

Mining by the Numbers

June 2019

Mineral production in Québec in 2017

Annual Census on Mineral Production

The *Annual Census on Mineral Production* was carried out over the first three quarters of 2018 and aimed to collect final data for 2017. In total, 649 questionnaires were sent to mining establishments, to establishments that operate surface mineral extraction sites, and to certain primary manufacturing establishments that process subsurface minerals extracted in Québec. As for the census that collects preliminary data for 2018 and intentions for 2019, 659 questionnaires were sent to the establishments covered by the survey.

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

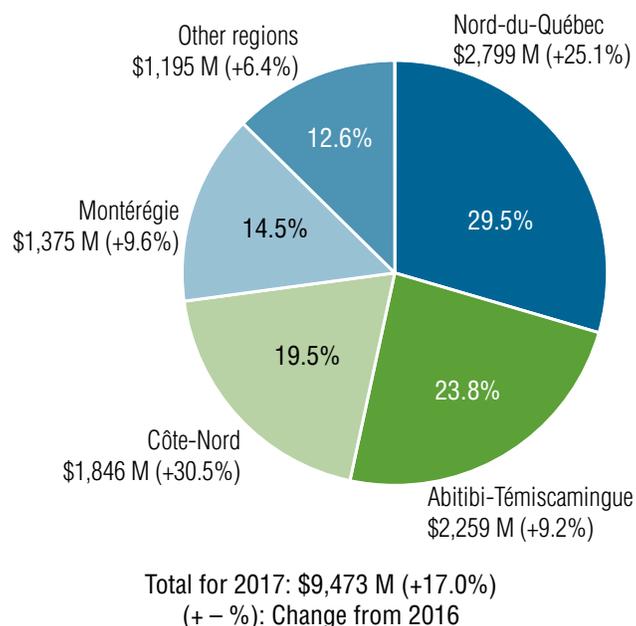
Mineral shipments

In 2017, the value of mineral shipments totalled \$9.47 billion, up 17.0% from 2016. The value of shipments should continue to rise. According to preliminary data, it should pass the \$10 billion mark, reaching \$10.26 billion (+8.3%) in 2018. For 2019, mining companies expect mineral shipments to increase to \$10.76 billion (+4.9%). Since 2011, the value of mineral shipments has remained above \$8 billion, except in 2015, when it stood at \$7.52 billion.

Region of origin of minerals extracted

In 2017, 72.9% of the total value of mineral shipments was split between Québec's three main mining regions: 29.5% (\$2.80 billion) for Nord-du-Québec, 23.8% (\$2.26 billion) for Abitibi-Témiscamingue, and 19.5% (\$1.85 billion) for Côte-Nord. The Montérégie region, with its mineral processing plants, ranked fourth and accounted for 14.5% (\$1.38 billion) of the total value of shipments (Figure 1).

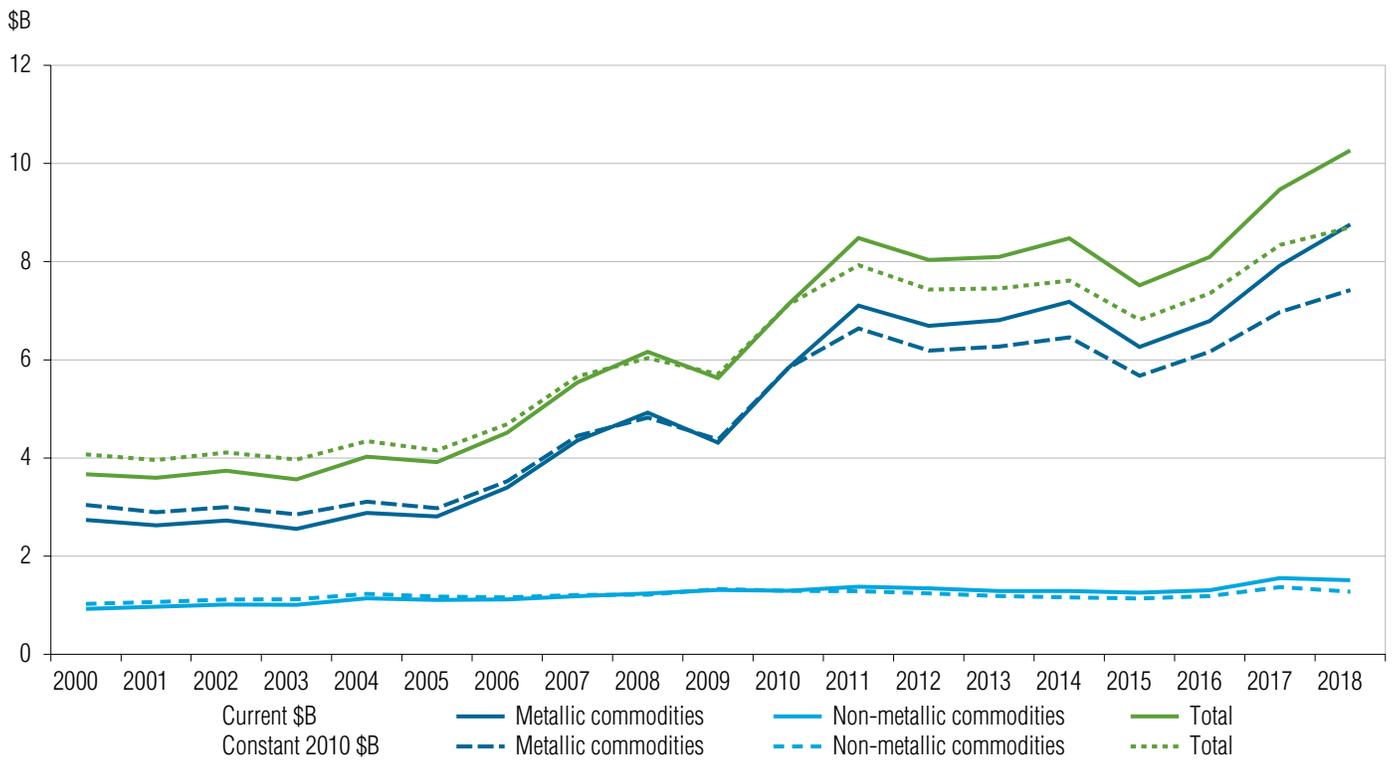
Figure 1
**Distribution of the value of mineral shipments
 by administrative region, Québec, 2017**



Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Figure 2

Trends in value of mineral shipments, Québec, 2000-2018¹



1. 2000-2017: final data; 2018: preliminary data

Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

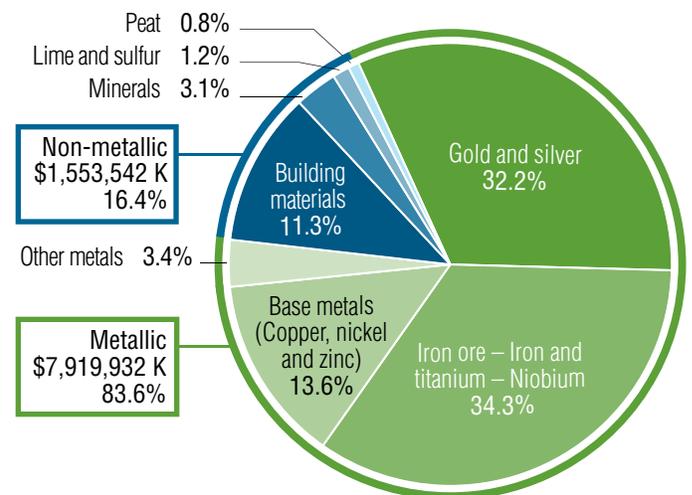
Distribution of shipments by commodity

In 2017, metallic commodities accounted for 83.6% (\$7.92 billion) of total mineral shipments in Québec. The breakdown for this category is as follows: 37.7% (\$2.99 billion) for gold and silver and 0.8% (\$0.07 billion) for niobium; 41.1% (\$3.25 billion) for iron ore, iron (cast iron and steel), ilmenite, titanium (titanium dioxide) and niobium (ferro-niobium); 16.3% (\$1.29 billion) for base metals; and 4.1% (\$0.32 billion) for other metallic commodities (antimony, bismuth, cadmium, cobalt, platinum group elements, selenium and tellurium).

The value of non-metallic commodity shipments stood at \$1.55 billion, of which 68.7% (\$1.07 billion) was attributable to building materials (cement, stone, clay products, sand and gravel) and 18.9% (\$294 million) to mineral mines (diamond, graphite, mica, salt and silica). Lime and sulfur accounted for 7.6% (\$118 million) of shipments, while peat accounted for 4.7% (\$73 million).

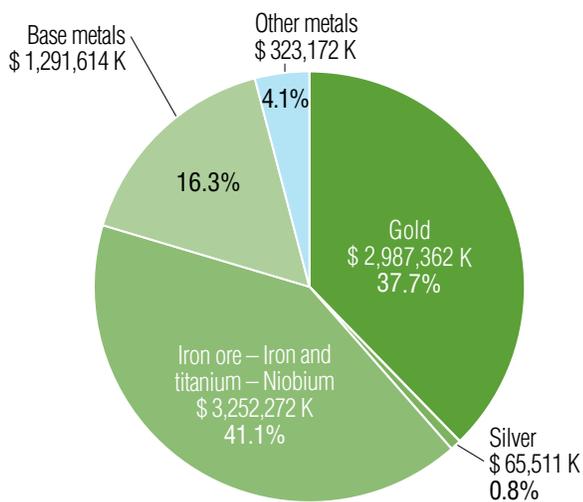
Figure 3

Distribution of the value of mineral shipments by type of commodity, Québec, 2017



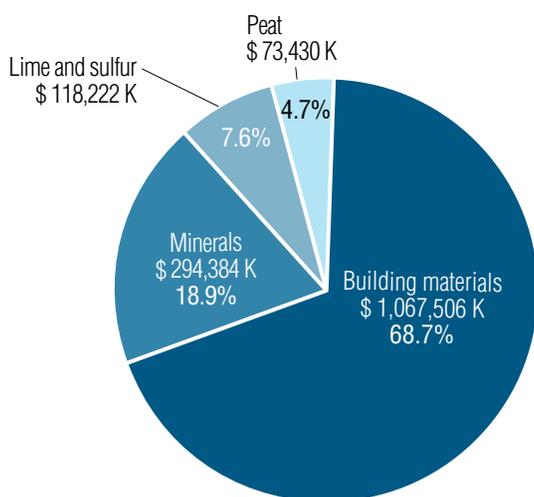
Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Figure 4
Distribution of the value of mineral shipments of metallic commodities, Québec, 2017



Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Figure 5
Distribution of the value of mineral shipments of non-metallic commodities, Québec, 2017



Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Mineral production by administrative region

Nord-du-Québec

In 2017, Nord-du-Québec ranked first among administrative regions in terms of mineral shipment value. Its shipments totalled \$2.80 billion, or 29.5% of the total value of Québec mineral shipments (\$9.47 billion). This represents a 25.1% increase from 2016. Based on the preliminary data collected from mining companies operating in that region, the value of shipments should reach \$3.09 billion (+10.2%) in 2018, and \$3.28 billion (+6.2%) in 2019 according to these companies' intentions.

The region had four gold mines in operation in 2017. These include the Eleonore (Goldcorp) and Vezza (Nottaway Resources) underground mines, as well as the Bachelor Lake underground mine (Metanor Resources), which was acquired by Bonterra Resources in 2018. Also located in the region is the Casa Berardi underground mine (Hecla Mining Company), in operation since 2013, where an open pit is also in operation since 2016. The Sleeping Giant mill, acquired by Abcourt Mines, has been processing ore from the Elder gold mine since August 2016.

In 2017, the Nord-du-Québec region also had four base metal mines in operation, including two nickel and copper mines located in the north of the Ungava Peninsula: the Raglan mine (Glencore Canada Corporation), in operation since 1997, and the Nunavik Nickel mine (Canadian Royalties, a subsidiary of Jilin HOROC Nonferrous Metal Group Co., Ltd.), where copper shipments began at the end of 2013.

South of these mines are two zinc and copper mines. In the Matagami area, the Bracemac-McLeod underground mine (Glencore Canada Corporation) achieved commercial production in July 2013. The Langlois underground mine (Nyrstar Canada Resources), located in the Lebel-sur-Quévillon area, was operated intermittently between 1996 and 2008. Operations at the mine resumed in 2012.

Several secondary commodities are extracted from these metal mines, such as silver, cadmium, cobalt, iridium, palladium, platinum, rhodium, and ruthenium.

Also located in the Nord-du-Québec region is the Renard mine (Stornoway Diamond Corporation), the first diamond mine in Québec, where commercial production began in December 2016.

Operations at the Goodwood iron mine (Tata Steel Minerals Canada) started during the summer of 2017. Located in Québec, about fifty kilometres northeast of Schefferville, the Goodwood mine is part of the DSO mining complex, where several pits are operated on both sides of the border between Québec and Newfoundland and Labrador.

Mining operations at the DSO mining complex began in 2012 on the Newfoundland and Labrador side, where the main ore processing facilities are located.

Sand and gravel pits are also operated in the Nord-du-Québec region.

Abitibi-Témiscamingue

In 2017, Abitibi-Témiscamingue ranked second among administrative regions in terms of mineral shipment value. Its shipments totalled \$2.26 billion, or 23.8% of the total value of Québec mineral shipments (\$9.47 billion). This represents a 9.2% increase from 2016. Based on the preliminary data collected from mining companies operating in Abitibi-Témiscamingue, the value of shipments should reach \$2.47 billion (+9.3%) in 2018. According to these companies' intentions, the value of shipments should rise to \$2.55 billion (+3.1%) in 2019.

The Abitibi-Témiscamingue region had seven operating gold mines in 2017: the Laronde (Agnico Eagle Mines), Westwood (IAMGOLD Corporation), Beaufor (Monarch Gold Corporation), Goldex and Lapa (Agnico Eagle Mines) and Elder (Abcourt Mines) underground mines, as well as the Canadian Malartic open-pit mine, equally owned by Agnico Eagle Mines and Yamana Gold.

Still in Abitibi-Témiscamingue, two gold mine projects at an advanced deposit appraisal stage achieved pre-commercial production in 2017. The Laronde – Zone 5 gold mine project (Agnico Eagle Mines) started in the third quarter of 2017, then achieved commercial production in June 2018. The Lamaque South gold mine project (Eldorado Gold Corporation), where gold was produced from a bulk sample, started pre-commercial production on a recurring basis in the second quarter of 2018.

Lastly, the North American Lithium mine (formerly the Québec Lithium mine) was in care and maintenance mode from October 2014. It was re-opened as soon as it was acquired by North American Lithium in June 2016. North American Lithium is a subsidiary of Contemporary Amperex Technology Co. Limited (CATL), a Chinese company specializing in the production and sale of electric vehicle batteries and energy storage systems. The North American Lithium mine began producing spodumene concentrate in 2017, then reached commercial production and reported shipments in 2018.

Several secondary commodities such as antimony, silver, bismuth, cadmium, copper and zinc are also extracted from gold mines in operation in Abitibi-Témiscamingue. The Horne smelter produces sulfuric acid during ore processing. In addition, stone, sand, gravel and peat are extracted from surface mineral extraction sites in the region.

Côte-Nord

The Côte-Nord region ranked third among administrative regions in terms of mineral shipment value in 2017. Its shipments totalled \$1.85 billion, or 19.5% of the total value of Québec mineral shipments (\$9.47 billion). This represents a 30.5% increase from 2016. Based on the preliminary data collected from mining companies operating in Côte-Nord, the value of shipments should increase to \$2.36 billion (+27.7%) in 2018. According to these companies' intentions, the value of shipments is expected to reach \$2.45 billion (+3.8%) in 2019.

In 2017, there were three mines operating in the Côte-Nord region: the Mont-Wright iron mine and Fire Lake pit (ArcelorMittal Mines Canada), as well as the Tio Lake ilmenite mine (Rio Tinto Fer et Titane). Also located in the region are the Port-Cartier iron ore pellet plant and ArcelorMittal's port facilities, as well as the Iron Ore Company of Canada's port facilities, from where iron ore extracted in Labrador is shipped.

In November 2017, Québec Iron Ore, a subsidiary of Champion Iron Limited, confirmed the re-opening of the Bloom Lake iron mine located near Fermont (Champion Iron Limited, news release, November 15, 2017). Pre-commercial production was achieved in February 2018, and commercial production began a few months later, in June (Champion Iron Limited, news release, August 15, 2018).

In Côte-Nord, in addition to the iron ore and ilmenite extracted from mines and the iron ore pellets produced at the Port-Cartier plant, stone, sand, gravel, silica and peat are extracted from surface mineral extraction sites.

Montérégie

In Montérégie, mineral shipments mainly consist of products resulting from the primary processing of subsurface minerals. These products accounted for 84.5% of the total value of the region's mineral shipments. The remainder of shipments came from surface mineral extraction sites, i.e. quarries, sand pits, gravel pits and peat bogs located in the region.

Although not a typical mining region, Montérégie ranked fourth among administrative regions in terms of mineral shipment value in 2017. Its shipments totalled \$1.38 billion, or 14.5% of the total value of Québec mineral shipments (\$9.47 billion). This represents a 9.6% increase from 2016.

Table 1

Quantity and value of mineral shipments by commodity, Québec, 2017-2019¹

Commodity	Unit	Quantity			Unit	Value		
		2017	2018	2019		2017	2018	2019
Metallic		...	...	...	\$K	7 919 932	8 755 711	9 173 869
Silver	g	92,054,317	80,936,012	72,476,301	\$K	65,511	52,220	46,762
Copper	kg	37,071,550	35,786,470	34,883,046	\$K	296,498	300,392	292,808
Iron (cast iron, steel)	t	x	x	x	\$K	x	x	x
Ilmenite (FeTiO ₃)	t	x	x	x	\$K	x	x	x
Lithium (spodumene)	t	-	x	x		-	x	x
Iron ore	t	x	x	x	\$K	x	x	x
Nickel	kg	x	x	x	\$K	x	x	x
Niobium (ferroniobium)	kg	x	x	x	\$K	x	x	x
Gold	g	56,945,524	61,681,585	63,125,339	\$K	2,987,362	3,231,683	3,290,981
Titanium (TiO ₂)	t	x	x	x	\$K	x	x	x
Zinc	kg	x	x	x	\$K	x	x	x
Other metallic commodities ²		...	...	...	\$K	323,172	424,471	481,237
Non-metallic		...	...	...	\$K	1,553,542	1,508,109	1,589,480
Lime	t	625,792	583,571	592,452	\$K	103,403	101,359	105,708
Cement	t	2,813,827	2,871,264	2,846,217	\$K	388,738	392,947	393,388
Diamond	carat	1,701,618	1,203,901	1,590,714	\$K	185,476	129,773	171,797
Feldspar	t	x	x	x	\$K	x	x	x
Graphite	t	x	x	x	\$K	x	x	x
Mica	t	x	x	x	\$K	x	x	x
Stone	t	47,171,763	47,816,129	47,098,853	\$K	550,544	565,407	564,104
Clay products	brick	x	-	-	\$K	x	-	-
Sand and gravel	t	18,965,259	18,022,153	18,975,662	\$K	120,956	109,643	120,029
Salt	t	x	x	x	\$K	x	x	x
Silica	t	583,048	643,798	691,280	\$K	25,319	32,102	40,798
Sulfur	t	x	x	x	\$K	x	x	x
Peat	bag ³	9,059,146	10,040,131	10,008,907	\$K	73,430	66,591	91,742
Total		...	...	...	\$K	9,473,474	10,263,820	10,763,349

1. 2017: final data; 2018: preliminary data; 2019: intentions.

2. Antimony, bismuth, cadmium, cobalt, platinum-group elements, selenium and tellurium.

3. Expressed in bags of 170 dm³.

Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Based on preliminary data for the region, the value of shipments should hold steady at \$1.12 billion (-18.8%) in 2018. According to intentions, the value of shipments should reach \$1.24 billion (+11.5%) in 2019.

In 2017, there were two primary metal processing plants in Montérégie: the Sorel-Tracy metallurgical complex (Rio Tinto Group), which produces cast iron, steel and titanium dioxide, and the CEZinc refinery (Glencore Canada Corporation / Noranda Income Fund), which processes zinc concentrate from Canadian and foreign mines, and also produces sulfuric acid, a by-product of zinc concentrate processing.

The Montérégie region also has four non-metallic mineral product manufacturing plants, namely the Saint-Constant cement plant (Lafarge Canada), the Bedford lime plant (Graymont), the La Prairie brick (clay products) plant (Meridian Brick Canada), and the Boucherville plant (Imerys Mica Suzorite), which processes ore from abroad as well as ore extracted intermittently from the Lac Letondal mica mine in the Mauricie region.

Other Québec regions

The value of shipments from all other Québec regions was \$1.19 billion, or 12.6% of the total value of Québec's mineral shipments (\$9.47 billion). These mineral shipments come from:

- the mining of minerals (32.6%) such as graphite, feldspar, mica, niobium, salt and silica;
- the operation of surface mineral extraction sites (42.4%) that provide stone, sand, gravel and peat; and
- the manufacturing of lime and cement (25.0%).

The Niobec mine (Magris Resources), located in the municipality of Saint-Honoré in Saguenay–Lac-Saint-Jean, produces between 8% and 10% of the world's annual niobium volume in the form of ferroniobium (niobec.com).

Imerys Graphite & Carbon operates the Lac-des-Îles graphite mine near Mont-Laurier, as well as a processing plant in Terrebonne.

Imerys Mica Suzorite has been operating the Lac Letondal mine in Haute-Mauricie on an intermittent basis for nearly 50 years. The ore extracted supplies the company's processing plant in Boucherville.

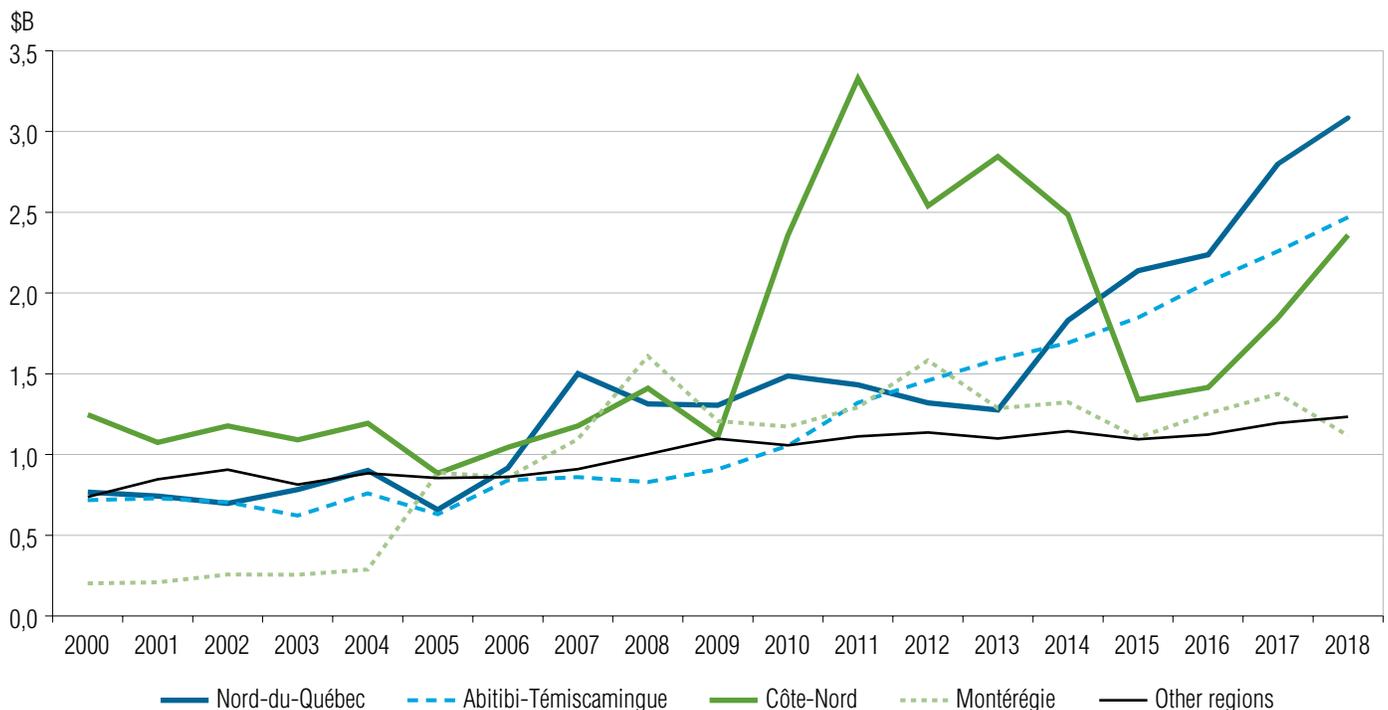
K+S Windsor Salt extracts salt (halite) from the Seleine mine in the Îles-de-la-Madeleine.

Near Buckingham, in the Outaouais region, Dentsply Canada sporadically extracts feldspar for dental ceramic purposes from the Othmer mine. One extraction operation usually provides enough feldspar for a few years.

In 2017, small establishments with fewer than 50 employees mined silica in several Québec regions for various purposes. In the Charlevoix municipality, high-purity silica for industrial applications is extracted from the Petit-Lac-Malbaie mine owned by Silicium Québec and Sitec Quartz. In the Laurentides region, silica is mined from the Saint-Canut (Unimin Canada) and Saint-Rémi-d'Amherst (Société minière Gerdin) quarries.

Figure 6

Trends in the value of mineral shipments by Québec administrative region, 2000-2018¹



1. 2000-2017: final data; 2018: preliminary data.

Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Table 2

Producing mining establishments, Québec, 2017

Establishment name	Owner	Main commodity	Type of establishment	Number of employees
01 Bas-Saint-Laurent				
Saint-Moise plant	Coopérative de producteurs de chaux du Bas-Saint-Laurent	Lime	Processing plant	1 to 19
02 Saguenay–Lac-Saint-Jean				
Niobec mine	Magris Resources	Niobium	Underground	200 to 499
03 Capitale-Nationale				
Petit-Lac-Malbaie mine	Silicium Québec / SITEC Quartz	Silica	Open pit	1 to 19
Gustave Papillon cement plant	Ciment Québec	Cement	Processing plant	100 to 199
04 Mauricie				
Lac Letondal mine	Imerys Mica Suzorite	Mica	Open pit	1 to 19
05 Estrie				
Marbleton plant	Graymont	Lime	Processing plant	50 to 99
06 Montréal				
CCR refinery	Glencore Canada Corporation	Copper	Processing plant	200 to 499
07 Outaouais				
Othmer mine	Dentsply Canada	Feldspar	Open pit	1 to 19
08 Abitibi-Témiscamingue				
Beaufor mine	Monarch Gold Corporation	Gold	Underground	100 to 199
Canadian Malartic mine	Agnico Eagle Mines / Yamana Gold	Gold	Open pit	500 to 999
Elder mine	Abcourt Mines	Gold	Underground	50 to 99
Goldex mine	Agnico Eagle Mines	Gold	Underground	200 to 499
Lapa mine	Agnico Eagle Mines	Gold	Underground	200 to 499
LaRonde mine	Agnico Eagle Mines	Gold	Underground	500 to 999
Westwood mine	IAMGOLD Corporation	Gold	Underground	500 to 999
Camflo plant	Monarch Gold Corporation	Gold	Concentrator	20 to 49
Doyon plant	IAMGOLD Corporation	Gold	Concentrator	20 to 49
Horne smelter	Glencore Canada Corporation	Copper	Smelter	500 to 999
09 Côte-Nord				
Fire Lake mine	ArcelorMittal Mining Canada	Iron ore	Open pit	Included in Mont-Wright mine
Mont-Wright mine	ArcelorMittal Mining Canada	Iron ore	Open pit	1000 to 1499
Tio Lake mine	Rio Tinto Fer et Titane	Ilmenite	Open pit	200 to 499
Port-Cartier plant	ArcelorMittal Mining Canada	Iron ore pellets	Pellet plant	200 to 499
10 Nord-du-Québec				
Renard mine	Stornoway Diamond Corporation	Diamond	Open pit and underground	200 to 499
Goodwood mine	Tata Steel Minerals Canada	Iron ore	Open pit	200 to 499
Nunavik Nickel mine	Jilin Jien Nickel Industry Co	Nickel, copper	Open pit	200 to 499
Raglan mine	Glencore Canada Corporation	Nickel, copper	Open pit and underground	500 to 999
Casa Berardi mine	Hecla Mining Company	Gold	Underground	200 to 499
Eleonore mine	Goldcorp	Gold	Underground	200 to 499
Bachelor Lake mine	Metanor Resources	Gold	Underground	200 to 499
Veza mine	Nottaway Resources	Gold	Underground	100 to 199
Bracemac-McLeod mine	Glencore Canada Corporation	Zinc, copper	Underground	200 to 499
Langlois mine	Nyrstar Canada Resources	Zinc, copper	Underground	200 to 499
Sleeping Giant plant	Abcourt Mines	Gold	Concentrator	50 to 99

Table 2

Producing mining establishments, Québec, 2017 (continued)

Establishment name	Owner	Main commodity	Type of establishment	Number of employees
11 Gaspésie–Îles-de-la-Madeleine				
Seleine mine	K+S Windsor Salt	Salt	Underground	100 to 199
14 Lanaudière				
Joliette cement plant	CRH Canada Group	Cement	Processing plant	100 to 199
Joliette plant	Graymont	Lime	Processing plant	1 to 19
15 Laurentides				
Lac-des-Îles mine	Imerys Graphite & Carbon	Graphite	Open pit	50 to 99
Saint-Canut mine	Unimin Canada	Silica	Open pit	1 to 19
Saint-Rémi-d'Amherst mine	Société minière Gerdin	Silica	Open pit	1 to 19
Kilmar cement plant	Colacem Canada Inc.	Cement	Processing plant	20 to 49
16 Montérégie				
CEZinc refinery	Glencore Canada Corporation / Noranda Income Fund	Zinc	Refinery	500 to 999
Saint-Constant cement plant	Lafarge Canada Inc.	Cement	Processing plant	100 to 199
Bedford plant	Graymont	Lime	Processing plant	50 to 99
Boucherville plant	Imerys Mica Suzorite	Mica	Processing plant	20 to 49
La Prairie plant	Meridian Brick Canada	Clay products (bricks)	Processing plant	20 to 49
Sorel-Tracy plant	Rio Tinto Group	Titanium dioxide	Processing plant	1000 to 1499

Employment in the mining sector

In 2017, there were 16,116 jobs (person-years) related to the mining sector, which includes mineral extraction and primary mineral processing. The wage bill for these jobs totalled \$1.755 billion in 2017. Compared with 2016, the number of jobs increased by 0.3% and the wage bill rose by 7.5%. Of these 16,116 jobs, 61.6% (9,926 jobs) were in mineral extraction, 21.0% (3,389 jobs) in primary mineral processing, and 17.4% (2,801 jobs) in surface mineral extraction (Figure 7). The average annual salary paid in the Québec mining sector was \$108,876. The majority of mining jobs were in Québec's three main mining regions (Nord-du-Québec, Abitibi-Témiscamingue and Côte-Nord), which accounted for 62.1% of all mining jobs in the province.

Nord-du-Québec

In 2017, the Nord-du-Québec region had 3,985 jobs (person-years) related to the mining sector, which includes mineral extraction and primary mineral processing. This number was up by 288 (+7.8%) from 2016. Nord-du-Québec accounted for 24.7% of the 16,116 mining jobs in the province, ranking first among Québec's administrative regions. Base metal mining provided 1,805 jobs (45.3%), while gold mining provided 1,453 (36.5%).

The average annual salary paid to those working in the mining sector in Nord-du-Québec was \$121,180 in 2017. The sum of all salaries paid by the mining industry in the Nord-du-Québec region in 2017 stood at \$483 million, up by \$67 million (+16.1%) from 2016.

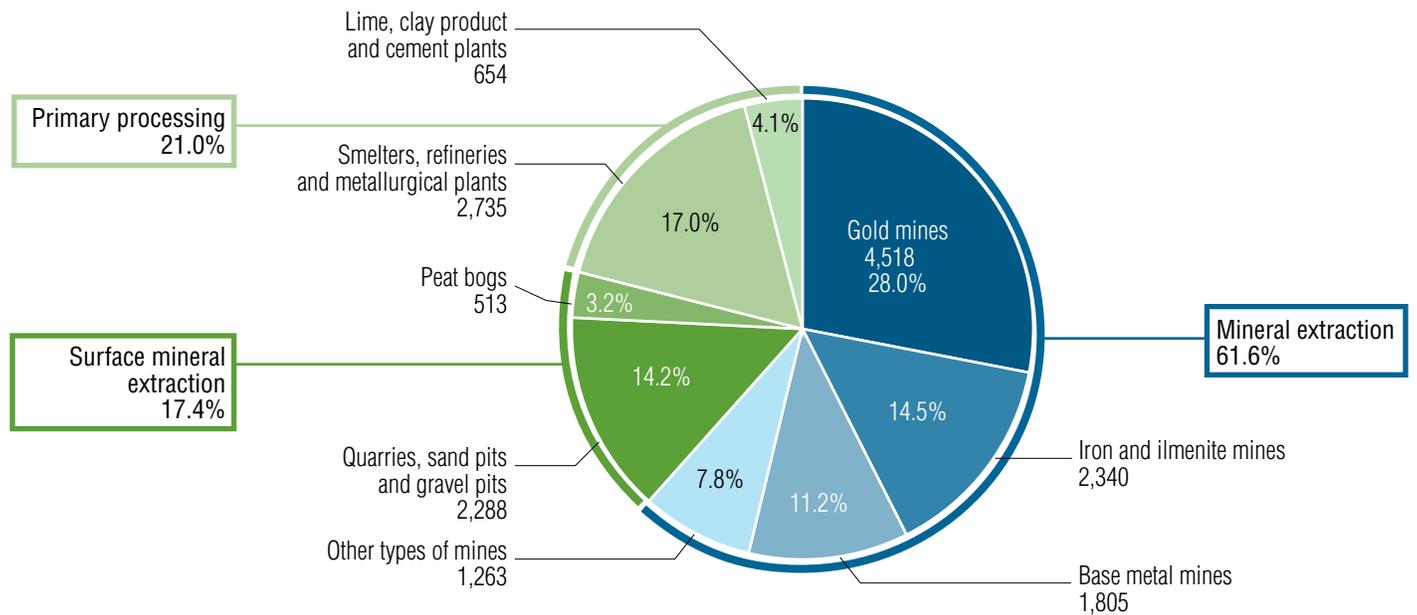
Abitibi-Témiscamingue

In 2017, the Abitibi-Témiscamingue region had 3,777 jobs (person-years) related to the mining sector, which includes mineral extraction and primary mineral processing. This number was up by 174 (+4.8%) from 2016. Abitibi-Témiscamingue accounted for 23.4% of the 16,116 mining jobs in the province, ranking second among Québec's administrative regions. The vast majority (81.1%) of mining jobs in Abitibi-Témiscamingue were attributable to gold extraction.

The average annual salary paid to those working in the mining sector in Abitibi-Témiscamingue was \$108,293 in 2017. The sum of all salaries paid by the mining industry in the Abitibi-Témiscamingue region stood at \$409 million, up by \$22 million (+5.6%) from 2016.

Figure 7

Number and percentage of mining-related jobs by sector, Québec, 2017



Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Côte-Nord

In 2017, the Côte-Nord region had 2,243 jobs (person-years) related to the mining sector, which includes mineral extraction and primary mineral processing. This number was down by 197 (-8.1%) from 2016. Côte-Nord accounted for 13.9% of the 16,116 mining jobs in the province, ranking fourth among Québec's administrative regions. In the Côte-Nord region, the vast majority (95.4%) of mining jobs are in iron ore and ilmenite extraction, including iron ore pelletization and ore transshipment at the port of Sept-Îles.

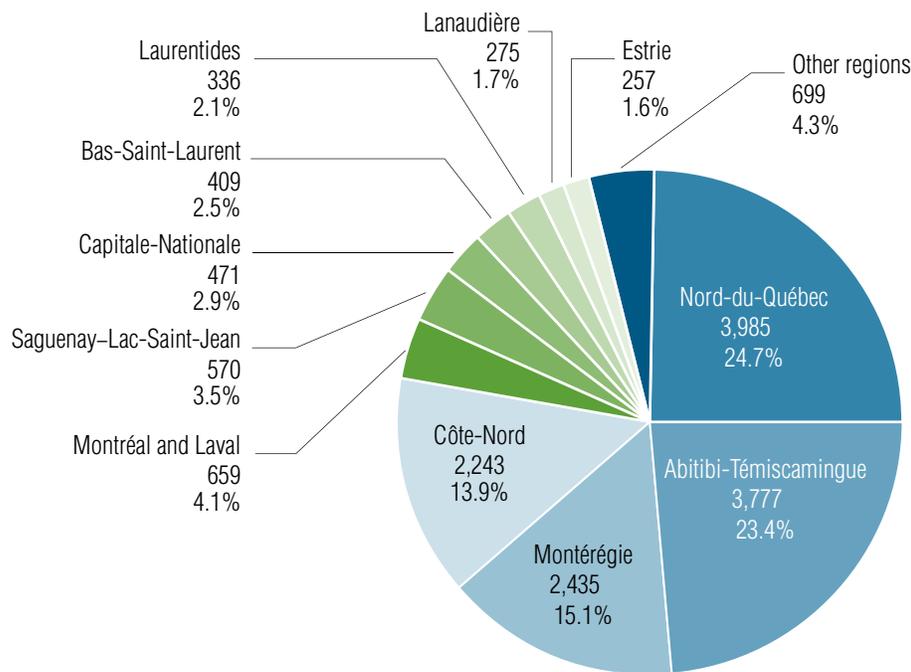
The average annual salary paid to those working in the mining sector in Côte-Nord was \$173,114 in 2017. The sum of all salaries paid by the mining industry in the region in 2017 stood at \$388 million, up by \$29 million (+8.2%) from 2016.

Montérégie

In 2017, the Montérégie region had 2,435 jobs (person-years) related to the mining sector, which includes mineral extraction and primary mineral processing. This number was down by 210 (-7.9%) from 2016. Montérégie accounted for 15.1% of the 16,116 mining jobs in the province, ranking third among Québec's administrative regions. The vast majority (74.8%) of mining jobs in Montérégie are in primary metal processing and non-metallic mineral product manufacturing.

The average annual salary paid to those working in the mining sector in Montérégie was \$90,376 in 2017. The sum of all salaries paid by the mining industry in the Montérégie region stood at \$220 million, up by \$1 million (+0.6%) from 2016.

Figure 8

Number and percentage of mining-related jobs by administrative region, Québec, 2017

Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Table 3

Person-years and average annual salary, administrative regions and all of Québec, 2016-2017

Administrative region	Person-years			Average annual salary		
	2016	2017	Change 2017/2016	2016	2017	Change 2017/2016
	n		%	\$		%
Nord-du-Québec	3,697	3,985	7.8	112,506	121,180	7.7
Abitibi-Témiscamingue	3,603	3,777	4.8	107,481	108,293	0.8
Montérégie	2,645	2,435	-7.9	82,689	90,376	9.3
Côte-Nord	2,440	2,243	-8.1	147,092	173,114	17.7
Other regions	3,686	3,676	-0.3	68,253	69,197	1.4
All of Québec	16,071	16,116	0.3	101,573	108,876	7.2

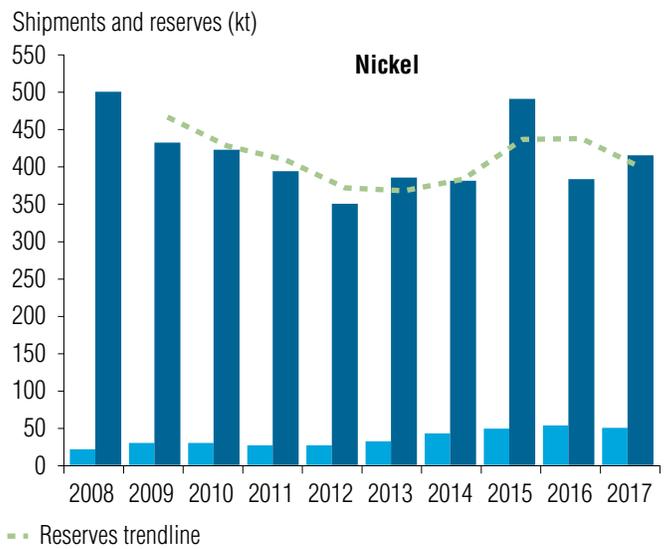
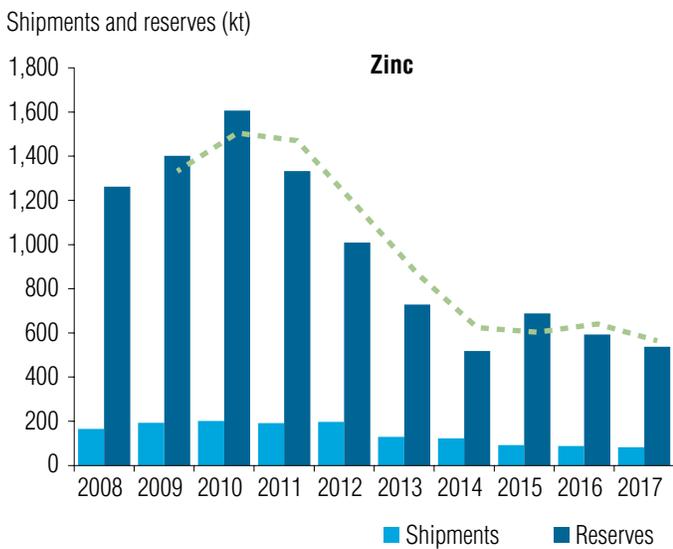
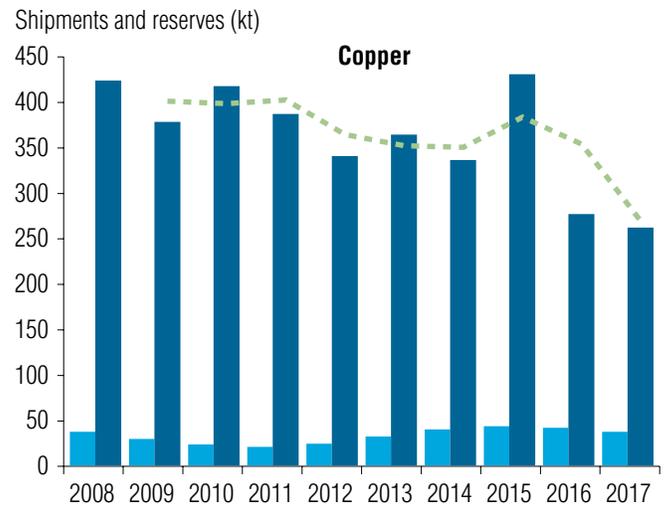
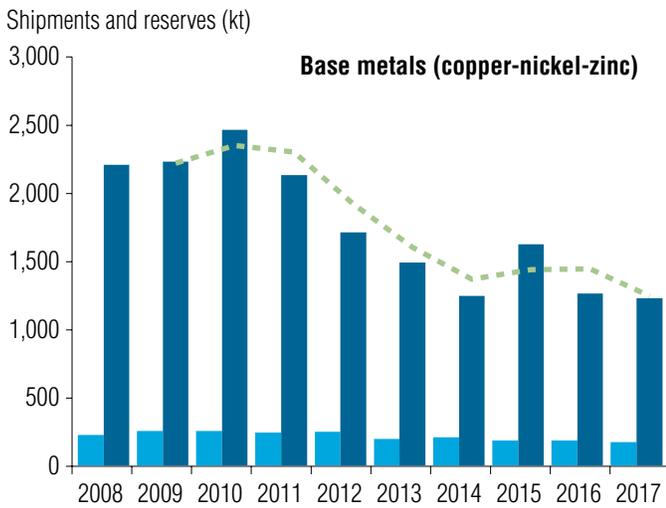
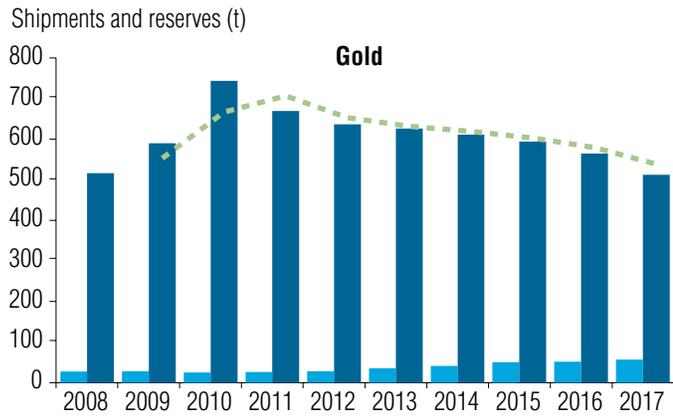
Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Mineral reserves

Gold mine reserves increased from 517 tonnes of gold in 2008 to a high of 746 tonnes of gold in 2010. Gold reserves then gradually declined to 514 tonnes of gold in 2017. Over that 10-year period, the number of active gold mines in Québec fluctuated between 10 and 13.

The mineral reserves of base metal mines in Québec have been following a downward trend since 2010, decreasing from 2,450 kt of copper, nickel and zinc to 1,217 kt in 2017. Between 2008 and 2017, the number of active base metal mines varied between three and five.

Figure 9
Trends in gold shipments and reserves, Québec, 2008-2017



Source: Institut de la statistique du Québec, *Annual Census on Mineral Production*.

Concepts and definitions

Mineral production

Québec's mineral production only comprises mineral commodities extracted in Québec. It excludes minerals from other Canadian provinces and territories and from abroad. It also excludes recycled minerals as well as oil and gas.

Quantity shipped

For most metals, the quantity shipped corresponds to the weight of the metals that can be recovered from the product (gold brick, concentrate, or other) shipped by the mining establishment. For mining establishments that ship finished products or ore, the quantity shipped corresponds to their gross weight.

Value of shipments

The value of shipments for a mineral commodity is calculated based on its average annual price on international markets for the year surveyed. Values are translated into Canadian dollars using the average annual rates of exchange published by the Bank of Canada. When market prices are unavailable, the value of shipments is calculated based on the price of the mineral commodity provided by the establishment.

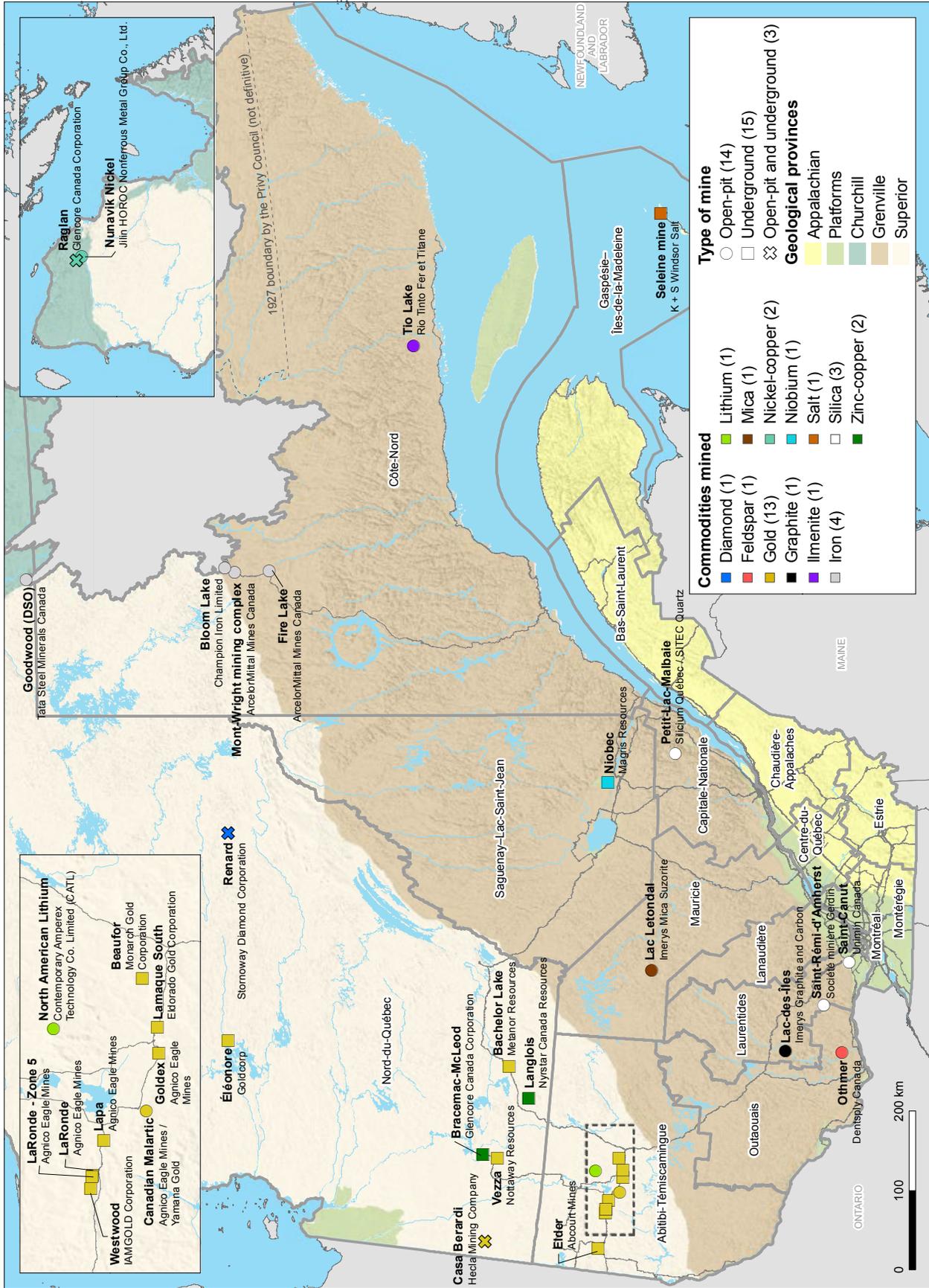
Mining jobs

Data on mining jobs include mines and surface mineral extraction sites operated in Québec. They also comprise certain primary metal processing plants and non-metallic mineral product manufacturing plants that are active in Québec and process commodities extracted in the province. These data exclude mineral exploration companies, as well as mines under construction or in care and maintenance mode that did not report any shipments during the year surveyed.

The number of jobs is estimated based on the number of paid hours reported by each company in the *Annual Census on Mineral Production*. For statistical reasons, one job is equivalent to a full-time employee working 40 to 60 paid and reported hours per week.

Map 1

Operating and opening mines, Québec, 2017



Commodities mined	
Blue square	Diamond (1)
Red square	Feldspar (1)
Yellow square	Gold (13)
Black square	Graphite (1)
Purple square	Ilmenite (1)
Grey square	Iron (4)
Light green square	Lithium (1)
Dark green square	Mica (1)
Orange square	Nickel-copper (2)
Light blue square	Niobium (1)
Dark blue square	Salt (1)
White square	Silica (3)
Dark green square	Zinc-copper (2)

Type of mine	
Open circle	Open-pit (14)
Open square	Underground (15)
Open circle with cross	Open-pit and underground (3)

Geological provinces	
Light yellow	Appalachian
Light green	Platforms
Dark green	Churchill
Light blue	Grenville
Dark blue	Superior

Sources: Map produced by the Institut de la statistique du Québec. Administrative divisions: SDA, MERN, January 2017. Road network: Adresses Québec, 2018.

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Standard symbols

..	Data not available	kt	Kilotonne
...	Not applicable	n	Number
–	Void or zero	m	Metre
—	Negligible data	\$	In dollars
i	Intention	K	In thousands
p	Preliminary data	M	In millions
e	Estimate	B	In billions
x	Confidential data	%	Percent or Percentage
t	Metric tonne		

Note

Figures may not add up to totals due to rounding.

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