



2008 Minerals Yearbook

CANADA

THE MINERAL INDUSTRY OF CANADA

By Philip M. Mobbs

Canada is a nation rich in mineral resources. It is one of the leading mining countries in the world and ranked among the top five global producers for several major minerals and metals. In 2008, high metal prices through mid-year again boosted Canada's mineral industry. As a result, the value of mineral production (excluding hydrocarbons) increased to a record \$42.5 billion (CAN\$45.3 billion¹) compared with a revised \$37.7 billion (CAN\$40.5 billion) in 2007 (Paquette, 2009).

Canada was the world leader in the production, by volume, of potash and uranium. The country ranked second in the production of cobalt, nickel, and sulfur, and was among the top five countries in the production of aluminum, gem-quality diamond, refined indium, platinum-group metals (PGM), and zinc (World Nuclear Association, 2009; Bray, 2010; Jasinski, 2010; Kuck, 2010; Loferski, 2010; Ober, 2010; Olson, 2010; Shedd, 2010; Tolcin, 2010a, b).

Minerals in the National Economy

Minerals were produced in all 10 Provinces and 3 Territories of Canada. In 2008, about 87.2% of the total value of solid minerals was contributed by the Provinces of Saskatchewan (21.5%), Ontario (21.3%), British Columbia (14.7%), Quebec (11.5%), Alberta (9.1%), and Newfoundland and Labrador (9.1%). In 2008, the extraction of natural gas and petroleum accounted for 3.3% of the real gross domestic product, and mining and quarrying represented 0.7% (Paquette, 2009; Statistics Canada, 2010, p. 37).

In 2008, employment in the mineral sector was about 2.7% of Canada's total labor force of more than 18.3 million. About 224,000 people were employed by the mineral processing and manufacturing industries; about 69,000 were employed in the smelting and refining sector; about 59,000 were employed in mining and quarrying; and about 57,100 were employed in natural gas and oil extraction (Natural Resources Canada, 2009, p. 64.25; Statistics Canada, 2009a, p. 87; b, p. 24).

Government Policies and Programs

In general, Provincial governments are responsible for mining activity within their respective Province. Provincial legislatures make laws concerning matters for which they have jurisdiction, which include exploration, development, production, and conservation and management of most nonrenewable natural resources. Parliament makes laws for the entire country with respect to matters assigned to it by the Canadian Constitution, and it has responsibility for the Territories. The Federal Government is responsible for the mineral activities of Federal Crown corporations; mineral activities on Federal lands and offshore; and, through the Canadian Nuclear Safety

¹Where necessary, values have been converted from Canadian dollars (CAN\$) to U.S. dollars (US\$) at an average rate of CAN\$1.077=US\$1.00 for 2008 and CAN\$1.074=US\$1.00 for 2007.

Commission, for uranium exploration, production, and waste disposal. Local or municipal governments can make bylaws on local matters, such as zoning regulations and the issuance of construction permits. In 2008, the Ministry of Energy, Mines and Petroleum Resources of British Columbia confirmed that it would not allow exploration for or development of uranium deposits in the Province (Ministry of Energy, Mines and Petroleum Resources, 2008).

The Canadian Securities Administrators' National Instrument 43-101 sets the standards for all technical public disclosure for mineral projects, and National Instrument 51-101 sets the standards for disclosure for oil and gas activities. To encourage exploration investment and stimulate Canada's exploration for minerals other than oil and gas, two types of investment options (known as flowthrough shares) are available on qualifying exploration expenditures in Canada.

Production

In 2008, the value of Canadian metallic mineral production totaled \$19.5 billion. The value of industrial mineral production increased to \$18.5 billion in 2008, and the value of coal production increased to about \$4 billion. In terms of value in Canadian dollars, the value of metal production decreased by 20%, that of industrial minerals increased by 72%, and that of coal increased by 57% (Natural Resources Canada, 2009, p. 57.4).

Notable increases in the volume of mineral production in 2008 compared with 2007 included silicon metal (about 67%), tellurium (about 36%), barite (33%), salt (21%), molybdenum and pyrite (13% each), and refined lead (about 10%). Notable decreases in production volume were posted for magnesium metal (88%), bismuth (48%), antimony (40%), coke (29%), direct-reduced iron and gypsum and anhydrite (24% each), silver ore (15%), diamond and ferriobium (14% each), talc (11%), and peat (10%) (table 1).

Structure of the Mineral Industry

In 2008, Canadian company Sherwood Mining Corp. acquired Western Keltic Mines Inc.; Capstone Mining Corp. and Sherwood Mining subsequently merged and the resultant company was named Capstone Mining Corp. Other mergers of Canadian mining companies included the merger of Emerald Fields Resource Corp. and Klondike Capital Corp. to form Pacific Iron Ore Corp. and the merger of Metallica Resources Inc., New Gold Inc., and Peak Gold Ltd. to form New Gold Inc.

Acquisitions of Canadian mining companies in 2008 included the Argex Silver Capital Inc.'s purchase of the assets of 7013833 Canada Corp., the BHP Billiton Group's acquisition of Anglo Potash Ltd., and the acquisition of Metco Resources Inc. by Breakwater Resources Ltd. Goldcorp Inc. acquired Gold Eagle Mines Ltd.; Golden Dawn Minerals Inc. acquired 6891667 Canada Inc.; IAMGOLD Corp. acquired Orezone Resources Inc.;

Kinross Gold Corp. acquired Aurelian Resources Inc.; Richmond Mines Inc. acquired Patricia Mining Corp.; and Victory Nickel Inc. acquired controlling interest in Independent Nickel Corp.

Goldbard Capital Corp. agreed to acquire MIE Metals Corp. (and the MIE and the Bear Valley projects) from Adriana Resources Inc. in September but withdrew the offer in November because of deteriorating market conditions. Boxxer Gold Corp., Prize Mining Corp., and Teras Resources Inc. agreed to combine in June but terminated the agreement in July. Pelangio Mines Inc. changed its name to PDX Resources Inc.

Sherritt International Corp. acquired the Royal Utilities Income Fund, which controlled the coal producer Prairie Mines & Royalty Ltd. Teck Cominco Ltd. acquired Fording Canadian Coal Trust, and Western Canadian Coal Corp. acquired Falls Mountain Coal Inc.

Crew Energy Inc. acquired oil and gas explorer Gentry Resources Ltd. Italian company Eni SpA. acquired First Calgary Petroleum Ltd., and Shell Canada Ltd. (a subsidiary of Royal Dutch Shell plc of the Netherlands) acquired Duvernay Oil Corp. Table 2 lists the structure of the Canadian mineral industry by principal mineral commodities and major operating companies.

Mineral Trade

In 2008, Canada's total domestic exports and imports amounted to \$423 billion and \$402 billion, respectively. In 2008, total Canadian exports of minerals and mineral products were valued at about \$202 billion and imports of minerals and mineral products were valued at \$113 billion (Natural Resources Canada, 2009, p. 57.11-57.12).

Canada exports of mineral fuels were valued at \$123 billion, which included crude and refined petroleum (\$83 billion), natural gas (about \$33 billion), coal and coke (about \$6 billion) and uranium (about \$2 billion). Exports of iron and steel were valued at about \$15 billion; aluminum, about \$11 billion; gold, \$8.3 billion; nickel, about \$6.9 billion; copper, \$6 billion; potash, about \$5.9 billion; iron ore, about \$2.9 billion; diamond, about \$2.5 billion; sulfur, about \$2.5 billion; and zinc, \$1.7 billion (Natural Resources Canada, 2009, p. 57.11).

The United States received about 80% of Canadian mineral exports, primarily mineral fuels (valued at about \$114 million), steel (about \$13 million), and aluminum (\$9 billion); the European Union received about 9% of Canadian mineral exports, primarily gold (\$4 million), mineral fuels (\$3 million), and diamond (\$2 million) (Natural Resources Canada, 2009, p. 57.13).

Commodity Review

The Canadian mineral industry comprised about 3,000 domestic and perhaps 200 foreign companies. With thousands of mining projects underway (which included exploration, mine development, and mining operations), Canada remained the world's most active mining country. Canadian companies that explored in other countries accounted for a significant percentage of the world's solid mineral exploration budgets.

In Canada in 2008, mines that started commercial production or resumed operations included the Lac Herbin gold mine and

the Perseverance copper mine in the Province of Quebec; the Pine Cove gold mine in the Province of Newfoundland and Labrador; and the Podolsky copper-gold-nickel-PGM mine and the Victor diamond mine in the Province of Ontario. Unlike the situation in recent years, more mines closed than opened in 2008.

Numerous mines were closed or operations were temporarily suspended and the mines placed on care-and-maintenance status in 2008 owing to the decline in commodity prices and the general deterioration of the global short-term economic outlook. The Caribou and the Restigouche lead-zinc mines in the Province of New Brunswick, which had restarted production in 2007, were placed on care-and-maintenance status in October. The Copper Rand copper-gold mine in the Province of Quebec, which had started production in 2007, suspended operations in December. The Eskay Creek gold mine in the Province of British Columbia was closed in early 2008 when the reserves were mined out. The Liberty nickel mine in the Province of Ontario, which had started preproduction mining in September, was placed on care-and-maintenance status in October. The Willow Creek metallurgical coal mine in the Province of British Columbia, which had started production in October, suspended operations in November.

Other mining operations suspended in 2008 included the Fabie Bay copper mine in the Province of Quebec, the Greenwood Gold copper-gold mine in the Province of British Columbia, the Jericho diamond mine in Nunavut Territory, and the Lac des Iles copper-gold-nickel-palladium mine in the Province of Ontario. Production was suspended at the Lamaque gold mine in the Province of Quebec in July, and in October, operations at the Langlois copper mine in Quebec were temporarily suspended. The Lockerby cobalt-copper-nickel mine in Ontario, which had resumed production in 2006, was placed on care-and-maintenance status in October. Most of the operations at the Myra Falls gold mine in British Columbia were temporarily suspended in 2008. The Redstone nickel mine in Ontario was placed on care-and-maintenance status in October, and the Sleeping Giant gold mine in Quebec was placed on care-and-maintenance status in September. Nickel production was suspended at the Levack Mine in October and the McCreedy West Mine in December.

Timminco Ltd. closed the magnesium billet facility at Haley, Ontario. ArcelorMittal of Luxembourg closed its cold- and hot-steel rolling mills at Contrecoeur, Quebec. U.S. Steel Canada Inc., which was a subsidiary of United States Steel Corp. of the United States, shutdown blast furnace operations at the Hamilton, Ontario, crude steel facility.

Reserves and Resources

Table 3 lists the levels of Canadian reserves of selected mineral commodities. Reserves of major metals, which were distributed unevenly throughout Canada, were located primarily in the Precambrian shield, the Rocky Mountains (Cordillera), and the Coast Ranges. In terms of proven and probable (minable) reserves of major metals, the Provinces of British Columbia, Manitoba, New Brunswick, Ontario, and Quebec were dominant.

Outlook

Canada's mineral industry is primarily export oriented, and the United States is the main destination for exported Canadian minerals. Canada is expected to continue to be well positioned in terms of its metals and mineral fuel resources base and its access to the markets of China, Europe, Japan, and North America.

Access to financing will continue to be essential to the success of the Canadian mineral exploration and development operations in 2009 and beyond. In 2008, numerous major and junior companies were engaged in exploration; the significant decline in demand for mineral commodities that was observed in late 2008, with the associated decline in international mineral prices, is expected to result in a dramatic decline in exploration expenditures in 2009, which, in turn, is expected to adversely affect mine operations in the short-to-medium term and mineral development projects in the short-term. Continued exploration will remain a key factor to ensuring a long-term supply of Canadian minerals. Canada's continuing challenges include the globalization and internationalization of the mineral industry, especially with respect to developing countries that have mineral resources that may be more economically attractive to foreign investment.

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TABLE 1
CANADA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2004	2005	2006	2007	2008 ^p	
METALS						
Aluminum:						
Alumina:						
Aluminum oxide (Al ₂ O ₃)	1,169,836	1,214,405	1,280,770	1,300,000 ^e	1,310,000 ^e	
Aluminum hydroxide (hydrate) Al (OH) ₃	1,328,842	1,400,340	1,476,959	1,500,000 ^e	1,500,000 ^e	
Metal:						
Primary	2,592,160	2,894,204	3,051,128	3,082,625	3,120,148	
Secondary	49,701	47,657	47,084	50,000	50,000 ^e	
Total	2,641,861	2,941,861	3,098,212	3,133,000 ^{r,e}	3,170,000 ^e	
Antimony ³	88	66	226	162	97	
Bismuth:						
Mine output, Bi content ³	185	141	177	137	71	
Metal, refined ^e	250	250	250	250	150	
Cadmium:						
Mine output, Cd content ³	740	634	502	293	300	
Metal, refined	1,880	1,727	2,094	1,388	1,300	
Cobalt:						
Mine output, Co content ^{3,4}	5,060	5,767	6,976	8,692 ^r	8,644	
Metal, refined	5,144	5,090	5,198 ^r	5,620 ^r	5,605	
Copper:						
Mine output, Cu content ³	562,795	595,383	603,295	596,249	606,999	
Metal:						
Smelter:						
Primary, blister	446,209	441,325	546,121	540,251	583,376	
Secondary	29,982	30,525	35,826 ^r	46,101 ^r	41,777	
Total	476,191	471,850	581,947	586,352	625,153	
Refined:						
Primary	495,835	484,123	469,363	423,453	442,138	
Secondary	31,100	31,100	31,100	30,000 ^e	30,000 ^e	
Total	526,955	515,223	500,463	450,000 ^{r,e}	470,000 ^e	
Gold, mine output, Au content						
	kilograms	130,727	120,541	104,448	102,377	95,044
Iron and steel:						
Iron ore and concentrate:						
Gross weight	thousand metric tons	28,596	30,387	33,543	32,774	31,273
Fe content	do.	17,801	19,333	21,341 ^r	20,751 ^r	19,700
Metal:						
Pig iron ⁵	do.	8,828	8,274	8,305	8,577 ^r	9,000
Direct-reduced iron ⁵	do.	1,091	591	446	911	690
Ferrous alloys, electric arc furnace:^e						
Ferrosilicon	do.	56	56	56	60 ^r	60
Silicon metal	do.	30	30	30	30	50
Ferriobium	do.	6	6	7	7	6
Ferrovandium	do.	1	1	1	1	1
Total	do.	90	90	90	90	110
Crude steel ⁵	do.	16,305	15,327	15,493	15,569 ^r	15,130 ^e
Lead:						
Mine output, Pb content		76,730	79,254	83,096	75,135	79,267
Metal, refined:						
Primary		131,717	109,996	115,989	95,577	105,526
Secondary		109,453	120,241	134,475	141,111	153,549
Total		241,170	230,237	250,464	236,688	259,075
Magnesium, metal, primary ^e		54,000	50,000	65,000 ^r	16,300 ^r	2,000
Molybdenum, mine output, Mo content		9,946	7,667	7,117	6,819	7,724
Nickel:						
Mine output, Ni content ³		186,694	199,932	232,948	254,915	259,588
Refined ⁶		151,518	139,683	146,899 ^r	153,743 ^r	167,732

See footnotes at end of table.

TABLE 1—Continued
CANADA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2004	2005	2006	2007	2008 ^p
METALS—Continued					
Niobium (columbium) and tantalum:					
Pyrochlore concentrate:					
Gross weight	7,670	7,700	8,500 ^e	8,800 ^e	8,900 ^e
Nb content of ferroniobium	3,599	3,704	4,177	4,337	4,383
Tantalite concentrate:					
Gross weight	276	310	270	220	200 ^e
Ta content (Ta ₂ O ₅)	69	77	68	55	49
Nb content	10	11	10	9	7 ^e
Platinum-group metals, mine output:					
Palladium kilograms	12,000	10,415	10,493 ^r	10,900 ^{r,e}	10,000 ^e
Platinum do.	7,000	6,075	7,500 ^{r,e}	7,000 ^{r,e}	7,000 ^e
Others (irridium/rhodium/ruthenium) do.	7,164	6,219	5,000 ^{r,e}	4,000 ^{r,e}	4,000 ^e
Total do.	26,164	22,709	23,000 ^{r,e}	22,000 ^{r,e}	21,000 ^e
Selenium ⁷ do.	271,073	107,000	106,000	144,000	156,000
Silver:					
Mine output, Ag content do.	1,337,465	1,123,837	995,024	860,449 ^r	727,710
Refined do.	1,837,724	1,547,326	1,586,537	1,550,000 ^e	1,500,000 ^e
Tellurium ⁷ do.	55,000	11,000	10,000	14,000	19,000
Titanium, Sorel slag ⁸	863,000	860,000	930,000	960,000 ^r	1,000,000
Tungsten, mine output, W content	--	484	2,561	2,718	2,608
Zinc:					
Mine output, Zn content	791,373	666,664	637,956	630,485	678,177
Metal, refined, primary	805,438	724,035	824,464	802,103	764,312
INDUSTRIAL MINERALS					
Asbestos ^c	220,000 ⁹	200,000 ^r	200,000 ^r	180,000 ^r	180,000
Barite	21,000	23,000	20,000	9,000	12,000
Cement, hydraulic ¹⁰ thousand metric tons	14,017	14,179 ^r	14,336 ^r	15,078 ^r	13,672
Clay and clay products ¹¹ value, thousands	\$229,971	\$192,000	\$197,000	\$195,000	\$187,768
Diamond carats	12,618,080	12,314,031	13,278,000	17,144,000	14,803,000
Diatomite ^c	10,000	10,000	10,000	10,000	10,000
Gemstones, includes amethyst and jade	105	78	68	67	67
Graphite ^c	28,000	28,000	28,000	28,000	27,000
Gypsum and anhydrite thousand metric tons	9,339	8,570	9,036	7,562	5,740
Lime ¹⁰ do.	2,386	2,289	2,189	2,134	2,069
Lithium, spodumene ^e	22,500	22,500	22,500	23,000	22,000
Magnesite, dolomite, brucite ^e	180,000	180,000	180,000	180,000	180,000
Mica, scrap and flake ^c	17,500	17,500	17,500	18,000	17,000
Nepheline syenite	714,000	745,000	734,000	690,000	734,000
Nitrogen, N content of ammonia	4,106,600	4,100,000 ^e	4,100,000 ^e	4,498,000 ^r	4,781,000
Peat thousand metric tons	1,347	1,304	1,245 ^r	1,282	1,151
Phosphate rock, P ₂ O ₅ content ^e do.	300	270	165	210	210
Potash, K ₂ O equivalent do.	10,100	10,140	8,518	11,085	10,455
Pyrite and pyrrhotite, gross weight ^e	5,000	5,000	5,000	4,000 ^r	4,500
Salt thousand metric tons	13,903	13,496	14,389	11,862	14,386
Sand and gravel do.	250,067	243,440	238,515	240,723	239,646
Silica, quartz ¹² do.	1,466	1,807	2,146	1,987	1,979
Sodium compounds, including sodium sulfate, natural ^{e,13} do.	305	305	305	300	300
Stone ¹⁴ do.	135,988	141,275	153,897	149,982	145,825
Sulfur, byproduct:					
Metallurgy do.	1,105 ^r	1,060 ^r	1,176 ^r	1,185 ^r	740
Petroleum do.	7,996 ^r	7,916 ^r	7,906 ^r	7,782 ^r	7,971
Total do.	9,101 ^r	8,976 ^r	9,082 ^r	8,967 ^r	8,711
Talc, pyrophyllite, soapstone ^c do.	90	70	72	79	70

See footnotes at end of table.

TABLE 1—Continued
CANADA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2004	2005	2006	2007	2008 ^p
MINERAL FUELS AND RELATED MATERIALS					
Carbon black ^e	185,000	190,000	180,000	195,000	180,000
Coal, run of mine:					
Bituminous and subbituminous	54,722	56,538	55,562	58,822	58,000 ^e
Lignite	11,586	11,017	10,440	10,541	10,000 ^e
Total	66,308	67,555	66,002	69,363	67,749
Coke, high-temperature	4,371	4,289	4,325	4,304	3,040
Natural gas:					
Gross (excluding gas flared or recycled)	218,000	219,010	220,432	215,649	208,653
Marketed	167,360	170,335	171,641	167,195	157,949
Natural gas liquids:					
Gas plant liquids	182,800	183,500	194,000	189,300	172,200
Pentanes plus	55,000	53,700	55,000	54,100	50,800
Condensate	7,100	9,400	9,800	10,600	11,200
Total	244,900 ^r	246,600 ^r	258,800 ^r	254,000 ^r	234,200
Petroleum:					
Crude ¹⁵	876,000	838,000	904,000	954,000	1,004,000
Refinery products:					
Propane and butane	22,960 ^r	20,948 ^r	20,385 ^r	22,019 ^r	21,339
Gasoline:					
Aviation	663	672	702	700	700 ^e
Motor	290,796	281,361	293,741	279,200	258,000 ^e
Petrochemical feedstocks	36,613	28,018	29,251	35,000	30,000 ^e
Jet fuel	34,496	31,593	32,983	31,600	32,000 ^e
Kerosene	3,324	3,560	3,717	11,800	11,000 ^e
Diesel and light fuel oil	236,530	236,651	247,064	228,300	256,000 ^e
Lubricants including grease	8,885	8,102	8,458	7,500	8,000 ^e
Heavy fuel oil	62,560	60,934	63,615	55,500	52,000 ^e
Asphalt	29,803	28,021	29,254	26,000	26,000 ^e
Petroleum coke	10,206	10,449	10,909	10,300	16,000 ^e
Other petroleum products	25,803	30,765	32,119	29,500	31,000 ^e
Refinery fuel and losses ¹⁶	39,185	36,117	37,704	3,000	3,000 ^e
Total	801,824 ^r	777,191 ^r	809,902 ^r	740,419 ^r	745,000 ^e
Uranium oxide, U content	11,599	12,597	9,781	9,100	8,702

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^pPreliminary. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through March 1, 2010.

²In addition to the commodities listed, arsenic, cesium, ilmenite, indium, phosphate rock, pumice, rhenium, and zeolite are produced, but available information is inadequate to estimate output.

³Metal content of concentrates produced.

⁴Cobalt content of all products derived from Canadian ores, which include cobalt oxide shipped to the United Kingdom for further processing and nickel-cobalt matte shipped to Norway for refining.

⁵Source of iron and steel data: World Steel Association (worldsteel).

⁶Nickel contained in products of smelters and refineries in forms that are ready for use by consumers. Natural Resources Canada has revised all refined nickel figures to conform with International Nickel Study Group (INSG) guidelines.

⁷Includes metal refined from imports and secondary sources. Also includes metal content of exported concentrates.

⁸Refined Sorel slag has been upgraded to 95% titanium oxide.

⁹Reported figure.

¹⁰Producers' shipments and quantities used by producers.

¹¹Includes bentonite products from common clay, fire clay, stoneware clay, and other clays. Values are in current Canadian dollars. If necessary, values can be converted from Canadian dollars (CAN\$) to U.S. dollars (US\$) at an average rate of CAN\$1.074=US\$1.00.

¹²Producers' shipment of quartz.

¹³Excludes byproduct production from chemical plants.

¹⁴Crushed, building, ornamental, paving, and similar stone.

¹⁵Includes synthetic crude, from oil shale and (or) tar sands.

¹⁶Refinery fuel represents total production of still gas, which includes a small amount sold.

TABLE 2
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Alumina:			
Smelter-grade	Rio Tinto Alcan (Rio Tinto Group, 100%)	Vaudreuil refinery, Jonquiere, Quebec	1,300.
Specialty-grade	do.	do.	55.
Do.	do.	Alumina plant, Brockville, Ontario	18.
Aluminum	do.	Smelter in Laterriere, Quebec	228.
Do.	do.	Smelter in Beauharnois, Quebec	52.
Do.	do.	Smelter in Shawinigan, Quebec	99.
Do.	do.	Smelter in Grande-Baie, Quebec	207.
Do.	do.	Smelter in Arvida, Jonquiere, Quebec	166.
Do.	do.	Smelter in Kitimat, British Columbia	277.
Do.	do.	Smelter in Alma, Quebec	415.
Do.	Aluminiere de Bécancour Inc. (Alcoa Inc., 75%, and Rio Tinto Alcan, 25%)	Smelter in Beacancour, Quebec	407.
Do.	Alcoa Ltd. (Alcoa Inc., 100%)	Smelter in Baie-Comeau, Quebec	438.
Do.	Aluminerie Alouette Inc. (Rio Tinto Alcan, 40%; Aluminium Austria Metall Québec, 20%; Hydro Aluminum, 20%; Société Générale de Financement du Québec, 13.33%; Marubeni Québec Inc., 6.67%)	Smelter in Sept-Iles, Quebec	572.
Do.	Aluminerie Lauralco Inc. (Alcoa Inc., 100%)	Deschambault, Quebec	254.
Asbestos, fiber	LAB Chrysotile, Inc.	Lac d'Amiante du Quebec, Ltee, Quebec	160.
Do.	do.	Bell Mine, near Thetford Mines, Quebec	70.
Cement	Lafarge Canada Inc. (Lafarge North America)	Bath, Ontario	1,176.
Do.	do.	Woodstock, Ontario	814.
Do.	do.	Exshaw, Alberta	1,422.
Do.	do.	Kamloops, British Columbia	324.
Do.	do.	Richmond, British Columbia	1,319.
Do.	do.	St. Constant, Quebec	1,157.
Do.	do.	Brookfield, Nova Scotia	621.
Do.	St. Lawrence Cement Inc. (Holcim AG)	Joliette, Quebec	1,475.
Do.	do.	Mississauga, Ontario	2,000.
Do.	Ciment Québec Inc.	Saint-Basile, Quebec	1,571.
Do.	ESSROC Canada Inc. (Italcementi Group)	Picton, Ontario	792.
Do.	Federal White Cement Ltd.	Woodstock, Ontario	544.
Do.	St. Marys Cement (Canada) Inc. (Votorantim Cimentos)	Bowmanville, Ontario	1,377.
Do.	do.	St. Marys, Ontario	645.
Do.	Lehigh Inland Cement Ltd. (Heidelberg Cement Group)	Edmonton, Alberta	1,380.
Do.	do.	Delta, British Columbia	1,356.
Coal:			
Bituminous:			
Coking	Teck Coal Partnership (Teck Cominco Ltd., 100%)	Fording River open pit mine near Elkford, British Columbia	8,900.
Do.	do.	Elkview open pit mine near Sparwood, British Columbia	5,500.
Do.	do.	Greenhills open pit mine near Elkford, British Columbia	5,100.
Do.	do.	Coal Mountain open pit mine at Sparwood, British Columbia	2,700.
Do.	do.	Line Creek Mine near Sparwood, British Columbia	2,700.
Do.	do.	Cardinal River open pit mine near Hinton, Alberta	2,200.
Do.	Western Canadian Coal Corp.	Wolverine Creek open pit mine, near Tumbler Ridge, British Columbia	3,000.
Do.	do.	Brule Mine, near Chetwynd, British Columbia	2,000.
Do.	Grande Cache Coal Corp.	Grande Cache Mine, near Grande Cache, Alberta	2,000.

See footnotes at end of table.

TABLE 2—Continued
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
<u>Coal—Continued:</u>			
<u>Bituminous—Continued:</u>			
Coking—Continued	Peace River Coal Inc. (Anglo Coal Canada, Northern Energy and Mining Inc., and Hillsborough Resources Ltd.)	Trend open pit mine, near Tumbler Ridge, British Columbia	2,000.
Steam	Sherritt International Corp.	Coal Valley Mine, near Edson, Alberta	3,600.
Do.	Hillsborough Resources Ltd.	Quinsam Mine, near Campbell River, British Columbia	500.
Do.	NB Power	Minto Mine, near Minto, New Brunswick	NA.
Do.	Pioneer Coal Ltd.	Stellarton Mine, near Stellarton, Nova Scotia	NA.
Lignite	Prairie Mines & Royalty Ltd. (Sherritt International Corp.)	Boundary Dam open pit mine, near Estevan, Saskatchewan	6,500.
Do.	do.	Poplar River open pit mine, near Coronach, Saskatchewan	4,000.
Do.	do.	Bienfait open pit mine, near Bienfait, Saskatchewan	2,800.
Subbituminous	do.	Highvale open pit mine, near Seba Beach, Alberta	13,000.
Do.	do.	Genesee open pit mine, near Warburg, Alberta	5,600.
Do.	do.	Sheerness open pit mine, near Hanna, Alberta	4,000.
Do.	do.	Paintearth open pit mine, near Forestburg, Alberta	3,500.
Do.	do.	Whitewood open pit mine, near Seba Beach, Alberta	1,400.
<u>Copper:</u>			
Ore, Cu content	Highland Valley Copper Partnership (Teck Cominco Ltd., 97.5%, and Highmont Mining Co., 2.5%)	Highland Valley Copper Mine, Kamloops, British Columbia	190.
Do.	Vale Inco Ltd. (Companhia Vale do Rio Doce)	Sudbury mines (includes the Coleman, Copper Cliff North, Copper Cliff South, Creighton, Garison, Gertrude, and Stobie Mines), Ontario	112.
Do.	HudBay Minerals Inc.	Trout Lake and 777 Mines, Manitoba	57.
Do.	Vale Inco Newfoundland & Labrador Ltd. (Companhia Vale do Rio Doce)	Voisey's Bay mines (includes the Ovoid Mine), Newfoundland and Labrador	55.
Do.	Xstrata Nickel (Xstrata plc, 100%)	Kidd Creek Mine, about 20 kilometers north of Timmins, Ontario	50.
Do.	Huckleberry Mines Ltd. (Imperial Metals Corp., 50%, and consortium composed of Mitsubishi Materials Corp., Marubeni Corp., Dowa Metals and Mining Company, Ltd., and Furukawa Company, Ltd., 50%)	Huckleberry Mine, 123 kilometers southwest of Houston, British Columbia	37.
Do.	Northgate Minerals Corp.	Kemess South Mine, British Columbia	37.
Do.	Taseko Mines Ltd.	Gibraltar Mine, British Columbia	31.
Do.	Mount Polley Mining Corp. (Imperial Metals Corp., 100%)	Mount Polley Mine at Williams Lake, British Columbia	31.
Do.	NVI Mining Ltd. (Breakwater Resources Ltd.)	Myra Falls ² (Battle-Gap and H-W Mines), British Columbia	28.
Do.	Imperial Metals Corp.	Mount Polley Mine, 8 kilometers southwest of Likely, British Columbia	27.
Do.	Sherwood Copper Corp.	Minto Mine, Yukon	23.
Do.	Xstrata Nickel (Xstrata plc, 100%)	Craig, Fraser, and Thayer-Lindsley Mines, Sudbury Division, Sudbury, Ontario	23.
Do.	MSV Resources Inc. (Campbell Resources Inc., 100%)	Copper Rand Mine, ² Quebec	17.
Do.	FNX Mining Company Inc.	Podolsky Mine, Ontario	13.

See footnotes at end of table.

TABLE 2—Continued
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Copper—Continued:				
Ore, Cu content—Continued		Teck Cominco Ltd.	Duck Pond Mine, about 100 kilometers southwest of Grand Falls-Windsor, Newfoundland and Labrador	13.
Do.		Agnico-Eagle Mines Ltd.	LaRonde Mine, about 650 kilometers northwest of Montreal, Quebec	9.
Do.		Inmet Mining Corp.	Troilus Mine, Quebec	7.
Do.		Xstrata Zinc (Xstrata plc, 100%)	Brunswick Mine, 20 kilometers southwest of Bathurst, New Brunswick	7.
Do.		Xstrata Nickel (Xstrata plc, 100%)	Raglan Mine, Quebec	7.
Do.		North American Palladium Ltd.	Lac des Iles Mine, ² about 85 kilometers northwest of Thunder Bay, Ontario	3.
Do.		Xstrata Nickel (Xstrata plc, 100%)	Montcalm Mine, Ontario	2.
Smelter				
Anode		Xstrata Copper (Xstrata plc, 100%)	Horne Smelter in Noranda, Quebec	180.
Do.		do.	Kidd Creek smelter, about 20 kilometers northeast of Timmins, Ontario	150.
Do.		Vale Inco Ltd. (Companhia Vale do Rio Doce)	Copper Cliff smelter in Sudbury, Ontario	500.
Do.		HudBay Minerals Inc.	Smelter in Flin Flon, Manitoba	90.
Copper-nickel matte		Xstrata Nickel (Xstrata plc, 100%)	Sudbury smelter, Ontario	130.
Refinery (Cu cathode)		Xstrata Copper (Xstrata plc, 100%)	CCR Refinery in Montreal-Est, Quebec	370.
Do.		do.	Kidd Creek refinery, about 20 kilometers northeast of Timmins, Ontario	140.
Diamond	carats	Diavik Diamond Mines Inc. (Rio Tinto plc, 60%, and Harry Winston Diamond Mines Ltd., 40%)	Diavik open pit mine (includes the A154 North and the A154 South kimberlite pipes), northeast of Yellowknife region, Northwest Territories	11,900,000.
Do.	do.	BHP Billiton Diamonds Inc. (BHP Billiton Group, 80%)	Ekati Mine (includes the Koala and the Panda underground mines and the Beartooth, Fox, Koala, and Misery open pit mines) in the Lac de Gras region, Northwest Territories	4,600,000.
Do.	do.	De Beers Canada Inc. (De Beers Group)	Snap Lake underground mine, 220 kilometers northeast of Yellowknife, Northwest Territories	1,400,000.
Do.	do.	do.	Victor open pit mine, 90 kilometers west of Attawapiskat, Ontario	600,000.
Do.	do.	Tahera Diamond Corp., 84%, and Teck Cominco Ltd., 16%	Jericho Mine, ² 420 kilometers northeast of Yellowknife, Nunavut Territory	500,000.
Gold, Au content of ore	kilograms	Agnico-Eagle Mines Ltd.	Goldex Mine, Val-d'Or, Quebec	5,000.
Do.	do.	do.	LaRonde Mine, about 60 kilometers west of Val-d'Or, Quebec	5,600.
Do.	do.	Alexis Minerals Corp.	Lac Herbin Mine, about 10 kilometers northeast of Val-d'Or, Quebec	5,000.
Do.	do.	Anaconda Mining Inc.	Pine Cove Mine, near Baie Verte, Newfoundland and Labrador	400.
Do.	do.	Aurizon Mines Ltd.	Casa Berardi Mine, about 95 kilometers north of La Sarre, Quebec	5,000.
Do.	do.	Barrick Gold Inc.	Eskay Creek Mine, ² British Columbia	1,100.
Do.	do.	Barrick Gold Inc., 50%, and Teck Cominco Ltd., 50%	Hemlo operation, includes David Bell underground mine and Williams open pit and underground mine, about 250 kilometers east of Thunder Bay, Ontario	8,100.
Do.	do.	Cadiscor Resources Inc.	Sleeping Giant Mine, ² about 80 kilometers north of Amos, Quebec	2,100.
Do.	do.	Capstone Mining Corp.	Minto Mine, about 240 kilometers northwest of Whitehorse, Yukon Territory	650.

See footnotes at end of table.

TABLE 2—Continued
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gold, Au content of ore—Continued	kilograms	Century Mining Corp.	Sigma-Lamaque complex (includes the Sigma Mine and the Lamaque Mine, ² Val-d'Or, Quebec	1,400.
Do.	do.	Claude Resources Inc.	Seabee operations (includes the Seabee and the Santoy 7 Mines), Laonil Lake, Saskatchewan	1,800.
Do.	do.	Cross Lake Minerals Ltd.	QR Mine, British Columbia	2,200.
Do.		FNX Mining Company Inc.	Levack complex ² (includes the Levack Mine and the McCreedy West Mine), near Levack, Ontario	125.
Do.	do.	do.	Podolsky Mine, Ontario	170.
Do.	do.	Goldcorp Inc.	Musselwhite Mine, 480 kilometers north of Thunder Bay, Ontario	7,000.
Do.	do.	do.	Porcupine Mine, Timmins, Ontario	9,100.
Do.	do.	do.	Red Lake Mine (includes Red Lake and the Campbell complexes), 180 kilometers north of Dryden, Ontario	26,000.
Do.	do.	Huckleberry Mines Ltd. (Imperial Metals Corp., 50%, and a consortium consisting of Mitsubishi Materials Corp., Marubeni Corp., Dowa Metals & Mining Company, Ltd. and Furukawa Company, Ltd., 50%)	Huckleberry Mine, 123 kilometers southwest of Houston, British Columbia	95.
Do.	do.	Hudson Bay Mining and Smelting Company Ltd. (HudBay Minerals Inc., 100%)	777 and Trout Lake Mines, Flin Flon, Manitoba	1,400.
Do.	do.	IAMGOLD Corp.	Doyon Division gold mines (includes the Doyon Mine and the Mouska Mine), about 40 kilometers east of Rouyn-Noranda, Quebec	4,100.
Do.	do.	Imperial Metals Corp.	Mount Polley Mine, 8 kilometers southwest of Likely, British Columbia	1,700.
Do.	do.	Inmet Mining Corp.	Trolius Mine, about 175 kilometers north of Chibougamau, Quebec	5,000.
Do.	do.	Kirkland Lake Gold Inc.	South Mine complex (Macassa Mine, Ontario)	1,800.
Do.	do.	Merit Mining Corp.	Greenwood Gold project ² (includes the Lexington-Grenoble Mine), near Greenwood, British Columbia	600.
Do.	do.	Metanor Resources Inc.	Bachelor Lake mill (located about 225 kilometers northeast of Val-d'Or, Quebec) processed preproduction ore from the Barry open pit, which was located about 65 kilometers southeast of the mill	1,000.
Do.	do.	MSV Resources Inc. (Campbell Resources Inc., 100%)	Copper Rand Mine, ² Quebec	1,800.
Do.	do.	North American Palladium Ltd.	Lac des Iles Mine, ² about 85 kilometers northwest of Thunder Bay, Ontario	800.
Do.	do.	Northgate Minerals Corp.	Kemess South Mine, British Columbia	9,700.
Do.	do.	NVI Mining Ltd. (Breakwater Resources Ltd.)	Myra Falls complex ² (Battle-Gap and H-W Mines), British Columbia	1,000.
Do.	do.	Rice Lake Gold Corp. (San Gold Corp.)	Rice Lake project (includes the Rice Lake Mine and the San Gold No. 1 Mine ²), Manitoba	450.
Do.	do.	Richmont Mines Inc.	Island Gold Mine, near Dubreuilville, Ontario	1,600.
Do.	do.	Richmont Mines Inc., 50%, and Louvem Mines Inc., 50%	Beaufor Mine, about 21 kilometers northeast of Val-d'Or, Quebec	1,250.
Do.	do.	Teck Cominco Ltd.	Duck Pond Mine, about 100 kilometers southwest of Grand Falls-Windsor, Newfoundland and Labrador	125.

See footnotes at end of table.

TABLE 2—Continued
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gold, Au content of ore—Continued	kilograms	Vale Inco Ltd. (Companhia Vale do Rio Doce)	Manitoba Division (includes the Birchtree Mine and the Thompson Mine), Thompson, Manitoba	NA.
Do.	do.	do.	Ontario Division, includes Garson Mine, Garson, Ontario; Coleman/McCreedy East Mine, near Levack, Ontario; and Stobie Mine, north of Sudbury, Ontario)	NA.
Do.	do.	Wesdome Gold Mines Ltd.	Eagle River Mine, about 50 kilometers west of Wawa, Ontario	1,600.
Do.	do.	do.	Kiena Mine, about 10 kilometers west of Val-d'Or, Quebec	1,300.
Do.	do.	Xstrata Nickel (Xstrata plc, 100%)	Sudbury Division (includes the Craig Mine and the Thayer-Lindsley Mine, near Levack, Ontario)	NA.
Do.	do.	Xstrata Zinc (Xstrata plc, 100%)	Brunswick Mine, 20 kilometers southwest of Bathurst, New Brunswick	NA.
Iron and steel:				
Iron ore:				
Ore		ArcelorMittal Mines Canada (ArcelorMittal)	Fire Lake and Mont-Wright open pit mines, Quebec	19,300.
Do.		Iron Ore Company of Canada (Rio Tinto Ltd., 58.72%; Mitsubishi Corp., 26.18%; Labrador Iron Ore Royalty Income Fund, 15.1%)	Carol Lake open pit mine, Labrador City, Newfoundland and Labrador	17,000.
Do.		Wabush Mines Ltd. (U.S. Steel Canada, 44.6%; ArcelorMittal Dofasco Inc., 28.6%; Cleveland-Cliffs Mining Inc., 26.8%)	Scully Mine, near Wabush, Newfoundland and Labrador	6,200.
Pellets		Iron Ore Company of Canada (Rio Tinto Ltd., 58.72%; Mitsubishi Corp., 26.18%; Labrador Iron Ore Royalty Income Fund, 15.1%)	Pelleting plant, Labrador City, Newfoundland and Labrador	13,000.
Steel, crude		ArcelorMittal Dofasco Inc. (ArcelorMittal)	Hamilton, Ontario	4,100.
Do.		Essar Steel Algoma Inc. (Essar Global Ltd.)	Sault Ste. Marie, Ontario	2,800.
Do.		Mittal Canada Inc. (ArcelorMittal)	Contrecoeur East and Contrecoeur West plants, Quebec	2,500.
Do.		U.S. Steel Canada (United States Steel Corp.)	Lake Erie Works, Naticoke, Ontario	2,400.
Do.		do.	Hamilton Works, ² Hamilton, Ontario	1,700.
Do.		SSAB Svenskt Stål AB—IPSCO Division	Regina, Saskatchewan	1,500.
Do.		Gerdau Ameristeel Corp. (Gerdau S.A.)	Whitby, Ontario	790.
Do.		QIT-Fer et Titane Inc. (Rio Tinto Iron and Titanium Inc.)	Sorel, Quebec	500.
Do.		Gerdau Ameristeel Corp. (Gerdau S.A.)	Selkirk, Manitoba	430.
Do.		do.	Cambridge, Ontario	380.
Do.		Ivaco Rolling Mills Inc.	L'Orignal, Ontario	380.
Do.		Hamilton Speciality Bar (2007) Inc.	Hamilton, Ontario	360.
Do.		AltaSteel Ltd. (Skaw Metals Group)	Edmonton, Alberta	320.
Do.		MMFX Steel of Canada Inc. (MMFX Technologies Corp.)	Welland, Ontario	120.
Lead:				
Lead-zinc ore		Xstrata Zinc (Xstrata plc, 100%)	Brunswick Mine in Bathurst, New Brunswick	3,550.
Do.		Blue Note Caribou Mines Inc. (Blue Note Mining Corp., 100%)	Caribou underground mine, ² 45 kilometers west of Bathurst, New Brunswick, and the Restigouche open pit mine, ² 85 kilometers west of Bathurst, New Brunswick	1,000.
Do.		NVI Mining Ltd. (Breakwater Resources Ltd.)	Myra Falls complex ² (Battle-Gap and H-W Mines), British Columbia	800.
Do.		Acadian Mining Corp.	Scotia open pit mine, Gays River, Nova Scotia	600.

See footnotes at end of table.

TABLE 2—Continued
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Lead—Continued:				
Refined:				
Primary		Teck Cominco Ltd.	Trail smelter and refinery complex, Trail, British Columbia	100.
Do.		Xstrata Zinc (Xstrata plc, 100%)	Belledune smelter and refinery, 35 kilometers north of Bathurst, New Brunswick	74.
Secondary, includes lead alloys		NovaPb Inc. (Newalta Corp.)	Ville Sainte Catherine, Quebec	100.
Do.		Tonolli Canada Ltd.	Mississauga, Ontario	35.
Do.		Metalex Products Ltd.	Richmond, British Columbia	8.
Molybdenum, ore,	metric tons	Highland Valley Copper Partnership (Teck Cominco Ltd., 97.5%, and Highmont Mining Co., 2.5%)	Highland Valley Copper Mine, Kamloops, British Columbia	1,900.
Mo content	do.	FortyTwo Metals Inc. (Roca Mines Inc., 100%)	Max Mine, about 60 kilometers southeast of Revelstoke, British Columbia	1,800.
Do.	do.	Huckleberry Mines Ltd. (Imperial Metals Corp., 50%, and consortium comprised of Mitsubishi Materials Corp., Marubeni Corp., Dowa Metals and Mining Co., Ltd., and Furukawa Co., Ltd., 50%)	Huckleberry Mine, 123 kilometers southwest of Houston, British Columbia	85.
Nickel:				
Ore, Ni content		Vale Inco Ltd. (Companhia Vale do Rio Doce)	Sudbury mines (includes the Coleman, Copper Cliff North, Copper Cliff South, Creighton, Garson, Gertrude, and Stobie Mines), Ontario	106.
Do.		Vale Inco Newfoundland & Labrador Ltd. (Companhia Vale do Rio Doce)	Voisey's Bay Mines (includes the Ovoid Mine), Newfoundland and Labrador	60.
Do.		Vale Inco Ltd. (Companhia Vale do Rio Doce)	Manitoba Division (includes the Birchtree Mine and the Thompson Mine), Thompson, Manitoba	45.
Do.		Xstrata Nickel (Xstrata plc, 100%)	Raglan Mine in Ungave, Quebec	27.
Do.		do.	Craig, Fraser, Lindsley, and Lockerby Mines in the Sudbury district, Ontario, and Montcalm Mine in Timmins, Ontario	21.
Do.		FNX Mining Company Inc.	Levack complex ² (includes the Levack Mine and the McCreedy West Mine, near Levack, Ontario	5.
Do.		Liberty Mines Inc.	McWatters Mine, ² about 30 kilometers southeast of Timmins, Ontario; the Redstone Mine, ² about 25 kilometers southeast of Timmins, Ontario	3.
Do.		FNX Mining Company Inc.	Podolsky Mine, Ontario	1.
Smelter		Vale Inco Ltd. (Companhia Vale do Rio Doce)	Smelter in Sudbury, Ontario	110 (Ni oxide).
Do.		do.	Smelter in Thompson, Manitoba	82 (Ni anode).
Do.		Xstrata Nickel (Xstrata plc, 100%)	Sudbury smelter in Sudbury, Ontario	130 (Cu-Ni matte).
Refinery		Vale Inco Ltd. (Companhia Vale do Rio Doce)	Refinery in Sudbury, Ontario	57 (Ni pellets and powder).
Do.		Moa joint venture (General Nickel S.A., 50%, and Sherritt International Corp., 50%)	Refinery in Fort Saskatchewan, Alberta	33 (Ni briquets and powder), 4 (Co briquets and powder).
Niobium (columbium)	metric tons	IAMGOLD Corp.	Niobec Mine, Chicoutimi, Quebec	3,450 (Nb content).
Petroleum, refinery products	barrels per day	Chevron Canada Ltd. (Chevron Corp., 100%)	Burnaby refinery, Burnaby, British Columbia	55,000.
Do.	do.	Consumers' Co-operative Refineries Ltd. (Federated Co-operatives Ltd., 100%)	Regina, Saskatchewan	100,000.
Do.	do.	Husky Energy Inc.	Prince George refinery, Prince George, British Columbia	10,000.
Do.	do.	do.	Lloydminster asphalt refinery, Lloydminster, Alberta	25,000.

See footnotes at end of table.

TABLE 2—Continued
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners		Location of main facilities	Annual capacity
Petroleum, refinery products—Continued	barrels per day	Imperial Oil Ltd. (Exxon Mobil Corp., 69.6%)	Strathcona refinery, Edmonton, Alberta	187,000.
Do.	do.	do.	Nanticoke refinery, 40 kilometers southwest of Hamilton, Ontario	120,000.
Do.	do.	do.	Sarnia refinery, Sarnia, Ontario	119,000.
Do.	do.	do.	Dartmouth refinery, Halifax Nova Scotia	89,000.
Do.	do.	Irving Oil Ltd.	Irving refinery, Saint John, New Brunswick	250,000.
Do.	do.	Moose Jaw Refinery (Gibson Energy ULC)	Moose Jaw asphalt refinery, Moose Jaw, Saskatchewan	4,100.
Do.	do.	North Atlantic Refining Ltd. (Harvest Energy Trust)	North Atlantic refinery, Come by Chance, Newfoundland and Labrador	115,000.
Do.	do.	Petro-Canada	Edmonton refinery, Edmonton, Alberta	135,000.
Do.	do.	do.	Montreal refinery, Montreal East, Quebec	129,800.
Do.	do.	Shell Canada Ltd. (Royal Dutch Shell plc, 100%)	Montreal East refinery, Montreal East, Quebec	130,000.
Do.	do.	do.	Scotford refinery, 40 kilometers northeast of Edmonton, Alberta	100,000.
Do.	do.	do.	Sarnia manufacturing center (Corunna refinery), Sarnia, Ontario	72,000.
Do.	do.	Suncor Energy Inc.	Sarnia refinery, Sarnia, Ontario	85,000.
Do.	do.	Ultramar Ltd. (Valero Energy Corp., 100%)	Jean Gaulin refinery, Levis, Quebec	265,000.
Potash (K ₂ O equivalent)		Potash Corp. of Saskatchewan Inc. (PotashCorp)	Lanigan, near Lanigan, Saskatchewan	3,828.
Do.		do.	Rocanville, southeast Saskatchewan	3,044.
Do.		do.	Allan Division, Allan, Saskatchewan	1,885.
Do.		do.	Cory, near Saskatoon, Saskatchewan	1,361.
Do.		do.	Patience, near Saskatoon, Saskatchewan	1,033.
Do.		do.	Sussex, New Brunswick	785.
Do.		Mosaic Potash Esterhazy Limited Partnership Ltd. [The Mosaic Co., 75%, and Potash Corp. of Saskatchewan Inc. (PotashCorp.), 25%]	Esterhazy, southeast Saskatchewan	5,300.
Do.		The Mosaic Co.	Belle Plaine, Saskatchewan	2,800.
Do.		Mosaic Potash Colonsay ULC (The Mosaic Co., 100%)	Colonsay, Saskatchewan	1,800.
Do.		Agrium Products Inc.	Vanscoy, Saskatchewan	1,750.
Salt:				
Rock salt and brine operations		The Canadian Salt Co. Ltd.	Rock salt mine at Ojibway, Ontario, and brine wells near Windsor, Ontario	2,600.
Do.		do.	Pugwash, Nova Scotia	1,400.
Do.		Potash Corp. of Saskatchewan Inc. (PotashCorp)	Sussex, New Brunswick	700.
Rock salt		Sifco Canada Inc. (Compass Minerals Group Inc.)	Goderich Harbour, Ontario	6,500.
Do.		Seleine Mines Division of The Canadian Salt Co.	Iles-de-la-Magdalen, Quebec	1,625.
Do.		Mosaic Potash Esterhazy Limited Partnership Ltd. [The Mosaic Co., 75%, and Potash Corp. of Saskatchewan Inc. (PotashCorp.), 25%]	Esterhazy, southeast Saskatchewan	NA.
Do.		NSC Minerals Inc.	Salt recovery from potash tailings at Rocanville and Vanscoy, Saskatchewan	NA.
Brine		Nexen Inc. and Alchem Industries Ltd.	Plant near Bruderheim, Alberta	NA.
Do.		Dow Chemical Canada Inc.	Fort Saskatchewan, Alberta	NA.
Do.		Junex Solnat (Junex Inc.)	Becancour, Quebec	NA.
Do.		Saskatoon Chemicals Holdings, Inc.	Plant near Saskatoon, Saskatchewan	NA.
Do.		Sifco Canada Inc. (Compass Minerals Group Inc.)	Amherst, Nova Scotia	NA.
Do.		do.	Plant near Unity, Saskatchewan	NA.
Do.		The Canadian Salt Co. Ltd.	Belle Plaine, Saskatchewan	NA.
Do.		do.	Lindberg, Alberta	NA.
Titanium, TiO ₂ slag		QIT-Fer et Titane, Inc. (Rio Tinto Group, 100%)	Sorel-Tracy, Quebec	1,100 (Sorelslag®); 250 (UGS™ slag).

See footnotes at end of table.

TABLE 2—Continued
CANADA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Tungsten, WO ₃ content		North American Tungsten Corporation Ltd.	Cantung Mine, Northwest Territories	3,500.
Uranium, oxide	metric tons	Joint venture of Cameco Corp., 70%, and AREVA Resources Canada Inc., 30%	McArthur River Mine, Saskatchewan	8,500.
Do.	do.	Joint venture of Cameco Corp., 83%, and AREVA Resources Canada Inc., 17%	Key Lake mill, Saskatchewan	(3)
Do.	do.	Cameco Corp.	Rabbit Lake operations, includes Eagle Point underground mine and Rabbit Lake mill, Saskatchewan	5,445.
Do.	do.	Joint venture of AREVA Resources Canada Inc., 70%; Denison Mines Inc., 22.5%; OURD Canada Company Ltd., 7.5%	McClellan Lake Mine (Sue B pit), ⁴ Saskatchewan	4,600.
Zeolite		Heemskirk Canada Ltd. (Heemskirk Consolidated Ltd.)	Bromley Creek (Princeton) Mine, near Copper Mountain, British Columbia	NA.
Do.		do.	Z1 (Ranchlands) quarry, near Cache Creek, British Columbia	NA.
Do.		Industrial Mineral Processors Ltd.	Z2 quarry, near Cache Creek, British Columbia	NA.
Do.		HCA Mountain Minerals (Lethbridge) Ltd. (Heemskirk Canada Ltd.)	Processing plant at Lethbridge, Alberta	NA.
Zinc:				
Lead-zinc ore		Xstrata Zinc (Xstrata plc, 100%)	Brunswick Mine in Bathurst, New Brunswick	3,550.
Do.		Blue Note Caribou Mines Inc. (Blue Note Mining Corp., 100%)	Caribou underground mine, ² 45 kilometers west of Bathurst, New Brunswick, and the Restigouche open pit mine, ² 85 kilometers west of Bathurst, New Brunswick	1,000.
Do.		NVI Mining Ltd. (Breakwater Resources Ltd.)	Myra Falls complex ³ (Battle-Gap and H-W Mines), British Columbia	800.
Do.		Acadian Mining Corp.	Scotia open pit mine, Gays River, Nova Scotia	600.
Zinc ore		Xstrata Copper (Xstrata plc, 100%)	Kidd Creek underground mine, 25 kilometers north of Timmins, Ontario	2,350.
Do.		Hudson Bay Mining and Smelting Co., Ltd. (HudBay Minerals Inc., 100%)	777 and Trout Lake Mines, Flin Flon, Manitoba	2,300.
Do.		Teck Cominco Ltd.	Duck Pond mine, 90 kilometers south of Buchans, Newfoundland and Labrador	500.
Do.		Hudson Bay Mining and Smelting Co., Ltd. (HudBay Minerals Inc., 100%)	Chisel North Mine, Snow Lake, Manitoba	330.
Do.		Agnico-Eagle Mines Ltd.	LaRonde Mine, 60 kilometers west of Val-d'Or, Quebec	NA.
Do.		Breakwater Resources Ltd.	Langlois Mine, 213 kilometers northeast of Val-d'Or, Quebec	NA.
Refined		Teck Cominco Ltd.	Trail smelter and refinery complex, Trail, British Columbia	295.
Do.		Canadian Electrolytic Zinc Ltd. (CEZinc) (Noranda Income Fund)	Hydrometallurgical plant at Salaberry-de-Valleyfield, Quebec	280.
Do.		Xstrata Zinc (Xstrata plc, 100%)	Zinc hydrometallurgical plant at Hoyle, Ontario	150.
Do.		Hudson Bay Mining and Smelting Co., Ltd. (HudBay Minerals Inc., 100%)	Smelter at Flin Flon, Manitoba	118.

Do., do., Ditto. NA Not available.

¹Abbreviations used in this table for commodities include the following: Au, gold; Co, cobalt; Cu, copper; K₂O, potassium oxide; Mo, molybdenum; Nb, niobium; Ni, nickel, and TiO₂, titanium dioxide.

²Mine closed or operations suspended (mine on care-and-maintenance status).

³Processes ore from McArthur River Mine.

⁴Sue B and Sue E pits were mined out in 2008. McClellan Lake mill processing stockpiled ore.

TABLE 3
CANADA: RESERVES OF MAJOR MINERALS IN 2008¹

(Thousand metric tons unless otherwise specified)

Commodity	Reserves
Coal (anthracite, bituminous, and lignite)	6,578,000
Copper	7,565
Gold	metric tons 987 ²
Lead	682
Molybdenum	213
Natural gas	billion cubic meters 1,630
Nickel	3,778
Petroleum, crude	million barrels 27,700
Silver	metric tons 6,588
Uranium, U ₃ O ₈	571 ³
Zinc	5,984

¹Sources: Canadian Minerals Yearbook—2008 Review and Outlook, Natural Resources Canada, and BP Statistical Review of World Energy, June 2009.

²Excludes metal in placer deposits.

³Recoverable resources.

