

General Review

Mike McMullen and Greig Birchfield

Mike McMullen is a Consulting Mineral Economist and Greig Birchfield is a Consulting Mineral Statistician with the Minerals and Metals Sector, Natural Resources Canada.
Telephone: Greig Birchfield at (613) 992-1470
E-mail: greig.birchfield@nrcan.gc.ca

OVERVIEW

Global economic activity was robust for much of 2004, although higher energy and other raw material costs were beginning to adversely affect the economies of many countries late in the year. International trade was again being led by impressive activity in China as it has become the world leader in the consumption of global raw materials, including mineral commodities such as coal, iron ore and steel. The ongoing development of China's economy is the principal reason why commodity prices and ocean shipping rates have shot up in the past several years.

Global Gross Domestic Product (GDP) growth in 2004 was estimated at 5.1%, up from the 4.0% experienced in 2003. Business investment improved and consumer spending continued to be surprisingly firm in most countries, notwithstanding geopolitical uncertainties around the world. However, higher oil prices (trading at highs around US\$55.00/barrel in the third quarter of the year) were slowing down activity in many countries as the year ended. Again in 2004, the global minerals industry experienced strong demand for mineral commodities, including scrap and recycled materials. This translated into sharp increases for many commodity prices. For example, copper, lead and zinc finished 2004 at their highs, up sharply from the beginning of the year.

Canada's real GDP, measured at market value in chained (1997) dollars, increased by 2.9% in 2004 to \$1.12 trillion (2.0% growth in 2003). Both interest rates and inflation remained low by historical standards. The average annual unemployment rate fell to 7.2% in 2004 from 7.6% in 2003 and the value of the Canadian dollar in terms of the U.S. dollar appreciated significantly, averaging \$0.768 for the year. This currency performance cut into the growth

in demand for Canadian goods and services, resulting in weaker exports in the last six months of the year and higher imports. For the year, total Canadian merchandise exports (Customs basis) rose to \$411.8 billion, compared to \$380.9 billion in 2003 and \$396.4 billion in 2002. Imports (Customs basis) totalled \$355.6 billion, compared to \$336.0 billion in 2003 and \$348.8 billion in 2002.

Preliminary estimates for the value of production¹ for all sectors of the Canadian mining industry totalled \$24.2 billion in 2004, up from \$20.1 billion in 2003 and \$19.9 billion in 2002. Of this, metal production increased by 29.6% to \$12.5 billion and nonmetallic production increased by 12.6% to \$10.0 billion. The value of coal increased by 7.1% to \$1.6 billion.

The value of total exports for mining and mineral processing products² increased 17.8% in 2004 to \$57.1 billion. This export figure represents 13.9% of Canada's total exports. Canadian imports of mining and mineral processing products totalled \$52.3 billion, up 15.2%. As a result, the balance of trade (total exports minus imports of these commodities) showed a surplus of \$4.7 billion.

Significant developments affecting the Canadian mining industry in 2004 included:

- Sharply higher prices for most mineral commodities produced in Canada;
- Corporate operating profits up substantially from 2003;
- New coking coal mine development for export in Alberta and British Columbia;

¹ Throughout this article, the volume and value of production are based on estimates using shipments from domestic sources as the measure of Canada's mine production, as published in *Canada's Mineral Production, Preliminary Estimates*, Statistics Canada, catalogue no. 26-202-XIB. Foreign ores, e.g., bauxite, are therefore not included.

² Throughout this article, unless otherwise noted, the mineral industry does not include the production of crude oil or natural gas.

- Continued progress toward new diamond mines;
- Slightly decreased employment in the mining industry; and
- Mine openings exceeded closings.

Global economic growth is expected to slow in 2005 to about 4.3% with the United States, Japan and some countries in the European Union, notably Germany and Italy, having weaker economies than in 2004. Canada's economy is forecast to grow considerably slower than the global forecast. China, along with India, is forecast to continue to be the world leader in global economic growth. This is important for metals producers because of the important percentage of all global metals demand that these countries account for. The strength of mineral commodity prices that began in 2003 and continued during 2004 should remain in 2005, although some softening is anticipated during the year. The improved financial climate experienced in 2003 and 2004 by Canadian companies, coupled with continued robust commodity prices, should continue and sustain improved exploration spending and investment opportunities in the Canadian minerals industry in 2005.

CANADIAN ECONOMY

The Canadian economy expanded in 2004 as GDP grew by 2.9%, up from the 2.0% growth experienced in 2003, but less than the 3.4% experienced in 2002. Total private and public investment expanded by 8.5% to \$243.9 billion in 2004 and the value of Canadian manufacturing shipments increased to \$591.7 billion, up 8.4% from 2003. Nevertheless, the manufacturing sector felt the impact of higher production costs and the higher-valued Canadian dollar in the second half of 2004 and the sector softened and inventories increased. The economy continued to be adversely affected by trade restrictions in the United States for live cattle and softwood lumber, but higher-priced exports of energy and minerals proved to be very positive for the economy.

Globally, demand for Canadian products in general was strong, but weakened later in the year due in large part to the strengthening Canadian currency in world markets. Indeed, exports declined in both the third and fourth quarters of the year. Capacity utilization during the last quarter of the year was 86.6% (manufacturing at 88.5%), compared to 84.0% (manufacturing at 81.1%) for the first quarter of 2004. Inflation and interest rates remained low during 2004.

The Bank of Canada lowered its target overnight rate by 25 basis points from 2.75% to 2.50% in January, lowered it again to 2.25% in March, and then again by a further

25 basis points to 2.00% in April. The rate remained there until September when the Bank raised the rate to 2.25% and then followed this by another 25-basis-point increase in October to 2.50%. The announcement in December left this rate unchanged. Thus, the rate closed the year at the same level of 2.50% as it began the year. This experience contrasts with the United States where the federal funds rate increased from 1.00% at the beginning of the year to 2.25% at year-end. Consequently, the spread between the key U.S. and Canadian rates narrowed to 0.25% as 2004 came to a close. The annual inflation rate (Consumer Price Index) remained within the Bank of Canada's annual target range of 1-3%, averaging 1.9% in 2004 (core rate of 1.5%), compared to 2.8% in 2003 and 2.2% in 2002. The value of the Canadian dollar in terms of the U.S. dollar averaged \$0.768, up from \$0.714 for 2003. This represents a 7.7% increase, which put the Canadian dollar at its highest level since 1993.

Consumer spending remained strong in 2004, particularly for big-ticket items, even though vehicle sales declined. Canada Mortgage and Housing Corporation announced that actual new housing starts in Canada increased by 6.9% to 233 431 units in 2004 as homebuyers continued to take advantage of continuing low mortgage interest rates. Similarly, the Canadian Real Estate Association reported that existing house sales across Canada on the Multiple Listing Service (MLS) increased by 4.8% in 2004 to reach 456 503, an all-time high, surpassing the previous high set in 2003. The average MLS sale price for 2004 was \$227 210, up 9.7% from \$207 091 in 2003. Overall, building construction remained robust as Statistics Canada announced that the value of building permits issued by municipalities reached a new annual record of \$55.4 billion in 2004, an increase of 9.1% over the previous high of \$50.8 billion in 2003. Of this total, residential permits accounted for \$36.7 billion, an increase of 14.7% over 2003, while the value of non-residential permits fell by 0.4% to \$18.7 billion.

Automotive companies reported that new vehicle sales in Canada fell by 3.4% to 1.6 million in 2004. This was the second straight year that sales had fallen from the all-time high of 1.7 million in 2002. Even though strong buyer incentives remained in place during the year, higher prices for gasoline at the pumps and for insurance adversely affected the sector. On the production side, automotive manufacturers in Canada produced 1.4 million passenger cars in 2004, up 4.1% from 1.3 million in 2003.

The average annual unemployment rate declined to 7.2% in 2004 from 7.6% in 2003 and 7.7% in 2002. Employment rose by 228 000 net new jobs, or 1.4%, compared to the 1.8% increase in 2003. Employment in the manufacturing sector continued to be weak.

On the trade front, total Canadian trade merchandise exports increased by 8.1% to \$411.8 billion from

CANADIAN ECONOMIC CONDITIONS

Leading Indicators	2003	2004	% Change
Real GDP (\$ billions, 1997 chained dollars)	1 092.4	1 124.40	+2.9
Consumer prices (% annual change)	+2.8	+1.9	n.a.
Operating profits (\$ billions)	161.0	193.6	+20.3
Unemployment rate (% annual average)	7.6	7.2	-5.3
Merchandise trade balance (balance of payments basis) (\$ billions)	57.6	66.1	n.a.
Housing starts (000)	218.4	233.4	+6.9
Canada/U.S. exchange rate (annual average)	0.7135	0.7683	+12.05
International current account balance (\$ millions)	18 397	28 777	n.a.
Global economic output (% change)	+4.0	+5.1	n.a.

Sources: Statistics Canada; Bank of Canada; Canada Mortgage and Housing Corporation; International Monetary Fund.
n.a. Not applicable.

\$380.9 billion in 2003. In 2002, exports totalled \$396.4 billion. Imports totalled \$355.6 billion in 2004, up by 5.8%, compared to \$336.0 billion in 2003 and \$348.8 billion in 2002. The trade surplus (exports minus imports), therefore, increased to \$56.2 billion, compared to \$44.9 billion in 2003 and \$47.5 billion in 2002.

Global economic activity (real GDP) increased in 2004 by 5.1%. This compares to a growth rate of 4.0% in 2003 and 3.0% in 2002. China's growth rate reached 9.5% in 2004, the same as the rate posted in 2003, supported by strong consumer spending, especially on durable goods and housing. The U.S. economy grew by 4.2% in 2004, compared to 2.7% the previous year. The euro-zone continued to struggle in 2004 with high energy costs and an appreciating euro dampening already weak consumer demand. Even so, the euro-zone economy did advance by 2.0% in 2004, higher than the 0.7% growth rate experienced in 2003. The United Kingdom outperformed the euro-zone in 2004, with its growth rate reaching 3.2%. Japan's economy grew by 2.7% in 2004, up from 1.4% in 2003 and -0.3% in 2002. India's economy slowed slightly in 2004 from a robust 7.4% in 2003 to a still strong 7.3% in 2004. The newly industrialized countries of Asia (Hong Kong, South Korea, Singapore and Taiwan) collectively grew by 5.6% in 2004 compared to 3.1% the previous year. Growth in ASEAN-4 countries (Indonesia, Malaysia, the Philippines and Thailand) reached 5.8% in 2004, up from 5.4% in 2003. Latin American growth accelerated sharply in 2004 to 5.6% (from 2.2% in 2003), backed by strong demand and high prices for its commodity exports.

CANADIAN MINERAL INDUSTRY

The Canadian mineral industry can be characterized by the following four stages of processing activity:

- Stage 1: Mineral extraction and concentrating industry (for example, gold mining, and sand and gravel quarrying);
- Stage 2: Smelting and refining industry (for example, nonferrous smelting and refining, alloying, and the production of primary steel);
- Stage 3: Nonmetals and metals-based semi-fabricating industries (for example, copper rolling, casting and extruding, and concrete products); and
- Stage 4: Metals fabricating industries (for example, manufacturing of ornamental metal products and machine parts).

CANADIAN MINERAL INDUSTRY IN 2004

Leading Mining Indicators	2003	2004	% Change
Value of mineral production (excluding oil and gas) (\$ millions)	20 077	24 167	+20.4
Exploration expenditures (\$ millions)	687	1 178	+71.5
Metal Price Index (1997=100)			
Precious metals	109.3	126.1	n.a.
Base metals	91.6	136.0	n.a.
Direct mining employment (000)	46.0	45.4	-1.4
Value of minerals and mineral products exports (\$ billions)	48.5	57.1	+17.8
Mining company operating profits (\$ billions)	1.2	3.9	+221.8
Worldwide mine equity financing (\$ billions)	12.7	11.5	-9.4

Sources: Natural Resources Canada; Statistics Canada; Gamah International.

n.a. Not applicable.

Note: All the indicators above, with the exception of the Metal Price Index and mining company operating profits, include the coal mining industry.

In 2004, the overall value of production of the Canadian mining, mineral processing and metal-producing industries totalled approximately \$60 billion. This amount includes the "traditional" value of production from "Canadian" mined ores, concentrates and aggregates (\$24.2 billion). The difference of about \$36 billion represents the value of production realized from the smelting and refining of

domestic and imported ores, concentrates and recyclables, as well as steel, aluminum, and oil sands mining, which are excluded in the traditional value of production.

The emphasis of this article, however, is on the activities of the mining industry (Stage 1), although a description of the mineral industry from Stages 1 to 4 provides a more comprehensive picture of its importance to Canada. Unless otherwise noted, in the context of this article, the mineral industry should be taken to exclude the extraction and processing of crude petroleum from conventional and non-conventional sources, and natural gas, but to include both the coal and uranium mining industries.

GDP OF THE MINERAL INDUSTRY

The mineral industry includes the following four industry groups described statistically by Statistics Canada: mining, smelting and refining and primary steel, semi-fabrication of metals and nonmetals, and fabricated metals. On this basis, in 2004, the mineral industry contributed \$41.0 billion to Canada's total GDP, an increase of 3.4% over the 2003 level of \$39.6 billion, and represented 3.9% of Canada's total GDP of \$1045 billion. (In this section, all figures are based on GDP at basic prices in chained 1997 dollars). Mining (coal mining, metal mining and nonmetal mining) contributed 24.4% of the industry's GDP in 2004, while smelting and refining and primary steel added a further 20.6% to the total. Semi-fabrication of metals and nonmetals accounted for 21.8% and fabricated metals accounted for the remainder at 33.2%.

For mining in 2004, GDP rose by 4.3% to \$10.0 billion as coal mining increased by 9.8% to \$1.2 billion, metal mining decreased by 0.9% to \$4.5 billion, and nonmetal mining rose by 7.7% to \$4.0 billion. GDP for services related to mining and oil and gas extraction increased 5.7% to an estimated \$6.3 billion in 2004.

CANADIAN MINERAL PRODUCTION

Production From Canadian Mines and Quarries

The value of production of the metals and nonmetals group in 2004 increased by 21.4% to \$22.6 billion from \$18.6 billion in 2003. When coal is added to these non-fuels, the total value of the mineral industry amounted to \$24.2 billion, up 20.4% from \$20.1 billion in 2003.

The value of metal production rose 29.6% to a record \$12.5 billion in 2004 from \$9.7 billion in 2003 as significant increases occurred in the values for nickel and copper. Four metals had a value of production in excess of \$1 billion with nickel being Canada's leading metal

with a value of \$3.3 billion. The \$3.3 billion was an increase of 56.8% over 2003 as nickel output rose by 17.0%. Gold and copper achieved over \$2 billion each and iron ore over \$1 billion. Zinc had a value of production of \$996.9 million.

Table 1 shows the value and volume movements of the major mineral commodities produced in Canada for the years 2003 and 2004.

VALUE OF CANADIAN MINERAL PRODUCTION (1)

	2003 (r)	2004 (p)	Change
	(\$ millions)		(%)
Metallic minerals	9 669.8	12 529.6	29.6
Nonmetallic minerals	8 915.2	10 039.9	12.6
Total	18 585.0	22 569.5	21.4
Coal	1 494.5	1 598.1	7.1
Total minerals	20 077.2	24 167.6	20.4

Sources: Natural Resources Canada; Statistics Canada, *Canada's Mineral Production, Preliminary Estimates, 2004*, cat. no. 26-202-XIB.

(p) Preliminary; (r) Revised.

(1) The value of production is based on shipments.
Note: Numbers may not add to totals due to rounding.

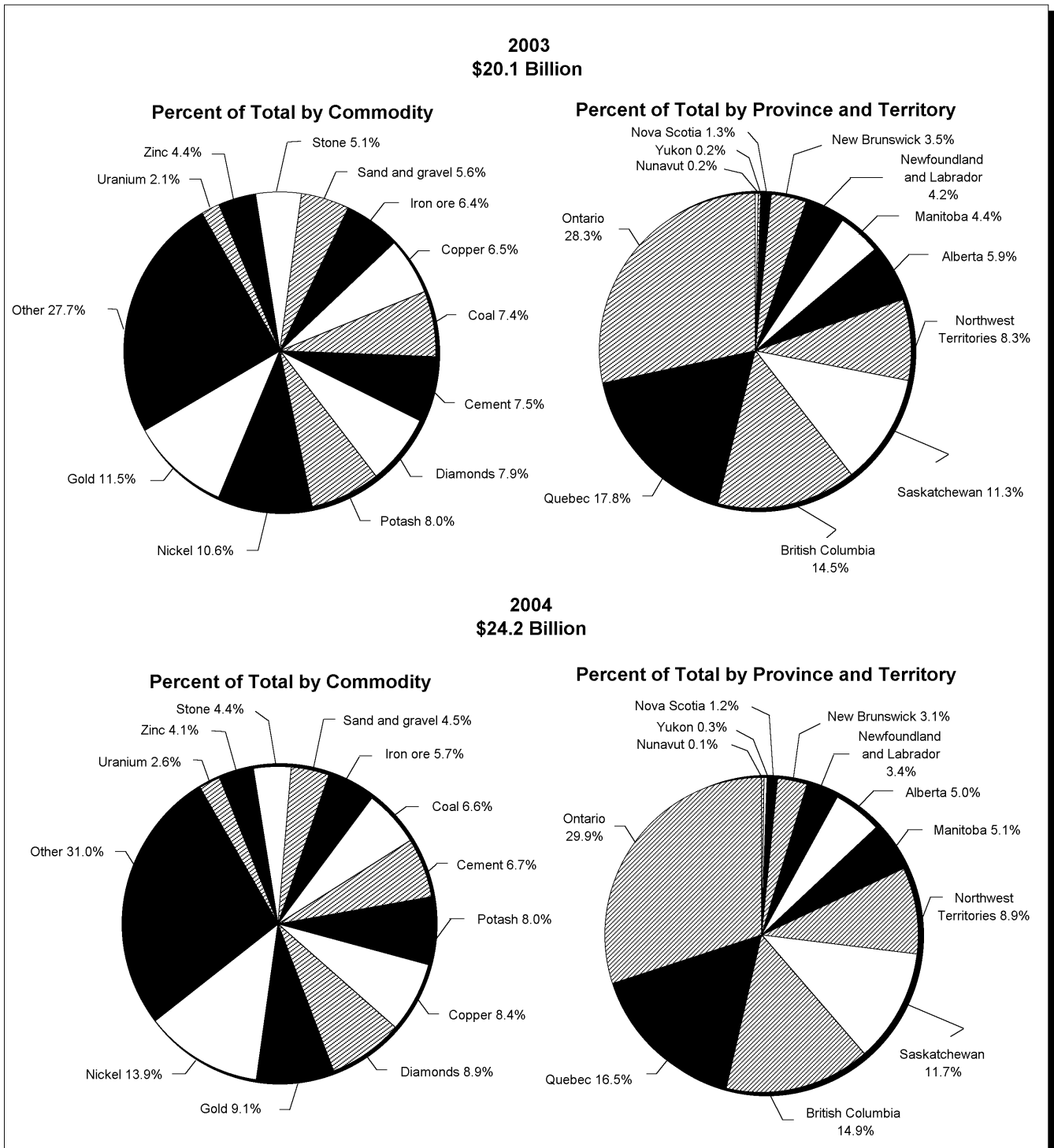
The value of nonmetals production rose to a record high of \$10.0 billion in 2004, an increase of 12.6% over 2003. Strong increases in the value of production for diamonds, up 34.8%, and potash, up 20.0%, led to this increase. Production values in excess of \$1 billion were recorded by diamonds, potash, cement, sand and gravel, and stone. Indeed, diamonds achieved \$2.1 billion in the value of production and was the leading nonmetal produced in Canada. Production was up by 17.3%. The mining of potash accounted for \$1.9 billion in value as output was up by 16.9%.

The value of production for coal totalled \$1.6 billion in 2004, up 7.1% from 2003, with production up by 6.3% to 66.0 million tonnes (Mt).

Based on the value of production for 2004, the top commodities were nickel (\$3.3 billion), gold (\$2.2 billion), diamonds (\$2.1 billion), copper (\$2.0 billion), potash (\$1.9 billion), cement (\$1.6 billion), coal (\$1.6 billion), iron ore (1.4 billion), sand and gravel (\$1.1 billion), stone (\$1.1 billion), and zinc (\$1.0 billion).

In terms of production of Canada's leading minerals, increases in mine output of 5% or greater were recorded by platinum group metals, uranium, diamonds, nickel, potash, cobalt, gypsum, molybdenum and coal, whereas declines of 5% or more were experienced by lead, iron ore and gold.

Figure 1
Value of Mineral Production, Percent Shares by Commodity and by Province and Territory, 2003 and 2004



Sources: Natural Resources Canada; Statistics Canada.

Notes: The provincial/territorial shares may not add to 100% due to rounding. P.E.I. mineral production is too small to illustrate.

Geographically, the importance of the industry may be more significant on a regional and community basis as, in many parts of Canada, particularly in the North, it provides a major economic stimulus. About 100 communities across Canada with a total population of approximately 600 000 depend on the mineral industry.

Regionally, four provinces continued to dominate the value of Canada's mineral output, accounting in 2004 for 72.9% of the total. Ontario contributed the largest share of this output at 29.9% of the total value while Quebec contributed 16.5%, British Columbia 14.9%, and Saskatchewan 11.7%. For the other provinces and territories, the Northwest Territories was at 8.9%, Manitoba at 5.1%, Alberta at 5.0%, Newfoundland and Labrador at 3.4%, New Brunswick at 3.1%, Nova Scotia at 1.2%, the Yukon at 0.3% and Nunavut at 0.1%.

The value of mine output in Ontario increased by 26.9% to \$7.2 billion, Quebec was up by 12.2% to \$4.0 billion, and British Columbia was up by 23.2% to \$3.6 billion.

There were 14 mine openings (6 new mines and 8 re-openings) and 12 mine closings (11 closures and 1 production suspension) in 2004. Regionally, there was one new mine opening in Nova Scotia (silica), one in Quebec (gold), one in Manitoba (copper-zinc), one in Alberta (coal), and two in British Columbia (both coal). Eight mines re-opened: one in Newfoundland and Labrador (slate), four in Quebec (one gold mine, one copper-gold mine and two chrysotile asbestos mines), one in Alberta (coal), one in British Columbia (copper), and one in Nunavut (gold).

Eleven mines closed in 2004: one in Newfoundland and Labrador (gold), two in Quebec (one zinc-copper and one copper-zinc-gold-silver), five in Ontario (three gold, one nickel-copper and one gypsum), one in Manitoba (gold), one in Alberta (coal), and one in the Northwest Territories (gold). There was one mine production suspension during the year (a chrysotile asbestos mine in Quebec).

Recycling Statistics and Materials Flow Analysis

The Government of Canada's Action Plan 2000 on Climate Change, Enhanced Recycling Steering Committee approved a four-year recycling statistics project in June 2002. Because recycling is energy efficient with significant associated greenhouse gas (GHG) savings, and because a large amount of material that could be recycled is being disposed of in other ways, it is important that the flow of these "lost" materials be measured and understood.

The initial goal of this project, therefore, was to collect and compile data on the supply and demand sides of recycling in Canada, particularly with respect to metals

and minerals. The material of chief interest is "old" or "post-consumer" scrap because it is destined for disposal unless a viable recovery system is established.

Several approaches to developing estimates for recycling materials have been attempted, although each has deficiencies. Further efforts, especially in collaboration with the provinces and territories, to develop good data are currently under way. An important project output will be a mass balance for Canada. This balance will be used to project prospective resource recovery opportunities and associated potential for GHG emission reductions.

MINERAL COMMODITY PRICES

Most mineral and metal commodity prices continued to rise in 2004 following the strong price recovery performance of 2003 with some commodities rising sharply. China continued to dominate the markets for many of these commodities. Increased investment activity on commodity exchanges also affected the price of many of the major commodities. Of the major metals, copper, lead and zinc finished 2004 at their highs, up sharply from the beginning of the year. Metallurgical coal, thermal coal and iron ore prices also increased significantly during the year.

Based on trading on the London Metal Exchange (LME) (daily spot closings), nickel opened 2004 at US\$7.57/lb with inventories at 24 072 t, its high for the year, and finished the year down at US\$6.90/lb with inventories at 20 892 t. From its high of US\$8.06/lb in early January, nickel hit its low in mid-May at US\$4.78/lb. Stocks reached a low of 7800 t in early July. The absence of major disruptions in supply and a softening in demand for stainless steels during the year led to lower prices. However, demand for stainless steel was on the upswing in the latter part of the year and nickel prices were strengthening.

Copper opened the year at US\$1.07/lb, decreased to US\$1.06/lb in early January, then increased steadily, finishing the year at US\$1.49/lb, a 16-year high. The price increase was due mainly to very low global inventories of refined metal and continued strong demand led by China, the second largest consumer of copper behind the European Union. Copper stocks began the year at 430 525 t, their high for the year, and declined to their low at the end of the year at 48 875 t.

Aluminum began the year at US\$72.6¢/lb and finished the year at US\$89.1¢/lb, its high for the year. Strong growth in primary aluminum consumption, high electricity prices, and constraints in alumina supply put upward pressures on prices. Inventories increased from 1 423 225 t at the beginning of the year to 1 453 125 t in late January before falling throughout the year to their low of 694 750 t at the end of December.

The price of zinc increased in 2004, ending the year at US\$57.6¢/lb, its high for the year, compared to US\$46.1¢/lb at the beginning of the year. Mine shortages and smelter shut-downs in China due to power shortages exerted upward pressures on prices in the latter part of the year. Inventories began the year at 739 800 t, increasing to a high for the year of 787 150 t in mid-April, and then declined to end the year at their low of 629 425 t.

Lead began 2004 at US\$34.1¢/lb, declined slightly in late April, and then moved up to close out the year at its high of US\$47.9¢/lb. Prices reacted to tight market conditions caused principally by strong demand, notably by China for refined lead to support battery exports, and by the impact of refined capacity closures in recent years. Stocks began the year at 108 975 t, their high for the year, and then declined to their low in mid-December of 40 300 t.

For precious metals (LME spot closings), gold closed out the year at US\$435.60/oz, up 4.9% from US\$415.25/oz at the beginning of 2004. Global mine production fell during the year and there was an increase in consumer demand. However, gold reached 16-year highs in late 2004, due in large part to the activities of hedge funds and other large speculators, reaching US\$454.20/oz in early December. The low for the year was US\$375.00/oz set in early May. Against a backdrop of geopolitical factors, including the Iraq conflict and other Mid-East uncertainties, and the increasing weakness in the U.S. dollar, particularly versus major international currencies such as the Euro and the British Pound, gold increasingly became viewed as a place to put investment funds in 2004. In early March, European central banks announced that they would continue to limit the sale of their gold. The announced Central Bank Agreement replaces the Washington Agreement and covers the five-year period starting September 27, 2004. The European Central Bank plus 15 other central banks are signatories to the agreement and have agreed to limit sales of gold to a total of 500 t annually. The Bank of England, included in the former agreement, did not join the new one, but indicated that it had no plans for any gold sales.

Silver was robust in 2004 with strong physical demand in the industrial, jewellery and silverware, and photographic markets. Although the traditional use of silver in film photography has fallen with the burgeoning use of digital technology, demand for high-quality prints for digital photos has been growing. Declining silver exports from China and hedge fund activity generated strength in silver prices. Silver prices reached 16-year highs late in 2004, closing at an LME high of US\$8.0400/oz in early December. Silver started the year at US\$5.9850/oz and closed out 2004 at US\$6.7700/oz, an increase of 13.1% for the year.

The price of platinum rose in 2004, going from US\$815.50/oz at the beginning of the year to US\$859.50/oz at year-end, an increase of 5.4%. The

low was reached in early May at US\$767.00/oz with the high achieved in mid-April at US\$936.00/oz. The market was more in balance in 2004 with an increase in diesel autocatalyst demand in Europe offsetting the fall in platinum jewellery sales. Investment demand increasingly affected price movements during the year. Palladium began the year at US\$192.00/oz, reached its peak in mid-April at US\$333.00/oz, declined to a low of US\$178.00/oz in mid-December, and ended the year recovering slightly to US\$184.00/oz. The end-of-year price was down 4.2% from the beginning of the year. The palladium shortages of several years ago have been resolved and, with abundant supplies, prices have tumbled from the significant highs of the early part of the decade. During 2004, some automotive manufacturers were switching back to palladium from platinum for some of their autocatalysts due to the significant price differential.

For other mineral commodities, the spot price for uranium (U_3O_8) was quoted at US\$20.70/lb at the end of 2004, an increase of 42.8% from US\$14.50/lb a year earlier. The long-term contract price for uranium was quoted at US\$25.00/lb at the end of December 2004, up from US\$15.50/lb at the end of December 2003. At year-end, high-grade cobalt was selling at an average of US\$19.00/lb, down from an average of US\$22.25/lb a year earlier. Potash was trading at about US\$125/t for standard grade f.o.b. Vancouver, roughly the same as a year earlier. The price for sulphur, f.o.b. Vancouver, at the end of 2004 was roughly US\$63.00/t, similar to the price at the end of 2003.

International coal and iron ore prices are largely determined by annual Japanese reference or benchmark contract pricing based on the Japanese fiscal year of April to March. On this basis, the price in 2004 for metallurgical coal (hard coking) increased by 25.4% to US\$58.00/t f.o.b., while thermal coal (steaming coal) rose by 64.5% to US\$44.00/t f.o.b. Strong growth in steel-making and coal demand for power generation fueled higher prices. Reference prices for iron ore fines and lump ore into the Japanese market increased by 18.6% to US\$36.57¢/long ton unit f.o.b. and by 18.6% to US\$46.66¢/long ton unit f.o.b., respectively. Iron ore pellet prices for European markets (CVRD benchmark pricing) were set with an increase of 19.0% to US\$61.88¢/t unit f.o.b. The surprising strength in global steel-making led to the increased iron ore prices.

RESERVES

Canada's reserves of base and precious metals generally declined during 2003, continuing a 20-year trend. Gold bucked this trend with a modest increase of 2%, but copper declined 9%, nickel declined 12%, lead declined 14%, zinc declined 9%, molybdenum declined 5%, and silver declined 18%. Significant lead production in Canada may cease within five years.

EMPLOYMENT IN THE MINERAL INDUSTRY

Combined employment in the four stages of the mineral industry (including coal mining) is estimated to have declined to 369 420 in 2004, down 2.6% from 2003 and the lowest level since 1999. The mineral industry thus accounted for approximately 2.8% of the national employment level of 13.0 million full-time workers in 2004 (2.3% of 15.95 million total employment).

Employment in Stage 1 (metal, nonmetal [including structural materials] and coal mining) decreased by 1.4% to an estimated 45 399, down from 46 035 in 2003. Employment in metal mining decreased by 8.3% to 23 094, non-metal mining increased slightly to 17 935, and coal mining fell by 4.8% to 4370 during 2003.

Employment in the primary metals and nonmetallic mineral product manufacturing (together representing Stages 2 and 3) both declined in 2004. Nonmetallic mineral product manufacturing employment was estimated to be just over 60 000, down very slightly from the year before. Employment in the primary metals industry declined more significantly, falling from 91 871 in 2003 to an estimated 86 359 in 2004, a decline of 6.0%. Employment in all the sub-industries within the primary metals group declined, most notably in the iron and steel mills and ferro-alloy manufacturing sector, where an estimated 25 594 people were employed in 2004, compared to just over 29 000 in 2003.

Employment in the fabricated metal product manufacturing (Stage 4) industry was also lower in 2004 at 198 464, compared to 202 708 the previous year. Only cutlery and hand tool manufacturing, and architectural and structural steel manufacturing, registered gains in employment numbers in 2004.

Employment in the industry supplying support activities for mining and oil and gas extraction reached 65 022 in 2004, up from 60 539 in 2003; this was the fifth straight year of employment increases. Contract diamond drilling operations (excluding oil and gas) employed 1237 people in 2002 (latest available data), up from 1194 in 2001.

MINERAL INDUSTRY TRADE

Canada is one of the world's largest exporters of minerals and metals. The export of these commodities and more refined mineral products has a significant impact on Canada's overall merchandise balance of trade, and hence on the national standard of living. In 2004, the value of exports of minerals and mineral products increased 17.8% to \$57.1 billion from \$48.5 billion in 2003 (Table 2). The United States was again by far the leading destination for Canada's minerals and mineral product exports with

\$40.7 billion in 2004. This represented 71.4% of Canada's exports, with the European Union at 12.6%, Japan (Canada's second largest export customer) at 3.3%, Mexico (Canada's 13th largest customer) at 0.7%, and all other countries at 12.6%. Exports to the top 20 countries accounted for 96.2% of Canada's exports. China has become an increasingly important trading partner, accounting in 2004 for \$1.4 billion in minerals and mineral product exports from Canada. In 2004, China was Canada's fourth most important export market for minerals and mineral products, trailing only the United States, the United Kingdom and Japan. For mining exports only, the United States accounted for 36.3% of Canada's total.

The value of exports of metallic minerals and mineral products (four stages of production) rose by 19.5% to \$44.0 billion compared to \$36.8 billion in 2003. By commodity, significant increases in the value of exports were exhibited by nickel (+72.8%), cobalt (+150.3%), gold (+27.6%), iron and steel (+18.7%), copper (+43.0%), zinc (+15.4%), and aluminum (+8.0%). Notable decreases were shown by iron ore (-11.1%) and magnesium and magnesium compounds (-10.3%). Two commodities, aluminum and iron and steel, accounted for 49.5% of these exports in 2004. For Stage 1 metallic commodities, exports increased by 23.2% to \$4.5 billion in 2004.

For individual metallic commodities in Stage 1, exports increased for molybdenum (+151.8%), nickel (+159.2%), iron and steel (+75.9%), copper (+41.2%), and aluminum (+16.6%), while exports declined for silver (-57.4%), gold (-24.2%), platinum group metals (-13.4%) and iron ore (-11.1%). Three commodities, iron and steel, iron ore, and copper, represented 59.5% of all Stage 1 metallic exports in 2004.

The total value of exports of nonmetallic minerals and mineral products (four stages) increased 11.9% to \$11.1 billion from \$10.0 billion in 2003. Notable increases were experienced by phosphate and phosphate compounds (+139.3%), sulphur and sulphur compounds (+60.3%), nitrogen (+24.7%), gypsum (+18.6%), potash and potassium compounds (+12.7%), and diamonds (+24.6%), while decreases occurred for asbestos (-11.0%), titanium oxides (-7.2%) and cement (-2.1%). Four commodities, potash and potassium compounds, diamonds, nitrogen, and glass and glassware, accounted for 58.8% of total nonmetallic exports.

For Stage 1 only, exports of nonmetallic commodities increased 14.8% to \$5.2 billion from \$4.5 billion in 2003. Exports of note that increased were gypsum (+27.9%), sulphur and sulphur compounds (+23.7%), potash and potassium compounds (+12.8%) and diamonds (+24.0%). Declines were experienced by salt and sodium compounds (-32.3%) and asbestos (-2.0%). Potash and potassium compounds and diamonds accounted for 78.0% of all Stage 1 nonmetallic exports in 2004.

Exports of coal and coke increased from \$1.7 billion in 2003 to \$1.9 billion in 2004, an increase of 14.5%.

The value of total imports of minerals and mineral products (four stages) increased 15.2% to \$52.3 billion from \$45.4 billion in 2003. Of this amount in 2004, shipments from the United States accounted for 60.8% of this total (\$31.8 billion), with the European Union at 9.7%, Mexico at 3.8%, Japan at 1.8% and all other countries at 23.9%. Solidly in second place, after shipments from the United States, was China with \$3.3 billion worth of minerals and mineral product imports. The top 20 countries accounted for 88.3% of total imports. For the four stages of production, total imports from the United States accounted for 68.7% of Stage 1 imports, 29.4% of Stage 2, 64.9% of Stage 3 and 62.9% of Stage 4.

The total value of metal imports rose to \$42.8 billion in 2004 from \$36.2 billion in 2003, an increase of 18.4%. Notable in 2004 were increases for silver (+91.1%), gold (+81.4%), copper (+46.9%), uranium and thorium (+36.1%), and iron and steel (+20.2%). There were no significant decreases. Two commodities, iron and steel and aluminum, accounted for 54.3% of all metal imports in 2004. For nonmetals, import values were up slightly (+0.8%) to \$8.2 billion from \$8.1 billion in 2003. Commodities of note included declines for nitrogen (-24.2%) and silica and silica compounds (-9.1%) and increases for slate (+19.0%) and asbestos (+11.5%). Two commodities, glass and glassware products, and clay and clay products, accounted for 44.1% of total imports of nonmetals in 2004.

The balance of trade generated (total mining exports minus total mining imports) rose by 56.5% in 2004 to \$4.7 billion. This trade surplus compares to \$3.0 billion in 2003, \$2.6 billion in 2002 and \$1.9 billion in 2001. For the total Canadian economy, the trade surplus increased to \$56.2 billion in 2004 from \$44.9 billion in 2003. The trade surplus was \$47.7 billion in 2002 and \$61.0 billion in 2001.

FINANCIAL INVESTMENT BY THE MINERAL INDUSTRY

Information on exploration expenditures and capital spending provides a useful indication of market conditions and of the perspectives that management and investors in the Canadian mining industry hold on future market conditions in relation to present productive capacity. At the end of 2004, there were 219 mining companies listed on the Toronto Stock Exchange with an aggregated market capitalization of some \$130 billion. Twenty-eight of these companies had market capitalization of over \$1 billion. In addition, there were a further 890 exploration and mining companies listed on the TSX venture exchange. Approxi-

mately 64% of the world's exploration and mining companies are listed on Canadian exchanges. In addition, over 47% of the world's equity capital raised for mining companies was on TSX and TSX venture-listed companies.

Exploration Expenditures

Final exploration data for 2003 show that exploration and deposit appraisal expenditures amounted to \$686.7 million, an increase of 19.8% over \$573.4 million in 2002. Actual figures for 2004 show a staggering increase of 71.5% to \$1177.8 million. Revised spending intentions for 2005 indicate a further 16.3% increase to \$1369.4 million.

In 2004, increases in exploration and deposit appraisal expenditures were experienced in all jurisdictions. Ontario (\$306.9 million), Quebec (\$227.2 million), Nunavut (\$187.5 million), British Columbia (\$151.9 million) and the Northwest Territories (\$112.4 million) were jurisdictions with expenditures in excess of \$100 million. These five accounted for 83.7% of total Canadian expenditures.

The level of mineral exploration activity is closely linked to mineral commodity prices. As commodity prices have recently been very robust, the mineral exploration industry has responded with increased activity. Large increases were experienced by all the commodity groups in 2004, notably precious metals, diamonds, base metals, iron ore, uranium and coal. Other important factors that can influence exploration activities are economic conditions and tax incentive measures.

In 2004, precious metals (mainly gold) accounted for 46.1% of total exploration and deposit appraisal expenditures followed by diamonds at 23.3%, about the same as in 2003.

Capital Investment

Mine complex development expenditures (including capital expenditures for construction and machinery and equipment) were \$2.7 billion in 2004, up 50.8% from 2003, with a big jump in Newfoundland and Labrador (up 122.4%) due to the Voisey's Bay development. Ontario at 34.3%, Saskatchewan at 117.9%, Quebec at 1.3% and the Northwest Territories at 150.8% were the leading jurisdictions for mine complex development expenditures. Revised company intentions reported for 2005 indicate a further 16.7% increase to \$3.2 billion with Ontario, the Northwest Territories, and Newfoundland and Labrador leading the way. Repair expenditures for structures, machinery and equipment increased to \$1.6 billion from \$1.4 billion in 2003. Ontario, British Columbia and Quebec were the leading provinces, accounting for 64.6% of these total expenditures in 2004.

According to Statistics Canada, in 2004, preliminary actual expenditures for capital for construction and materials and equipment in the mining and mineral processing industries increased sharply by 28.3% to \$6.6 billion. Intentions for 2005 indicate a further increase to \$7.7 billion.

For the total Canadian economy in 2004, capital investment (construction, materials and equipment) reached \$243.9 billion, an increase of 8.5% over the \$224.8 billion in 2003. Estimates for 2005 show a further increase to \$258.6 billion.

Technology Investment

Preliminary figures for 2004 indicate total intramural R&D expenditures in the mining and mineral processing industries were \$505 million (about 3.7% of total R&D spending by all industries), compared to \$481 million in 2003. Intentions for 2005 indicate expenditures of \$504 million, virtually the same as in 2004.

HIGHLIGHTS IN THE CANADIAN MINING INDUSTRY

Corporate Developments

Corporate operating profits in the Canadian mining industry were \$3.9 billion in 2004, compared to \$1.2 billion in 2003, \$1.3 billion in 2002 and \$1.5 billion in 2001. Profits in 2004 benefited from the strong commodity prices that prevailed during the year.

Capacity utilization for mining stood at 94.5% for the last quarter of 2004, compared to 90.0% for the first quarter of the same year. Over the same period, the capacity utilization rate for primary metals went from 92.0% in the first quarter to 86.7% in the fourth quarter.

During 2004, new project development continued to be active in the diamond mining sector and, surprisingly, in the coal sector where new mine development for export had been stagnant for some time.

For diamonds, DeBeers Canada Inc. announced in early June that a final permit to proceed with the development of a diamond mine at Snap Lake, located 220 km northeast of Yellowknife in the Northwest Territories, has been granted by the Minister of Indian and Northern Affairs. The granting of this water licence signifies that De Beers has met all of the necessary requirements of the regulatory process for the Snap Lake development. With receipt of this permit, a Class A Water Licence, De Beers indicated that it could now begin Phase 1 pre-production development of the mine. This work will focus on underground development and bulk sample plant testing. De Beers is in

the process of negotiating Impact and Benefit Agreements with the four Aboriginal groups who will be affected by a mine at Snap Lake. De Beers is now preparing for construction of the kimberlite dyke underground mine, which is anticipated to begin in 2005 after full mobilization to the site over the 2005 winter road. Construction of the mine is estimated to cost \$490 million. The mine will produce 3000 tonnes per day (t/d) when it reaches full production and is expected to have a life of just over 20 years. In addition to its Snap Lake project, the company's Victor diamond project, situated some 90 km from Attawapiskat in the James Bay lowlands in northern Ontario, underwent an environmental assessment during 2004 in preparation for mine development. Current planning includes open-pit mining and on-site processing at a rate of 7000 t/d over an estimated 13-year mine life.

Tahera Diamond Corporation announced in late December that the Nunavut Water Board had issued the Class A Water Licence for the company's Jericho diamond project located near the north end of Contwoyto Lake in West Kitikmeot, Nunavut, about 420 km northeast of Yellowknife, Northwest Territories. With approval of this licence by the Minister of Indian and Northern Affairs, and the finalization of land leases for both the Inuit-owned land and Crown land associated with the project, both expected in early 2005, the 2005 winter road can be utilized and construction of the mine can commence. The company has estimated a mine life of about nine years with capital costs of \$65.4 million for both the open-pit and underground operations. In early October, Tahera announced that agreement had been reached with Tiffany & Co. to purchase and market Jericho diamonds for the life of the mine. As well, Tiffany will provide Tahera with a \$35 million loan facility to assist in financing construction of the project.

For coal, metallurgical coal mine developments were taking place in British Columbia and Alberta. In British Columbia, Western Canada Coal Corp. began mining at its Dillon open-pit mine, part of the Burnt River project near Tumbler Ridge in the northeastern part of the province. Late in the year, low volatile bituminous coal, classified as pulverized coal injection (PCI), was being sent to South Korean steelmaker Pohang Steel Corporation (POSCO) for testing. Near Chetwynd in the Peace River area, Pine Valley Mining Corporation commenced production of raw coal from its Willow Creek mine in August. The first shipment was made to a major Asian steelmaker later in the fall. At year-end, construction was continuing on project-associated infrastructure with the intent to raise production from 45 000 t per month to 110 000 t per month by early 2005.

In Alberta, the Fording Canadian Coal Trust (Fording) announced in mid-March that the Elk Valley Coal Partnership (owned by Fording and managing partner Teck Cominco Limited) would proceed with the Cheviot Creek

open-pit project located near Hinton, Alberta. The estimated capital cost is \$50 million for an annual production rate of 1.4 Mt of clean coking coal. Initial production began in October. Grande Cache Coal Corporation announced in late November that coal was being recovered from mine development at its No. 7-4 mine location near Grande Cache, Alberta, in the Smoky River Coalfield of west-central Alberta. Installation of mining equipment and other related infrastructure was progressing toward an early 2005 start to production levels of 100 000 t per month. Earlier in August, mining got under way at its No.12S B2 surface mine in the same area. The two mining operations are producing hard coking bituminous coal for export to metallurgical markets. Later in December, the company announced a contract to sell approximately 1.3 Mt of product to POSCO of South Korea and Japanese steel interests beginning on April 1, 2005, at US\$125.00/t f.o.b., Vancouver, British Columbia.

In mid-June, Pioneer Coal Limited received a land lease for expansion of its surface coal mining operation at Stellarton, Nova Scotia. The mine, which has operated since 1996, produces coal from three seams and blends this output with coal mined elsewhere in the province for use at the Nova Scotia Power coal-fired generating station at Trenton, Nova Scotia. The expansion will take place on 80 hectares of nearby Crown land leased from the province for seven years. Both the area of the existing mine and the proposed expansion are heavily affected by past underground mining. The company was restoring land at its existing operations.

In early March, Teck Cominco Limited completed the purchase of the 33.6% interest in the Highland Valley Copper mine from BHP Billiton Plc's subsidiary, Rio Algom Limited, for US\$73 million. The transaction, which had an effective date of January 3, 2004, increased Teck Cominco's ownership in the mine to 97.5%. Current production and reserve estimates indicate a mine life of about five and one-half years.

In July, Miramar Mining Corporation terminated mining operations at the Giant mine located at Yellowknife, Northwest Territories, effective July 10, and announced that formal notice was given to Indian and Northern Affairs Canada (INAC) that the company would return the Giant mine property to INAC in 2005. Until then, the company will hold the property on care and maintenance, and holding costs will be reimbursed by INAC. The Giant mine, one of Canada's oldest mines, went into production in 1948.

Teck Cominco Limited and the Fording Canadian Coal Trust announced that significant synergies had been achieved by Elk Valley Coal Partnership following its formation in February 2003. As a result, Teck Cominco is entitled to increase its 35% interest in Elk Valley Coal to 40% over three years. Teck Cominco and the Trust have agreed that the Trust's interest in Elk Valley Coal will be

reduced to 62% effective April 1, 2004, 61% effective April 1, 2005, and 60% effective April 1, 2006, and that Teck Cominco's interest will correspondingly increase.

In late July, Breakwater Resources Ltd. announced the purchase of Boliden Westmin (Canada) Ltd., whose principal asset is the Myra Falls zinc-copper-gold-silver mine located on Vancouver Island, British Columbia. The sale involves shares and warrants to Boliden AB and the assumption of environmental liabilities of approximately \$21.5 million by Breakwater. Existing proven and probable mineral reserves are estimated to be sufficient for at least seven years of production.

In late September, Noranda Inc. entered into an exclusive arrangement to negotiate the sale of 100% of the common shares of Noranda to China Minmetals Corporation. Subsequently, in mid-November, Noranda decided to allow the period of exclusivity with Minmetals to expire without extension. In deciding not to extend the period of exclusivity, Noranda indicated that it took into account the time elapsed since exclusivity was first granted and was mindful of the continuing positive metal prices, the global economic environment for commodities, the strong operational performance being achieved by Noranda, and Noranda's recent exploration successes. Although the period of exclusivity with Minmetals had expired, Noranda announced that discussions with Minmetals were continuing on a non-exclusive basis. In addition, the company had the opportunity to look at other alternatives, both on a stand-alone basis and with other parties.

In early October, Taseko Mines Limited announced that mining operations had begun at the Gibraltar open-pit copper mine located near Williams Lake in south-central British Columbia. The 35 000-t/d operation will produce an average of 70 million lb of copper and 980 000 lb of molybdenum in concentrate per year. The re-starting of the Gibraltar mine is being carried out under the Gibraltar Ledcor Joint Venture Agreement, which involves Taseko and Ledcor Mining Ltd. Ledcor is the on-site operator.

In mid-October, Inco Limited indicated that its Voisey's Bay nickel project in Labrador was about six months ahead of schedule with first production expected in the first quarter of 2006. During 2004, work on the mine and concentrator was progressing and pre-stripping of the Ovoid deposit was under way. On the hydrometallurgical research and development program, Inco's integrated mini-pilot plant in Mississauga, Ontario, finished its ninth and final campaign using Voisey's Bay concentrate during the year. The next step in the hydrometallurgical research and development program is operation of a hydromet demonstration plant at Argentia, Newfoundland and Labrador. The hydromet demonstration plant will provide information that will be used to determine the technical and economic viability of the hydromet technology for a full-scale commercial plant.

In late December, the Fording Canadian Coal Trust (Fording), Teck Cominco Limited (Teck Cominco), Nippon Steel Corporation (NSC) and POSCO announced that NSC and POSCO intend to enter into 10-year sales contracts covering an aggregate of 4.85 Mt/y of metallurgical coal for 2005 from the Elkview and other Elk Valley mines located in southeastern British Columbia, increasing to 6.25 Mt/y for the 2007 coal year onwards. In addition, NSC and POSCO will each purchase a 2.5% equity interest for US\$25 million in a new entity that will own and operate the Elkview mine. The US\$50 million will be used to expand the mine from 6 Mt/y to 7 Mt/y. The Elkview mine is currently owned by the Elk Valley Coal Partnership, a joint venture of Fording and Teck Cominco.

In late December, Cameco Corporation announced that the Cigar Lake joint venture had decided to proceed immediately with construction at the Cigar Lake uranium project following the Canadian Nuclear Safety Commission (CNSC) decision to approve a construction licence for the project. Cameco operates Cigar Lake on behalf of a joint venture consisting of Cameco (slightly greater than 50%), COGEMA Resources Inc., a subsidiary of AREVA (37%), Idemitsu Uranium Exploration Canada Ltd. (8%), and TEPCO Resources Inc. (5%). Cigar Lake is located about 660 km north of Saskatoon in the Athabaska Basin. With estimated reserves of 232 million lb grading an average 19% U₃O₈, Cigar Lake is considered the world's second largest high-grade uranium deposit after Cameco's McArthur River mine, also in Saskatchewan. Cameco anticipates construction will begin early in 2005 and will take approximately 27 months to complete. Production could begin in 2007 followed by a ramp-up period of up to three years before the mine reaches full production of 18 million lb/y. In making the development decision, the Cigar Lake joint venture approved a construction budget of about \$450 million that includes surface and underground facilities at Cigar Lake as well as changes to the milling facilities at McClean Lake and Rabbit Lake. Initially, Cigar Lake ore will be processed at the mill located at Cogema's McClean Lake operation, 70 km to the northeast. As Cigar Lake production ramps up to full capacity, just over half of the final uranium processing will be completed at Cameco's Rabbit Lake mill facility, pending regulatory approval. Approximately 250 people will be permanently employed after production begins.

In late December, OntZinc Corporation announced that it had completed the purchase of Hudson Bay Mining and Smelting Co. Limited (HBMS) from Anglo American plc for \$325 million. The major assets of HBMS are four operating mines in Manitoba and Saskatchewan; a metallurgical complex around Flin Flon, Manitoba, comprising a zinc and copper concentrator, a zinc pressure leach and electro-winning plant and a copper smelter; and a zinc concentrator near Snow Lake, Manitoba. As part of this transaction, OntZinc consolidated its shares and changed its name to HudBay Minerals Inc.

By December 31, 2004, six prospective owners had submitted proposals to take over the profitable, but legally insolvent Stelco Inc., Canada's largest steelmaker. These proposals will be considered along with a previous approved commitment from Deutsche Bank. The seven bidders had until February 14, 2005, to submit binding offers for the company. Court approval will be required before any proposed transaction agreement becomes binding. In late January 2004, Stelco obtained an Order from the Ontario Superior Court of Justice to initiate a Court-supervised restructuring under the *Companies' Creditors Arrangement Act*. Since then, steel demand and prices have increased sharply, leading to Stelco showing a profit during 2004.

Government and Industry Initiatives

The Government of Canada, provincial and territorial governments, the mineral industry and others undertook a number of activities to promote and support Canada's minerals and metals industry and mining-related equipment and services sectors in 2004.

During 2004, the Minerals and Metals Sector of Natural Resources Canada participated in several international activities, programs, and trade and investment conferences and forums. This participation allowed the Sector to demonstrate the innovation, technology and leadership of Canada's minerals and metals sector on a global scale. Some of these activities are highlighted below. For more information on these and other activities, please refer to the "International Scene" chapter in this edition of the *Canadian Minerals Yearbook*.

Co-sponsored by Canada and South Africa, The Global Dialogue on Mining, Metals and Sustainable Development was one of a number of partnership initiatives aimed at promoting the implementation of the United Nations-authorized Johannesburg World Summit Plan on Sustainable Development. Specifically, the Dialogue was designed to fulfill the priorities for the mining, minerals and metals sector as identified in the Johannesburg World Summit Plan. Fifty-three countries participated in the Global Dialogue and together decided that the objectives of the Dialogue would best be achieved through the establishment of an Intergovernmental Forum for the mining, minerals and metals sector.

Preparatory meetings were held in late 2003 and in the spring of 2004 to negotiate and prepare the launch of the proposed Forum. The outcomes of these meetings include the Terms of Reference, Draft Rules of Procedures, and Guidance for Programme of Work.

In February 2005, the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development came into effect when 25 national governments had confirmed their membership. Canada will act as the Forum

Secretariat for the initial five-year period. The Forum will examine and promote the contribution of the mining, minerals and metals sector to sustainable development and provide a platform for governments to exchange information that will help in responding to the global challenges facing these sectors.

In March, the Natural Resources Canada Mining Investment Forum was held in Toronto. The NRCan forum had two main objectives. The first was to promote mining investment relations between Canada and China by providing Chinese government and enterprise delegates with the opportunity to gain a better understanding of the mining industry in Canada and its investment climate. The second objective was to facilitate dialogue between interested Canadian and Chinese parties towards establishing mining joint ventures or any other investment options in Canada.

There are two reasons why these objectives are emphasized. The first is that, while there are a number of Canadian companies investing in China, as yet there are no Chinese mining investments in Canada. A more balanced investment relationship would be beneficial to both countries. The second reason is to help China meet its increasing demand for minerals and metals.

The 2004 Forum included presentations by Canadian federal government officials updating the delegates on Canada's positive investment climate, potential mining and development projects for joint-venture opportunities, and the latest on Canadian mining activities in China.

In April, Canada participated in EXPOMIN, a biennial international mining trade show. EXPOMIN, one of the largest mining trade shows in the world, was held in Santiago, Chile. This fair provides an excellent opportunity to promote Canada as a world leader in the minerals and metals sector, and to develop partnerships that will strengthen the mining industry throughout the world.

Natural Resources Canada also works with its partners at EXPOMIN to showcase Canada's mining expertise and technology, as well as its commitment to the sustainable development of natural resources.

In addition to NRCan, other Canadian contributions to EXPOMIN were provided by the Brand Canada Program, the Canadian Embassy in Chile, the Canadian Association of Mining Equipment and Services for Export (CAMESE), the Export Development Corporation, and the governments of Quebec and Ontario.

The February federal budget extended the Investment Tax Credit for Exploration in Canada (ITCE) so that the buying period for shares eligible for the ITCE will now end on December 31, 2005, twelve months later than originally

planned. These super, or enhanced, flow-through shares finance exploration by allowing companies to transfer unused income tax deductions to investors. The credit is equal to 15% of specified grass-roots mineral exploration expenses incurred in Canada by a corporation and handed over to an individual under a flow-through-share agreement. As well, companies will now have until the end of 2006 to spend monies raised during 2005. Under the original scheme, companies had until the end of February to spend funds raised in the previous year.

In late February, the Ontario Ministry of Northern Development and Mines (MNDM) announced the first appointments to the Ontario Mineral Industry Cluster Council. The council would meet regularly to gather the insights and views of stakeholders and identify opportunities to enhance competitiveness, innovation and investment in Ontario's mineral cluster. It would report its findings to the Minister of MNDM. The council, announced in November 2003, would comprise representatives from the mineral industry and related services, academia, non-government organizations, First Nations and government.

In early March, the Ontario MNDM co-hosted with the World Bank the 2004 World Mines Ministries Forum in Toronto, Ontario. Ministers and senior officials representing mining jurisdictions from around the world met to discuss mineral policy issues, investment attraction, geological survey activities, services to the industry, environmental concerns, and community issues.

In mid-March, it was announced at the Aboriginal-Industry Mining Round Table held in Edmonton that a mining tool kit was being developed to help increase Aboriginal participation in mining in Canada. The tool kit is designed to provide information and guidance to Aboriginal communities on the mining industry and opportunities for participation during all stages of development from exploration to closure and reclamation. Natural Resources Canada, Indian and Northern Affairs Canada, The Mining Association of Canada, and the Prospectors and Developers Association of Canada are co-funding the tool kit being developed by the Canadian Aboriginal Minerals Association.

In late March, the British Columbia Ministry of Energy and Mines announced that the provincial 20% flow-through-share tax credit for mining exploration would be extended for an additional year. The Ministry indicated that, when combined with the federal government's 15% mining tax credit, it creates a super flow-through-share tax credit that can provide investors with tax savings of up to 63% of their share investments in British Columbia.

Also in March, in its 2004 budget, Quebec announced a proposal for an indefinite extension of its flow-through-share provisions and related additional deductions.

The Quebec 2004 budget also included proposed changes to its tax incentive program for exploration financed by flow-through shares. The additional deduction available for surface exploration expenses incurred in Quebec was increased to 50% from 31.25%. For underground mineral exploration, the additional deduction was increased from 10.42% to 25%.

In mid-April, it was announced by the British Columbia Ministry of Energy and Mines that legislation was being introduced amending the *Coal Act* to streamline administration of coal tenures for both government and industry. The changes included reducing regulation and creating a modern, simplified system for acquiring and holding Crown coal rights. The *Coal Act* is an older statute that was last re-written in 1979 and has not undergone any major updates in the past 20 years. The amendments are designed to substantially reduce the regulatory burden for industry, providing a secure, consistent coal tenure system. The new act will see the elimination of 49 regulatory requirements, representing an estimated 34% overall reduction in red tape. Policy changes introduced by the amendments include: removal of the requirement for a Free Miner Certificate; removal of the requirement to provide core samples; removal of holding leases, although the minister may, on application, transfer the sole existing holding lease to a lease or licence; incorporation of wording to reflect the two-zone land use system for mining; and provision of flexibility in the size and shapes of licences.

Also in mid-April, the British Columbia Ministry of Energy and Mines announced changes to the *Mineral Tenure Act* that will enable a new Internet-based system for acquiring mineral and placer claims (Mineral Titles Online) in the province. The legislative amendments also streamline regulations while ensuring certainty of mineral claims acquired in British Columbia. Implementation of the new acquisition and tenure administration system is scheduled for January 2005. Amendments to the act also eliminate 56 regulatory requirements resulting in a more streamlined regulatory environment to support the growing mining industry. The Ministry indicated that these amendments represent the most significant change to the province's system for subsurface title acquisition and management since it was first established in the mid-1800s. Specifically, the amendments authorize the titles system to be known as "Mineral Titles Online"; authorize business transactions required by the system; establish the map selection system and electronic payment; establish the electronic map and grid to facilitate electronic map selection; eliminate ground staking of claims; repeal a number of redundant sections; adopt current business practices, as reflected in other statutes, such as the *Land Title Act* and the *Electronic Transaction Act*; and authorize the making of regulations.

In early May, the Canadian mining industry, represented by The Mining Association of Canada, the Prospectors

and Developers Association of Canada, and the Northwest Territories and Nunavut Chamber of Mines, released its *National Diamond Strategy: An Industry Response*. This is the industry's input into the development of a national strategy being led by provincial and territorial governments. The report develops a number of recommendations, including improving the investment climate for exploration and mining by reducing the uncertainty and complexity of Canada's regulatory environment; investing in northern geoscience and infrastructure, and human resource skills development, and modernizing the tax system; conducting a thorough economic analysis of the competitiveness and cost structure of the diamond polishing and cutting industry to properly identify the economic opportunities for developing this downstream activity in Canada; avoiding the use of short-term, unsustainable policies to stimulate the development of diamond cutting and polishing in Canada that penalize primary producers; and eliminating the federal excise tax on jewellery.

In mid-May, Manitoba Industry, Trade and Mines introduced a new Mineral Exploration Tax Credit and renewed two popular exploration programs. The Mineral Exploration Tax Credit will provide a 10% non-refundable tax credit to Manitobans who invest in flow-through shares to finance an exploration project in the province. This credit will parallel and top up the 15% federal exploration tax credit, providing individual investors with a combined tax credit rate of approximately 23.5%. The Mineral Exploration Assistance Program (MEAP) and the Manitoba Prospectors Assistance Program (MPAP) have been renewed for additional three-year terms.

Manitoba also announced proposed amendments to the *Mines and Minerals Act* designed to streamline and clarify mining regulations governing the minerals industry in the province and enhance the stability of land tenure. The amendments are also intended to encourage more exploration by smaller companies and individual prospectors. Regulatory and statutory amendments would replace both types of exploration permits with a new mineral disposition called a mineral exploration licence. The terms and conditions applied to mineral exploration licences would make them more accessible to small companies and individual prospectors. The amendments would also eliminate the requirement for an airborne survey licence in order to conduct an airborne survey, making exploration more attractive because the existing licence provides no special rights to minerals; amend the definition of a "quarry mineral" to exclude diamonds, rubies, sapphires and emeralds to clarify the regulatory framework for diamond exploration and development in Manitoba; create a way for the purchaser of a mining claim to correct and rectify staking errors made by the person who originally staked the claim; and amend the definition of "mineral" to include mine tailings in order to clarify the ownership of tailings to explicitly identify tailings produced as part of a mining operation as the property of the lease holder.

Also in mid-May, the Nova Scotia Department of Natural Resources announced that it had accepted proposals from three companies to explore, develop and reclaim surface coal resources in four claim blocks in the Sydney coalfield on Cape Breton Island. This followed a provincial request for proposals in December 2003. Thomas Brogan and Sons Construction Company is now entitled to apply for exclusive mineral rights to coal lying within the Birch Tree block, Coastal Construction and Excavating Limited can apply in the Boularderie Island block, and Pioneer Coal Ltd. can apply in the Point Aconi and Broughton blocks. In addition to making applications for the mineral rights, the companies must also obtain land access rights and adhere to all regulatory requirements, which include securing industrial approvals and environmental assessments.

In late May, Natural Resources Canada and Memorial University of Newfoundland announced an agreement whereby NRCan's CANMET Materials Technology Laboratory would lend the University its Secondary Ion Mass Spectrometer. It would be used to analyze the quality of mineral deposits and quality of metals. Under the terms of the agreement, the University will upgrade the system, which engineers, earth sciences researchers and graduate students will use for approximately 10 years. In return, the results of Memorial's analyses will be made available for NRCan's programs in mining and metal processing research.

In late June, the Government of the Northwest Territories announced that a letter of intent had been signed with Arslanian Cutting Works NWT Ltd. setting out the elements of a new financial agreement between the two to allow the company to continue its diamond cutting and polishing business. The new agreement is the result of investment by new shareholders in the company, namely Arslanian Cutting Works bvba, Basal Diamonds, and Olympic Diamond Corporation. Polar Ice Diamonds, a related company, will undertake extensive marketing of Arslanian product in both Canada and the United States.

In mid-July, the 61st Annual Mines Ministers' Conference was held for the first time in Iqaluit, Nunavut. Ministers focused on the need for enhanced federal support for geo-science programs, mineral industry taxation issues, and the importance of federal involvement in a national diamond strategy. Ministers also met with various mineral industry associations to exchange views on issues of common interest.

In mid-July, Natural Resources Canada and the Ontario Ministry of Northern Development and Mines announced the funding of a video on the mining cycle for the benefit of Aboriginal communities. The video, as well as an accompanying information package, will highlight the six phases of the mining cycle from pre-competitive survey work to early exploration through to the construction,

operation and eventual closure of a mine and reclamation of the land.

In early September, Saskatchewan's Industry and Resources Minister delivered the keynote address at the Annual Symposium of the World Nuclear Association in London. His presentation focused on Saskatchewan's strength and stability as a global uranium producer. He noted that while the medium and longer term hold potential for growth for the world nuclear industry, there are short-term challenges that need to be addressed, the main issue being that uranium supply is not currently keeping up with demand on a global basis. However, he said that Saskatchewan is well positioned to meet those future needs in that Saskatchewan offers a stable regulatory regime, a positive investment climate and competitive tax environment, a skilled work force, and quality infrastructure. The presentation was part of Team Saskatchewan's investment mission to Europe.

In mid-September, Indian and Northern Affairs Canada announced a \$2.267 million contribution to the Ochapowace First Nation to invest in an \$8 million mining venture in northern Saskatchewan. Winn Bay Sand Limited Partnership, a mining company owned by Ochapowace, has entered into an option agreement to purchase five silica sand leases (about 3082 acres) at Hanson Lake, Saskatchewan. Winn Bay will extract, process, transport, distribute and market silica sand products to the oil and gas industry.

In late September, the provincial and territorial mines ministers released their action plan for the proposed National Diamond Strategy. The 15 recommendations contained in the action plan are framed around three aspects that underlie the development of the diamonds markets in Canada: the supply of Canadian-sourced diamonds, the demand for diamonds processed in Canada, and regulation of the markets. According to the action plan, all three aspects must be taken into account if the diamond industry is to be developed in a sustainable way. The Mines Ministers have instructed their Strategy Steering Committee to give priority to the creation of a multi-stakeholder coordinating body in its work over the coming year. This body would then be mandated to develop terms and conditions for implementation of the Strategy, coordinate its implementation, and propose further steps. The members of the Steering Committee will also look at ways to establish a certification process, document tax incentives, and create a network of centres of excellence in diamond exploration and extraction.

In early November, NRCan announced that, under Canada's Sector Council Program, funding of \$857 763 would be made available to the Mining Industry Training and Adjustment Council-Canada. The sector study will provide a comprehensive diagnosis of the short- and long-term human resource issues and challenges facing the

mining industry. The study will also serve to develop a human resources strategy for the mining industry.

In mid-November, Manitoba Industry, Economic Development and Mines provided, at its annual Manitoba Mining and Minerals Convention, a new mining workshop designed to blend Aboriginal community perspectives with business and partnership opportunities. The workshop provided opportunities for learning more about mining industry topics such as regulations, financing and partnerships aimed at strengthening Aboriginal involvement in the minerals industry. The initiative built on the Manitoba Minerals Guideline developed by Aboriginal and First Nations representatives, Métis people, northern communities and the minerals industry. The goal is to strengthen the involvement of Aboriginal peoples in the province's mineral industry.

Also in mid-November, the Northern Ontario Heritage Fund Corporation provided Laurentian University in Sudbury with \$2.5 million in funding to relocate the university's Department of Earth Sciences and Central Analytical Facility to the province's Willet Green Miller Centre (WGMC), also located on the Laurentian campus. The move will add to the mineral development excellence already located at WGMC, including the Mineral Exploration Research Centre, the MIRARCO mining innovation corporation, and the Ontario Geological Survey.

In mid-December, the Nova Scotia Department of Natural Resources called for proposals to explore and develop the Donkin coal resource block within the offshore Sydney coalfield of northern Cape Breton Island. The successful bidder will have an exclusive right to apply for a mineral lease, be subject to the laws of Nova Scotia, and be required to obtain all necessary environmental approvals before any mining can begin.

PROFILES OF THE LEADING MINERALS PRODUCED IN CANADA

Gold

Canada has a long history of being one of the world's leading producers of gold. In 2003, Canada was the eighth largest global gold producer, trailing South Africa, Australia, the United States, China, Peru, Russia and Indonesia. Canada-based Barrick Inc. and Placer Dome Inc. are two of the top global gold-producing companies. In 2004, gold mining was carried out in all provinces and territories with the exception of Prince Edward Island. Gold refineries are located in Quebec and Ontario. The main use for gold is in jewellery manufacturing, with other important uses including electronics, dentistry and coinage. Gold bullion is also important as a global investment-demand product.

In 2004, gold was Canada's second leading metallic mineral produced, even though the value of gold production decreased by 4.4% to \$2.2 billion. Production also decreased by 8.6% to 128 732.9 kg.

Copper

In 2003, Canada was ranked as the world's eighth leading producer of copper, trailing Chile, the United States, Indonesia, Peru, Australia, Russia and China. Canada-based Noranda Inc., Hudson Bay Mining and Smelting Co. Limited and Inco Limited are major world producers of copper. Copper is mined in New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and British Columbia, and primary smelters are located in Quebec, Ontario and Manitoba, with refineries in Quebec, Ontario and British Columbia. Copper's properties, especially its high electrical and thermal conductivity, good tensile strength, relatively high melting point and resistance to corrosion, make it and its alloys attractive for electrical transmission, water tubing, castings and heat exchangers.

In 2004, the value of copper production in Canada increased by 56.2% to \$2.0 billion with production flat at 541 800 t. In value terms, copper was Canada's third leading metal in 2004.

Zinc

Canada was the world's fourth largest producer of zinc in 2003 trailing China, Australia and Peru, and ahead of the United States. Canada-based Teck Cominco Ltd. and Noranda Inc. are two of the largest zinc producers in the world. In 2004, zinc was mined in New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and British Columbia with metallurgical plants located in Quebec, Ontario, Manitoba and British Columbia. The main uses of zinc are as a coating (galvanizing) for steel to protect it from corrosion, the manufacture of brass and bronze, and die-casting.

In 2004, the value of zinc production increased by 12.9% to \$996.9 million as production fell by 2.9% to 735 700 t. Zinc was Canada's fifth leading metal based on value of production in 2004.

Nickel

Canada is the world's third leading nickel producer behind Russia and Australia. Globally, the industry is relatively small and is dominated by several large producers, including Canada-based Inco Limited and Falconbridge Ltd. In 2004, nickel was mined in the provinces of Ontario, Manitoba and Quebec, with smelters in Ontario and Manitoba, and refineries in Ontario and Alberta. Nickel's resistance to corrosion, high strength, pleasing appearance and suitability make it useful in many applications. Major markets include stainless steels (which use about 65% of

nickel production), nickel- and copper-based alloys, electroplating, alloy steels, and foundry products.

In 2004, the value of Canadian nickel production rose by 56.8% to \$3.3 billion with production increasing by 17.0% to 181 900 t. Based on its value of production, nickel was Canada's leading metal in 2004.

Iron Ore

Canada is a major producer of iron ore with North American steel producers being the major users of Canadian-mined iron ore. In global terms, Canada ranked ninth in production in 2003 behind Brazil, Australia, China, India, Russia, Ukraine, the United States and South Africa. The major Canada-based producers of iron ore are the Iron Ore Company of Canada, Quebec Cartier Mining Company, and Wabash Mines. Production takes place in Newfoundland and Labrador, Quebec and British Columbia. Iron ore is upgraded in Canada for steelmaking use as pellets and concentrates.

In 2004, the value of Canadian production rose by 7.0% to \$1.4 billion even though production fell by 15.6% to 28.1 Mt. Iron ore was Canada's fourth leading metallic mineral in terms of value in 2004.

Uranium

Canada is the world's largest producer and exporter of uranium, typically delivering over 85% of annual production to trading partners around the world. In 2003, Canada accounted for over 29% of global uranium production, followed by Australia, Kazakhstan, Niger and Russia. All Canadian uranium production takes place in Saskatchewan, and Saskatoon-based Cameco Corporation is the world's largest producer.

Cameco also operates Canada's only refinery and conversion facilities in Ontario, and is a partner in the Bruce nuclear power plant in Ontario. Canadian uranium is used almost exclusively as fuel for generating electricity in nuclear power plants, although a very small amount may be used to produce isotopes for applications in nuclear medicine.

In 2004, the value of shipments from mines in Canada increased by 52.8% to \$636.0 million with production rising by 20.2% to 11 948 t.

Potash

Potash refers to a group of potassium-bearing minerals and chemicals. The dominant potash product is potassium chloride, a naturally occurring pink, salty mineral for which Canada remains the world's leading producer and exporter. Internationally in 2004, Russia, Belarus and Germany were the other leading producers. In Canada in 2004, potash was produced in Saskatchewan and New

Brunswick with the Potash Corporation of Saskatchewan Inc. being the largest potash producer and exporter in the world. Fertilizer use consumes over 90% of the output. Other uses include detergents, ceramics, chemicals and pharmaceuticals.

The value of Canadian production rose by 20.0% in 2004 to \$1.9 billion as production increased by 16.9% to 10.792 Mt. Potash was Canada's second leading non-metallic mineral in 2004.

Diamonds

Canada became a diamond producer in 1998 with start-up of the Ekati mine, now owned 80% by BHP Billiton Plc, in the Northwest Territories. In 2003, Canada's second diamond mine began production. The Diavik mine, which is a joint venture of Diavik Diamond Mines Inc. (DDMI) (60%) and Aber Diamond Mines Ltd. (40%), is also located in the Northwest Territories. Diamond cutting and polishing facilities are now operating in Canada, processing a portion of Canadian production. Besides jewellery manufacturing, tool and equipment manufacturing are important markets for diamonds. On a global scale, it is estimated that Canada ranked third in terms of the value of diamond production in 2004, behind Botswana and Russia.

In 2004, the value of diamond production in Canada increased by 34.8% to \$2.1 billion as production rose by 17.3% to 12 618 080 carats. Diamonds were Canada's leading nonmetallic mineral in 2004.

Aluminum

Canada has been a leading producer of aluminum for almost three-quarters of a century with smelter production based on hydro-electric power. Aluminum is produced in two provinces, Quebec (90%) and British Columbia (10%), from imported alumina, alumina extracted from imported bauxite, and recycled materials. Because of its light and rust-resistant properties, aluminum is used extensively in transportation, packaging, and building and construction applications. Globally, Canada was the third leading producer of primary aluminum in 2003, trailing China and Russia and ahead of the United States. The largest Canadian company, Alcan Inc., is the world's second largest producer.

Production of Canadian primary aluminum increased 3.1% to 2.79 Mt in 2003, compared with 2.71 Mt in 2002. The value of Canadian primary aluminum production in 2003 is estimated at \$5.6 billion, down slightly from \$5.7 billion in 2002.

Because aluminum in Canada is produced entirely from imported materials, its value is not reflected in the statistics on mineral production that appear elsewhere in the General Review. Its value is, however, reflected in the

GDP of the mineral industry, where its production and processing are major components of Stages 2 and 3.

OUTLOOK AND TRENDS FOR THE CANADIAN MINERALS INDUSTRY

The outlook for economic activity around the world in 2005 is for growth to moderate compared to the near 30-year high recorded in 2004. Global GDP is forecast to increase by 4.3% in 2005 compared to 5.1% in 2004, with growth slowing in most economies. The outlook for the U.S. economy is for only moderate growth, due in part to its overall financial position, which is characterized by mounting trade deficits and expanding debt. Despite rising interest rates in the United States, they remain low by historical standards. Low borrowing costs, combined with strong personal incomes and corporate profits, should allow consumer spending and business investment to remain robust for 2005. However, high consumer debt loads, higher interest rates and slowing global demand will likely begin to have an adverse effect towards the end of the year and into 2006. As a result, growth in the U.S. economy will likely decline to a still respectable 3.5% in 2005 from 4.2% in 2004. The negative impact of higher energy prices, particularly oil, and other raw materials will become more apparent on a global basis in 2005.

The euro-zone remains a weak spot in the industrialized world. High energy prices and the appreciation of the euro combining with low consumer demand led to reduced growth prospects of about 1.2% in 2005 from 2.0% in 2004.

Japan's economy is also set to decline in 2005 as contracting exports will more than offset increased consumer spending. Accordingly, growth will likely decline to about 2.0% in 2005 compared to 2.7% in 2004.

China and India are expected to continue to lead in global economic growth. An increasing share of China's economic growth is coming from exports, while imports have slowed. This suggests a reduction in business investment that, combined with static consumer spending, should result in somewhat weaker growth in 2005, although at a still high level of about 9%.

GDP growth in India has slowed somewhat, but should still remain fairly robust with the impact of uneven monsoons and higher oil prices being offset by buoyant industrial growth and strong investment. Consequently, the Indian economy should expand by about 7.1% in 2005, down slightly from 7.4% in 2003 and 7.3% in 2004.

The reduced level of imports to China will likely put a damper on growth in the newly industrialized countries of Asia (Hong Kong, South Korea, Taiwan and Singapore). With domestic demand in these countries remaining weak,

overall growth is expected to decline to about 4.0% in 2005 from 5.6% in 2004. Other Asian nations should fare somewhat better, led by increasing consumer demand resulting from healthy income gains. Also boosting investment is the rebuilding of the damage caused by the tsunami. Growth in these countries should remain above 5% in 2005, a little lower than in 2004.

Partly as a result of surging demand and high prices for its commodity exports, the economy of Latin America advanced by 5.6% in 2004, a 20-year high, after reaching only 2.2% the previous year. More moderate demand in China and other countries, combined with monetary tightening in several Latin American countries, will likely reduce growth in 2005 to a still respectable 3.6%.

For Canada, economic data for the first quarter of 2005 showed an annualized growth in real GDP of 2.1%. This accelerated during the second quarter to an annualized rate of 3.2%. For 2005, real growth is expected to be about 2.8%, rising to about 3% in 2006. Personal expenditures were the main drivers of first-half growth, with strong demand for durable and semi-durable goods continuing. The financial position of consumers remains solid due to low interest rates and increasing real estate and equity assets. Core inflation should average about 1.7% in 2005, but rise slightly next year as the economy operates near full capacity. Rising energy costs should see the overall consumer price index reach about 2% in 2005. Declines in exports in the latter part of 2003 and early 2004 brought about by the appreciation of the Canadian dollar are set to rebound in 2005 as global demand and high commodity prices are projected to continue. The dollar's strong performance should continue and even gain strength as a result of the expected continuation of high commodity, and especially energy, prices. Interest rates are expected to remain low, but to begin to increase gradually later in 2005. The Bank of Canada raised its key overnight rate by 0.25% to 2.75% in September 2005 for the first time in a year. Another 0.25% increase followed in October. With the economy operating close to full capacity, and in line with the Bank's analysis in its *Monetary Policy Report Update* in October, the interest rate increase will help promote a balance between aggregate demand and supply in the economy and keep inflation on target over the medium term.

Global minerals and metals demand in 2005 will again be very much affected by the ongoing strong economic activity by China and, to a lesser extent, by India. This is important for metals producers because of the important percentage of all global metals demand that these countries account for. The transfer of significant Western World manufacturing to China (cheaper labour and a large consumer market) has been a major factor accounting for the increasing metals demand in China. Tight markets for major base metals continued into 2005 as buoyant demand was coupled with low inventories and constrained growth

in supply. The strength in mineral commodity prices that began in 2003 and continued during 2004 should remain in 2005, with significant price increases indicated for iron ore and coal. Investment demand will continue to be an important factor for major metals, such as gold, platinum, nickel and copper. The improved financial climate experienced in 2003 and 2004 by Canadian companies should continue and sustain improved exploration spending and investment opportunities in the Canadian minerals industry in 2005.

Notes: (1) For definitions and valuation of mineral production, shipments and trade, please refer to Chapter 64. (2) Information in this review was current as of June 30,

2005. (3) This and other reviews, including previous editions, are available on the Internet at www.nrcan.gc.ca/mms/cmy/2004CMY_e.htm.

NOTE TO READERS

The intent of this document is to provide general information and to elicit discussion. It is not intended as a reference, guide or suggestion to be used in trading, investment, or other commercial activities. The author and Natural Resources Canada make no warranty of any kind with respect to the content and accept no liability, either incidental, consequential, financial or otherwise, arising from the use of this document.

TABLE 1. CANADA, PRODUCTION OF LEADING MINERALS, 2003 AND 2004

		Volume		Percent Change 2004/2003	Value		Percent Change 2004/2003
		2003 (r)	2004 (p)		2003 (r)	2004 (p)	
		(000 tonnes except where noted)		(%)	(\$ millions)		(%)
METALS							
Nickel		155	182	17.0	2 135.6	3 348.1	56.8
Gold	kg	140 861	128 733	-8.6	2 307.2	2 206.5	-4.4
Copper		541	542	0.1	1 300.0	2 030.7	56.2
Iron ore		33 322	28 131	-15.6	1 281.3	1 370.6	7.0
Zinc		757	736	-2.9	883.0	996.9	12.9
Uranium	tU	9 939	11 948	20.2	418.1	636.0	52.1
Platinum group	kg	21 528	26 364	22.5	316.8	463.7	46.4
Silver	t	1 282	1 265	-1.3	283.6	354.1	24.8
Cobalt	t	1 842	2 126	15.4	60.3	153.6	154.5
Lead		93	71	-23.5	67.0	82.4	23.0
Molybdenum	t	8 887	9 506	7.0	x	x	x
NONMETALS							
Diamonds	000 carats	10 756	12 618	17.3	1 587.7	2 140.1	34.8
Potash (K ₂ O)		9 229	10 792	16.9	1 608.8	1 930.0	20.0
Cement		14 190	14 884	4.9	1 496.8	1 623.4	8.5
Sand and gravel		244 532	248 159	1.5	1 122.7	1 078.8	-3.9
Stone		124 528	127 559	2.4	1 023.9	1 070.6	4.6
Salt		13 718	14 125	3.0	420.6	431.5	2.6
Sulphur, elemental		7 891	8 271	4.8	239.1	273.5	14.4
Lime		2 221	2 443	10.0	230.9	261.6	13.3
Clay products		234.0	239.1	2.2
Peat		1 180	1 180	0.0	181.3	205.7	13.4
Gypsum		8 378	9 339	11.5	108.5	113.9	5.0
Nepheline syenite		703	702	-0.1	63.0	62.6	-0.7
Quartz (silica)		1 581	1 690	6.9	41.7	46.6	11.6
Sulphur, in smelter gas		614	621	1.1	28.2	37.8	34.1
Soapstone, talc, pyrophyllite		82	80	-2.4	28.1	27.8	-1.1
Asbestos		x	x	x	x	x	x
Coal		62 125	66 019	6.3	1 492.2	1 598.1	7.1

Sources: Natural Resources Canada; Statistics Canada, *Canada's Mineral Production, Preliminary Estimates, 2004*, cat. no. 26-202-XIB.

.. Not available; (p) Preliminary; (r) Revised; (x) Confidential.

Notes: Numbers have been rounded. Percent changes are based on unrounded data.

TABLE 2. CANADA, VALUE OF DOMESTIC EXPORTS, TOTAL EXPORTS (INCLUDING RE-EXPORTS), IMPORTS, AND BALANCE OF TRADE OF MINERALS AND MINERAL PRODUCTS, STAGES 1-4 (CUSTOMS BASIS), 2000-2004

	2000	2001	2002	2003	2004
	(\$ millions)				
TOTAL MINING, INCLUDING FUELS					
Domestic exports	99 760.6	100 310.4	96 975.9	106 028.4	122 319.4
Total exports	101 236.5	102 054.4	99 235.4	108 238.7	124 397.8
Imports	69 572.2	64 299.6	65 140.2	65 866.2	77 011.6
Balance of trade	31 664.2	37 754.8	34 095.2	42 372.5	47 386.1
NON-FUEL MINING					
Domestic exports	47 644.3	45 455.8	47 834.6	45 352.0	53 365.9
Total exports	48 954.4	46 784.8	49 192.6	46 761.3	55 121.6
Imports	50 189.7	45 448.7	47 137.2	44 298.1	51 021.1
Balance of trade	-1 235.3	1 336.1	2 055.4	2 463.2	4 100.5
TOTAL NON-FUEL MINING, INCLUDING COAL					
Domestic exports	49 517.0	47 440.9	49 676.5	47 038.9	55 268.9
Total exports	50 829.1	48 770.4	51 052.7	48 451.7	57 056.4
Imports	51 353.8	46 712.3	48 425.4	45 432.9	52 330.8
Balance of trade	-524.6	2 058.2	2 627.3	3 018.8	4 725.6
TOTAL ECONOMY					
Domestic exports	385 678.3	375 229.5	365 291.1	354 097.9	385 033.5
Total exports	413 214.8	404 085.0	396 378.0	380 866.0	411 789.5
Imports	356 992.2	343 110.5	348 849.2	335 962.5	355 566.6
Balance of trade	56 222.6	60 974.5	47 528.8	44 903.5	56 222.9

Sources: Natural Resources Canada; Statistics Canada.