were secured by backfilling.

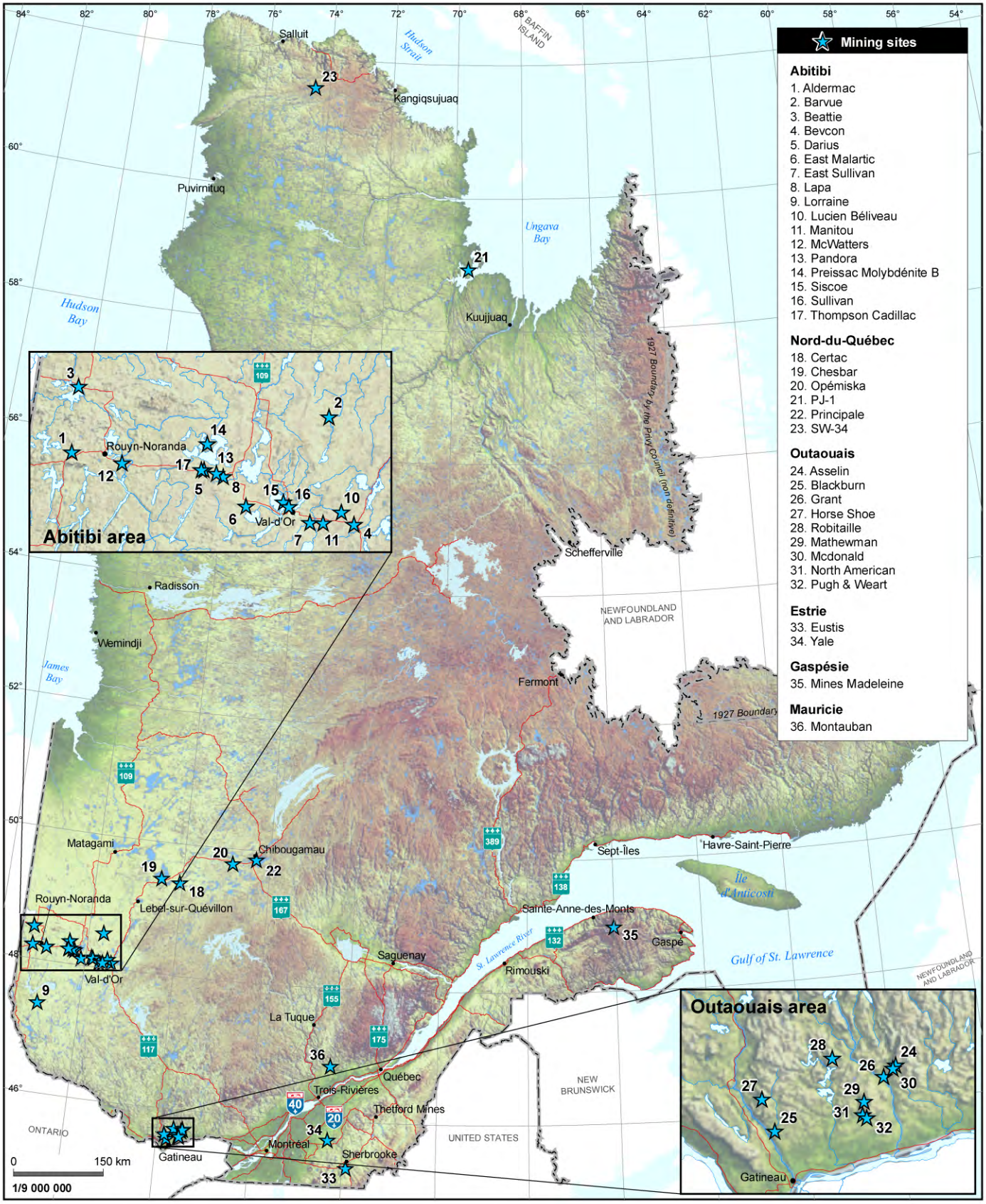
Gaspésie–Îles-de-la-Madeleine (11)

Madeleine Mines is a former mine site, located south of Sainte-Anne-des-Monts, which was restored several years ago. During the summer of 2011, subsidence was observed at the edges of two concrete slabs laid over the mine shafts. Temporary measures were taken to secure the premises. The work will be completed in the spring of 2012.

7.5 Conclusion

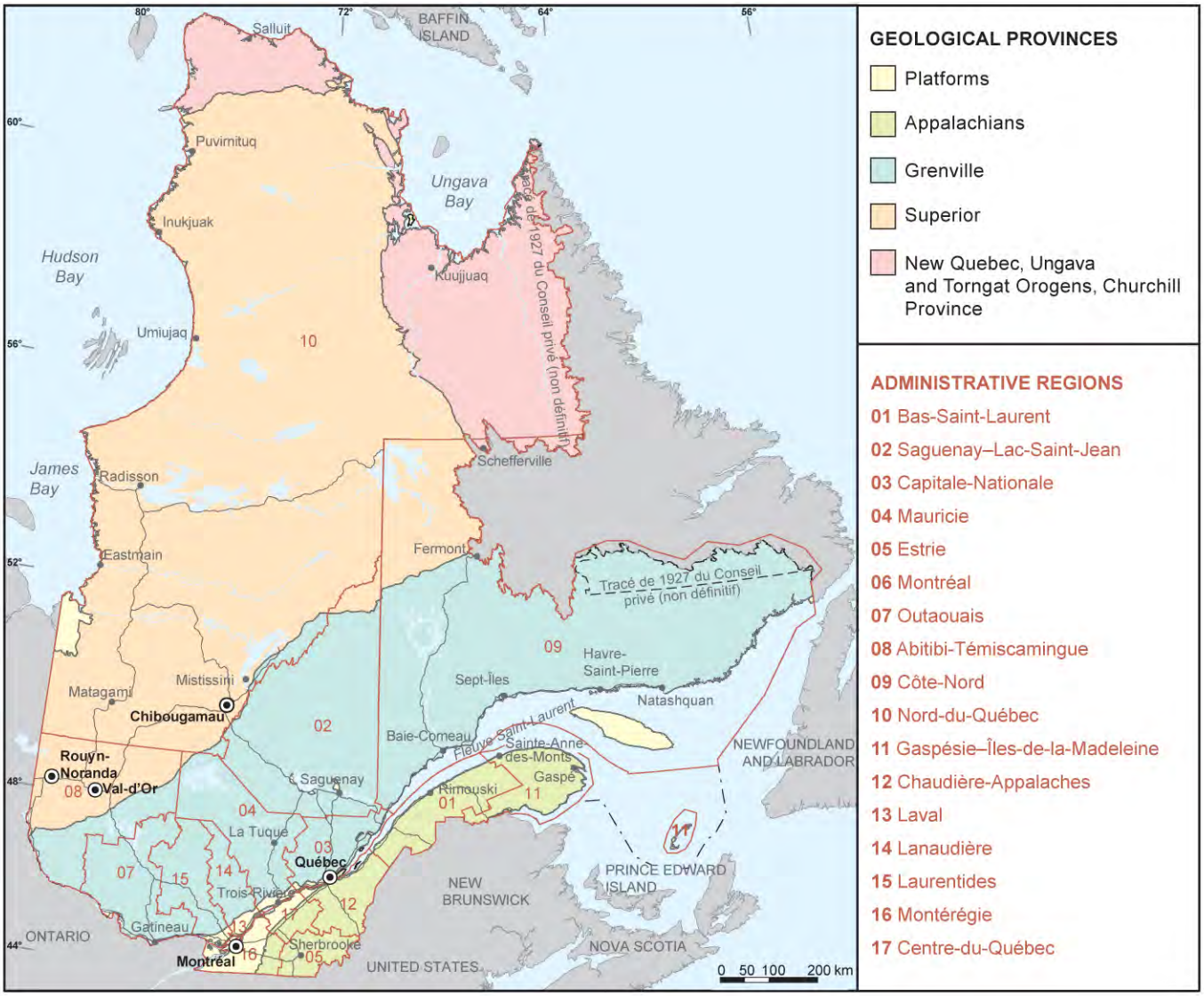
With Bill 14, the Québec government aims, among other things, to notably tighten the rules governing mine site restoration. Restoration plans will have to be approved prior to issuing a mining lease, and the financial guarantee will be increased to 100% of restoration costs for the entire site, to be paid over the course of the first three years of operation.

Figure 7.1 - **Location of rehabilitation and securement work performed at orphaned mine sites in 2011.**



Appendix I

Geological subdivisions, limits of administrative regions, and mining customer service offices in Québec.



CHIBOUGAMAU

Direction de l'expertise Énergie-Faune-Forêts-Mines-Territoire du Nord-du-Québec

Ministère des Ressources naturelles et de la Faune
624, 3e Rue
Chibougamau (Québec) G8P 1P1
Phone: 418 748-2647
Fax: 418 748-3359

ROUYN-NORANDA

Direction des affaires régionales de l'Abitibi-Témiscamingue

Ministère des Ressources naturelles et de la Faune
70, avenue Québec
Rouyn-Noranda (Québec) J9X 6R1
Phone: 819 763-3388
Fax: 819 763-3216

VAL-D'OR

Direction des affaires régionales de l'Abitibi-Témiscamingue

Ministère des Ressources naturelles et de la Faune
420, boulevard Lamaque
Val-d'Or (Québec) J9P 3L4
Phone: 819 354-4611
Fax: 819 354-4367

MONTRÉAL

Direction des affaires régionales de l'Estrie-Montréal-Montérégie et de Laval-Lanaudière-Laurentides

Ministère des Ressources naturelles et de la Faune
545 Crémazie est, 8e étage
Montréal (Québec) H2M 2V1
Phone: 514 873-2140
Fax: 514 873-8983

QUÉBEC

Direction des affaires régionales de la Capitale-Nationale et de la Chaudière-Appalaches

Ministère des Ressources naturelles et de la Faune
1685, boulevard Wilfrid-Hamel, bureau 1.14
Québec (Québec) G1N 3Y7
Phone: 418 643-4680
Fax: 418 644-8960

Appendix II
Legend of abbreviations used in tables

Prospecting and geology works

B (mt:g/t)	Bulk sampling including tonnage and grade or (mt: % Xx) (metric tons:gram per ton) or (metric tons: % Xx)
Bs	Block sampling for dimension stones
Ct	Characterization tests and analysis (peat)
D (#h:m)	Diamond drilling (number of holes:total meters)
G	Geological mapping
Min	Mineralogical studies
Pg	Unspecified prospecting and geological works
Pr	Prospection
Pt	Polishing test
Rcd (#h:m)	Reversed circulation drilling (number of holes:total meters)
Rsi	Remote sensing interpretation
S	Sampling
T	Trenching and stripping

Geochemical surveys

Gs	Unspecified geochemical surveys
Gs(e)	Esker geochemical survey
Gs(h)	Humus geochemical survey
Gs(l)	Lake sediments geochemical survey
Gs(r)	Lithogeochemical survey (rock)
Gs(s)	Stream sediments geochemical survey
Gs(sl)	Soils geochemical survey
Gs(t)	Till geochemical survey

Geophysical surveys

Gp	Unspecified geophysical survey
GpEl	Electric survey
GpEm	Electromagnetic survey
GpGr	Gravimetry survey
GpMa	Magnetometric (magnetic) survey
GpMt	Magnetotelluric survey
GpRa	Radiometric survey
GpSi	Seismic survey

(A) aerial, (B) borehole, (G) ground

Other types of works

Env	Environmental studies
FM	Feasability and/or market studies
M	Mining site rehabilitation
Met	Metallurgical test
Re	Reserve and resource evaluation
TE	Technical evaluation

Substances

Ag	Silver
Au	Gold
Be	Beryllium
Bi	Bismuth
Co	Cobalt
Cr	Chrome
Cs	Cæsium
Cu	Copper
PGE	Platinum Group Elements
Fe	Iron
Ga	Gallium
Li_2O	Lithium oxyde
Mg	Magnesium
Mo	Molybdenum
Nb	Niobium
Nb_2O_5	Niobium oxyde
Ni	Nickel
TREO	Total Rare Earth Oxydes
P	Phosphorus
P_2O_5	Phosphorus oxyde
Pb	Lead
Pd	Palladium
Pt	Platinum
Rb	Rubidium
REE	Rare earth elements
Ta	Tantalum
Ta_2O_5	Tantalum oxyde
Te	Tellurium
Th	Thorium
Ti	Titanium
U	Uranium
U_3O_8	Uranium Oxyde
V	Vanadium
W	Tungsten
Y	Yttrium
Y_2O_3	Yttrium oxyde
Zn	Zinc
Zr	Zirconium
ZrO_2	Zirconium oxyde

Measurement Units

c/t	Carat/ton
G	Billion
g/t	Gram per ton
K	Thousand
M	Million
st	Short ton
t	Metric ton
t/d	Metric ton per day

Products and usages of architectural stones

BS Building stone and landscaping
CS Curbstone
DeS Decorative stone
DS Dimension stone
MO Monument stone
RS Refractory stone
RT Roofing tiles

Other abbreviations used

CA	Certificate of authorization
MDDEP	*Ministère du Développement durable, de l'Environnement et des Parcs du Québec*
n/a	Non available
Italic	Exploration work done on mine properties
Bold	Advanced exploration project

Appendix III
The Mineral Development Process

The Mineral Development Process

This schematic chart describes the nature and duration of work, objectives, evaluation methods, targeted results, nature of mineral inventory, and investment and risk levels, for each of the four phases of the mineral resource development process: mineral resource assessment, exploration, deposit appraisal, and mine complex development.

In this chart, a mineral showing requires at least one grab sample or one drill intercept, trench or channel sample from a mineralized zone that exhibits potential economic value. A mineral deposit consists of at least one mineralized zone for which the economic potential has been broadly assessed through a first mineral resource estimation. Conversion of mineral resources into mineral reserves not only requires a positive feasibility study following deposit appraisal work, but also a commitment to bring the deposit into production. The mine complex development phase includes work conducted during the preparation and development of the project, mining operations, and mine site rehabilitation.

	Mineral Resource Assessment	Exploration					Deposit Appraisal				Mine Complex Development		
Phase	VRM	EX- 1	EX- 2	EX- 3	EX- 4	EX- 5	MV- 1	MV- 2	MV- 3	MV- 4	ACM-1 Preparation and development	ACM-2 Mining operations	ACM-3 Site rehabilitation
Work	Surveys, research, and metallogenic syntheses.	Exploration planning.	Regional reconnaissance and surveys.	Prospecting and ground surveys on anomalies.	Verification of anomalies and showings.	Discovery and delineation of a deposit with estimated tonnage.	Definition of deposit with estimated tonnage.	Definition of technical parameters. (Engineering)	Definition of economic parameters.	Feasibility study.	Construction. Start-up of mine.	Production and marketing.	Mine closure. Mine site rehabilitation.
Duration		2 years +					3 to 8 years				2 to 3 years	5 years +	
Objectives	Provide information and tools to develop mineral resources in a sustainable development perspective.	Select targeted minerals and metals. Establish objectives and strategies. Select prospective target areas.	Find regional and local anomalies. Select the most promising targets.	Acquire properties. Confirm the presence, position and characteristics of anomalies.	Determine the source of anomalies. Find mineral showings. Acquire additional properties as needed.	Discover, confirm and delineate a first mineral inventory for the deposit. Assess its economic potential in a preliminary fashion. First pre-feasibility study.	Define the extent, controls, and internal distribution of the mineralogy and ore grade of the deposit. Plan and design project engineering.	Establish technical feasibility. Establish mining plans, schedules and estimations for the project.	Establish parameters for economic and financial assessment. Examine potential sources of financing.	Ensure validity of data, assumptions, and estimations. Decide whether or not to proceed.	Complete mine development and required construction work in line with budget and schedule. Prepare start-up of mine and processing plant.	Achieve commercial production as per planned rate and specifications. Achieve profitability in a sustainable development perspective.	Rehabilitate mine site to safe and visually acceptable level and environment quality compatible with future land uses.
Evaluation methods	Surveys, research, and geoscientific, metallogenic and economic syntheses by governments, universities, and other research groups.	Studies and selection of metals and minerals. Review and synthesize geological and metallogenic information for various regions. Assess legal and political context.	Remote sensing, aerial photography, airborne geophysics. Prospecting, geology and geochemistry. Assessment and selection of anomalies.	Prospecting and ground geoscientific surveys. Overview and selection of anomalies for follow-up.	Geological mapping and other surveys. Trenching, sampling, drilling. Assessment of results and selection of targets.	Stripping, trenching, mapping, sampling, drilling, geophysics. Preliminary resource estimation. Environmental characterization.	Definition work by mapping, sampling, surface and underground drilling. Acquire data for project engineering. Detailed surveys of site and environment.	Bulk sampling. Pilot-scale tests, engineering and cost estimates for the mine, the ore concentration process, infrastructure, environmental protection and site rehabilitation.	Market, price, and financial studies. Analysis of technical, economic, financial, social, political, and environmental risks.	Due diligence review of all available information on the project. Assess profitability, risks, and positive aspects of the project.	Project management and quality management. Plan mine start-up and training of personnel.	Manage production in line with continuous improvement of quality and performance. Exploration, deposit appraisal, and development of new zones on and off mine site.	Decommissioning of mine. Environmental reclamation and monitoring.
Targeted results	Databases, maps, and models	Exploration projects	Regional anomalies	Local anomalies	Mineral showings	Deposit with estimated tonnage	Define mineral resources	Determine mining methods	Technical and economic feasibility	Ore deposit Decision to go into production	Start-up of production	Profitability	Rehabilitated mine site
Mineral Inventory	MINERAL POTENTIAL	NEW UNIDENTIFIED, SPECULATIVE, HYPOTHETICAL, OR MODELLED MINERAL RESOURCES				INFERRED MINERAL RESOURCES	MEASURED AND INDICATED MINERAL RESOURCES				PROVEN AND PROBABLE MINERAL RESERVES		MINERAL RESOURCES

Source: Modifications coordinated by S. Lacroix in August 2001, based on SOQUEM Annual Report 1976-77, p.4-5 and Vallée, M. 1992. Guide to the Evaluation of Gold Deposits, CIM Special Volume, p.4.
Graphic design: Charlotte Grenier

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