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Mining by the Numbers

November 2014

Mining investment in Québec in 2013

Background

The Institut de la statistique du Québec manages the mining statistics program on behalf of the Ministère de l'Énergie et des Ressources naturelles (MERN). This program has three major components: 1) Mineral production (value and quantity of shipments); 2) Mining investment including exploration and deposit appraisal expenditures; and 3) Core drilling companies.

The survey on mining investment[1] took place in the spring 2014. It aimed to collect final data for 2013 and revised intentions for 2014. In total, 423 questionnaires (451 in 2012) were sent to 385 mining companies (415 in 2012). A total of 286 respondents reported work as project managers, and 99 did not report any expenditures.

Thirty-eight producing companies also had to respond to a second questionnaire about their assets (non-residential construction, machinery and equipment) and their current repair and maintenance expenditures.

In addition, preliminary data for 2014 and intentions expressed by mining companies for 2015 are currently being collected. The results of this survey will be made available on the ISQ website in the first quarter 2015.

Certain definitions and explanatory notes are presented at the end of the document.

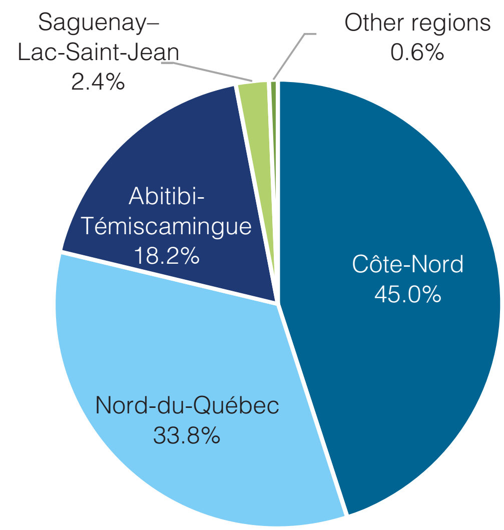
Following nine years of growth, mining investment declined in 2013

The uncertain global economic environment, the drop in prices of several mineral commodities and a difficult access to capital, namely for junior mining exploration companies, marked the year 2013.

Due to these conditions, after nine years of growth and record investments of $5.1 billion in 2012, mining investment declined by 10.8% to $4.6 billion in 2013.

Three Québec administrative regions accounted for 97.0% of that amount (Figure 1), namely the Côte-Nord (45.0%), Nord-du-Québec (33.8%) and Abitibi-Témiscamingue (18.2%) regions. In addition, Saguenay–Lac-Saint-Jean, an emerging mining region, accounted for 2.4% of total investment in Québec in 2013.

Figure 1
Distribution of Mining Investment by Administrative Region, Québec, 2013



Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.*

1. Conducted in collaboration with Natural Resources Canada.

Québec

Table 1
Distribution of Mining Investment by Administrative Region, Québec, 2013

Administrative region	On-mine-site exploration and deposit appraisal	Off-mine-site exploration and deposit appraisal	Mine complex development			Total
			Work	Capital[1]	Repairs[1]	
	$k					
01 Bas-Saint-Laurent	-	284	-	-	-	284
02 Saguenay–Lac-Saint-Jean	x	13,735	x	x	x	109,094
03 Capitale-Nationale	-	x	-	-	-	x
04 Mauricie	-	725	x	x	-	6,129
05 Estrie	-	659	-	-	-	659
06 Montréal	-	-	-	-	-	-
07 Outaouais	-	1,876	-	-	-	1,876
08 Abitibi-Témiscamingue	3,387	76,616	422,900	175,343	155,818	834,065
09 Côte-Nord	x	32,485	x	1,641,315	281,306	2,058,868
10 Nord-du-Québec	24,871	177,908	445,793	795,026	101,027	1,544,626
11 Gaspésie–Îles-de-la-Madeleine	-	2,994	x	x	x	14,328
12 Chaudière-Appalaches	-	774	-	-	-	774
13 Laval	-	-	-	-	-	-
14 Lanaudière	-	539	-	-	-	539
15 Laurentides	-	972	x	-	x	3,746
16 Montérégie	-	x	-	x	x	883
17 Centre-du-Québec	-	x	-	-	-	x
All of Québec	**72,113**	**309,670**	**985,075**	**2,646,579**	**562,535**	**4,575,972**

1. This category includes capital costs and repairs for off-mine-site exploration and deposit appraisal.
Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures*.

The Côte-Nord and Nord-du-Québec regions stood out with respective investments of $2.1 billion and $1.5 billion. Mining investment totalled $834 million in Abitibi-Témiscamingue and $109 million in Saguenay–Lac-Saint-Jean.

Despite difficult economic conditions in 2013, mine complex development investment remained relatively high, decreasing by only 7.0% from 2012. However, exploration and deposit appraisal investment dropped by 38.5% in 2013. The decline was even more significant for off-mine-site projects, at 46.8%.

Revised intentions for 2014: Mining investment down 36%

According to intentions expressed by companies for 2014, the decline in mining investment should continue in Québec. Total investment is expected to drop by 36.0% compared with 2013, decreasing to about $2.9 billion. Exploration and deposit appraisal investment should remain relatively stable at $404 million. However, mine complex development expenditures should see a significant drop. They are expected to fall by 39.8%, slipping to $2.5 billion in 2014.

Table 2
Mining Investment, Québec, 2010-2014[1]

	2010	2011	2012	2013	2014[ri]	Chg. 2013 / 2012
	$ millions					%
Exploration and deposit appraisal	**512**	**834**	**621**	**382**	**404**	**-38.5**
Off-mine-site	476	748	582	310	370	-46.8
On-mine-site	35	86	38	72	34	87.4
Mine complex development	**2,405**	**3,089**	**4,509**	**4,194**	**2,525**	**-7.0**
Work	410	506	977	985	843	0.8
Capital	1,561	2,018	2,897	2,647	1,120	-8.6
Repairs	433	564	635	563	563[2]	-11.4
Total	**2,917**	**3,923**	**5,130**	**4,576**	**2,929**	**-10.8**

1. 2010-2013: final data; 2014: revised intentions.
2. Amount not surveyed, imputed from the 2013 mining investment survey.
Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures*.

Mine complex development

Mine openings and closures in 2013

The year 2013 was marked by the opening of four gold mines and one zinc and copper mine. As well, one gold mine and one zinc and copper mine closed in 2013.

At the end of the first quarter 2013, IAMGOLD Corporation began pre-commercial production at its Westwood underground gold mine. Commercial production started in early July 2014 (IAMGOLD Corporation, news release, July 31, 2014). The Westwood mine is located about 40 kilometres east of Rouyn-Noranda.

Production started in May 2013 at Glencore Canada Corporation's Bracemac-McLeod mine (Donner Metals, news release, May 16, 2013). The opening of this underground zinc and copper mine coincided with the closing of the Perseverance mine. The Perseverance mine, which also belongs to Glencore Canada Corporation, closed in June 2013 due to the depletion of ore. These two mines are located about 10 kilometres from each other, in the Matagami area.

In the second quarter 2013, Richmont Mines processed a bulk sample taken from the Monique open-pit gold mine project and subsequently began a three-month pre-production phase following the completion of a reserve calculation. Commercial production started on October 1, 2013 (Richmont Mines, 2013 Annual Report, February 19, 2014). The Monique mine is located about 30 kilometres east of Val-d'Or.

In June 2012, Metanor Resources processed a bulk sample from the Bachelor Lake underground gold mine project. As of September 30, 2013, production increased toward commercial production. However, it was only in November 2013 that Metanor reported that it had achieved commercial production at the mine (Metanor Resources, news release, November 14, 2013). The Bachelor Lake mine is located 140 kilometres south-west of Chibougamau.

On October 19, 2011, Agnico Eagle Mines suspended mining operations and gold production at its Goldex underground mine due to geotechnical problems. However, exploration and deposit appraisal work continued in several mineralized zones at the site of the Goldex mine. Following this work, the Goldex mine recorded pre-commercial gold production in the third quarter 2013. Commercial production was achieved on October 1, 2013 at the M and E zones of the mine (Agnico Eagle Mines, Management's Discussion and Analysis, December 31, 2013). The Goldex mine is located near Val-d'Or.

Also near Val-d'Or, Wesdome Gold Mines suspended its operations at the Kiena underground gold mine on June 30, 2013 (Wesdome Gold Mines, Management's Discussion and Analysis, March 14, 2013).

Table 3
Mine Openings and Closures, Québec, 2013

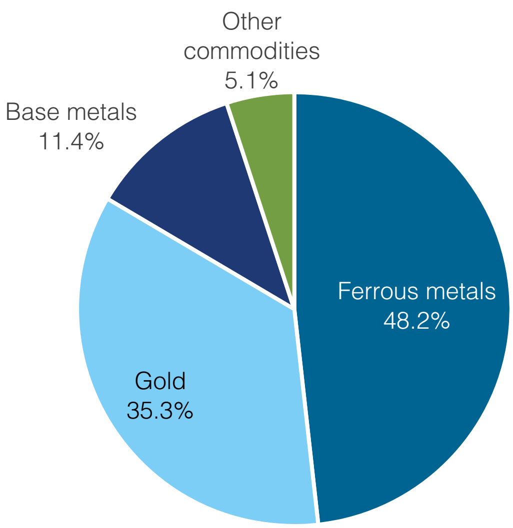
Mine	Company	Region	Commodities	Month
Openings				
Westwood	IAMGOLD Corporation	Abitibi-Témiscamingue	Gold	March
Bracemac-McLeod	Glencore Canada Corporation	Nord-du-Québec	Zinc, copper	May
Monique	Richmont Mines	Abitibi-Témiscamingue	Gold	July
Bachelor Lake	Metanor Resources	Nord-du-Québec	Gold	September
Goldex (zones M and E)	Agnico Eagle Mines	Abitibi-Témiscamingue	Gold	September
Closures				
Perseverance	Glencore Canada Corporation	Nord-du-Québec	Zinc, copper	June
Kiena	Wesdome Gold Mines	Abitibi-Témiscamingue	Gold	June

Source: Institut de la statistique du Québec, *Québec Mining Directory, 2013*.

Mineral commodities: Ferrous metals and gold account for 84% of investments

In 2013, mine complex development expenditures totalled $4.2 billion: $1.0 billion in general rock work, $2.6 billion in capital costs (non-residential construction, machinery and equipment) and $0.6 billion in non-capital repair and maintenance expenditures. Ferrous metals and gold figured prominently in the Québec mining sector, respectively accounting for 48.2% and 35.3% of mine complex development costs (Figure 2).

Figure 2
Distribution of Mine Complex Development Expenditures by Commodity Mined, Québec, 2013



Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures*.

Iron ore and ferrous metals

Despite variations in the price of iron ore in 2013, the average price of this commodity remained at a high level, at $139 per metric tonne,[2] up slightly from 2012. In this context, in 2013, large investments were made in the Côte-Nord region, namely at the Bloom Lake iron mine (Cliff Natural Resources) as well as at the Mont-Wright iron mine (ArcelorMittal Mines Canada). Investments were also made in related facilities, including port facilities. However, since then, the price of iron has declined steadily, falling under $100 in the third quarter 2014. Therefore, a significant decline in iron mine development expenditures is expected. Rio Tinto Fer et Titane invested to extend the life of its ilmenite mine at Tio Lake, north of Havre-Saint-Pierre.

Gold

According to the survey, investments in gold mine complex development stood at $0.7 billion and $0.8 billion respectively for the Abitibi-Témiscamingue and Nord-du-Québec regions in 2013.

In Abitibi, a large share of these investments went to the LaRonde underground mine (Agnico Eagle Mines), in operation since 1988, to Osisko's Canadian Malartic open-pit mine, which has been operating since 2011, as well as to the Westwood underground mine (IAMGOLD Corporation), which began its operations in 2013. Since June 2014, Agnico Eagle Mines and Yamana Gold each acquired a 50% interest in the Canadian Malartic mine.

Other Abitibi mines attracted investments, including the Goldex (Agnico Eagle Mines) and Monique (Richmont Mines) mines, where operations began in 2013, as well as the Lapa (Agnico Eagle Mines) and Beaufor (Richmont Mines) mines. QMX Gold Corporation suspended its development projects at the Lac Herbin mine, but plans to continue production until the first quarter 2015 (QMX Gold Corporation, news release, September 9, 2014). The Mouska underground mine (IAMGOLD Corporation), in operation since 1991, completed its final mining activities in the second quarter 2014 (IAMGOLD Corporation, news release, August 13, 2014), while production ended at the Kiena undergound mine (Wesdome Gold Mines) in June 2013 (Wesdome Gold Mines, Management's Discussion and Analysis, March 14, 2013). Closure activities are underway at both mines.

In the Nord-du-Québec region, significant investments were made for the development of the Éléonore mine complex (Goldcorp) located in the James Bay Territory. This mine began production in October 2014 (Goldcorp, news release, October 2, 2014). Development investments were also made in other gold mine sites in Nord-du-Québec. These include the Casa Berardi mine, acquired from Aurizon Mines in June 2013 by Hecla Québec, a subsidiary of the Hecla Mining Company, as well as the Bachelor Lake mine (Metanor Resources), where commercial production began in November 2013 (Metanor Resources, news release, November 14, 2013).

In March 2013, Maudore Minerals acquired the ore processing plant of the Sleeping Giant mine as well as North American Paladium's gold assets located in Québec. Maudore Minerals had planned to begin production in 2013 at the Vezza gold mine, before abandoning this project in favour of the reopening of the Sleeping Giant gold mine where remnant production zones were mined during the year.

In November 2014, Maudore decided to complete the final shutdown of all operations at the Sleeping Giant mine and mill (Maudore Minerals, news release, November 7, 2014).

2. Indexmundi.com

Base metals

All development expenditures for base metal mines were made in the Nord-du-Québec region. According to the survey, these investments totalling $480 million in 2013 were mainly aimed at nickel, copper and zinc.

Glencore Canada Corporation, formerly Xstrata Nickel, engaged in development expenditures in order to extend the life of the Raglan nickel and copper mine, which has been operating since 1997. The Nunavik Nickel mine (Jilin Jien Nickel Industry Co), whose first copper shipments were made in late 2013, also benefited from development expenditures during the onset of operations (Canadian Royalties, news release, November 5, 2013). Both of these nickel and copper mines are located in the north of the Ungava Peninsula.

Although the Perseverance underground zinc mine belonging to Glencore Canada Corporation closed in June 2013, the Matagami area benefited from investments from Glencore as it opened its new Bracemac-McLeod underground zinc mine in May of the same year (Donner Metals, news release, May 16, 2013). In addition, in the Lebel-sur-Quévillon area, operations continued at the Langlois underground zinc mine. Nyrstar Canada Resources acquired the mine in August 2011. It reached commercial production in 2012 (Nyrstar.com, Langlois, Canada). Nyrstar continues to invest to extend the life of the mine.

Other commodities

Other commodities mined in Québec for which development expenditures were declared in the survey are niobium (Niobec mine), lithium (Québec Lithium mine), graphite (Lac-des-Îles mine), mica (Lac Letondal mine) and salt (Seleine mine). These expenditures totalled $212 million in 2013 and were distributed among several Québec regions.

IAMGOLD Corporation, through its Niobec mine located in Saint-Honoré in the Saguenay–Lac-Saint-Jean region, produces about 5 million kilograms of ferroniobium per year, which represents 10% of global production. IAMGOLD intended to triple production at the mine using the block caving mining method (IAMGOLD Corporation, news release, February 23, 2012). However, in the absence of a financial partner, this mine expansion project was put on hold (IAMGOLD Corporation, news release, August 12, 2013). Then, on October 3, 2014, IAMGOLD Corporation announced it had reached an agreement to sell its Niobec mine to a group of companies led by Magris Resources. This transaction included the adjacent rare earth element deposit (IAMGOLD Corporation, news release, October 3, 2014).

RB Energy, formerly Canada Lithium Corporation, owns the Québec Lithium open-pit mine as well as a battery-grade lithium carbonate processing plant located on-site, near La Corne in Abitibi. The company started to produce lithium carbonate in the beginning of the summer 2013. Continuous production was achieved in November of the same year, then a first commercial shipment was made in August 2014. On October 8, 2014, due to financial problems and as part of an effort to curtail costs, RB Energy halted its operations at the Québec Lithium mine (RB Energy, news release, October 8, 2014).

Timcal Graphite & Carbon, named Imerys Graphite & Carbon since 2014, operates the Lac-des-Îles graphite mine located near Mont-Laurier as well as a processing plant in Terrebonne. Imerys Mica Suzorite has been operating the Lac Letondal mine in Haute-Mauricie since 1970. Ore is extracted every four years to supply the company's processing plant in Boucherville. The Canadian Salt Company extracts salt (halite) from the Seleine mine located in the Îles-de-la-Madeleine.

On July 10, 2014, Stornoway Diamond Corporation announced its decision to proceed with the construction of the Renard diamond mine located 350 kilometres north of Chibougamau in the James Bay Territory. This decision was made following the closing of the comprehensive financing package for the project totalling $946 million. Construction has started and commercial production is expected to begin in the second quarter 2017 based on first plant commissioning in late 2016 (Stornoway Diamond Corporation, news release, July 10, 2014). In 2013, Stornoway invested in the construction of the Renard Mine Road whose final cost was estimated at $77 million (Stornoway Diamond Corporation, news release, June 3, 2013).

Origin of investments

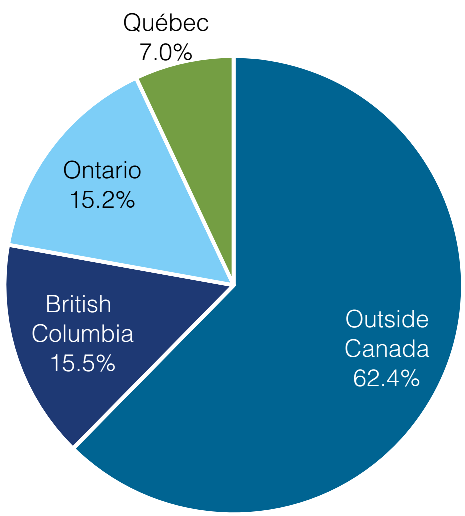
As part of the global mergers and acquisitions trend, Québec saw the number of Québec and Canadian mining companies working on mine complex development decline in favour of companies headquartered abroad. This situation led to a reversal in the distribution of mine complex development investments according to the location of the head office of mining companies. In 2010, the management of mine complex development projects was mostly under the control of Québec companies (46.6%), but that percentage fell under 10% in 2011.

In 2013, 62.4% of mine complex development investments were controlled by foreign companies whose head office was located in countries such as the United States, Luxembourg, Switzerland, and China. Currently, globalization primarily affects iron and ferrous metal mines as well as base metal mines.

Canadian mining companies accounted for 37.6% of total investments in mine complex development, with Québec companies representing 7.0% of those investments (Figure 3). Canadian mining companies ranked first with regard to gold mine complex development in Québec.

Finally, in 2013, 95.2% of total investments in mine complex development were made by large mining companies, also known as senior companies.

Figure 3
Distribution of Mine Complex Development Expenditures by Location of Company Head Office, Québec, 2013



Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures*.

Exploration and deposit appraisal: Investments down for the second consecutive year

Exploration expenditures, including on- and off-mine-site deposit appraisal work, totalled $382 million in 2013 (Table 4), down 38.5% from the previous year, and down 54.2% compared with the record investments of $834 million registered in 2011. Exploration and deposit appraisal expenditures by small exploration companies ("juniors") totalled $248.7 million in 2013, a decrease of 40.5% from the previous year and of 46.7% compared with 2011. The downward trend in investments illustrates how difficult it has been since 2012 for junior exploration companies to raise the necessary funds to carry out exploration work. Nevertheless, according to intentions expressed by mining companies for 2014, exploration and deposit appraisal investments should stabilize at the 2013 level at $404 million.

Table 4
Distribution of Exploration and Deposit Appraisal Expenditures by Type of Company, Québec, 2013

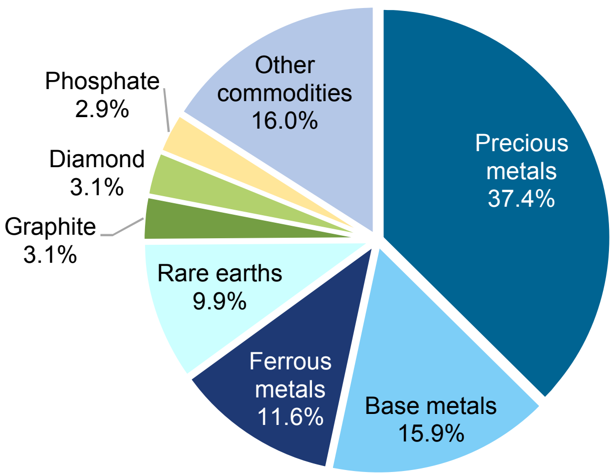
	Junior and public[1]	Senior	Total	Chg. 2013 / 2012
	$ millions			%
Off-mine-site	**266.9**	**42.8**	**309.7**	**-46.8**
Exploration	152.8	34.5	187.3	-45.4
Deposit appraisal	114.1	8.3	122.4	-48.9
On-mine-site	**-**	**72.1**	**72.1**	**87.4**
Exploration	-	9.9	9.9	-62.0
Deposit appraisal	-	62.2	62.2	397.3
Total	**266.9**	**114.9**	**381.8**	**-38.5**

1. The share of public companies was $18.2 million (4.8% of the total).
Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.*

In 2013, the Nord-du-Québec region attracted the most exploration and deposit appraisal investments, at $202.8 million, or 53.1% of the Québec total. It was followed by Abitibi-Témiscamingue where investments reached $80.0 million, then by Côte-Nord and Saguenay–Lac-Saint-Jean.

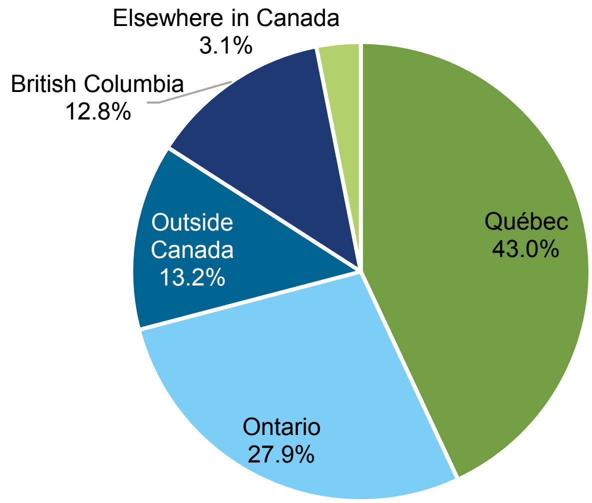
As shown in Figure 4, precious metals, mostly gold, remained the most sought-after commodities in Québec, accounting for 37.4% ($143 million) of exploration and deposit appraisal expenditures. They were followed by base metals and ferrous metals, which respectively accounted for 15.9% ($61 million) and 11.6% ($44 million) of exploration and deposit appraisal expenditures. Rare earths generated some interest as they represented 9.9% ($38 million) of total exploration and deposit appraisal expenditures in Québec, while graphite, diamond and phosphate accounted for 9.1% ($35 million) of these expenditures. Although gold remained dominant, mineral exploration tends to diversify in Québec, leaving room for other, less conventional mineral commodities.

Figure 4
Distribution of Exploration and Deposit Appraisal Expenditures by Commodity Sought, Québec, 2013



Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.*

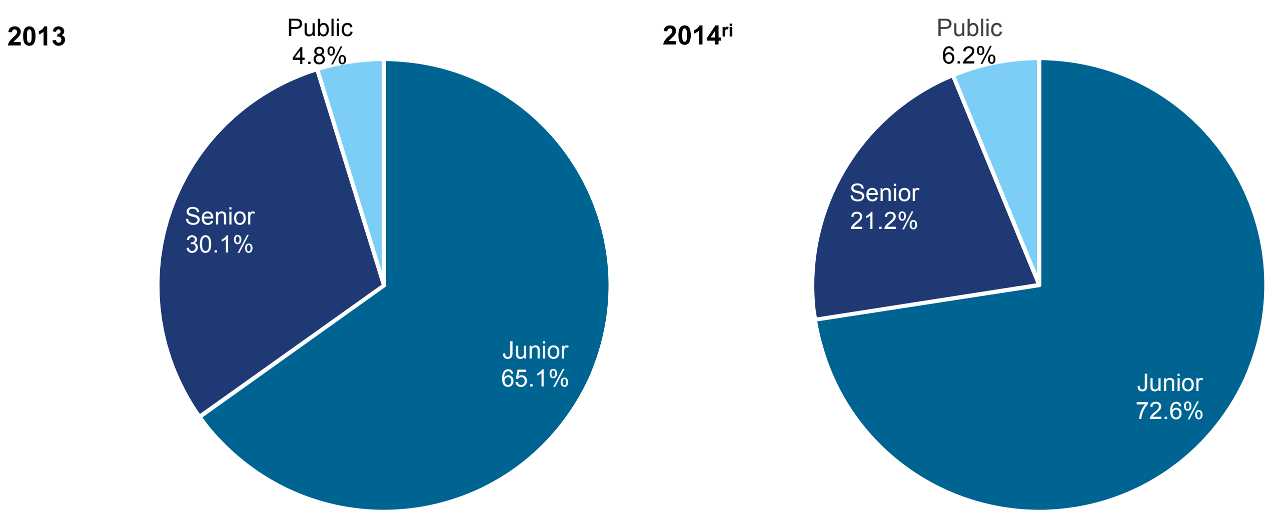
Figure 5
Distribution of Exploration and Deposit Appraisal Expenditures by Location of Company Head Office, Québec, 2013



Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.*

Exploration and deposit appraisal work was mainly done by Canadian companies (86.8%), 43.0% of which have their head office in Québec (Figure 5). Junior exploration companies and senior mining companies respectively accounted for 65.1% and 30.1% of exploration and deposit appraisal expenditures. Public companies incurred 4.8% of these expenditures. According to intentions expressed by mining companies in 2014, the proportion of exploration and deposit appraisal expenditures by senior mining companies is expected to decline compared to expenditures by junior exploration companies and public companies. The proportion of expenditures by senior mining companies should therefore decrease from 30.1% in 2013 to 21.2% in 2014 (Figure 6). They represented 41.6% of the total in 2011. This downward trend is symptomatic of periods when the price of mineral commodities is down and mineral producers tend to limit their expenditures.

Figure 6
Distribution of Exploration and Deposit Appraisal Expenditures by Type of Company, Québec, 2013 and 2014[1]



1. 2013: final data; 2014: revised intentions.
Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.*

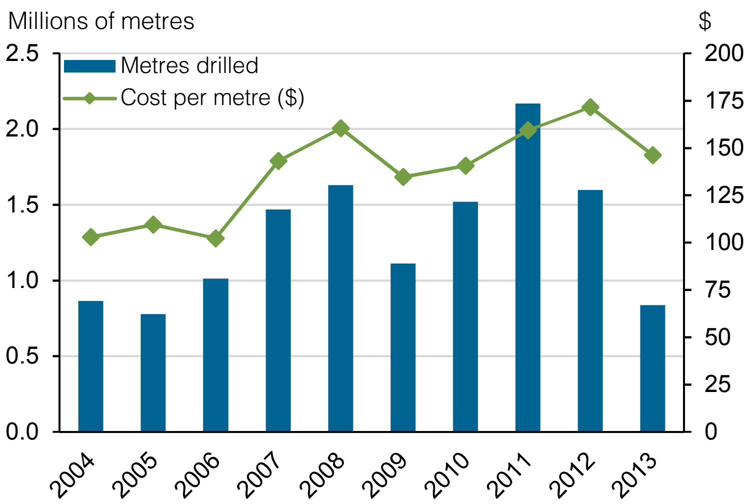
Cost of core drilling campaigns

Core drilling campaigns carried out by specialized enterprises account for a large proportion of exploration and deposit appraisal expenditures in Québec. Over the past 10 years, these expenditures represented on average 41% of annual exploration and deposit appraisal investments. Costs associated with drilling campaigns include expenditures related to personnel and drill mobilization, site preparation, drilling, moves between drill holes, required mobile and support equipment, as well as related sampling and assaying costs.

In 2013, 32 enterprises specialized in exploration drilling with a head office in Québec were listed. Out of these 32 enterprises, 20 declared drilling activities in 2013.[3]

Between 2004 and 2010, the number of metres drilled for exploration and deposit appraisal purposes increased from 862,873 metres to 1,519,396 metres, and reached a record 2,167,013 metres in 2011. This represents a 151% increase between 2004 and 2011. Since then, 1,596,569 metres were drilled in 2012, and 836,619 metres in 2013. For 2013, the decline was 61.4% compared with the peak reached in 2011. The cost per metre drilled grew by an average of 3.6% per year in the last decade. However, it decreased from $171.6 per metre in 2012 to $146.1 per metre in 2013, a 14.8% decline comparable to that recorded in 2009.

Figure 7
Change in Exploration Drilling, Québec, 2004-2013



Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures*.

When costs associated with drilling campaigns are distributed by administrative region, we can see that these costs are 48.6% higher than the Québec average in the Côte-Nord region. By comparing two remote regions that are far away from services, we notice that these costs are 39.2% higher in the Côte-Nord region than in the Nord-du-Québec region. Higher costs in the Côte-Nord region can be partially explained by the technical specifications required to carry out drilling campaigns for iron exploration.

Table 5
Distribution and Cost of Exploration Drilling, Québec, 2013

Administrative region	Drilling costs	Metres drilled	Unit cost
	$ millions	m	$/m
08 Abitibi-Témiscamingue	22.0	203,694	108.23
09 Côte-Nord	12.2	56,076	217.22
10 Nord-du-Québec	85.8	549,499	156.08
Other regions	2.3	27,350	83.24
All of Québec	**122.3**	**836,619**	**146.15**

Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures*.

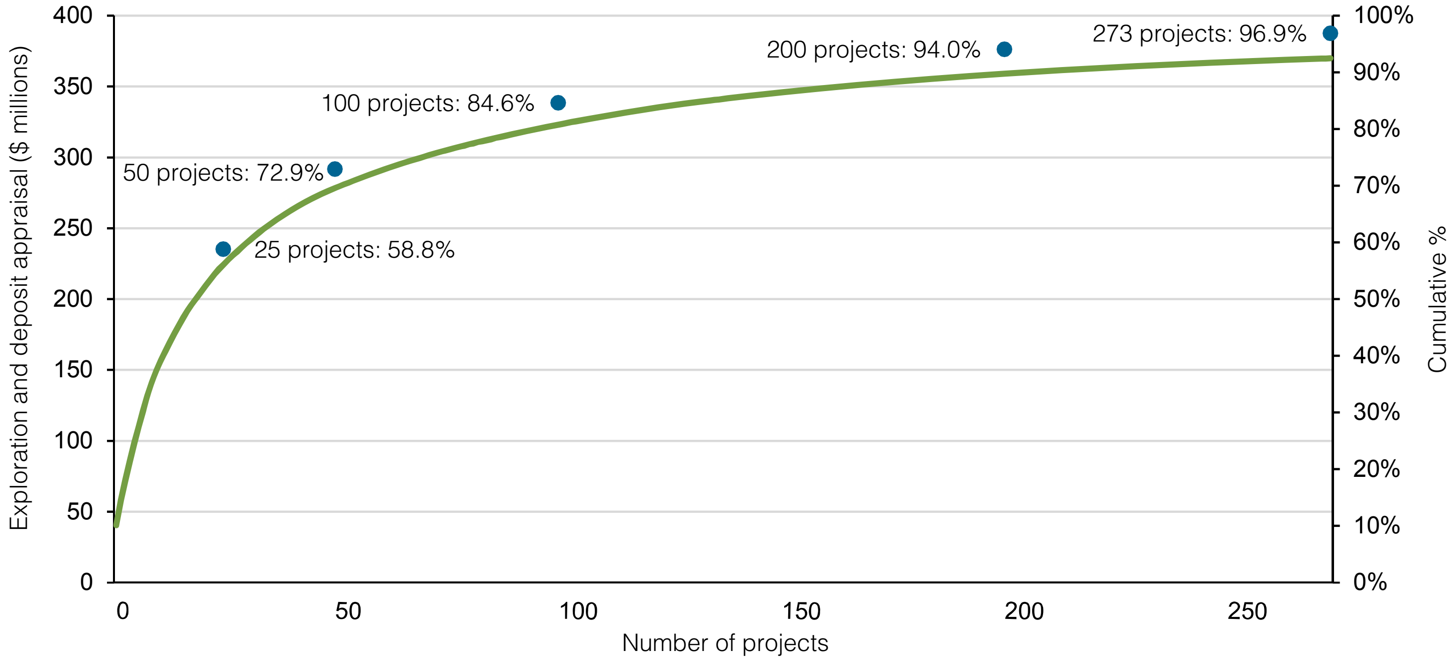
Distribution of exploration and deposit appraisal expenditures

The survey on mining investment identified 233 establishments that reported work as project managers. In total, 808 projects generated exploration and deposit appraisal investments of $381.8 million during the year. When taking into account projects valued at $100,000 and over, the number of projects goes down to 273. These projects were managed by 141 establishments and generated $369.9 million in expenditures, accounting for 96.9% of total expenditures in this category.

The top 25 projects in terms of budget accounted for 58.8% of total exploration and deposit appraisal expenditures in Québec in 2013. The top 50, 100 and 200 projects respectively accounted for 72.9%, 84.6% and 94.0% of total expenditures. Table 6 shows a list of the 25 main exploration and deposit appraisal projects in terms of budget, by administrative region.

3. Source: Institut de la statistique du Québec, *Annual Survey – Diamond Drilling.*

Figure 8
Cumulative Budgetary Distribution of Exploration and Deposit Appraisal Projects, Québec, 2013



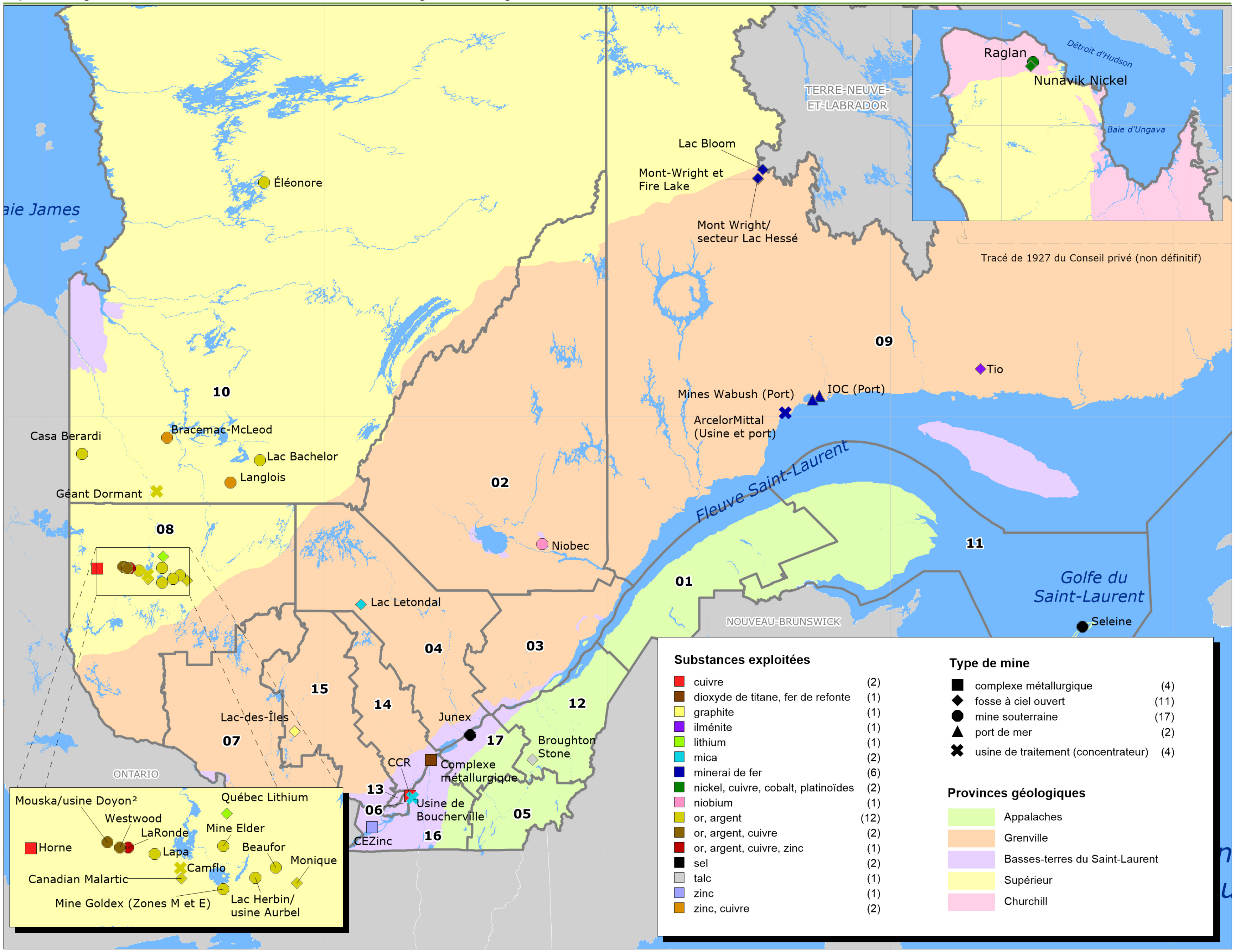
Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.*

Table 6
List of the 25 Main Exploration and Deposit Appraisal Projects, Québec, 2013

Company name	Project name	Commodities sought
Nord-du-Québec		
Quest Rare Minerals Ltd.	Strange Lake	Rare earths
Opinaca Mines Ltd.	Roberto	Gold
Lac Otelnuk Mining Ltd.	Lac Otelnuk	Iron ore
Glencore Canada Corporation	Raglan Exploration	Nickel
Stornoway Diamonds (Canada) Inc.	Renard	Diamond
Balmoral Resources Ltd.	Martinière	Gold
Eastmain Resources Inc.	Clearwater	Gold
New Millenium Iron Corp.	Taconite FS Project	Iron ore
Hecla Québec Inc.	Casa Berardi: exploration	Gold
Strateco Resources Inc.	Matoush	Uranium
BlackRock Metals Inc.	Blackrock	Iron ore
Hecla Québec Inc.	Casa Berardi: open-pit mine, West Mine	Gold
Nickel North Exploration Corporation	Hawk Ridge	Copper, nickel
Commerce Resources Corp.	Eldor 1	Rare earths
Côte-Nord		
Mine Arnaud Inc.	Mine Arnaud	Apatite
Gimus Resources Inc.	Lamêlée	Iron ore
Mason Graphite Inc.	Lac Guéret	Graphite
Soquem Inc.	Kwyjibo (10885)	Rare earths
Abitibi-Témiscamingue		
Royal Nickel Corporation	Dumont	Nickel
Abcourt Mines Inc.	Elder	Gold
Matamec Explorations Inc.	Kipawa	Rare earths
Integra Gold Corp.	Lamaque	Gold
Clifton Star Resources Inc.	Duparquet	Gold
Saguenay–Lac-Saint-Jean		
IAMGOLD Corporation	Projet Niobec	Niobium
Arianne Phosphate Inc.	Lac à Paul	Titanium, phosphate, titanium (dioxide)

Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.*

Map 1
Operating Mines and Mills,[1] Administrative Regions, August 2014



1. Including mines where production will begin during the year.
2. Mine closed permanently in May 2014.
Source: Institut de la statistique du Québec, *Survey on Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.* Ministère de l'Énergie et des Ressources naturelles.

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Standard symbols

..	Data not available
...	Not applicable
–	Void or zero
—	Negligible data
i	Intention
p	Preliminary data
e	Estimate
x	Confidential data
t	Metric ton
n	Number
m	Metre
$	In dollars

Abbreviations

%	Percent or Percentage
Chg.	Change

Glossary

Types of mining stakeholders

SENIOR COMPANY: Any company with assets over $100 million that carries out exploration, deposit appraisal or mine complex development work in Québec or elsewhere. This group includes producing mining companies, exploration subsidiaries of producing mining, oil or gas companies, and non-producing companies that derive significant income from royalties, investment or other similar sources.

JUNIOR COMPANY: In the broader sense, this type of company includes strictly "junior" companies as well as "developing junior companies." The former include companies whose main activity is mineral exploration and who obtain financing for most of their activities from public and private markets. They also comprise prospectors. "Developing junior companies" include companies that have a direct interest (full or part ownership) in a property that has reached the mine complex development phase (in production) or in a property in production from which they derive a small income and whose assets are worth less than $100 million.

PUBLIC COMPANY: This group includes Crown corporations, namely SOQUEM Inc. and its subsidiaries, the Société de développement de la Baie James, and the mining funds financed by the Québec government. In order to align mining investment data for Québec with those of other provinces and territories, amounts invested by the geological branch of the MERN are excluded from statistical surveys.

Mineral resource development phases

EXPLORATION EXPENDITURES include all field activities and capital, repair and maintenance expenditures conducted on- of off-mine-site to search for, discover and carry out the first delimitation of a mineral deposit in order to enhance its potential economic interest based on delimited tonnage, grade and other characteristics and justify additional, more detailed work.

DEPOSIT APPRAISAL EXPENDITURES include all field activities and capital, repair and maintenance expenditures conducted on- of off-mine-site to bring a delimited deposit to the stage of detailed knowledge required for a feasibility study that will fully justify a production decision and the investment required. This phase usually starts after a preliminary evaluation, as defined under Regulation 43-101 (R.S.Q., c. V-1.1; M.O., 2005-23), has been accepted by the respective regulator or securities regulatory authority.

MINE COMPLEX DEVELOPMENT EXPENDITURES include all surface and underground work related to MINE DEVELOPMENT activities as well as capital, repair and maintenance costs carried out on a mine site that is in production or committed to production. Capital costs are diverse and include equipment, tooling and related infrastructure and plants such as pellet plants, ore mills, including tailings ponds and ore transfer port facilities, but exclude metal smelting, refining plants and rail facilities.

MINE DEVELOPMENT includes all work carried out on a mine site to define and gain access to the ore and prepare it for production. It also includes drill programs, rock work and support activities aimed at extending the current ore reserves by exploring and appraising the immediate vicinity of the deposits.

Location of activity

ON-MINE-SITE expenditures represent all field activities and capital, repair and maintenance expenditures applied to exploration or deposit appraisal for an additional mineral deposit distinct from the current mine reserves and loaded strictly on an existing mine site in production or committed to production, as well as, by definition, all activities and expenditures applied to mine complex development, including those related to installations and infrastructure located outside the mine site.

OFF-MINE-SITE expenditures represent all field activities and capital, repair and maintenance expenditures applied to exploration and deposit appraisal that are not located on a mine site that is in production or committed to production, including those on the site of temporarily or permanently closed mines, and advanced projects not yet committed to production.

A MINE SITE corresponds to the area covered by a mining lease or a mining concession. It also includes specific components or infrastructures located outside the mining lease or the mining concession, such as a concentrator, iron pellet plant and a tailings pond.

For a mine site to be committed to production, all of the following criteria must be met:

1. The feasibility of developing the deposit(s) at a profit has been established by a study that meets the standards of Regulation 43-101 (R.S.Q., c. V-1.1; M.O., 2005-23);
2. A formal production decision has been made by the organization;
3. The necessary financing is on hand or has been arranged;
4. All required authorizations and permits have been obtained; and
5. Major pieces of production equipment have been purchased or ordered.