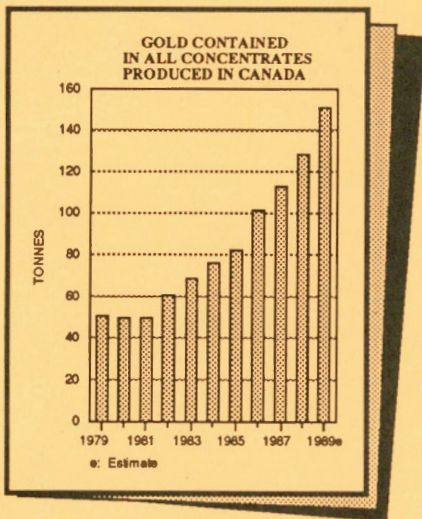


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# **CANADIAN MINERAL INDUSTRY**

## **MONTHLY REPORT**



Energy, Mines and  
Resources Canada

Énergie, mines et  
Ressources Canada



## TO OUR READERS

You may be wondering why the Canadian Mineral Industry Monthly Report has not appeared since the January 1991 issue. Our explanation considers service, content and cost.

Earlier this year, Energy, Mines and Resources Canada adopted a new Mission Statement, as follows:

Energy, Mines and Resources Canada will lead Canadians in the understanding of our vast landmass, and in the responsible development and use of our mineral and energy resources. We serve Canada through the excellence of our people, knowledge and expertise.

In the light of this new Mission Statement, we are conducting an examination of our publications in order to provide timely, responsive and cost-effective delivery to Canadians of the objective information that they require.

As you may have noticed, the Canadian Mineral Industry Monthly Report has become more centred on providing mineral statistics, which are not regularly available on a monthly basis. We believe that there are more cost-effective ways to meet the Canadian public's needs in this area. As a consequence, this issue will be the last in the present format.

To help us identify a vehicle, or vehicles, for the timely dissemination of statistical information on the Canadian mineral industry, we are asking our readers to complete the Client Questionnaire inserted in this publication and return it in the self-addressed postage-paid envelope provided.

Ron R. Sully  
Assistant Deputy Minister  
Mineral Policy Sector





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## THE CANADIAN MINERAL INDUSTRY

The following statistical summary of the Canadian mineral industry is based on information that became available since the January issue of this publication.

### ECONOMIC TRENDS

Tables 1, 1A and 1B provide comparisons of the volume of production of Canada's leading minerals for the months of December 1990, January and February 1991, March and April 1991, the corresponding months one year previous and the year-to-date totals.

Table 2 provides information on Canada's Gross Domestic Product at factor cost by industry in 1986 prices. The data are annualized and seasonally adjusted. The annual rate shown for any given month has been calculated by multiplying the figure for that month by twelve. It is important to note, however, that, if a particular month has been influenced by special factors including for example, strikes, the annualized data will reflect this bias.

Factor cost refers to output that is valued exclusive of excise taxes and duties, and provincial and municipal sales taxes. Factor cost does, however, include subsidies and other taxes that are not a function of the level of output or sales.

Seasonally adjusted data represent time-series data from which the effects of repetitive and clearly defined seasonal fluctuations have been removed. Such a practice permits the isolation of trends in the economy that might otherwise be obscured. Seasonal factors include such items as climate, trade practices and social institutions such as Christmas and Easter.

Because of conversion to a new base year, Statistics Canada's Gross Domestic Product at factor cost by industry is now valued in 1986 prices. The June 1990 issue of Statistics Canada Catalogue No. 15-001 (Gross Domestic Product by Industry) was the first issue produced on this new

basis and was published in October 1990. This publication contains historical data in 1986 prices covering the years 1986 to 1989 inclusive. The historical record providing GDP data in 1986 prices from 1961 to 1985 inclusive was published by Statistics Canada in November 1990.

The GDP data are reported each month by Statistics Canada and are subject to ongoing revision.

The Gross Domestic Product increased by 0.9% in April 1991, following a marginal gain of 0.1% in February and a flat March. These gains, spread across various industrial sectors, left output about 1.0% above the January levels but still about 2.0% lower than the peak levels achieved in early 1990.

After eight consecutive monthly declines, manufacturing output increased by 1.7% in April, accounting for most of the gains made in the goods producing industries. This was the largest monthly increase since December 1986. Among the significant gains recorded within this industry were increases by manufacturers of primary metals (1.9%), of fabricated metals (2.2%) and non-metallic minerals products (3.0%). Following major declines in February and March, construction output edged up 0.3% in April, as a result of a 1.6% gain in residential construction because of increased activity on singles and doubles.

Resource-based industries, notably pulp and paper and smelting and refining, continued to lower output as their exports remained weak. Output in the mines, quarries and oil wells industries fell by a marginal 0.2%. This was principally as a result of a decline of 1.0% in the output in the crude petroleum and natural gas industries, offset somewhat by a gain of 5.8% in coal mines. Output in the mining industries excluding mineral fuels increased by 0.6%.

Table 3 shows the prices of selected metals for the months of January to May 1991.

Tables 4 and 5 provide a summary of Canada's world position in the production of certain minerals in the years 1988 and 1989 respectively. In 1989, Canada led the world in the

production of uranium and zinc, ranked second in gypsum, nickel, potash, cobalt, titanium concentrates and asbestos and was third in molybdenum, platinum group metals, elemental sulphur and primary aluminum.

Tables 6 and 7 describe the imports and exports of mineral commodities by country, or by grouping of countries, and by commodity groups for 1990. Note that, because of interest in recent international trade negotiations, trade with Mexico has been shown as a separate item in these tables.

Tables 8 and 9 provide data on the selling price indexes for mineral raw materials and for the mineral products industries for the period 1984-90.

Tables 10, 11 and 12 summarize the principal statistics of the mineral manufacturing industries. Table 10 provides detailed information for 1988 while Table 11 gives a regional breakdown of the principal statistics for that year. Table 12 shows time-series data from 1980 through 1988.

Table 13 provides corresponding information on employment, salaries and wages in the mineral manufacturing industries.

Tables 14 through 18 contain a wide range of data pertaining to the transportation of crude and fabricated materials by rail and water. Tables 14 and 15 describe the quantity of crude

minerals and fabricated mineral products, respectively, transported by Canadian railways during the period 1987 to 1989. Table 16 provides time series of data for material transported by Canadian railways for the period 1960 through 1989. Table 17 exhibits the tonnage of crude minerals and fabricated mineral products transported through the St. Lawrence Seaway during the period 1988 to 1990 and Table 18 during the period 1960-90.

Tables 19 and 20 present Exploration and Capital Expenditures data in the mining industry from 1989 to 1991 by type of mining and for the provinces and territories, respectively.

Tables 21 to 22 show Capital and Repair Expenditures for the years 1989 to 1991. The 1990 data given in these tables are preliminary and 1991 data reflect business intentions for that year. Table 21 gives these expenditures by industrial sector while Table 22 provides data for the mining industry by region.

Information on Capital and Repair Expenditures continues in Tables 23 and 24. Table 23 lists expenditures in the mining industry for the period 1985 to 1991 while Table 24 provides expenditures in the mineral manufacturing industries for the same period.

Table 25 gives time-series of Capital Expenditures in the petroleum, natural gas and allied industries for the period 1981 to 1991.



**TABLE 1. CANADA, PRODUCTION OF LEADING MINERALS**

		1989			1990			Percentage Changes		
		November	December	Total 12 Months	November	December	Total 12 Months	December 1990 December 1989	December 1990 November 1990	12 Months 1990 1989
(000 tonnes except where noted)										
<b>Metals</b>										
Copper		66.5 <sup>r</sup>	67.0 <sup>r</sup>	704.4 <sup>r</sup>	71.2	68.8	793.6	2.7	-3.4	12.7
Gold	kg	14 999.8 <sup>r</sup>	14 052.6 <sup>r</sup>	159 494.5 <sup>r</sup>	13 939.1	13 498.7	164 345.7	-3.9	-3.2	3.0
Iron ore		3 920.0 <sup>r</sup>	3 534.2 <sup>r</sup>	39 445.0 <sup>r</sup>	4 282.0 <sup>r</sup>	3 642.4	35 651.7	3.1	-14.9	-9.6
Lead		16.3	14.5 <sup>r</sup>	268.9 <sup>r</sup>	18.4	14.8	220.2	2.2	-19.6	-18.1
Molybdenum	t	1 093.0	1 003.7 <sup>r</sup>	13 543.0 <sup>r</sup>	1 184.1	950.7	13 552.9	-5.3	-19.7	0.1
Nickel		17.8	17.3 <sup>r</sup>	195.6 <sup>r</sup>	17.5	14.5	191.1	-16.3	-17.1	-2.3
Silver	t	120.1 <sup>r</sup>	130.1 <sup>r</sup>	1 312.4 <sup>r</sup>	112.3	108.4	1 380.2	-16.6	-3.4	5.2
Uranium <sup>1</sup>	t	702.8 <sup>r</sup>	763.0 <sup>r</sup>	10 994.8 <sup>r</sup>	1 075.3	326.5	9 734.5	-57.2	-69.6	-11.5
Zinc		84.8 <sup>r</sup>	64.7 <sup>r</sup>	1 272.9 <sup>r</sup>	76.8 <sup>r</sup>	86.5	1 334.1	33.7	12.6	4.8
<b>Nonmetals</b>										
Asbestos		60.6	51.6 <sup>r</sup>	701.2 <sup>r</sup>	64.3	53.1	682.2	3.0	-17.3	-2.7
Clay products	\$000	14 482.6 <sup>r</sup>	10 320.8 <sup>r</sup>	200 138.5 <sup>r</sup>	10 370.4 <sup>r</sup>	4 643.4	150 259.6	-55.0	-55.2	-24.9
Gypsum		750.0 <sup>r</sup>	564.3 <sup>r</sup>	8 196.3 <sup>r</sup>	653.2 <sup>r</sup>	547.0	8 180.8	-3.1	-16.3	-0.2
Potash K <sub>2</sub> O		491.4	589.8 <sup>r</sup>	7 014.1 <sup>r</sup>	677.1	706.7	7 372.0	19.8	4.4	5.1
Cement		1 028.5 <sup>r</sup>	652.8	12 590.6 <sup>r</sup>	844.5 <sup>r</sup>	527.4	10 991.1	-19.2	-37.6	-12.7
Lime		206.4	192.3 <sup>r</sup>	2 551.9 <sup>r</sup>	166.8	183.9	2 323.0	-4.4	10.2	-9.0
Salt		1 077.2	1 081.4 <sup>r</sup>	11 158.4 <sup>r</sup>	1 055.8 <sup>r</sup>	1 130.2 <sup>r</sup>	11 105.8	4.5	7.0	-0.5
<b>Fuels</b>										
Coal		6 035.9	5 840.2	70 473.5	5 813.0	5 501.7	68 331.1	-5.8	-5.4	-3.0
Natural gas	million m <sup>3</sup>	10 382.0 <sup>r</sup>	11 595.0 <sup>r</sup>	119 622.0	10 967.0	12 311.0 <sup>r</sup>	122 424.0	6.2	12.3	2.3
Crude oil and equivalent	000 m <sup>3</sup>	8 236.0	8 102.0	97 226.0	8 300.0	8 413.0 <sup>r</sup>	96 906.0	3.8	1.4	-0.3

<sup>1</sup> Tonnes uranium (1 tonne U = 1.2999 short tons U<sub>3</sub>O<sub>8</sub>).

<sup>r</sup> Revised.

Note: Percentage changes are calculated on the basis of actual production figures as opposed to the rounded figures as shown.

TABLE 1A. CANADA, PRODUCTION OF LEADING MINERALS

		1990			1991			Percentage Changes		
		January	February	Total 2 Months	January	February	Total 2 Months	February 1991 February 1990	February 1991 January 1991	2 Months 1991 1990
(000 tonnes except where noted)										
<b>Metals</b>										
Copper		65.9	64.2	130.1	60.4	69.3 <sup>r</sup>	129.7	8.0	14.9	-0.3
Gold	kg	13 008.0	12 225.3	25 233.3	12 498.7 <sup>r</sup>	13 019.9 <sup>r</sup>	25 518.6	6.5	4.2	1.1
Iron ore		1 258.0	1 125.4	2 383.4	1 325.7	1 689.8	3 015.5	50.1	27.5	26.5
Lead		17.7	16.2	33.9	13.0	13.8	26.8	-14.9	6.5	-21.0
Molybdenum	t	1 555.7 <sup>r</sup>	1 293.8 <sup>r</sup>	2 849.5 <sup>r</sup>	1 206.8	1 051.9	2 258.7	-18.7	-12.8	-20.7
Nickel		17.0	16.8	33.7	15.1	13.4	28.4	-20.2	-11.1	-15.7
Silver	t	102.7	133.4	236.1	92.7 <sup>r</sup>	119.7 <sup>r</sup>	212.4	-10.3	29.2	-10.1
Uranium <sup>1</sup>	t	1 334.0	898.9	2 233.0	457.0	626.4	1 083.5	-30.3	37.1	-51.5
Zinc		122.0	79.4	201.4	70.9 <sup>r</sup>	64.8 <sup>r</sup>	135.6	-18.5	-8.6	-32.7
<b>Nonmetals</b>										
Asbestos		55.8	47.6	103.4	50.5	49.5 <sup>r</sup>	100.1	4.1	-2.0	-3.2
Clay products	\$000	110 979.2	8 994.5 <sup>r</sup>	19 973.7	3 957.1	4 189.3	8 146.4	-53.4	5.9	-59.2
Gypsum		714.8	591.7	1 306.6	620.0	520.1	1 140.0	-12.1	-16.1	-12.7
Potash K <sub>2</sub> O		568.2	553.8	1 122.0	595.9	552.5	1 148.3	-0.2	-7.3	2.3
Cement		486.8 <sup>r</sup>	526.4	1 013.2	304.3	375.1	679.3	-28.7	23.3	-32.9
Lime		209.2	194.6	403.8	201.4	173.5	374.9	-10.9	-13.8	-7.2
Salt		1 061.1	807.6 <sup>r</sup>	1 868.7 <sup>r</sup>	925.6 <sup>r</sup>	714.3 <sup>r</sup>	1 640.0	-11.5	-22.8	-12.2
<b>Fuels</b>										
Coal		6 306.8 <sup>r</sup>	5 387.3 <sup>r</sup>	11 694.1 <sup>r</sup>	5 935.2 <sup>r</sup>	5 890.1	11 825.3	9.3	-0.8	1.1
Natural gas	million m <sup>3</sup>	11 340.0	10 130.0	21 470.0	12 361.0	10 324.0	22 685.0	1.9	-16.5	5.7
Crude oil and equivalent	000 m <sup>3</sup>	7 889.0 <sup>r</sup>	7 157.0 <sup>r</sup>	15 046.0	8 344.0 <sup>r</sup>	7 798.0	16 142.0	9.0	-6.5	7.3

<sup>1</sup> Tonnes uranium (1 tonne U = 1.2999 short tons U<sub>3</sub>O<sub>8</sub>).

<sup>r</sup> Revised.

Note: Percentage changes are calculated on the basis of actual production figures as opposed to the rounded figures as shown.

TABLE 1B. CANADA, PRODUCTION OF LEADING MINERALS

		1990			1991			Percentage Changes		
		March	April	Total 4 Months	March	April	Total 4 Months	April 1991 April 1990	April 1991 March 1991	4 Months 1991 1990
(000 tonnes except where noted)										
<b>Metals</b>										
Copper		75.6	65.6	271.4	71.7	78.4	279.8	19.5	9.3	3.1
Gold	kg	13 599.6	13 800.9 <sup>r</sup>	52 633.8 <sup>r</sup>	14 710.7 <sup>r</sup>	15 162.7	55 392.0	9.9	3.1	5.2
Iron ore		1 365.7	2 420.1	6 169.2	1 323.3	2 907.9	7 246.8	20.2	119.8	17.5
Lead		21.6	19.6	75.1	14.4	8.4	49.6	-57.0	-41.3	-34.0
Molybdenum	t	1 344.2 <sup>r</sup>	1 109.0 <sup>r</sup>	5 302.8 <sup>r</sup>	1 035.6	995.4	4 289.7	-10.2	-3.9	-19.1
Nickel		17.8	17.0	68.5	14.6	14.0	57.0	-17.9	-4.1	-16.9
Silver	t	119.0	122.0 <sup>r</sup>	477.2 <sup>r</sup>	113.3	110.4	436.1	-9.6	-2.6	-8.6
Uranium <sup>1</sup>	t	1 026.4 <sup>r</sup>	1 234.0	4 493.4	590.3	557.0	2 230.8	-54.9	-5.6	-50.4
Zinc		128.9	108.5	438.7	86.5 <sup>r</sup>	54.4 <sup>r</sup>	276.5	-49.9	-37.2	-37.0
<b>Nonmetals</b>										
Asbestos		49.0	53.2	205.6	43.9	53.1	197.1	-0.1	21.0	-4.1
Clay products	\$000	11 349.0 <sup>r</sup>	15 596.7 <sup>r</sup>	46 919.5	7 691.1	11 058.1	26 895.6	-29.1	43.8	-42.7
Gypsum		670.3	692.7	2 669.6	476.8	546.4	2 163.1	-21.1	14.6	-19.0
Potash K <sub>2</sub> O		703.0 <sup>r</sup>	860.6	2 685.6	676.4	761.9	2 586.6	-11.5	12.7	-3.7
Cement		767.2	867.8 <sup>r</sup>	2 648.1 <sup>r</sup>	449.7	816.1	1 945.1	-6.0	81.5	-26.5
Lime		210.5	208.6	822.9	183.4	200.0	758.2	-4.1	9.1	-7.9
Salt		581.9	766.8 <sup>r</sup>	3 217.3 <sup>r</sup>	537.1 <sup>r</sup>	917.4	3 094.5	19.6	70.8	-3.8
<b>Fuels</b>										
Coal		6 087.4	5 991.5	23 773.0	6 244.0	..	..	..	..	..
Natural gas	million m <sup>3</sup>	10 400.0	10 042.0	41 912.0	..	..	..	..	..	..
Crude oil and equivalent	000 m <sup>3</sup>	8 403.0	7 902.0 <sup>r</sup>	31 351.0	..	..	..	..	..	..

<sup>1</sup> Tonnes uranium (1 tonne U = 1.2999 short tons U<sub>3</sub>O<sub>8</sub>).

<sup>r</sup> Revised; .. Not available.

Note: Percentage changes are calculated on the basis of actual production figures as opposed to the rounded figures as shown.

**TABLE 2. CANADA, REAL GROSS DOMESTIC PRODUCT AT FACTOR COST BY INDUSTRY, IN 1986 PRICES, MONTHLY (SEASONALLY ADJUSTED AT ANNUAL RATES)**

Industry Sector	1990	1991				Percentage Change
	April	January	February	March	April	April 1991 April 1990
	(\$ million)					
Total economy	511 708.8	497 569.6	498 281.7	498 207.8	502 455.2	-1.8
Primary industries						
Agriculture	10 804.8	10 218.0	9 997.2	9 800.4	9 717.6	-10.1
Forestry	2 766.0	2 019.6	1 959.6	2 030.4	2 100.0	-24.1
Fishing and trapping	1 111.2	1 124.4	1 122.0	1 118.4	1 154.4	3.9
Mines, quarries and oil wells	19 807.2	19 980.0	20 012.4	19 603.2	19 566.0	-1.2
Mining industries	6 373.2	6 007.2	6 241.2	6 109.2	6 146.4	-3.6
Gold mines	1 533.6	1 497.6	1 546.8	1 554.0	1 603.2	4.5
Iron mines	478.8	424.8	434.4	481.2	469.2	-2.0
Other metal mines	2 550.0	2 397.6	2 400.0	2 352.0	2 310.0	-9.4
Nonmetal mines	547.2	547.2	564.0	582.0	537.6	-1.8
Asbestos mines	85.2	87.6	86.4	69.6	90.0	5.6
Mineral fuels						
Coal mines	1 054.8	903.6	1 063.2	928.8	982.8	-6.8
Crude petroleum and natural gas	11 421.6	11 799.6	11 806.8	11 598.0	11 484.0	0.5
Secondary industries						
Manufacturing	92 125.2	84 999.3	84 486.8	84 044.9	85 504.6	-7.2
Non-durable manufacturing	43 440.0	41 316.1	41 428.6	40 930.9	41 129.0	-5.3
Durable manufacturing	48 685.2	43 683.2	43 058.2	43 114.0	44 375.6	-8.9
Primary metal industries	6 528.0	6 172.0	6 271.5	6 226.2	6 341.4	-2.9
Primary steel industries	2 701.2	2 288.4	2 365.2	2 266.8	2 354.4	-12.8
Steel, pipe and tube industry	301.2	364.8	378.0	400.8	408.0	35.5
Iron foundries	376.8	328.2	308.6	314.7	323.3	-14.2
Smelting and refining	2 296.8	2 414.4	2 456.4	2 503.2	2 487.6	8.3
Nonmetallic mineral products	3 033.6	2 296.1	2 278.6	2 246.4	2 313.7	-23.7
Clay products industry	176.4	91.8	101.1	111.7	125.0	-29.1
Cement industry	388.8	296.4	309.6	307.2	307.2	-21.0
Ready-mix concrete industry	494.4	327.7	330.0	319.4	321.8	-34.9
Construction industry	34 491.6	32 216.4	31 306.8	30 675.6	30 760.8	-10.8
Transportation and storage	22 808.4	21 291.6	21 345.6	21 336.0	21 648.0	-5.1
Communications	18 660.0	19 225.2	19 263.6	19 509.6	19 789.2	6.1
Other utilities	15 698.4	16 672.8	15 763.2	16 172.4	16 114.8	2.7
Wholesale trade	27 766.8	24 807.6	25 228.8	26 134.8	26 672.4	-3.9
Retail trade	31 417.2	29 267.2	30 287.4	29 885.4	30 065.2	-4.3
Finance, insurance and real estate	79 975.2	81 208.8	82 977.6	83 044.8	84 276.0	5.4
Community, business and personal service	64 017.6	63 336.3	63 099.1	63 357.9	63 493.8	-0.8

Note: Items may not add to totals given since all components are not shown.

TABLE 3. METAL PRICES, 1991

	January	February	March	April	May
<b>Copper</b>					
Electrolytic, U.S. producer f.o.b. refinery, cents (U.S.)	113.214	113.612	112.553	111.727	104.174
Electrolytic, COMEX, 1st pos. plus 5¢, cents (U.S.)	119.614	115.734	114.240	113.355	106.114
Electrolytic, LME Grade A settlement, cents (U.S.)	111.063	111.102	109.299	112.130	104.593
<b>Lead</b>					
U.S. producer, cents (U.S.)	33.786	33.000	33.000	33.000	33.000
Montreal, cents (C.)	39.875	38.000	38.000	38.000	38.000
LME cash, cents (U.S.)	27.203	26.896	27.322	27.224	25.155
<b>Silver</b>					
Handy & Harmon, cents per troy oz. (U.S.)	402.818	372.342	396.900	397.068	404.068
Handy & Harmon, cents per troy oz. (C.)	465.617	429.906	459.174	457.939	464.517
<b>Zinc</b>					
LME SHG cash, cents (U.S.)	54.471	53.892	54.366	56.891	49.482
North American SHG, cents (U.S.) <sup>1</sup>	58.083	55.931	56.109	57.628	49.837
<b>Tin</b>					
New York, dealers, cents (U.S.)	259.278	257.438	255.313	259.000	263.833
Metals Week, composite, cents (U.S.)	368.215	364.882	360.747	362.040	368.334
<b>Gold</b>					
London, p.m., US\$ per troy oz.	383.639	363.830	363.335	358.379	356.945
<b>Mercury</b>					
New York, dealers, US\$ per flask	177.143	158.947	142.857	122.273	115.000
<b>Nickel</b>					
New York, dealers, cathode, US\$	3.936	4.065	4.046	4.233	4.012
LME cash, US\$	3.887	3.934	3.947	4.093	3.834
<b>Antimony</b>					
New York, dealers, cents (U.S.)	78.381	84.158	84.571	84.000	84.000
<b>Platinum</b>					
New York, refined, US\$ per troy oz.	600.000	600.000	600.000	600.000	600.000
<b>Cadmium</b>					
New York, dealers, US\$	2.905	2.589	2.031	1.955	2.000
<b>Aluminum</b>					
LME cash, cents (C.)	79.442	78.798	78.504	72.811	67.582
LME cash, cents (U.S.)	68.727	68.247	67.857	63.133	58.788
<b>Cobalt</b>					
Shot/cathode/250 kg., US\$	11.000	11.000	11.000	11.000	11.000
U.S. spot cathode, US\$	15.375	14.375	13.838	13.988	14.225
<b>Tungsten</b>					
LMB ore, low, US\$/MTU	37.000	43.000	45.875	48.500	54.000
<b>Molybdenum</b>					
Metals Week dealer oxide, US\$	2.672	2.557	2.476	2.506	2.445
<b>Uranium</b>					
Nuexco, US\$, U <sub>3</sub> O <sub>8</sub>	9.700	9.100	9.500	9.300	9.300

Sources: Metals Week; The Northern Miner.

Average U.S. Exchange Rate for January = 1.1559; February = 1.1546; March = 1.1569; April = 1.1533; May = 1.1496.

<sup>1</sup> New price series started January 1991.

Note: Prices are per pound unless otherwise stated.



TABLE 4. CANADA'S WORLD ROLE AS A PRODUCER OF CERTAIN IMPORTANT MINERALS, 1988

			Rank of Five Leading Countries				
		World	1	2	3	4	5
Uranium (U concentrates) <sup>1</sup>	t	36 840	Canada	United States	South Africa	Namibia	Australia
	% of western world total		12 460 <sup>a</sup>	5 190	3 850	3 600	3 530
Zinc (mine production)	000 t	7 073	33.8	14.1	10.5	9.8	9.6
	% of world total		Canada	U.S.S.R.	Australia	China	Peru
Gypsum	000 t	96 097	1 347	960	759	527	485
	% of world total		19.0	13.6	10.7	7.5	6.9
Potash (K <sub>2</sub> O equivalent)	000 t	31 529	United States	Canada	Iran	China	Japan
	% of world total		14 869	9 430	8 437	8 074	6 260
Cobalt (mine production)	000 t	29 089	15.5	9.8	8.8	8.4	6.5
	% of world total		U.S.S.R.	Canada	East Germany	West Germany	France
Titanium concentrates (ilmenite)	000 t	5 667	11 000	8 311	3 510	2 290	1 502
	% of world total		34.9	26.4	11.1	7.3	4.8
Asbestos	t	4 363	Zaire	Canada	Zambia	U.S.S.R.	Cuba
	% of world total		10 139	6 234	5 025	2 850 <sup>e</sup>	1 752 <sup>e</sup>
Nickel (mine production)	000 t	864	34.9	21.4	17.3	9.8	6.0
	% of world total		Australia	Canada	Norway	South Africa	Malaysia
Molybdenum (Mo content)	000 t	94 472	1 622	1 025 <sup>a,b</sup>	875	700 <sup>c</sup>	460
	% of world total		28.6	18.1	15.4	12.4	8.1
Sulphur, elemental	000 t	17 529	U.S.S.R.	Canada	Brazil	Zimbabwe	China
	% of world total		2 600 <sup>e</sup>	664	230	190	150 <sup>e</sup>
Aluminum (primary metal)	000 t	3 439	59.6	15.2	5.3	4.4	3.4
	% of world total		U.S.S.R.	Canada	New Caledonia	Australia	Indonesia
Lead (mine production)	000 t	8 827	205	217	71	62	60
	% of world total		23.7	25.1	8.2	7.2	6.9
Copper (mine production)	t	21 627	United States	Chile	Canada	U.S.S.R.	Mexico
	% of world total		43 051	15 527	12 494	11 500	4 456
Cadmium (refined production)	kg	14 450	45.6	16.4	13.2	12.2	4.7
	% of world total		South Africa	U.S.S.R.	Canada	Japan	Colombia
Silver (mine production)	000 t	1 826	133 300	127 500	13 444	1 817	810
	% of world total		47.1	45.1	4.8	0.6	0.3
Gold (mine production)	000 t	1 826	United States	U.S.S.R.	Canada	Poland	Mexico
	% of world total		9 618	7 178	6 050	5 004	2 144
Platinum group metals (mine production)	000 t	17 529	24.4	18.2	15.3	12.7	5.4
	% of world total		United States	U.S.S.R.	Canada	Australia	Brazil
Zinc (mine production)	000 t	7 073	3 944	2 440 <sup>e</sup>	1 535	1 141	874
	% of world total		22.5	13.9	8.8	6.5	5.0
Copper (mine production)	000 t	8 827	U.S.S.R.	Australia	United States	Canada	China
	% of world total		520 <sup>e</sup>	462	393	367	312 <sup>e</sup>
Uranium (U concentrates) <sup>1</sup>	000 t	36 840	15.1	13.4	11.4	10.7	9.1
	% of world total		Chile	United States	U.S.S.R.	Canada	Zambia
Zinc (mine production)	000 t	7 073	1 451	1 420	990	776	476
	% of world total		16.4	16.1	11.2	8.8	5.4
Gypsum	t	96 097	U.S.S.R.	Japan	United States	Belgium	Canada
	% of world total		2 650 <sup>e</sup>	2 614	1 885	1 807	1 694
Potash (K <sub>2</sub> O equivalent)	000 t	31 529	12.3	12.1	8.7	8.4	7.8
	% of world total		Mexico	United States	U.S.S.R.	Peru	Canada
Cobalt (mine production)	000 t	29 089	2 359	1 661	1 580	1 552	1 484
	% of world total		16.3	11.5	10.9	10.7	10.3
Titanium concentrates (ilmenite)	t	5 667	South Africa	U.S.S.R.	United States	Australia	Canada
	% of world total		618	280 <sup>e</sup>	201	154	136
Asbestos	000 t	4 363	33.8	15.3	11.0	8.4	7.4
	% of world total						

<sup>1</sup> Total of western world.<sup>a</sup> Does not include some 70 tU recovered by Elliot Lake producers from refinery/conversion facility wastes; <sup>b</sup> Titaniferous slag with 80% TiO<sub>2</sub> content; <sup>c</sup> Titaniferous slag with 85% TiO<sub>2</sub> content; <sup>e</sup> Estimated.

TABLE 5. CANADA'S WORLD ROLE AS A PRODUCER OF CERTAIN IMPORTANT MINERALS, 1989P

		Rank of Five Leading Countries					
		World	1	2	3	4	5
Uranium (U concentrates) <sup>1</sup>	t	34 400	Canada	United States	Australia	France	Namibia
	% of western world total		11 350 <sup>a</sup>	5 320	3 660	3 240	3 100
			33.0	15.5	10.6	9.4	9.0
Zinc (mine production)	000 t	7 139	Canada	U.S.S.R.	Australia	China	Peru
	% of world total		1 216	940 <sup>e</sup>	803	620	597
			17.0	13.2	11.2	8.7	8.4
Gypsum	000 t	98 542	United States	Canada	Iran	China	Japan
	% of world total		15 988	9 179	8 437	8 074	6 260
			16.2	9.3	8.6	8.2	6.4
Potash (K <sub>2</sub> O equivalent)	000 t	29 304	U.S.S.R.	Canada	East Germany	West Germany	United States
	% of world total		10 232	7 333	3 200	2 186	1 595
			34.9	25.0	10.9	7.5	5.4
Nickel (mine production)	000 t	893	U.S.S.R.	Canada	New Caledonia	Australia	Indonesia
	% of world total		210	201	96	65	60
			23.5	22.5	10.8	7.3	6.7
Cobalt (mine production)	t	28 515	Zaire	Canada	Zambia	U.S.S.R.	Cuba
	% of world total		9 311	6 167	4 488	2 850 <sup>e</sup>	2 000 <sup>e</sup>
			32.7	21.6	15.7	10.0	7.0
Titanium concentrates (ilmenite)	000 t	5 978	Australia	Canada	Norway	South Africa	Malaysia
	% of world total		1 764	1 040 <sup>b</sup>	880	725 <sup>c</sup>	497
			29.5	17.4	14.7	12.1	8.3
Asbestos	000 t	4 347	U.S.S.R.	Canada	Brazil	Zimbabwe	China
	% of world total		2 600 <sup>e</sup>	732	230	190	160 <sup>e</sup>
			59.8	16.8	5.3	4.4	3.7
Molybdenum (Mo content)	t	116 883	United States	Chile	Canada	U.S.S.R.	Mexico
	% of world total		63 105	16 550	14 073	11 500	4 500
			54.0	14.2	12.0	9.8	3.9
Platinum group metals (mine production)	kg	283 657	South Africa	U.S.S.R.	Canada	Japan	Colombia
	% of world total		135 800	127 500	10 389	1 845	964
			47.9	44.9	3.7	0.7	0.3
Sulphur, elemental	000 t	39 960	United States	U.S.S.R.	Canada	Poland	Mexico
	% of world total		10 398	6 640	5 815	4 865	2 012
			26.0	16.6	14.6	12.2	5.0
Aluminum (primary metal)	000 t	18 117	United States	U.S.S.R.	Canada	Australia	Brazil
	% of world total		4 030	2 380 <sup>e</sup>	1 555	1 242	888
			22.2	13.1	8.6	6.9	4.9
Copper (mine production)	000 t	9 017	Chile	United States	U.S.S.R.	Canada	Zambia
	% of world total		1 609	1 498	950	723	500
			17.8	16.6	10.5	8.0	5.5
Lead (mine production)	000 t	3 338	U.S.S.R.	Australia	United States	China	Canada
	% of world total		500 <sup>e</sup>	495	419	341 <sup>e</sup>	276 <sup>e</sup>
			15.0	14.8	12.6	10.2	8.3
Cadmium (refined production)	t	20 667	Japan	U.S.S.R.	United States	Belgium	Canada
	% of world total		2 724	2 600 <sup>e</sup>	1 550	1 741	1 620
			13.2	12.6	7.5	8.4	7.8
Silver (mine production)	t	14 675	Mexico	United States	Peru	U.S.S.R.	Canada
	% of world total		2 306	2 007	1 840	1 500	1 371
			15.7	13.7	12.5	10.2	9.3
Gold (mine production)	t	1 966	South Africa	U.S.S.R.	United States	Australia	Canada
	% of world total		605	280 <sup>e</sup>	266	202	160
			30.8	14.2	13.5	10.3	8.1

<sup>1</sup> Total of western world.<sup>a</sup> Includes some 31 tU recovered by Elliot Lake producers from refinery/conversion facility wastes; <sup>b</sup> Titaniferous slag with 80% TiO<sub>2</sub> content; <sup>c</sup> Titaniferous slag with 85% TiO<sub>2</sub> content; <sup>p</sup> Preliminary; <sup>e</sup> Estimated.

TABLE 6. IMPORTS OF MINERAL COMMODITIES BY COUNTRY AND BY COMMODITY AS DEFINED BY THE HARMONIZED SYSTEM (H.S.), 1990

H.S. Chapter <sup>1</sup>	Description	United States		Mexico		EEC <sup>2</sup>		Japan		Other		Total	
		(\$000)	(%)	(\$000)	(%)	(\$000)	(%)	(\$000)	(%)	(\$000)	(%)	(\$000)	(%)
<b>MINERAL PRODUCTS</b>													
25	Salts; sulphur; earths or stone, plastering material, lime and cement	339 834	76.4	18 281	4.1	10 042	2.3	2 882	0.6	74 060	16.6	445 099	100
26	Ores, slag and ash	425 418	55.3	2 578	0.3	47 854	6.2	—	—	293 512	38.2	769 362	100
27	Mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes <sup>3</sup>	2 442 219	28.8	56 800	0.7	2 327 227	27.5	336	—	3 648 663	43.1	8 475 245	100
<b>PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES</b>													
28	Inorganic chemicals; compounds of precious metals, radioactive elements, etc.	741 819	57.2	318	—	88 619	6.8	35 368	2.7	431 446	33.3	1 297 570	100
31	Fertilizers	183 727	83.7	—	—	20 482	9.3	927	0.4	14 442	6.6	219 578	100
<b>ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS, MICA OR SIMILAR MATERIALS; CERAMIC PRODUCTS; GLASS AND GLASSWARE</b>													
68	Articles of stone, plaster, cement, asbestos, mica or similar materials	243 978	64.5	2 371	0.6	102 142	27.0	3 870	1.0	25 950	6.9	378 311	100
69	Ceramic products	192 331	35.1	4 885	0.9	204 114	37.3	50 220	9.2	96 140	17.6	547 690	100
70	Glass and glassware	768 437	77.0	23 473	2.4	93 908	9.4	42 807	4.3	68 738	6.9	997 363	100
<b>NATURAL OR CULTURED PEARLS, PRECIOUS OR SEMI-PRECIOUS STONES, PRECIOUS METALS, METALS CLAD WITH PRECIOUS METAL AND ARTICLES THEREOF; IMITATION JEWELLERY; COIN</b>													
71	Natural/cultured pearls, precious stones and metals, coins, etc.	841 700	63.6	4 790	0.4	159 868	12.1	6 467	0.5	311 484	23.5	1 324 309	100
<b>BASE METALS AND ARTICLES OF BASE METAL</b>													
72	Iron and steel	1 210 086	60.1	4 980	0.2	405 000	20.1	102 644	5.1	292 120	14.5	2 014 830	100
73	Articles of iron or steel	1 743 212	69.3	16 760	0.7	276 525	11.0	173 972	6.9	304 200	12.1	2 514 669	100
74	Copper and articles thereof	409 416	77.7	1 366	0.3	40 356	7.7	7 536	1.4	68 269	13.0	526 943	100
75	Nickel and articles thereof	68 680	37.0	6	—	43 469	23.4	878	0.5	72 610	39.1	185 643	100
76	Aluminum and articles thereof	1 328 238	86.3	1 100	0.1	126 590	8.2	7 570	0.5	75 664	4.9	1 539 162	100
78	Lead and articles thereof	23 786	84.8	3 625	12.9	487	1.7	28	0.1	122	0.4	28 048	100
79	Zinc and articles thereof	25 766	63.1	499	1.2	2 282	5.6	96	0.2	12 184	29.8	40 827	100
80	Tin and articles thereof	11 248	25.6	27	0.1	4 841	11.0	1	—	27 753	63.3	43 870	100
81	Other base metals; cermets; and articles thereof	140 736	73.8	—	—	19 839	10.4	5 858	3.1	24 172	12.7	190 605	100
<b>TOTAL MINERAL IMPORTS</b>		11 140 631	51.7	141 859	0.7	3 973 645	18.4	441 460	2.0	5 841 529	27.1	21 539 124	100
<b>TOTAL DOMESTIC IMPORTS</b>		87 802 586	64.6	1 729 848	1.3	15 573 781	11.5	9 517 454	7.0	21 298 050	15.7	135 921 719	100
<b>PERCENTAGE MINERAL TO DOMESTIC</b>		12.7		8.2		25.5		4.6		27.4		15.8	

Source: Statistics Canada, Catalogue No. 65-006 (Quarterly).

<sup>1</sup> H.S. Chapter refers to a group of commodities covered in a specified chapter of the "Harmonized Commodity Description and Coding System," as of January 1, 1988. Canadian external trade statistics are classified according to the Harmonized System. <sup>2</sup> EEC: European Economic Community. <sup>3</sup> Total value of coal imports included in Chapter 27 is \$684 million.

— Nil.

**TABLE 7. EXPORTS OF MINERAL COMMODITIES BY COUNTRY AND BY COMMODITY AS DEFINED BY THE HARMONIZED SYSTEM (H.S.), 1990**

H.S. Chapter <sup>1</sup>	Description	United States		Mexico		EEC <sup>2</sup>		Japan		Other		Total	
		(\$000)	(%)	(\$000)	(%)	(\$000)	(%)	(\$000)	(%)	(\$000)	(%)	(\$000)	(%)
<b>MINERAL PRODUCTS</b>													
25	Salts; sulphur; earths or stone, plastering material, lime and cement	524 056	35.9	42 352	2.9	180 930	12.4	60 748	4.2	693 653	47.5	1 459 387	100
26	Ores, slag and ash	700 406	21.6	2 486	0.1	1 193 575	36.7	970 572	29.9	380 865	11.7	3 247 904	100
27	Mineral fuels, oils and products of their distillation; bituminous substances; mineral waxes <sup>3</sup>	12 439 815	84.1	5 146	—	236 469	1.6	1 487 361	10.0	631 387	4.3	14 800 178	100
<b>PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES</b>													
28	Inorganic chemicals; compounds of precious metals, radioactive elements, etc.	1 345 878	83.6	543	—	134 505	8.4	28 442	1.8	99 975	6.2	1 609 343	100
31	Fertilizers	988 125	59.5	2 015	0.1	56 572	3.4	76 647	4.6	536 670	32.3	1 660 029	100
<b>ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS, MICA OR SIMILAR MATERIALS; CERAMIC PRODUCTS; GLASS AND GLASSWARE</b>													
68	Articles of stone, plaster, cement, asbestos, mica or similar materials	307 214	92.3	275	0.1	11 388	3.4	2 775	0.8	11 298	3.4	332 950	100
69	Ceramic products	44 884	78.2	26	—	2 167	3.8	780	1.4	9 563	16.7	57 420	100
70	Glass and glassware	316 574	84.0	138	—	39 605	10.5	1 917	0.5	18 605	4.9	376 839	100
<b>NATURAL OR CULTURED PEARLS, PRECIOUS OR SEMI-PRECIOUS STONES, PRECIOUS METALS, METALS CLAD WITH PRECIOUS METAL AND ARTICLES THEREOF; IMITATION JEWELLERY; COIN</b>													
71	Natural/cultured pearls, precious stones and metals, coins, etc.	949 202	34.9	3 798	0.1	391 480	14.4	237 399	8.7	1 136 238	41.8	2 718 117	100
<b>BASE METALS AND ARTICLES OF BASE METAL</b>													
72	Iron and steel	1 564 816	74.0	56 548	2.7	182 062	8.6	14 346	0.7	296 390	14.0	2 114 162	100
73	Articles of iron or steel	1 494 354	89.8	11 206	0.7	39 914	2.4	6 599	0.4	111 556	6.7	1 663 629	100
74	Copper and articles thereof	880 067	62.1	569	—	423 962	29.9	6 732	0.5	105 873	7.5	1 417 203	100
75	Nickel and articles thereof	783 643	53.4	2 149	0.1	256 234	17.5	27 287	1.9	398 054	27.1	1 467 367	100
76	Aluminum and articles thereof	2 478 611	72.2	849	—	220 136	6.4	355 842	10.4	376 357	11.0	3 431 795	100
78	Lead and articles thereof	74 796	63.3	—	—	23 661	20.0	8 392	7.1	11 347	9.6	118 196	100
79	Zinc and articles thereof	737 353	83.0	474	0.1	24 812	2.8	36 674	4.1	89 176	10.0	888 015	100
80	Tin and articles thereof	6 989	78.3	—	—	185	2.1	104	1.2	1 650	18.5	8 928	100
81	Other base metals; cermets; and articles thereof	133 789	69.3	—	—	23 444	12.1	4 147	2.1	31 699	16.4	193 079	100
<b>TOTAL MINERAL EXPORTS</b>		25 770 572	68.6	128 574	0.3	3 441 101	9.2	3 326 764	8.9	4 940 356	13.2	37 564 541	100
<b>TOTAL DOMESTIC EXPORTS</b>		105 090 314	74.5	593 682	0.4	11 507 865	8.2	8 171 928	5.8	15 625 508	11.1	140 989 297	100
<b>PERCENTAGE MINERAL TO DOMESTIC</b>		24.5		21.7		29.9		40.7		31.6		26.6	

Source: Statistics Canada, Catalogue No. 65-003 (Quarterly).

<sup>1</sup> H.S. Chapter refers to a group of commodities covered in a specified chapter of the "Harmonized Commodity Description and Coding System," as of January 1, 1988. Canadian external trade statistics are classified according to the Harmonized System. <sup>2</sup> EEC: European Economic Community. <sup>3</sup> Total value of coal exports included in Chapter 27 is \$2276 million.

— Nil.

**TABLE 8. CANADA, SELLING PRICE INDEXES OF MINERAL RAW MATERIALS, 1984-90**

Base (1986=100)	1984	1985	1986	1987	1988	1989	1990P
<b>Metallic minerals</b>							
Copper concentrates	90.3	96.7	100.0	118.7	158.7	165.3	153.0
Iron ore	94.8	98.7	100.0	96.4	91.0	85.5	82.8
Lead concentrates	108.0	83.7	100.0	156.9	151.9	154.1	170.4
Nickel concentrates	106.4	114.0	100.0	111.1	263.3	251.6	166.0
Other base metals	108.3	98.0	100.0	107.0	130.6	119.4	96.0
Precious metals	98.0	89.2	100.0	114.5	103.9	87.8	85.4
Gold and alloys in primary form	96.5	88.8	100.0	114.2	103.9	87.8	85.9
Platinum	73.4	62.1	100.0	116.5	101.8	95.5	86.9
Silver	137.3	110.1	100.0	121.9	106.2	86.4	74.7
Radio-active concentrates	104.4	100.9	100.0	97.9	86.8	60.0	57.8
Zinc concentrates	116.4	103.3	100.0	106.2	138.8	184.8	165.7
<b>Nonmetal materials</b>							
Asbestos fibres	102.5	100.3	100.0	100.1	100.9	107.2	109.0
Other crude minerals	97.3	98.7	100.0	100.4	106.0	105.7	104.6
Potash (muriate)	108.1	101.6	100.0	107.7	145.3	140.8	133.5
Quartz and silica sand	93.9	97.0	100.0	100.5	107.6	106.8	109.8
Sand and gravel	96.5	97.6	100.0	104.6	114.2	125.2	126.8
Stone	91.8	96.3	100.0	102.9	107.9	109.6	114.5
Building	93.5	97.4	100.0	103.5	106.5	111.4	117.2
Crushed	89.1	94.9	100.0	104.2	109.1	110.5	116.2
Other	93.5	97.4	100.0	103.5	106.5	111.4	117.2
Sulphur	63.9	93.4	100.0	81.4	65.8	65.9	56.8
<b>Mineral fuels</b>							
Coal (thermal)	99.4	100.2	100.0	100.7	89.7	90.0	89.7
Crude mineral oil	164.5	173.4	100.0	110.6	86.5	99.0	122.3
Natural gas	101.7	101.9	100.0	96.7	89.1	85.0	85.9

Source: Statistics Canada, Catalogue No. 62-011.

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**TABLE 9. CANADA, MINERAL PRODUCTS INDUSTRIES, SELLING PRICE INDEXES, 1984-90**

Base (1986=100)	1984	1985	1986	1987	1988	1989	1990p
<b>Iron and steel products industries</b>							
Ferroalloy and steel foundry industries	96.3	98.7	100.0	100.7	106.3	116.1	108.6
Iron foundries	93.7	97.4	100.0	100.8	103.2	106.3	109.8
Primary steel industries	97.1	99.0	100.0	101.6	107.5	110.0	108.0
Steel pipe and tube industry	98.8	99.7	100.0	100.5	104.7	105.7	102.2
<b>Nonferrous primary metal products industries</b>							
Aluminum rolling, casting and extruding industry	101.6	97.2	100.0	104.4	123.2	117.2	100.5
Copper rolling, casting and extruding industry	95.3	97.0	100.0	111.5	146.5	161.1	154.4
Jewellery and precious metals industries	95.5	92.5	100.0	103.8	98.8	91.0	90.8
Other rolling casting and extruding industry	104.2	98.6	100.0	106.3	122.4	124.3	113.7
Nonferrous metal smelting and refining industries	103.0	96.3	100.0	111.6	148.2	141.4	117.0
<b>Nonmetallic mineral products industries</b>							
Agricultural chemicals industries	102.1	102.5	100.0	94.4	98.3	98.8	95.0
Hydraulic cement industry	93.2	97.6	100.0	100.8	102.1	104.8	106.7
Clay products industry (from domestic clay)	85.7	93.7	100.0	107.7	110.8	117.3	122.2
Clay products industry (from imported clay)	92.2	94.9	100.0	105.2	112.3	118.0	123.4
Concrete products industries	94.5	94.7	100.0	104.8	113.0	116.2	118.3
Glass and glass products industries	94.5	96.1	100.0	104.5	110.2	111.1	110.9
Nonmetallic mineral insulating materials industry	93.1	99.2	100.0	104.5	109.6	114.1	114.5
Refined petroleum and coal products industries	118.6	124.5	100.0	95.0	88.2	89.5	100.3
<b>Fabricated metal products industries</b>							
Agricultural implement industry	94.0	97.7	100.0	101.8	104.3	106.7	109.0
Miscellaneous fabricated structural metal products	93.9	97.7	100.0	102.1	108.1	111.8	112.9
Hardware, tool and cutlery industries	91.8	96.6	100.0	103.9	109.2	113.7	117.4
Heating equipment industry	94.1	98.2	100.0	102.3	106.3	110.6	113.1
Other metal fabricating industries	92.8	96.4	100.0	102.2	107.5	112.8	115.4
Power boiler and heat exchanger industry	87.9	92.3	100.0	107.8	112.7	120.7	125.3
Stamped, pressed and coated metal products industries	94.0	96.1	100.0	102.3	105.1	105.6	104.9
Wire and wire products industries	97.1	99.2	100.0	101.4	106.9	111.5	112.7

Source: Statistics Canada, Catalogue No. 62-011.

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TABLE 10. CANADA, PRINCIPAL STATISTICS OF THE MINERAL MANUFACTURING INDUSTRIES, 1988

	Mineral Manufacturing Activity										
	Production and Related Workers				Costs				Total Activity <sup>1</sup>		
	Establish- ments	Employees	Person- Hours Paid	Wages	Fuel and Electricity	Materials and Supplies	Value of Shipments	Value Added	Employees	Salaries and Wages	Value Added
	(number)	(number)	(000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(number)	(\$000)	(\$000)
<b>Primary metal industries</b>											
Primary steel	61	37 557	80 616	1 454 000	526 900	5 055 700	9 234 400	3 880 200	48 259	1 943 700	3 867 100
Smelting and refining	34	21 170	43 705	853 900	484 900	2 602 000	7 013 200	3 973 300	30 099	1 285 000	4 049 200
Wire and wire products industries <sup>2</sup>	318	12 041	25 034	317 800	41 500	1 044 800	1 889 700	825 300	15 154	427 200	855 600
Aluminum rolling, casting and extruding	72	4 922	10 766	161 900	33 900	1 475 000	2 079 600	577 000	6 124	213 600	576 200
Iron foundries	97	6 902	14 751	204 800	46 900	328 500	877 300	500 300	8 095	254 700	497 100
Metal rolling, casting and extruding n.e.s.	146	5 900	12 410	160 000	32 000	741 300	1 251 000	487 200	7 049	208 300	490 000
Steel pipe and tube	53	4 895	10 431	164 600	17 700	1 023 900	1 557 500	568 400	6 008	211 300	568 200
Copper and alloy rolling, casting and extruding	38	2 580	5 333	70 100	15 800	471 400	702 600	230 600	3 040	92 500	228 100
<b>Total</b>	<b>819</b>	<b>95 967</b>	<b>203 046</b>	<b>3 387 100</b>	<b>1 199 600</b>	<b>12 742 600</b>	<b>24 605 300</b>	<b>11 042 300</b>	<b>123 828</b>	<b>4 636 300</b>	<b>11 131 500</b>
<b>Nonmetallic mineral products industries</b>											
Ready-mix concrete	634	10 568	22 604	298 900	65 200	1 068 800	1 874 200	739 800	12 461	366 200	752 700
Cement	22	2 202	4 857	93 600	158 200	189 600	938 300	598 200	3 388	143 300	601 200
Primary glass and glass containers	20	5 391	11 629	165 600	58 800	194 500	758 300	512 800	6 981	232 600	507 900
Glass products	181	5 250	10 849	140 400	16 800	318 000	689 500	353 700	6 355	180 400	360 600
Gypsum products	31	1 493	3 293	47 200	30 400	197 000	534 100	307 300	2 271	75 200	316 500
Mineral insulating products	46	2 314	5 005	73 300	37 500	183 900	458 100	241 100	3 644	126 900	393 900
Other concrete products	263	5 447	11 708	125 500	20 500	252 400	569 700	305 700	6 001	151 900	321 900
Structural concrete products	75	2 684	5 665	80 200	6 200	114 500	353 700	237 100	3 302	102 800	235 300
Clay products (domestic)	32	1 199	2 647	36 500	23 900	26 300	186 600	143 800	1 654	53 800	148 000
Other nonmetallic mineral products	170	2 576	5 430	61 800	10 900	101 600	271 500	160 600	2 940	77 900	162 400
Concrete pipe	50	1 704	3 730	49 400	6 100	114 200	274 400	163 300	2 083	65 100	164 600
Clay products (imported)	53	1 375	2 750	32 700	6 400	39 100	141 300	99 200	1 607	39 800	100 100
Refractory products	30	1 183	2 480	32 400	7 500	102 000	245 300	139 200	1 760	54 200	153 600
Abrasives	33	1 421	2 914	37 000	41 000	116 300	275 000	118 600	1 917	55 500	120 300
Lime	13	679	1 515	23 800	41 500	32 200	180 200	106 900	873	33 400	106 100
Asbestos products industry	10	488	1 048	11 300	2 000	26 300	51 400	23 500	600	15 200	26 400
<b>Total</b>	<b>1 663</b>	<b>45 974</b>	<b>98 124</b>	<b>1 309 600</b>	<b>532 900</b>	<b>3 076 700</b>	<b>7 803 600</b>	<b>4 250 800</b>	<b>57 837</b>	<b>1 774 200</b>	<b>4 471 500</b>

**Fabricated metal products industries**

Stamped and pressed metal products industries	1 041	30 827	65 462	759 500	81 800	3 240 400	5 412 300	2 084 400	36 976	985 000	2 152 800
Fabricated structural metal products industries	455	15 877	32 621	415 500	32 600	1 256 200	2 535 500	1 273 900	19 689	556 400	1 301 700
Hardware, tool and cutlery industry	926	20 213	42 990	516 100	26 800	675 900	1 758 200	1 061 100	23 042	623 000	1 081 300
Other metal fabricating industries	580	14 702	30 505	365 200	35 900	971 800	1 903 600	907 100	17 887	480 400	940 200
Ornamental and architectural metal products industries	824	17 420	36 226	380 700	25 500	1 095 800	1 992 700	883 400	20 795	498 400	911 500
Machine shop industry	1 660	21 858	45 436	518 700	27 500	570 400	1 406 700	814 500	22 681	558 800	819 600
Power boiler and heat exchanger industry	45	3 064	6 384	92 700	5 600	205 000	507 300	294 400	6 182	204 400	365 300
Heating equipment industry	155	5 226	10 586	111 700	5 500	278 500	540 600	259 600	6 390	148 400	270 400
<b>Total</b>	<b>5 686</b>	<b>129 187</b>	<b>270 209</b>	<b>3 172 100</b>	<b>241 200</b>	<b>8 294 000</b>	<b>16 056 900</b>	<b>7 578 400</b>	<b>153 642</b>	<b>4 054 800</b>	<b>7 842 800</b>

**Petroleum and coal products industries**

Petroleum refining products	33	5 527	12 535	278 400	279 300	10 936 100	13 708 800	2 092 500	13 358	654 300	2 096 400
Other petroleum and coal products	73	646	1 332	18 200	10 600	166 100	247 400	70 500	1 161	33 400	86 800
Lubricating oils and greases	35	664	1 451	22 000	4 800	221 200	317 600	90 900	1 091	38 000	96 700
<b>Total</b>	<b>141</b>	<b>6 837</b>	<b>15 318</b>	<b>318 600</b>	<b>294 700</b>	<b>11 323 400</b>	<b>14 273 800</b>	<b>2 253 900</b>	<b>15 610</b>	<b>725 700</b>	<b>2 279 900</b>
<b>Total mineral manufacturing industries</b>	<b>8 309</b>	<b>277 965</b>	<b>586 697</b>	<b>8 187 400</b>	<b>2 268 400</b>	<b>35 436 700</b>	<b>62 739 600</b>	<b>22 871 500</b>	<b>350 917</b>	<b>11 191 000</b>	<b>25 725 700</b>

Source: Statistics Canada, Catalogue No. 31-203.

1 Total activity includes sales and head offices. 2 Wire and wire products have been included in the primary metal industries group.

n.e.s. Not elsewhere specified.

Note: Totals may not add due to rounding.

TABLE 11. CANADA, PRINCIPAL STATISTICS OF THE MINERAL MANUFACTURING INDUSTRIES BY REGION, 1988

	Mineral Manufacturing Activity									
	Production and Related Workers				Costs				Total Activity <sup>1</sup>	
	Establish- ments	Employees	Person- Hours Paid	Wages	Fuel and Electricity	Materials and Supplies	Value of Shipments	Value Added	Employees	Salaries and Wages
	(number)	(number)	(000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(number)	(\$000)
<b>Primary metals industry</b>										
Atlantic Provinces	9	x	x	x	x	x	x	x	x	x
Quebec	139	19 910	41 914	748 900	450 600	3 417 000	7 465 600	3 675 800	28 045	1 126 700
Ontario	232	50 322	108 544	1 873 800	530 800	6 577 800	11 903 400	5 015 300	63 704	2 495 700
Prairie Provinces	67	x	x	x	x	x	x	x	x	x
British Columbia	54	5 689	10 770	196 700	24 600	448 600	1 241 900	774 700	7 318	268 800
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-
Canada	501	83 926	178 012	3 069 300	1 158 100	11 697 800	22 715 600	10 217 000	108 674	4 209 100
<b>Nonmetallic mineral products industry</b>										
Atlantic Provinces	114	2 010	4 226	50 300	21 600	103 400	269 700	142 700	2 432	64 200
Quebec	437	11 985	25 249	317 000	135 900	729 200	1 837 500	993 700	14 620	415 000
Ontario	597	23 074	49 855	677 900	277 100	1 576 000	4 159 200	2 335 200	29 354	934 000
Prairie Provinces	331	5 482	11 871	154 500	58 500	397 000	928 600	480 400	7 006	210 300
British Columbia	184	3 423	6 923	109 800	39 700	271 100	608 500	298 700	4 425	150 800
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-
Canada	1 663	45 974	98 124	1 309 600	532 900	3 076 700	7 803 600	4 250 800	57 837	1 774 200
<b>Fabricated metal products industry<sup>2</sup></b>										
Atlantic Provinces	189	2 865	6 173	68 400	5 100	176 100	335 300	157 800	3 493	86 800
Quebec	1 418	32 450	67 844	769 800	66 500	2 009 400	3 980 800	1 917 400	38 882	986 700
Ontario	3 091	84 707	177 241	2 109 200	171 800	5 785 500	10 943 600	5 038 100	100 771	2 707 600
Prairie Provinces	718	12 864	26 883	308 800	22 300	781 700	1 529 800	730 800	15 534	398 300
British Columbia	588	8 342	17 101	233 700	16 900	586 200	1 156 800	559 800	10 116	302 600
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-
Canada	6 004	141 228	295 243	3 489 900	282 700	9 338 800	17 946 600	8 403 700	168 796	4 482 000
<b>Petroleum and coal products industry</b>										
Atlantic Provinces	9	x	x	x	x	x	x	x	x	x
Quebec	30	1 118	2 289	50 500	70 200	2 299 600	2 700 200	235 300	1 732	71 900
Ontario	52	2 811	6 771	133 900	123 000	4 142 000	5 376 200	970 800	7 635	376 600
Prairie Provinces	38	x	x	x	x	x	x	x	x	x
British Columbia	11	688	1 351	32 500	18 500	1 118 200	1 473 500	307 800	979	48 700
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-
Canada	141	6 837	15 318	318 600	294 700	11 323 400	14 273 800	2 253 900	15 610	725 700

**Total mineral manufacturing industry**

Atlantic Provinces	321	x	x	x	x	x	x	x	x	x	x
Quebec	2 024	65 463	137 296	1 886 200	723 200	8 455 200	15 984 100	6 822 200	83 279	2 600 300	6 930 800
Ontario	3 972	160 914	342 411	4 794 800	1 102 700	18 081 300	32 382 400	13 359 400	201 464	6 513 900	13 713 500
Prairie Provinces	1 154	x	x	x	x	x	x	x	x	x	x
British Columbia	837	18 142	36 145	572 700	99 700	2 424 100	4 480 700	1 941 000	22 838	770 900	2 071 400
Yukon and Northwest Territories	1	x	x	x	x	x	x	x	x	x	x
Canada	8 309	277 965	586 697	8 187 400	2 268 400	35 436 700	62 739 600	22 871 500	350 917	11 191 000	25 725 700

Source: Statistics Canada, Catalogue No. 31-203.

<sup>1</sup> Total activity includes sales and head offices. <sup>2</sup> For reasons of confidentiality, SIC 305 (Wire and wire products), normally included in Primary metals is included in Fabricated metal products.

x Confidential; - Nil; SIC Standard Industrial Classification.

**TABLE 12. CANADA, PRINCIPAL STATISTICS OF THE MINERAL MANUFACTURING INDUSTRY,<sup>1</sup> 1980-88**

	Mineral Manufacturing Activity								Total Activity <sup>2</sup>		
	Production and Related Workers				Costs						
	Establish- ments	Employees	Person- Hours Paid	Wages	Fuel and Electricity	Materials and Supplies	Value of Shipments	Value Added	Employees	Salaries and Wages	Value Added
	(number)	(number)	(000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(number)	(\$000)	(\$000)
1980	7 229	270 529	565 988	4 991 451	1 411 101	28 394 177	43 895 507	14 758 224	366 120	7 262 688	15 160 467
1981	7 196	261 364	546 732	5 393 636	1 720 151	34 570 420	51 870 979	16 791 049	361 883	8 076 300	17 200 686
1982	5 687	229 518	475 378	5 333 201	1 728 740	34 241 605	50 045 037	14 497 245	321 785	8 126 238	14 823 990
1983	7 370	216 944	447 947	5 420 307	1 905 777	34 720 416	52 773 875	15 861 491	301 112	8 143 674	16 196 749
1984	7 511	223 816	470 367	5 948 626	2 125 032	37 738 117	57 207 764	17 980 271	304 309	8 719 151	18 265 131
1985	7 625	238 544	506 377	6 507 081	2 229 270	39 497 925	61 241 939	19 305 730	313 850	9 271 447	19 646 938
1986	7 841	248 039	524 184	6 829 899	2 096 145	31 806 478	54 521 641	19 788 464	319 950	9 563 918	20 124 687
1987	7 598	..	..	..	2 155 505	38 040 112	63 607 352	..	333 009	10 170 081	22 760 931
1988	8 309	277 965	586 697	8 187 400	2 268 400	35 436 700	62 739 600	22 871 500	350 917	11 191 000	25 725 700

Source: Statistics Canada.

<sup>1</sup> Includes the following industries: Primary metals; Nonmetallic mineral products; Fabricated metal products; and Refined petroleum and coal products. <sup>2</sup> Total activity includes sales and head offices.

.. Not available.



**TABLE 13. CANADA, EMPLOYMENT, SALARIES AND WAGES IN THE MINERAL MANUFACTURING INDUSTRIES, 1982-88**

	Unit	1982	1983	1984	1985	1986	1987	1988
<b>Primary metal industries</b>								
Production and related workers	Number	92 621	87 769	92 336	92 695	90 035	..	95 967
Salaries and wages	\$000	2 368 939	2 445 267	2 818 413	2 940 777	2 924 986	..	3 387 100
Annual average salary and wage	\$	25 577	27 860	30 523	31 725	32 487	..	35 294
Administrative and office workers	Number	34 563	31 076	30 826	29 467	28 738	..	27 861
Salaries and wages	\$000	1 104 327	1 055 120	1 131 842	1 159 060	1 182 287	..	1 249 200
Annual average salary and wage	\$	31 951	33 953	36 717	39 334	41 140	..	44 837
Total primary metal industries <sup>1</sup>	Number	127 184	118 845	123 162	122 162	118 773	119 372	123 828
Employees	Number	127 184	118 845	123 162	122 162	118 773	119 372	123 828
Salaries and wages	\$000	3 473 266	3 500 387	3 950 387	4 099 837	4 107 273	4 244 950	4 636 300
Annual average salary and wage	\$	27 309	29 453	32 074	33 561	34 581	35 561	37 441
<b>Nonmetallic mineral products industries</b>								
Production and related workers	Number	33 997	34 097	36 155	38 763	42 011	..	45 974
Salaries and wages	\$000	751 915	800 755	883 604	1 001 780	1 121 460	..	1 309 600
Annual average salary and wage	\$	22 117	23 485	24 439	25 844	26 694	..	28 486
Administrative and office workers	Number	13 952	13 353	12 738	11 842	11 479	..	11 863
Salaries and wages	\$000	383 405	391 901	394 620	397 131	406 427	..	464 600
Annual average salary and wage	\$	27 480	29 349	30 980	33 536	35 406	..	39 164
Total nonmetallic mineral products	Number	47 949	47 450	48 893	50 605	53 490	56 822	57 837
Employees	Number	47 949	47 450	48 893	50 605	53 490	56 822	57 837
Salaries and wages	\$000	1 135 320	1 192 656	1 278 224	1 398 911	1 527 887	1 668 869	1 774 200
Annual average salary and wage	\$	23 678	25 135	26 143	27 644	28 564	29 370	30 676
<b>Fabricated metal products industries</b>								
Production and related workers	Number	94 779	87 661	88 787	100 650	109 634	..	129 167
Salaries and wages	\$000	1 946 325	1 910 181	1 983 782	2 298 665	2 518 297	..	3 172 100
Annual average salary and wage	\$	20 535	21 791	22 343	22 838	22 970	..	24 554
Administrative and office workers	Number	30 372	28 239	26 203	23 694	22 987	..	24 455
Salaries and wages	\$000	803 920	785 881	778 057	751 973	746 041	..	882 700
Annual average salary and wage	\$	26 469	27 830	29 693	31 737	32 455	..	36 095
Total fabricated metal products industries	Number	125 151	115 900	114 990	124 344	132 621	141 667	153 642
Employees	Number	125 151	115 900	114 990	124 344	132 621	141 667	153 642
Salaries and wages	\$000	2 750 245	2 696 062	2 761 839	3 050 638	3 264 338	3 547 954	4 054 800
Annual average salary and wage	\$	21 975	23 262	24 018	24 534	24 614	25 044	26 391
<b>Petroleum and coal products industries</b>								
Production and related workers	Number	8 121	7 417	6 538	6 436	6 359	..	6 837
Salaries and wages	\$000	266 022	264 104	262 827	265 859	265 156	..	318 600
Annual average salary and wage	\$	32 757	35 608	40 200	41 308	41 698	..	46 599
Administrative and office workers	Number	13 380	11 500	10 726	10 303	8 707	..	8 773
Salaries and wages	\$000	501 385	490 465	466 006	456 202	399 264	..	407 100
Annual average salary and wage	\$	37 473	42 649	43 446	44 279	45 856	..	46 404
Total petroleum and coal products industries	Number	21 501	18 917	17 264	16 739	15 066	15 148	15 610
Employees	Number	21 501	18 917	17 264	16 739	15 066	15 148	15 610
Salaries and wages	\$000	767 407	754 569	728 833	722 061	664 420	708 308	725 700
Annual average salary and wage	\$	35 692	39 888	42 217	43 136	44 101	46 759	46 489
<b>Total mineral manufacturing industries</b>								
Production and related workers	Number	229 518	216 944	223 816	238 544	248 039	..	277 965
Salaries and wages	\$000	5 333 201	5 420 307	5 948 626	6 507 081	6 829 899	..	8 187 400
Annual average salary and wage	\$	23 237	24 985	26 578	27 278	27 536	..	29 455
Administrative and office workers	Number	92 267	84 168	80 493	75 306	71 911	..	72 952
Salaries and wages	\$000	2 793 037	2 723 367	2 770 525	2 764 366	2 734 019	..	3 003 600
Annual average salary and wage	\$	30 271	32 356	34 419	36 708	38 019	..	41 172
Total mineral manufacturing industries	Number	321 785	301 112	304 309	313 850	319 950	333 009	350 917
Employees	Number	321 785	301 112	304 309	313 850	319 950	333 009	350 917
Salaries and wages	\$000	8 126 238	8 143 674	8 719 151	9 271 447	9 563 918	10 170 081	11 191 000
Annual average salary and wage	\$	25 254	27 045	28 652	29 541	29 892	30 540	31 891

Source: Statistics Canada.

<sup>1</sup> Wire and wire products have been included in the primary metal industries group.

.. Not available.

**TABLE 14. CANADA, CRUDE MINERALS TRANSPORTED BY CANADIAN RAILWAYS, 1987-89**

	1987	1988	1989
	(kilotonnes)		
<b>Metallic minerals</b>			
Iron ores and concentrates	36 093	39 835	41 594
Nickel-copper ores and concentrates	3 797	3 742	2 961
Alumina and bauxite	3 363	3 224	3 841
Zinc ores and concentrates	1 380	1 554	1 231
Copper ores and concentrates	1 356	1 185	955
Lead ores and concentrates	514	590	465
Metallic ores and concentrates, n.e.s.	4	63	80
Nickel ores and concentrates	—	—	—
Total metallic minerals	46 509	50 193	51 127
<b>Nonmetallic minerals</b>			
Potash (KCl)	11 577	12 337	10 559
Sulphur, n.e.s.	5 731	6 559	4 227
Gypsum	5 636	5 418	5 621
Limestone, n.e.s.	3 301	3 008	2 939
Phosphate rock	1 162	1 236	1 275
Clay	750	1 025	786
Sulphur, liquid	970	1 002	1 016
Sand, industrial	948	985	854
Salt, rock	687	688	828
Sodium carbonate	663	659	631
Limestone, industrial	386	396	368
Nepheline syenite	252	302	321
Sodium sulphate	319	297	291
Nonmetallic minerals, n.e.s.	142	170	270
Salt, n.e.s.	146	161	137
Limestone, agricultural	93	122	55
Stone, n.e.s.	196	107	94
Silica	21	23	19
Abrasives, natural	21	21	27
Sand, n.e.s.	47	17	4
Barite	12	9	11
Asbestos	11	5	3
Peat and other mosses	2	1	2
Total nonmetallic minerals	33 072	34 550	30 338
<b>Mineral fuels</b>			
Coal, bituminous	39 051	47 117	38 856
Coal, lignite	2 549	2 976	1 856
Natural gas and other crude bituminous substances	43	34	87
Coal, n.e.s.	949	24	2
Oil, crude	7	12	12
Total mineral fuels	42 599	50 163	40 813
Total crude minerals	122 180	134 906	122 278
Total revenue freight <sup>1</sup> moved by Canadian railways	261 406	269 354	247 041
Crude minerals as a percentage of total revenue freight	46.7	50.1	49.5

Source: Statistics Canada.

<sup>1</sup> Revenue freight refers to a local or interline shipment from which earnings accrue to a carrier.  
n.e.s. Not elsewhere specified; — Nil.

TABLE 15. CANADA, FABRICATED MINERAL PRODUCTS TRANSPORTED BY CANADIAN RAILWAYS, 1987-89

	1987	1988	1989
	(kilotonnes)		
<b>Metallic minerals</b>			
Ferrous mineral products			
Iron and steel scrap	1 982	2 068	2 254
Sheets and strips, steel	1 140	1 191	1 196
Ingots, blooms, billets, slabs of iron and steel	659	674	818
Bars and rods, steel	648	593	654
Structural shapes and sheet piling, iron and steel	451	476	453
Plates, steel	311	311	260
Pipes and tubes, iron and steel	177	275	459
Rails and railway track material	70	91	191
Castings and forgings, iron and steel	67	83	62
Pig iron	68	36	55
Ferroalloys	37	27	20
Other primary iron and steel	23	9	10
Wire, iron or steel	5	4	4
Total ferrous mineral products	5 639	5 838	6 436
Nonferrous mineral products			
Aluminum and aluminum alloy fabricated material, n.e.s.	888	760	822
Zinc and alloys	433	517	492
Copper and alloys, n.e.s.	408	391	373
Aluminum paste, powder, pigs, ingots, shot	315	352	191
Other nonferrous base metals and alloys	123	167	150
Lead and alloys	116	163	134
Nonferrous metal scrap	104	94	107
Slag, dross, etc.	60	49	99
Copper matte and precipitates	1	—	22
Total nonferrous mineral products	2 449	2 493	2 390
Total metallic mineral products	8 088	8 332	8 826
<b>Nonmetallic mineral products</b>			
Fertilizers and fertilizer materials, n.e.s.	2 470	2 424	2 283
Portland cement, standard	1 873	1 813	1 716
Sulphuric acid	1 471	1 806	1 767
Gypsum basic products, n.e.s.	426	282	248
Cement and concrete basic products, n.e.s.	208	223	187
Nonmetallic mineral basic products, n.e.s.	210	210	178
Lime, hydrated and quick	177	185	168
Natural stone basic products, chiefly structural	185	166	152
Dolomite and magnesite, calcined	48	50	51
Glass basic products	43	45	36
Bricks and tiles, clay	104	30	50
Fire brick and similar shapes	23	24	21
Asbestos and asbestos-cement basic products	17	22	20
Plaster	6	9	9
Refractories, n.e.s.	9	6	3
Total nonmetallic mineral products	7 268	7 295	6 889
<b>Mineral fuel products</b>			
Refined and manufactured gases, fuel type	2 355	2 671	2 744
Diesel fuel	1 269	1 531	1 397
Gasoline	897	675	612
Fuel oil, n.e.s.	677	654	802
Coke, n.e.s.	633	623	459
Other petroleum and coal products	606	517	509
Petroleum coke	341	341	340
Lubricating oils and greases	308	304	331
Asphalts and road oils	284	248	211
Total mineral fuel products	7 371	7 566	7 405
Total fabricated mineral products	22 727	23 193	23 120
Total revenue freight <sup>1</sup> moved by Canadian railways	261 406	269 354	247 041
Fabricated mineral products as a percentage of total revenue freight	8.7	8.6	9.4

Source: Statistics Canada.

<sup>1</sup> Revenue freight refers to a local or interline shipment from which earnings accrue to a carrier.

n.e.s. Not elsewhere specified; — Nil.

**TABLE 16. CANADA, CRUDE MINERALS AND FABRICATED MINERAL PRODUCTS TRANSPORTED BY CANADIAN RAILWAYS, 1960-89**

Year	Total Revenue Freight <sup>1</sup>	Total Crude Minerals	Total Fabricated Mineral Products	Total Crude and Fabricated Minerals	Crude and Fabricated Minerals as Percent of Revenue Freight
(million tonnes)					
1960	142.8	57.1	14.5	71.6	50.1
1961	138.9	54.1	13.6	67.7	48.7
1962	146.0	60.3	13.8	74.1	50.8
1963	154.6	62.9	15.5	78.4	50.6
1964	180.0	74.6	15.9	90.5	50.3
1965	186.2	80.9	17.3	98.2	52.7
1966	194.5	80.6	17.8	94.8	50.6
1967	190.0	81.2	17.7	98.9	52.1
1968	195.4	86.7	18.8	105.5	54.0
1969	189.0	81.9	27.6	109.5	57.9
1970	211.6	97.5	28.4	125.9	59.5
1971	214.5	95.6	27.4	123.0	57.3
1972	215.8	89.4	27.6	117.0	54.2
1973	241.2	113.1	29.1	142.2	59.0
1974	246.3	115.3	30.9	146.2	59.4
1975	226.0	110.6	26.6	137.2	60.7
1976	238.5	116.6	25.5	142.1	59.6
1977	247.2	121.1	25.7	146.8	59.4
1978	238.8	107.7	26.2	133.9	56.1
1979	257.9	127.2	26.6	153.8	59.6
1980	254.4	124.8	24.6	149.4	58.7
1981	246.6	120.7	26.4	147.1	59.7
1982	212.5	95.7	21.0	116.7	54.9
1983	222.8	95.3	22.7	118.0	53.0
1984	254.6	121.1	25.1	146.2	57.4
1985	250.6	125.2	24.3	149.5	59.7
1986	249.8	121.2	23.0	144.2	57.7
1987	261.4	122.2	22.7	144.9	55.4
1988	269.4	134.9	23.2	158.1	58.7
1989	247.0	122.3	23.1	145.4	58.9

Source: Statistics Canada.

<sup>1</sup> Revenue freight refers to a local or interline shipment from which earnings accrue to a carrier.

**TABLE 17. CANADA, CRUDE MINERALS AND FABRICATED MINERAL PRODUCTS TRANSPORTED THROUGH THE ST. LAWRENCE SEAWAY,<sup>1</sup> 1988-90**

	Montreal-Lake Ontario Section			Welland Canal Section		
	1988	1989	1990	1988	1989	1990
	(tonnes)					
<b>Crude minerals</b>						
Iron ore	10 810 682	11 185 264	11 527 835	7 083 883	7 293 840	7 483 022
Coal	712 945	776 999	489 355	7 029 061	6 321 198	6 265 959
Salt	1 027 602	1 377 273	1 183 829	1 672 709	2 176 005	1 513 195
Stone, ground or crushed	432 370	448 117	715 500	992 668	1 187 148	1 766 491
Other crude minerals	1 000 802	965 083	1 019 901	601 526	920 752	543 373
Sand and gravel	-	-	-	226 492	241 749	214 373
Clay and bentonite	240 823	215 214	229 581	240 823	215 214	229 581
Aluminum ores and concentrates	230 356	236 629	178 327	218 960	203 711	178 327
Potash	294 948	291 373	252 467	372 971	105 371	343 978
Stone, rough	41	530	117	15 021	113	15 086
Phosphate rock	2 833	6 120	-	-	-	-
Total crude minerals	14 753 402	15 502 602	15 596 912	18 454 114	18 665 101	18 553 385
<b>Fabricated mineral products</b>						
Iron and steel, manufactured	2 724 806	3 353 717	3 106 287	2 327 939	2 782 889	2 493 714
Coke	1 466 718	1 272 068	946 154	1 638 341	1 412 270	1 037 047
Fuel oil	879 438	529 627	890 612	669 756	637 605	938 742
Cement	32 101	27 463	28 431	488 672	367 748	407 310
Scrap iron and steel	369 397	320 630	233 668	364 658	313 738	369 092
Iron and steel, bars, rods, slabs	1 581 257	825 931	498 284	697 850	304 885	268 199
Gasoline	248 120	485 319	481 265	126 537	275 681	223 997
Other petroleum products	141 952	124 006	53 127	141 004	155 894	39 556
Pig iron	93 248	70 938	67 942	82 921	65 164	66 500
Tar, pitch and creosote	27 104	29 432	23 770	62 830	32 035	42 849
Lubricating oils and greases	28 128	42 923	35 852	18 544	22 531	28 476
Iron and steel, nails, wire	10 670	6 468	2 904	8 396	4 995	2 284
Total fabricated minerals	7 603 029	7 088 522	6 368 296	6 627 448	6 375 435	5 917 766
Total crude and fabricated minerals	22 356 431	22 591 124	21 965 208	25 081 562	25 040 536	24 471 151
Total, all products <sup>2</sup>	40 557 669	37 070 370	36 655 939	43 536 317	39 909 450	39 397 900
Crude and fabricated minerals as a percentage of all products	55.1	60.9	59.9	57.6	62.7	62.1

Source: St. Lawrence Seaway Traffic Report.

<sup>1</sup> Total cargo transported regardless of travel direction. <sup>2</sup> Includes crude minerals and fabricated mineral products along with all other cargo transported.

- Nil.

**TABLE 18. CANADA, CRUDE MINERALS AND FABRICATED MINERAL PRODUCTS TRANSPORTED THROUGH THE ST. LAWRENCE SEAWAY,<sup>1</sup> 1960-90**

	Montreal-Lake Ontario Section				Welland Canal Section			
	Total All Products <sup>2</sup>	Total Crude Minerals	Total Fabricated Mineral Products	Crude and Fabricated Minerals as Percent of All Products	Total All Products <sup>2</sup>	Total Crude Minerals	Total Fabricated Mineral Products	Crude and Fabricated Minerals as Percent of All Products
	(kilotonnes)				(kilotonnes)			
1960	18 460	5 760	2 904	46.9	26 563	12 679	2 606	57.5
1961	21 212	6 706	2 358	42.7	28 490	12 599	2 378	52.6
1962	23 271	7 531	2 522	43.2	32 215	15 625	2 342	55.8
1963	28 198	9 507	2 804	43.7	37 490	18 094	2 524	55.0
1964	35 701	13 127	3 558	46.7	46 644	23 489	3 095	57.0
1965	39 352	13 788	6 024	50.3	48 477	23 555	4 933	58.8
1966	44 538	16 376	6 340	51.0	53 648	25 712	5 329	57.9
1967	39 918	17 800	6 430	60.7	47 945	26 010	5 459	65.6
1968	43 496	19 312	8 425	63.8	52 712	29 075	7 587	69.6
1969	37 256	12 682	8 263	56.2	48 601	25 090	6 715	65.4
1970	46 445	15 554	8 932	52.7	57 121	27 233	7 156	60.2
1971	48 069	14 204	9 263	48.8	57 205	23 903	7 914	55.6
1972	48 607	13 425	9 837	47.9	58 146	24 808	7 701	55.9
1973	52 285	17 111	9 639	51.2	60 958	26 907	7 718	56.8
1974	40 049	16 137	7 018	57.8	47 500	23 952	5 437	61.9
1975	43 554	15 698	6 071	50.0	53 387	26 100	5 129	58.5
1976	49 348	20 884	7 181	56.9	58 368	29 914	6 323	62.1
1977	57 456	23 008	9 918	57.3	65 079	30 459	8 933	60.5
1978	51 658	15 057	8 558	45.7	59 576	22 700	7 759	51.1
1979	50 187	16 408	8 104	48.8	60 023	24 851	7 940	54.6
1980	42 142	12 248	6 009	43.3	54 074	20 487	5 405	47.9
1981	45 876	15 453	5 711	46.1	53 389	22 132	5 529	51.8
1982	38 841	9 146	4 997	36.4	44 474	15 057	4 333	43.6
1983	45 061	12 443	5 422	39.6	50 145	17 412	5 618	45.9
1984	47 505	14 009	6 980	44.2	53 917	20 312	7 052	50.8
1985	37 322	11 689	6 152	47.8	41 852	16 203	6 127	53.4
1986	37 582	11 387	6 429	47.4	41 613	15 774	6 020	52.4
1987	39 969	12 565	5 893	46.2	42 725	15 687	5 403	49.4
1988	40 558	14 753	7 603	55.1	43 536	18 454	6 627	57.6
1989	37 070	15 503	7 089	60.9	39 909	18 665	6 375	62.7
1990	36 656	15 597	6 368	59.9	39 398	18 553	5 918	62.1

Source: St. Lawrence Seaway Traffic Report.

<sup>1</sup> Total cargo transported regardless of travel direction. <sup>2</sup> Includes crude minerals and fabricated mineral products along with all other cargo transported.

**TABLE 19. CANADA, EXPLORATION AND CAPITAL EXPENDITURES IN THE MINING INDUSTRY<sup>1</sup> BY TYPE OF MINING, 1989-91**

		Capital									
		Construction					Repair				Total Capital and Repair
		On- Property Explora- tion	On- Property Develop- ment	Structures	Sub- Total	Machinery and Equipment	Total Capital	Construc- tion	Machinery and Equipment	Total Repair	
(\$ million)											
Metal mines											
Copper-gold- silver	1989	22.8	85.6	83.7	192.1	102.3	294.4	27.6	253.3	280.9	575.3
	1990p	22.6	139.9	41.5	204.0	99.4	303.4	25.4	273.3	298.7	602.1
	1991l	14.0	109.9	36.2	160.1	81.5	241.6	24.7	272.1	296.8	538.4
Gold	1989	53.2	361.6	248.8	663.6	184.4	848.0	39.4	187.6	227.0	1 075.0
	1990p	32.5	289.3	61.2	383.0	93.2	476.2	31.5	180.0	211.5	687.7
	1991l	31.8	186.8	49.5	268.1	96.0	364.1	31.2	181.4	212.6	576.7
Iron	1989	x	x	x	73.3	62.8	136.1	16.0	227.8	243.8	379.9
	1990p	x	x	x	101.7	92.7	194.4	15.3	225.6	240.9	435.3
	1991l	x	x	x	117.0	127.3	244.3	14.5	230.9	245.4	489.7
Silver-lead- zinc	1989	9.0	53.3	23.2	85.5	79.6	165.1	20.4	112.7	133.1	298.2
	1990p	10.7	71.7	21.5	103.9	41.3	145.2	13.0	74.6	87.6	232.8
	1991l	7.6	73.9	25.1	106.6	60.0	166.6	14.5	94.2	108.7	275.3
Uranium	1989	x	x	13.8	94.6	10.9	105.5	8.3	122.0	130.3	235.8
	1990p	x	x	x	81.2	17.9	99.1	7.6	121.0	128.6	227.7
	1991l	x	x	x	69.5	18.5	88.0	8.8	106.4	115.2	203.2
Other metal mining <sup>2</sup>	1989	19.8	175.2	52.2	247.2	138.7	385.9	41.1	158.8	199.9	585.8
	1990p	13.4	182.2	36.5	232.1	135.3	367.4	48.1	178.1	226.2	593.6
	1991l	x	178.5	x	211.6	122.2	333.8	34.5	160.7	195.2	529.0
Total metal mining	1989	108.5	822.6	425.2	1 356.3	578.7	1 935.0	152.9	1 062.2	1 215.1	3 150.1
	1990p	81.4	838.2	186.2	1 105.8	479.7	1 585.5	140.9	1 052.5	1 193.4	2 778.9
	1991l	68.6	712.2	152.3	933.1	505.5	1 438.6	128.2	1 045.7	1 173.9	2 612.5
Nonmetal mines											
Asbestos	1989	x	70.3	x	75.5	2.0	77.5	1.9	36.5	38.4	115.9
	1990p	x	49.6	x	51.1	5.7	56.8	4.9	51.0	55.9	112.7
	1991l	x	x	1.7	21.9	4.2	26.1	4.8	46.0	50.8	76.9

Coal	1989	3.1	181.5	19.5	204.1	97.9	302.0	22.4	390.7	413.1	715.1
	1990 <sup>p</sup>	3.2	198.0	10.4	211.6	126.4	338.0	16.8	461.0	477.8	815.8
	1991 <sup>i</sup>	4.1	238.6	29.8	272.5	158.9	431.4	18.5	467.1	485.6	917.0
Other nonmetal mining <sup>3</sup>	1989	x	83.3	x	137.9	170.1	308.0	16.4	255.3	271.7	579.7
	1990 <sup>p</sup>	x	97.1	x	132.5	145.2	277.7	15.2	242.1	257.3	535.0
	1991 <sup>i</sup>	x	x	14.2	105.4	125.7	231.1	17.9	245.0	262.9	494.0
Total nonmetal mining	1989	9.0	335.0	73.4	417.4	270.0	687.4	40.7	682.4	723.1	1 410.5
	1990 <sup>p</sup>	11.2	344.7	39.2	395.1	277.3	672.4	36.8	754.1	790.9	1 463.3
	1991 <sup>i</sup>	19.1	335.1	45.7	399.9	288.9	688.8	41.2	758.1	799.3	1 488.1
Total mining	1989	117.5	1 157.6	498.6	1 773.7	848.7	2 622.4	193.6	1 744.7	1 938.3	4 560.7
	1990 <sup>p</sup>	92.6	1 182.9	225.4	1 500.9	757.0	2 257.9	177.7	1 806.6	1 984.3	4 242.2
	1991 <sup>i</sup>	87.6	1 047.2	198.0	1 332.8	794.4	2 127.2	169.4	1 803.8	1 973.2	4 100.4

Sources: Statistics Canada; Energy, Mines and Resources Canada.

<sup>1</sup> Excludes expenditures in the petroleum and natural gas industries. <sup>2</sup> Includes nickel-copper mines, silver-cobalt mines and other metal mines. <sup>3</sup> Includes gypsum mines, salt mines, potash mines, quarries, sand and gravel pits and other nonmetal mines.

<sup>p</sup> Preliminary; <sup>i</sup> Intentions; . . . Not available; x Confidential, included in total.

Note: Totals may not add due to rounding.



**TABLE 20. CANADA, EXPLORATION AND CAPITAL EXPENDITURES IN THE MINING INDUSTRY<sup>1</sup> BY PROVINCES AND TERRITORIES, 1989-91**

		Capital									
		Construction						Repair			Total Capital and Repair
		On- Property Explora- tion	On- Property Develop- ment	Structures	Sub- Total	Machinery and Equipment	Total Capital	Construc- tion	Machinery and Equipment	Total Repair	
(\$ million)											
Newfoundland	1989	x	41.6	x	68.0	30.6	98.6	10.5	133.4	143.9	242.5
	1990p	x	34.1	x	44.1	47.4	91.5	8.9	151.5	160.4	251.9
	1991l	x	45.7	x	50.2	70.6	120.8	9.3	157.3	166.6	287.4
Prince Edward Island	1989	—	—	—	—	—	—	—	—	—	—
	1990p	—	—	—	—	—	—	—	—	—	—
	1991l	—	—	—	—	—	—	—	—	—	—
Nova Scotia	1989	x	18.3	x	22.1	32.3	54.4	3.5	37.3	40.8	95.2
	1990p	x	22.5	x	31.3	39.1	70.4	3.0	38.6	41.6	112.0
	1991l	x	30.2	x	55.1	73.1	128.2	3.2	40.5	43.7	171.9
New Brunswick	1989	1.4	16.1	13.4	30.9	72.1	103.0	9.0	79.5	88.5	191.5
	1990p	1.1	33.0	16.9	51.0	29.5	80.5	9.1	74.3	83.4	163.9
	1991l	x	x	x	45.3	33.1	78.4	11.9	91.4	103.3	181.7
Quebec	1989	34.4	256.3	74.2	364.9	152.0	516.9	27.4	233.3	260.7	777.6
	1990p	25.2	205.4	20.3	250.9	129.5	380.4	41.3	264.6	305.9	686.3
	1991l	17.7	196.5	51.4	265.6	114.8	380.4 <sup>r</sup>	38.4	268.5	306.9	687.3
Ontario	1989	42.9	335.5	132.0	510.4	236.4	746.8	65.1	428.9	494.0	1 240.8
	1990p	21.6	274.8	71.8	368.2	211.1	579.3	69.0	427.3	496.3	1 075.6
	1991l	26.8	231.2	41.6	299.6	201.9	501.5	54.9	403.6	458.5	960.0
Manitoba	1989	7.9	53.9	23.9	85.7	34.1	119.8	16.0	60.2	76.2	196.0
	1990p	x	x	x	125.5	39.1	164.6	2.5	49.7	52.2	216.8
	1991l	x	x	x	80.0	23.7	103.7	3.3	50.7	54.0	157.7
Saskatchewan	1989	6.5	71.4	41.1	119.0	50.8	169.8	8.9	122.0	130.9	300.7
	1990p	11.3	90.2	33.6	135.1	43.9	179.0	14.0	165.6	179.6	358.6
	1991l	17.1	113.2	17.4	147.7	59.9	207.6	15.6	170.0	185.6	393.2
Alberta	1989	x	x	2.9	17.3	23.0	40.3	1.3	133.1	134.4	174.7
	1990p	2.9	27.0	4.9	34.8	60.9	95.7	2.3	152.0	154.3	250.0
	1991l	3.2	20.8	3.2	27.2	49.0	76.2	3.7	150.1	153.8	230.0
British Columbia	1989	13.9	292.1	92.7	398.7	150.7	549.4	39.7	444.3	484.0	1 033.4
	1990p	12.5	263.5	39.5	315.5	121.9	437.4	23.3	432.1	455.4	892.8
	1991l	5.7	248.4	27.6	281.7	127.3	409.0	24.8	426.1	450.9	859.9

Yukon	1989	1.8	x	x	18.2	0.9	19.1	6.6	28.4	35.0	54.1
	1990 <sup>p</sup>	x	x	x	34.5	22.5	57.0	2.3	14.2	16.5	73.5
	1991 <sup>i</sup>	x	34.4	x	40.4	31.3	71.7	1.3	9.0	10.3	82.0
Northwest Territories	1989	5.8	45.7	86.6	138.1	65.8	203.9	5.8	44.2	50.0	253.9
	1990 <sup>p</sup>	x	102.5	x	110.3	12.2	122.5	2.0	36.6	38.6	161.1
	1991 <sup>i</sup>	x <sup>r</sup>	33.7	x	40.1	9.6	49.7	2.9	36.7	39.6	89.3
Canada	1989	117.5	1 157.6	498.6	1 773.7	848.7	2 622.4	193.6	1 744.7	1 938.3	4 560.7
	1990 <sup>p</sup>	92.6	1 182.9	225.4	1 500.9	757.0	2 257.9	177.7	1 806.6	1 984.3	4 242.2
	1991 <sup>i</sup>	87.6	1 047.2	198.0	1 332.8	794.4	2 127.2	169.4	1 803.8	1 973.2	4 100.4

Sources: Statistics Canada; Energy, Mines and Resources Canada.

<sup>1</sup> Excludes crude oil and natural gas industries.

<sup>p</sup> Preliminary; <sup>i</sup> Intentions; — Nil; x Confidential, included in total; <sup>r</sup> Revised.

Note: Totals may not add due to rounding.

**TABLE 21. CANADA, CAPITAL AND REPAIR EXPENDITURES BY SELECTED INDUSTRIAL SECTOR, 1989-91**

		Capital Expenditures			Repair Expenditures			Capital and Repair Expenditures		
		Construction	Machinery and Equipment	Total	Construction	Machinery and Equipment	Total	Construction	Machinery and Equipment	Total
		(\$ million)								
Agriculture	1989	1 161.6	2 118.6	3 280.2	500.5	1 594.2	2 094.7	1 662.1	3 712.8	5 374.9
	1990 <sup>p</sup>	1 007.2	1 889.3	2 896.5	500.4	1 681.2	2 181.6	1 507.6	3 570.5	5 078.1
	1991 <sup>i</sup>	978.0	1 835.1	2 813.1	512.8	1 709.9	2 222.7	1 490.8	3 545.0	5 035.8
Construction	1989	354.2	1 716.3	2 070.5	70.3	1 168.5	1 238.8	424.5	2 884.8	3 309.3
	1990 <sup>p</sup>	355.5	1 700.3	2 055.8	72.0	1 198.7	1 270.7	427.5	2 899.0	3 326.5
	1991 <sup>i</sup>	350.2	1 674.5	2 024.7	71.0	1 181.6	1 252.6	421.2	2 856.1	3 277.3
Forestry	1989	120.0	162.8	282.8	99.6	259.2	358.8	219.6	422.0	641.6
	1990 <sup>p</sup>	125.1	132.2	257.3	75.3	242.0	317.3	200.4	374.2	574.6
	1991 <sup>i</sup>	134.6	106.1	240.7	82.6	247.7	330.3	217.2	353.8	571.0
Housing	1989	38 337.6	—	38 337.6	4 392.2	—	4 392.2	42 729.8	—	42 729.8
	1990 <sup>p</sup>	37 119.7	—	37 119.7	4 647.0	—	4 647.0	41 766.7	—	41 766.7
	1991 <sup>i</sup>	34 807.3	—	34 807.3	4 879.4	—	4 879.4	39 686.7	—	39 686.7
Manufacturing	1989	4 202.8	16 971.3	21 174.1	1 144.1	7 580.2	8 724.3	5 346.9	24 551.5	29 898.4
	1990 <sup>p</sup>	3 984.5	16 224.3	20 208.8	1 398.4	7 792.5	9 190.9	5 382.9	24 016.8	29 399.7
	1991 <sup>i</sup>	3 637.5	16 066.8	19 704.3	1 414.8	8 028.8	9 443.6	5 052.3	24 095.6	29 147.9
Mining <sup>1</sup>	1989	6 218.4	1 154.8	7 373.2	428.9	2 532.8	2 961.7	6 647.3	3 687.6	10 334.9
	1990 <sup>p</sup>	6 204.4	1 057.7	7 262.1	505.9	2 634.3	3 140.2	6 710.3	3 692.0	10 402.3
	1991 <sup>i</sup>	7 501.9	1 214.6	8 716.5	515.6	2 588.3	3 103.9	8 017.5	3 802.9	11 820.4
Trade	1989	1 139.8	2 305.0	3 444.8	431.8	564.7	996.5	1 571.6	2 869.7	4 441.3
	1990 <sup>p</sup>	1 214.0	2 142.9	3 356.9	330.6	488.2	818.8	1 544.6	2 631.1	4 175.7
	1991 <sup>i</sup>	1 230.8	2 223.0	3 453.8	327.6	499.2	826.8	1 558.4	2 722.2	4 280.6
Utilities	1989	9 703.1	9 988.8	19 691.9	2 386.9	6 039.5	8 426.4	12 090.0	16 028.3	28 118.3
	1990 <sup>p</sup>	10 763.8	11 646.4	22 410.2	2 416.4	6 284.7	8 701.1	13 180.2	17 931.1	31 111.3
	1991 <sup>i</sup>	13 052.5	13 016.2	26 068.7	2 522.8	6 354.6	8 877.4	15 575.3	19 370.8	34 946.1
Other <sup>2</sup>	1989	24 108.9	16 296.4	40 405.3	5 611.1	2 367.3	7 978.4	29 720.0	18 663.7	48 383.7
	1990 <sup>p</sup>	25 500.2	15 321.9	40 822.1	5 636.8	2 405.7	8 042.5	31 137.0	17 727.6	48 864.6
	1991 <sup>i</sup>	26 014.1	16 409.1	42 423.2	5 762.2	2 502.7	8 264.9	31 776.3	18 911.8	50 688.1
Total	1989	85 346.4	50 714.0	136 060.4	15 065.4	22 106.4	37 171.8	100 411.8	72 820.4	173 232.2
	1990 <sup>p</sup>	86 274.4	50 115.0	136 389.4	15 582.8	22 727.3	38 310.1	101 857.2	72 842.3	174 699.5
	1991 <sup>i</sup>	87 706.9	52 545.4	140 252.3	16 088.8	23 112.8	39 201.6	103 795.7	75 658.2	179 453.9
Mining as a percentage of total	1989	7.3	2.3	5.4	2.8	11.5	8.0	6.6	5.1	6.0
	1990 <sup>p</sup>	7.2	2.1	5.3	3.2	11.6	8.2	6.6	5.1	6.0
	1991 <sup>i</sup>	8.6	2.3	6.2	3.2	11.2	7.9	7.7	5.0	6.6

Source: Statistics Canada.

<sup>1</sup> Includes mines, quarries and oil wells. <sup>2</sup> Includes finance, real estate, insurance, commercial services, institutions and government departments.

<sup>p</sup> Preliminary; <sup>i</sup> Intentions; — Nil.

Note: Totals may not add due to rounding.

**TABLE 22. CANADA, CAPITAL AND REPAIR EXPENDITURES IN MINING<sup>1</sup> BY GEOGRAPHICAL REGION, 1989-91**

		Capital Expenditures			Repair Expenditures			Capital and Repair Expenditures		
		Construction	Machinery and Equipment	Total	Construction	Machinery and Equipment	Total	Construction	Machinery and Equipment	Total
		(\$ million)								
Atlantic Region	1989	235.1	135.0	370.1	23.0	250.2	273.2	258.1	385.2	643.3
	1990p	313.3	116.1	429.4	21.0	264.3	285.3	334.3	380.4	714.7
	1991i	925.4	176.8	1 102.2	24.3	289.3	313.6	949.7	466.1	1 415.8
Quebec	1989	365.2	151.9	517.1	27.4	233.2	260.6	392.6	385.1	777.7
	1990p	251.0	129.5	380.5	41.4	264.7	306.1	292.4	394.2	686.6
	1991i	266.4	114.8	381.2	38.4	268.6	307.0	304.8	383.4	688.2
Ontario	1989	524.1	236.6	760.7	65.8	429.7	495.5	589.9	666.3	1 256.2
	1990p	388.8	230.7	619.5	69.2	428.0	497.2	458.0	658.7	1 116.7
	1991i	315.9	202.8	518.7	55.0	404.0	459.0	370.9	606.8	977.7
Prairie Region	1989	3 897.1	412.5	4 309.6	227.5	1 078.5	1 306.0	4 124.6	1 491.0	5 615.6
	1990p	4 260.5	417.4	4 677.9	301.6	1 176.1	1 477.7	4 562.1	1 593.5	6 155.6
	1991i	5 037.4	539.1	5 576.5	319.8	1 136.3	1 456.1	5 357.2	1 675.4	7 032.6
British Columbia	1989	804.1	151.6	955.7	72.8	468.2	541.0	876.9	619.8	1 496.7
	1990p	776.9	122.3	899.2	67.4	449.1	516.5	844.3	571.4	1 415.7
	1991i	827.9	128.2	956.1	72.8	444.1	516.9	900.7	572.3	1 473.0
Yukon and Northwest Territories	1989	392.8	67.2	460.0	12.4	73.0	85.4	405.2	140.2	545.4
	1990p	213.9	41.7	255.6	5.3	52.1	57.4	219.2	93.8	313.0
	1991i	128.9	52.9	181.8	5.3	46.0	51.3	134.2	98.9	233.1
Total	1989	6 218.4	1 154.8	7 373.2	428.9	2 532.8	2 961.7	6 647.3	3 687.6	10 334.9
	1990p	6 204.4	1 057.7	7 262.1	505.9	2 634.3	3 140.2	6 710.3	3 692.0	10 402.3
	1991i	7 501.9	1 214.6	8 716.5	515.6	2 588.3	3 103.9	8 017.5	3 802.9	11 820.4

Source: Statistics Canada.

<sup>1</sup> Includes mines, quarries and oil wells.

p Preliminary; i Intentions.

Note: Totals may not add due to rounding.

**TABLE 23. CANADA, CAPITAL AND REPAIR EXPENDITURES IN THE MINING INDUSTRY,<sup>1</sup> 1985-91**

	1985	1986	1987	1988	1989	1990 <sup>p</sup>	1991 <sup>i</sup>
	(\$ million)						
<b>Metal mines</b>							
Capital							
Construction	1 053.5	979.7	1 328.2	1 609.0	1 356.4	1 106.1	933.0
Machinery	322.4	319.4	372.9	566.5	578.6	479.9	505.5
Total	1 375.9	1 299.1	1 701.1	2 175.5	1 935.0	1 586.0	1 438.5
Repair							
Construction	104.5	99.6	109.8	123.2	153.0	140.8	128.3
Machinery	846.4	811.3	880.8	1 033.6	1 062.1	1 052.6	1 045.5
Total	950.9	910.9	990.6	1 156.8	1 215.1	1 193.4	1 173.8
Total capital and repair	2 326.8	2 210.0	2 691.7	3 332.3	3 150.1	2 779.4	2 612.3
<b>Nonmetal mines<sup>2</sup></b>							
Capital							
Construction	573.6	502.4	421.7	432.9	417.1	395.1	399.8
Machinery	350.1	256.6	251.6	263.4	270.1	277.3	288.8
Total	923.7	759.0	673.3	696.3	687.2	672.4	688.6
Repair							
Construction	39.3	31.2	23.2	38.3	40.7	36.7	41.0
Machinery	529.5	565.4	608.8	634.6	682.4	754.2	758.2
Total	568.8	596.6	632.0	672.9	723.1	790.9	799.2
Total capital and repair	1 492.5	1 355.6	1 305.3	1 369.2	1 410.3	1 463.3	1 487.8
<b>Mineral fuels</b>							
Capital							
Construction	7 645.9	5 142.4	4 096.0	5 134.4	4 444.9	4 703.2	6 169.1
Machinery	959.7	496.4	505.8	744.2	306.1	300.5	420.3
Total	8 605.6	5 638.8	4 601.8	5 878.6	4 751.0	5 003.7	6 589.4
Repair							
Construction	374.3	316.5	307.0	241.8	235.2	328.4	346.3
Machinery	761.3	705.5	673.9	761.5	788.3	827.5	784.6
Total	1 135.6	1 022.0	980.9	1 003.3	1 023.5	1 155.9	1 130.9
Total capital and repair	9 741.2	6 660.8	5 582.7	6 881.9	5 774.5	6 159.6	7 720.3
<b>Total mining</b>							
Capital							
Construction	9 273.0	6 624.5	5 845.9	7 176.3	6 218.4	6 204.4	7 501.9
Machinery	1 632.2	1 072.4	1 130.3	1 574.1	1 154.8	1 057.7	1 214.6
Total	10 905.2	7 696.9	6 976.2	8 750.4	7 373.2	7 262.1	8 716.5
Repair							
Construction	518.1	447.3	440.0	403.3	428.9	505.9	515.6
Machinery	2 137.2	2 082.2	2 163.5	2 429.7	2 532.8	2 634.3	2 588.3
Total	2 655.3	2 529.5	2 603.5	2 833.0	2 961.7	3 140.2	3 103.9
Total capital and repair	13 560.5	10 226.4	9 579.7	11 583.4	10 334.9	10 402.3	11 820.4

Source: Statistics Canada.

<sup>1</sup> Does not include cement, lime and clay products (domestic clays) manufacturing, smelting and refining. <sup>2</sup> Includes coal mines, asbestos, gypsum, salt, potash, miscellaneous nonmetals, quarrying and sand pits.<sup>p</sup> Preliminary; <sup>i</sup> Intentions.

Note: Totals may not add due to rounding.

TABLE 24. CANADA, CAPITAL AND REPAIR EXPENDITURES IN THE MINERAL MANUFACTURING INDUSTRIES,<sup>1</sup> 1985-91

	1985	1986	1987	1988	1989	1990p	1991i
	(\$ millions)						
<b>Primary metal industries<sup>2</sup></b>							
Capital							
Construction	593.8	400.2	265.7	287.3	611.7	711.6	774.4
Machinery	1 019.0	1 333.6	1 223.2	1 242.8	1 729.4	2 317.8	2 196.1
Total	1 612.8	1 733.8	1 488.9	1 530.1	2 341.1	3 029.4	2 970.5
Repair							
Construction	125.2	126.9	119.0	134.0	186.4	265.1	273.2
Machinery	1 231.1	1 279.0	1 409.4	1 616.8	1 721.3	1 433.9	1 499.3
Total	1 356.3	1 405.9	1 528.4	1 750.8	1 907.7	1 699.0	1 772.5
Total capital and repair	2 969.1	3 139.7	3 017.3	3 280.9	4 248.8	4 728.4	4 743.0
<b>Nonmetallic mineral products<sup>3</sup></b>							
Capital							
Construction	39.2	36.0	73.5	88.1	120.5	76.0	30.0
Machinery	193.2	295.1	282.6	352.5	447.6	489.2	339.9
Total	232.4	331.1	356.1	440.6	568.1	565.2	369.9
Repair							
Construction	21.2	24.7	23.3	24.0	23.1	15.8	15.8
Machinery	270.6	285.7	277.5	313.9	339.1	348.9	349.2
Total	291.8	310.4	300.8	337.9	362.2	364.7	365.0
Total capital and repair	524.2	641.5	656.9	778.5	930.3	929.9	734.9
<b>Metal-fabricating industries</b>							
Capital							
Construction	133.6	194.7	107.1	112.2	84.5	62.1	38.6
Machinery	438.7	525.4	356.3	355.2	340.6	244.5	257.4
Total	572.3	720.1	463.4	467.4	425.1	306.6	296.0
Repair							
Construction	23.7	22.7	24.2	27.8	29.6	23.0	21.9
Machinery	167.7	209.1	194.7	197.1	201.1	176.7	176.0
Total	191.4	231.8	218.9	224.9	230.7	199.7	197.9
Total capital and repair	763.7	951.9	682.3	692.3	655.8	506.3	493.9
<b>Petroleum and coal products</b>							
Capital							
Construction	248.3	272.3	464.9	437.9	626.0	870.3	938.2
Machinery	87.4	125.9	205.0	261.0	335.1	294.0	323.2
Total	335.7	398.2	669.9	698.9	961.1	1 164.3	1 261.4
Repair							
Construction	213.0	212.0	252.8	255.6	274.3	330.5	346.4
Machinery	74.9	91.9	112.8	115.7	129.7	133.8	138.2
Total	287.9	303.9	365.6	371.3	404.0	464.3	484.6
Total capital and repair	623.6	702.1	1 035.5	1 070.2	1 365.1	1 628.6	1 746.0
<b>Total mineral manufacturing industries</b>							
Capital							
Construction	1 014.9	903.2	911.2	925.5	1 442.7	1 720.0	1 781.2
Machinery	1 738.3	2 280.0	2 067.1	2 211.5	2 852.7	3 345.5	3 116.6
Total	2 753.2	3 183.2	2 978.3	3 137.0	4 295.4	5 065.5	4 897.8
Repair							
Construction	383.1	386.3	419.3	441.4	513.4	634.4	657.3
Machinery	1 744.3	1 865.7	1 994.4	2 243.5	2 391.2	2 093.3	2 162.7
Total	2 127.4	2 252.0	2 413.7	2 684.9	2 904.6	2 727.7	2 820.0
Total capital and repair	4 880.6	5 435.2	5 392.0	5 821.9	7 200.0	7 793.2	7 717.8

Source: Statistics Canada.

<sup>1</sup> All years have been revised to include the metal-fabricating industries. <sup>2</sup> Includes smelting and refining. <sup>3</sup> Includes cement, lime and clay products manufacturing.

p Preliminary; i Intentions.

Note: Totals may not add due to rounding.

**TABLE 25. CANADA, CAPITAL EXPENDITURES IN THE PETROLEUM, NATURAL GAS AND ALLIED INDUSTRIES,<sup>1</sup> 1981-91**

	Petroleum and Natural Gas Extraction	Transportation (Pipelines)	Marketing (Chiefly Outlets of Oil Companies)	Natural Gas Distribution	Petroleum and Coal Products Industries	Natural Gas Processing Plants	Oil and Gas Drilling Contractors	Total Capital Expenditures
	(\$ million)							
1981	6 444.9	1 745.7	264.1	408.7	844.9	311.6	274.9	10 294.8
1982	6 743.4	1 994.3	320.5	517.6	1 224.5	522.8	173.5	11 496.6
1983	6 563.5	660.5	374.5	516.8	840.8	195.8	155.4	9 307.3
1984	6 946.4	795.4	422.9	604.1	432.4	340.0	43.8	9 585.0
1985	8 187.6	664.2	356.8	603.5	335.7	337.7	80.1	10 565.6
1986	5 401.1	586.9	344.9	573.9	398.2	207.8	29.9	7 542.7
1987	4 414.6	503.0	412.4	571.8	669.9	174.1	13.1	6 758.9
1988	5 589.9	828.9	478.4	602.8	698.9	271.8	16.9	8 487.6
1989	4 309.7	1 520.7	501.7	570.4	961.4	427.4	14.0	8 305.3
1990 <sup>P</sup>	4 635.2	1 852.8	407.7	631.8	1 164.3	356.6	11.7	9 060.1
1991 <sup>I</sup>	6 033.3	2 454.4	620.5	717.9	1 261.4	543.7	12.5	11 643.7

Source: Statistics Canada.

<sup>1</sup> The petroleum and natural gas industries in this table include all companies engaged in whole or in part in oil and gas activities.

<sup>P</sup> Preliminary; <sup>I</sup> Intentions.

Note: Totals may not add due to rounding.

## **MINERAL INDUSTRY 1990 - ECONOMIC DIMENSIONS**

Attached for your information is a brief overview of economic indicators relating the mineral industry's performance in 1990 to that of the total economy. Data regarding mineral industry output, employment, investment and trade are presented by stage of processing on the "Economic Dimensions" summary table and in the accompanying article. All data include coal, but exclude petroleum and natural gas.

Following is a brief summary for 1990:

### **Gross Domestic Product by Industry at Factor Cost**

Mineral industry GDP totalled \$22.8 billion (at 1986 prices), accounting for 4.5% of total industry GDP.

### **Employment**

Mineral industry employment totalled 387 500, representing 3.1% of total employment in the economy.

### **Capital and Repair Expenditures**

Capital investment by the mineral industry was \$6.2 billion, while repair expenditures were

\$4.2 billion. The combined spending of \$10.4 billion represented 6.0% of total capital and repair expenditures in the Canadian economy.

### **Trade**

Mineral and mineral product exports (excluding petroleum and natural gas) totalled \$25.0 billion, accounting for 17.8% of total Canadian exports. Mineral imports were \$13.7 billion. On balance, the mineral industry recorded a trade surplus of \$11.3 billion.

It should be noted that the economic information presented in the attached article is based on preliminary data and is subject to further revision. Such revisions, however, would not be expected to materially alter the broad picture as presented therein. It should be further noted that the allocation of trade data by stage has been approximated by our Division. This was necessitated because the methodology and computer programs required to do the detailed sorting and consolidations have yet to be worked out and implemented.

Should you require further information with respect to any of the economic indicators, please contact Sim Siminowski (613-943-8096) or Jane Currie (613-992-5798).



# THE MINERAL INDUSTRY IN THE CANADIAN ECONOMY - 1990

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This article summarizes the mineral industry's performance in 1990 and highlights its importance within the context of the Canadian economy. The table "Economic Dimensions" provides an economic snapshot of the mineral industry in 1990. The data in the table and in the charts accompanying this article include coal, but exclude petroleum and natural gas, and are presented in terms of the four stages of activity within the mineral industry. These stages are:

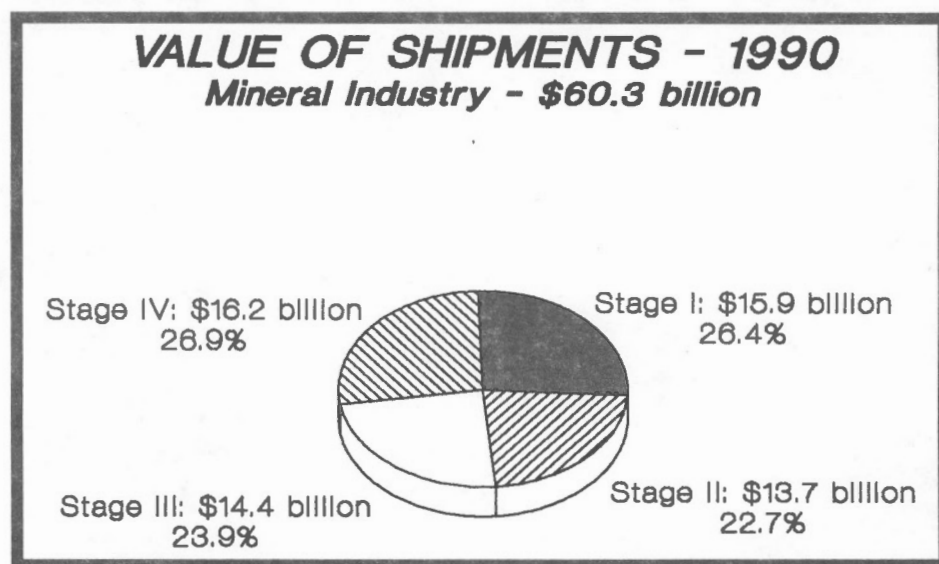
- Stage I - Primary Mineral Production (mining and concentrating)
- Stage II - Primary Metal Production (smelting and refining)
- Stage III - Minerals and Metals-Based Semi-Fabricating Industries
- Stage IV - Metal Fabricating Industries

The following sections, which discuss industry output, employment, investment and trade, illustrate the overall importance of the industry to the economy, as well as the relative significance of each of the four stages of activity.

## Output

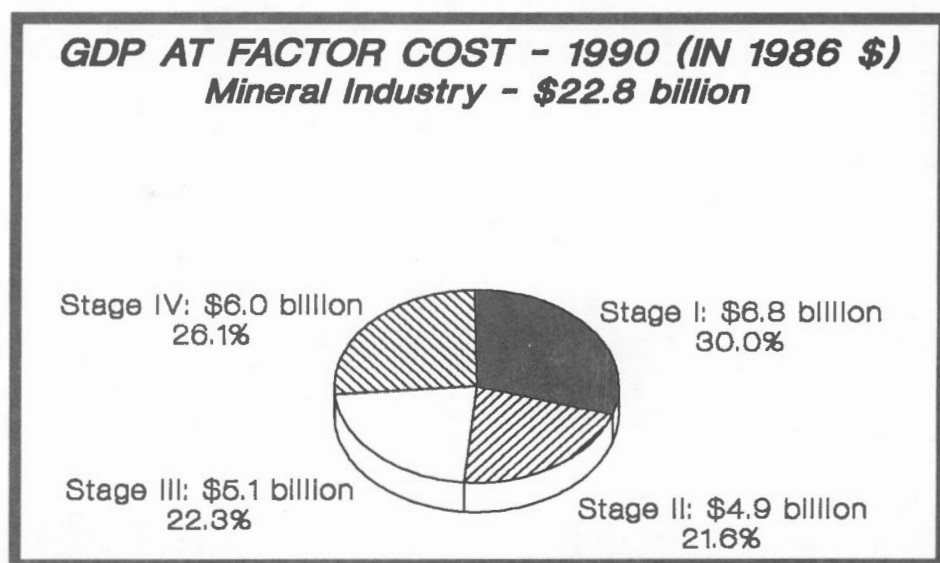
The value of shipments<sup>1</sup> by the mineral industry totalled \$60.3 billion in 1990 compared with \$65.8 billion in 1989; each of the four stages contributing about one quarter of the total. The 9.3% decline from 1989 reflected the general weakness in the Canadian economy during 1990, particularly in the goods-producing industries.

Chart 1

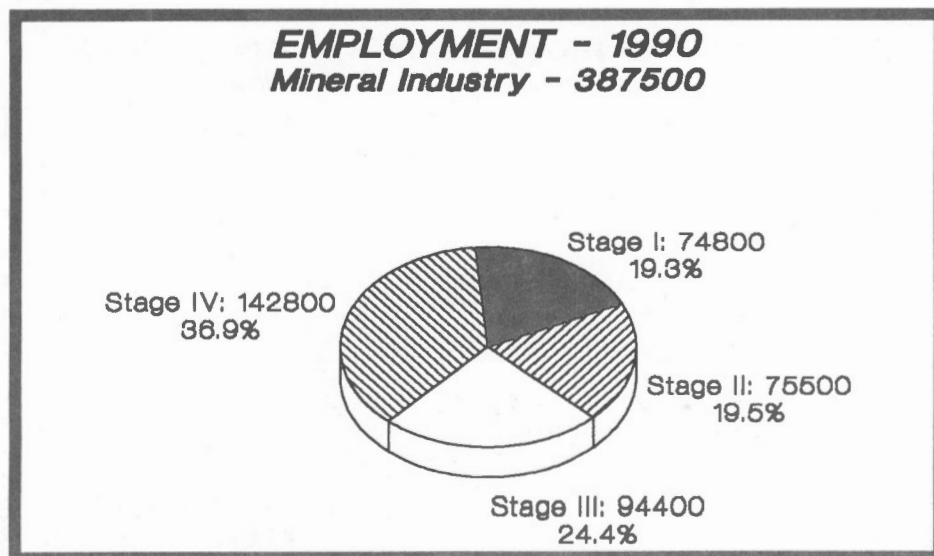


Another useful measure of output is the Gross Domestic Product (GDP), which eliminates the double counting inherent in the total for value of shipments.<sup>2</sup> In terms of GDP by industry at factor cost (measured on the basis of 1986 prices), Statistics Canada reported that the minerals and metals sector contributed \$22.8 billion to the Canadian economy in 1990.<sup>3</sup> This represented a decline of 5.3% from the 1989 level of \$24.1 billion. The mineral industry accounted for 4.5% of total industry GDP in 1990, averaging 4.7% over the past five years. The mining sector (Stage I) accounted for about 30% of the mineral industry GDP in 1990 and has averaged about 29% over the past five years (based on GDP at 1986 prices).

**Chart 2**



**Chart 3**

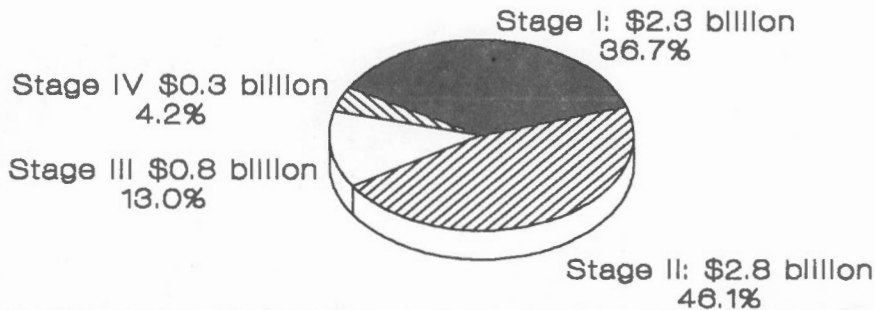


### Employment

Employment in the mineral industry totalled about 387 500 in 1990, about 3.1% of total employment in the economy. Mineral industry employment was down about 2.8% from the 1989 level, with all stages experiencing a decline during 1990. Total number of employees in Stage I (metal mining, nonmetal mining, quarrying and coal mining) was 74 800, down from 77 400 in 1989. Employment in Stage II (smelting and refining) was 75 500, down from 78 100 in 1989. Employment in Stages III and IV (semi-fabricating and fabricating mineral industries) declined to 237 200 in 1990 from 243 000 in 1989.

Chart 4

**CAPITAL EXPENDITURES - 1990**  
**Mineral Industry - \$6.2 billion**



**Investment**

Preliminary estimates by Statistics Canada, based on its annual survey of public and private investment, indicated that capital investment by the mineral industry on construction, machinery and equipment totalled \$6.2 billion in 1990 compared to \$6.0 billion in 1989. This 3.4% increase from the 1989 level was essentially the result of a large increase in capital investment in Stage II, the primary metals sector of the industry (\$2.8 billion versus

\$2.1 billion in 1989). Capital spending in the mining sector was down by 13.9% (\$2.3 billion versus \$2.6 billion in 1989). Overall, capital spending by the mineral industry in 1990 represented 4.5% of total capital spending in the economy.

Including repair expenditures, total spending by the mineral industry for capital investment and repair was \$10.4 billion, essentially unchanged from the 1989 level. Repair expenditures were \$4.2 billion, down from \$4.4 billion in 1989. Mineral industry spending in 1990 represented 6.0% of total capital and repair expenditures within the Canadian economy.

Chart 5

**CAPITAL AND REPAIR EXPENDITURES - 1990**  
**Mineral Industry - \$10.4 billion**

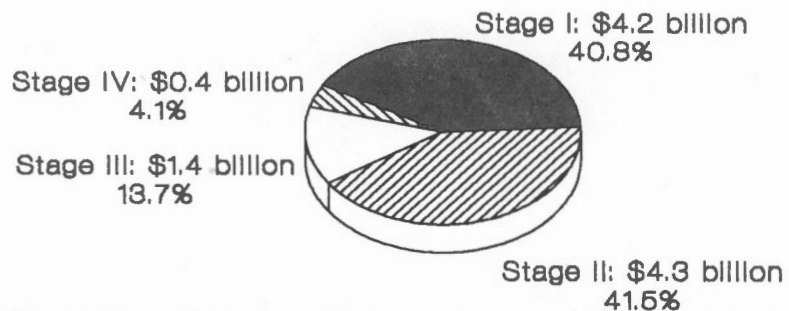
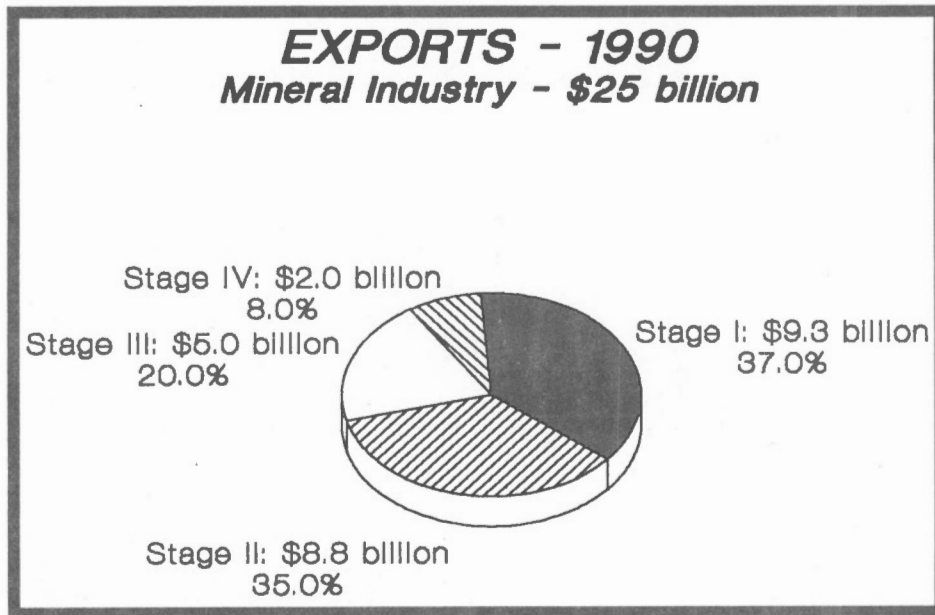


Chart 6



### Trade

Mineral industry exports in 1990 were about \$25.0 billion, representing all four stages of the industry.<sup>4</sup> Stages I and II, the mining and metallurgical extraction industries, accounted for almost three quarters of this total. Although mineral exports were down from the 1989 level of \$25.9 billion, the industry continued to maintain a significant share of total Canadian exports, accounting for 17.8% of the total in 1990, compared to 19.2% in 1989.<sup>5</sup>

The United States continued to be Canada's major minerals export market. In 1990, mineral exports of \$13.5 billion went to the United States, accounting for 53.9% of such exports (including coal, but excluding petroleum and natural gas), while 13.4% went to the European Communities and 13.1% went to Japan.

Mineral imports were \$13.7 billion in 1990, down from the previous year's level of \$14.6 billion. About 68.2% (\$9.4 billion) of the imports in 1990 came from the United States, with 12.0% from the European Communities and 3.2% from Japan. In terms of net trade, the mineral industry contributed a trade surplus of about \$11.3 billion to Canada's merchandise balance of trade, approximately the same as in 1989.

### Conclusion

By way of summary, the following charts (Charts 7 through 12) provide a historical overview of the mineral industry's performance over the past five years in terms of shipments, GDP, investment, employment and exports. Canada's mineral industry has traditionally been a source of strength to the overall economy. In 1990, having accounted for 5% (\$23 billion) of GDP, 3% (387 000) of employment, 6% (\$10 billion) of capital investment and repair expenditures and 18% (\$25 billion) of Canadian exports, the mineral industry was able to withstand the effects of the recession reasonably well and continued to maintain its position as a major contributor to the Canadian economy.

## Notes

- <sup>1</sup> Value of shipments for each stage of activity is gross, not net. Since the output of one stage is the input for the next stage, there is an element of double counting in terms of total value added.
- <sup>2</sup> Gross Domestic Product is a measure of total economic output. It is a value-added concept in that it measures only the net output of an industry, i.e., the value produced at a given stage of production after subtracting the cost of intermediate goods and services. This value added is attributable to the costs of the factors of production (land, labour and capital) that are used in producing the output.  
  
GDP by industry at factor cost equals the sum of the values added, i.e., the contributions made by each sector of the economy. To convert "GDP by industry at factor cost" to "GDP at market prices" (simply referred to as GDP), one must add an additional component to the GDP at factor cost, namely, indirect taxes net of subsidies.
- <sup>3</sup> In 1990, Statistics Canada converted its constant price GDP series to a new base year, using 1986 prices. The previous base year had been 1981. This change continued the policy of updating the time base from time to time in order to reflect more recent price structures. Constant price GDP estimates provide the necessary data to measure real economic growth from one period to another. By using the prices from a particular base year (say 1986 prices), the effect due to prices changes is removed.
- <sup>4</sup> As of January 1, 1988, Canadian external trade statistics have been classified and reported by Statistics Canada according to a new international commodity coding system referred to as the "H.S." or "Harmonized System" (Harmonized Commodity Description and Coding System). Total exports and imports for the years 1988 to 1990, as referred to in this article, are based on data as reported according to H.S. chapter summaries, i.e., those classes or commodity chapters that represent the mineral and metal product groups. The breakout by stage is based on a preliminary approximation by the Mineral and Metal Statistics Division at EMR Canada. Due to the implementation of the new H.S. coding system, as well as other changes in data collection and reporting procedures at Statistics Canada, the year-to-year historical data may not be directly comparable.
- <sup>5</sup> The mineral industry's share of Canadian exports is based on "domestic exports", i.e., total Canadian exports less re-exports. Re-exports are exports of goods of foreign origin which have not been materially transformed in Canada.

Chart 7

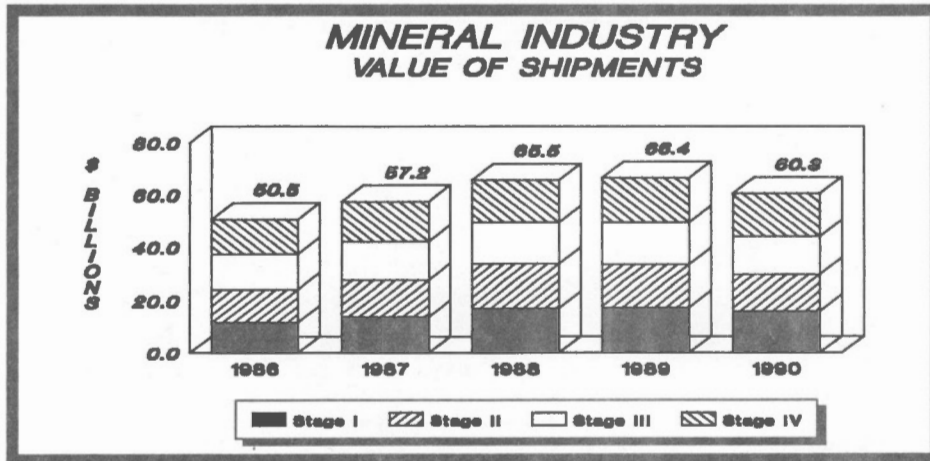


Chart 8

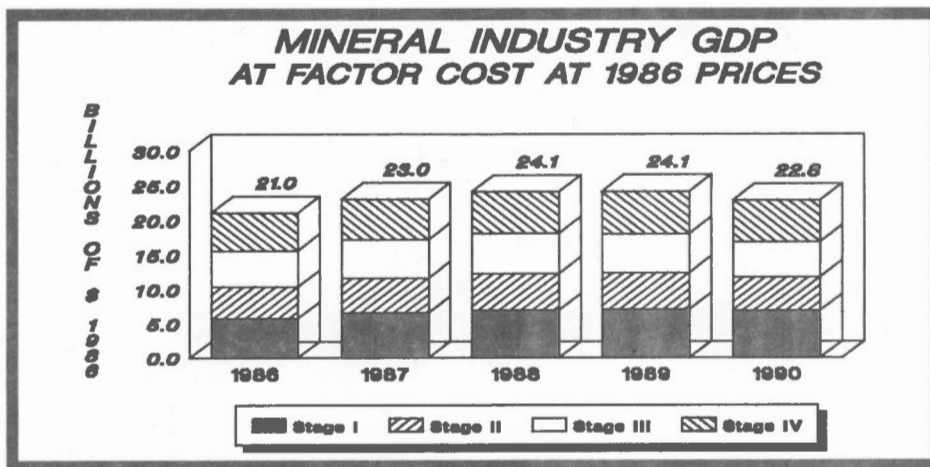


Chart 9

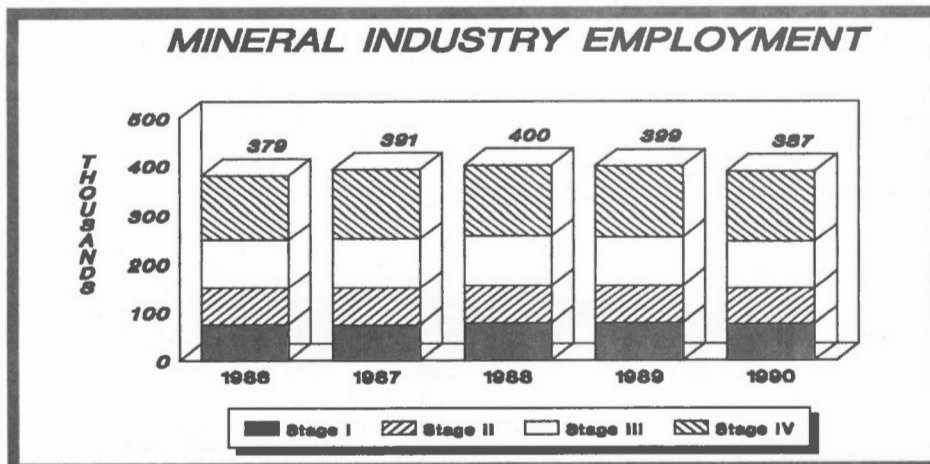


Chart 10

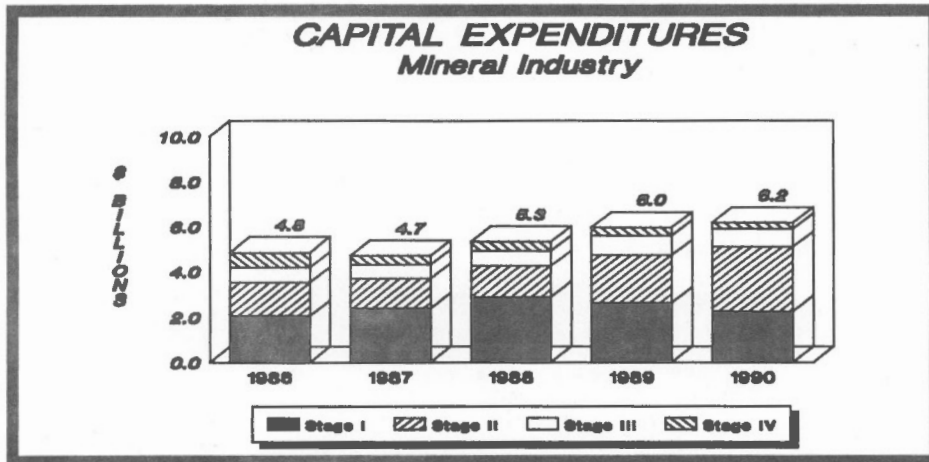


Chart 11

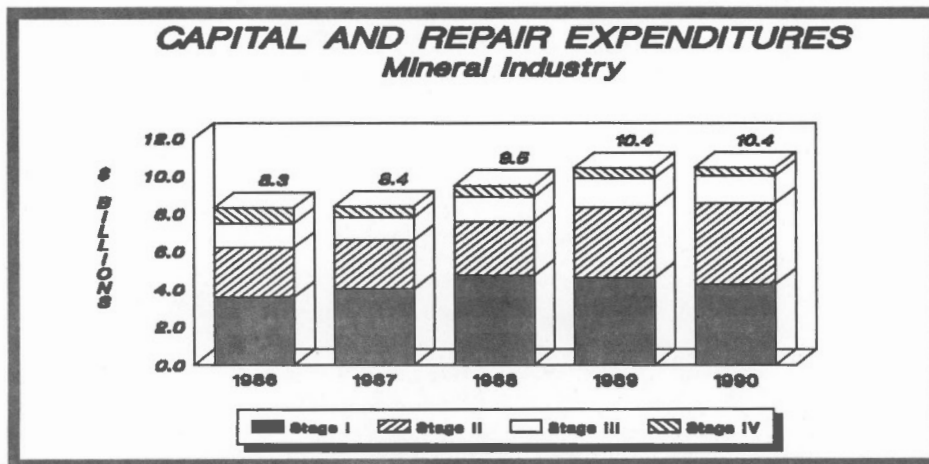
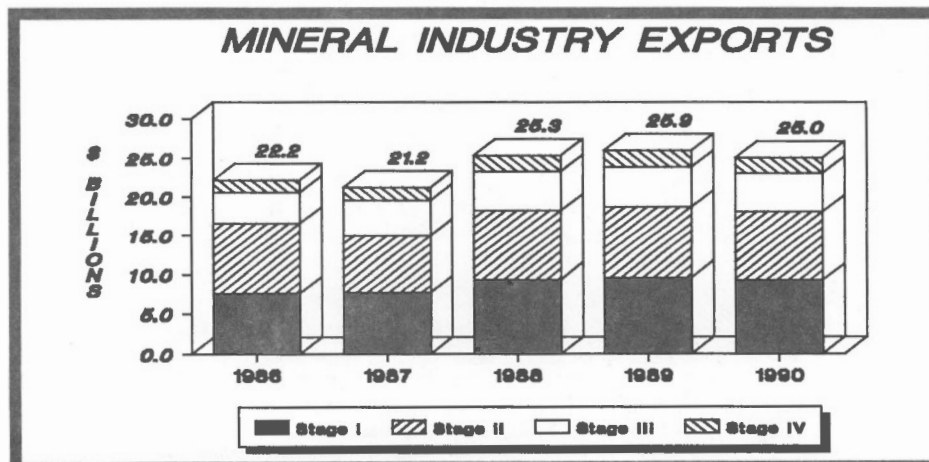


Chart 12





# ECONOMIC DIMENSIONS OF THE MINERALS AND METALS SECTOR, 1990P

Economic Indicator	STAGE				Stages I + II	Stages I + II + III	Stages I + II + III + IV
	I Mining and Concentrating	II Smelting and Refining	III Semi- Fabricating	IV Metal Fabricating			
<b>Output</b>							
Value of shipments (billions of 1990 dollars)	15.9	13.7	14.4	16.2	29.6	44.0	60.3
Gross Domestic Product (billions of 1986 dollars)	6.8	4.9	5.1	6.0	11.8	16.8	22.8
Percent share of total GDP	1.3	1.0	1.0	1.2	2.3	3.3	4.5
<b>Employment</b>							
Employment	74 800	75 500	94 400	142 800	150 300	244 700	387 500
Percent share of total employment	0.6	0.6	0.7	1.1	1.2	1.9	3.1
<b>Investment</b>							
Investment (capital and repair) (\$ billion)	4.2	4.3	1.4	0.4	8.6	10.0	10.4
Percent share of total investment	2.4	2.5	0.8	0.2	4.9	5.7	6.0
New investment (capital only) (\$ billion)	2.3	2.8	0.8	0.3	5.1	5.9	6.2
Percent share of total new investment	1.7	2.1	0.6	0.2	3.7	4.3	4.5
<b>External trade</b>							
Exports (\$ billion)	9.3	8.8	5.0	2.0	18.0	23.0	25.0
Percent share of total domestic exports	6.6	6.2	3.6	1.4	12.8	16.3	17.8
Imports (\$ billion)	2.7	3.0	5.5	2.5	5.8	11.3	13.7
Percent share of total imports	2.0	2.2	4.0	1.8	4.2	8.3	10.1
Balance of trade (\$ billion)	6.5	5.7	-0.5	-0.5	12.3	11.8	11.3

Sources: Mineral and Metal Statistics Division, Mineral Policy Sector, EMR and Statistics Canada.

P Preliminary, August 8, 1991.

Note: Components may not add due to rounding. All dollar figures are in current dollars, except Gross Domestic Product which is the GDP by industry at factor cost at 1986 prices. Data include coal and uranium, but exclude petroleum and natural gas and their products.

Stage I includes crude mineral ores and concentrates.

Stage II includes ferrous and nonferrous smelting and refining.

Stage III includes metal semi-fabricated products, wire and wire products, and nonmetallic mineral products.

Stage IV includes fabricated metal products, except wire and wire products which are in Stage III.



## METALLIC MINERALS AND PRODUCTS

## Nonferrous and Precious Metals Prices

**NONFERROUS AND PRECIOUS METALS PRICES<sup>1</sup>**

	1980s Extremes					June 1991		
	Low		High			Low	High	Average
	(US\$/lb)		(US\$/lb)			(US\$/lb)		
Aluminum	0.41	03/06/82	1.95	13/06/88		0.55	0.61	0.58
Copper	0.56	18/10/84	1.68	08/12/88		0.97	1.03	1.01
Lead	0.15	18/03/86	0.35	20/05/87		0.24	0.26	0.25
Nickel	1.42	26/11/82	10.84	28/03/88		3.68	3.86	3.76
Zinc	0.25	31/10/85	0.97	02/03/89		0.56	0.61	0.48
	(US\$/troy oz)		(US\$/troy oz)			(US\$/troy oz)		
Gold	285.00	26/02/85	502.75	14/12/87		361.50	372.75	366.34
Silver	4.86	20/05/86	10.92	27/04/87		4.15	4.57	4.39

Source: Nonferrous Division, Mineral Policy Sector.

<sup>1</sup> Prices used are the London Metal Exchange (LME) settlement prices for the nonferrous metals and the London Bullion Market Association (LBMA) morning fix for the precious metals.

## SPECIAL ITEMS

### Highlights of the 1989 Census of Quarries and Sand Pits

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Mineral and Metal Statistics Division

The value of production in 1989 by establishments classified as Quarries and Sand Pits increased by 2.4% to \$917.7 million compared to \$896.7 million in 1988. Ontario accounted for 51.4% (\$471.9 million) of the total value of production, followed by Quebec with 29.3% (\$269.3 million) and British Columbia with 6.3% (\$58.1 million). The other provinces produced the remaining 13.0%. Stone quarries accounted for 56% (\$513.9 million) of the total value of production and sand and gravel pits constituted the remaining 44% (\$403.8 million). In 1989, total employment in those establishments was 5881, down 0.6% from the 5917 recorded in 1988. The number of production and related workers was 4648 compared to 4718 in 1988. Total wages of those employed in these establishments were \$206.5 million, an increase of 1.7% over 1988. Of this amount, production and related workers earned \$153.2 million.

The total value of structural materials produced by all establishments in Canada regardless of industrial classification was \$2903.0 million, an increase of 1.4% over the corresponding amount for 1988. Of this amount, a total value of \$200.1 million of clay products, \$960.0 million of cement, \$201.6 million of lime, \$874.1 million of sand and gravel and \$667.2 million of stone was produced. Total shipments of stone valued at \$712 million were made from Canadian Quarries in 1989. Of this value shipped, 76% was limestone, 17% granite, 3% sandstone, 3% marble and 1% shale.

Complete details of the results of the 1989 Census of Quarries and Sand Pits as compiled by the Mineral and Metal Statistics Division of Mineral Policy Sector, EMR Canada, are available in Statistics Canada publication, Catalogue no. 26-225.

## Federal-Provincial Mineral Exploration Statistics

Ginette Bouchard (613) 992-4665  
Economic and Financial Policy Analysis Branch

### Background

Beginning with the year 1989, EMR has coordinated the collection of expenditures on general exploration while Statistics Canada has coordinated the collection of expenditures on on-property exploration, which it needs for preparation of Canada's National Accounts. Both federal agencies cooperate with the provinces and territories in assembling and publishing these comprehensive annual national exploration statistics.

### Exploration Results

In 1989, Canadian exploration expenditures, exclusive of those expended on the search for oil and natural gas, totalled \$828 million, down significantly from the \$1350 million spent in 1988 and the \$1300 million spent in 1987. Field work (Table 1) accounted for \$704 million, and the remaining \$124 million was spent on overhead.<sup>1</sup> Senior companies spent \$555 million of the \$828 million and junior companies spent \$273 million (Table 4b). As to exploration locale, \$713 million was spent on general exploration. The remaining \$115 million was directed to on-property (mine site) exploration, defined as the search for **new mines** on the properties of existing mines.

The most active exploration areas (Table 1) in 1989 were Ontario (\$217.8 million), British Columbia (\$186.6 million) and Quebec (\$185.0 million) which jointly accounted for 71% of Canadian exploration expenditures. Tables 1 to 7 provide additional information on 1989 exploration activities.

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<sup>1</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Preliminary exploration expenditures for 1990 (\$751 million) and exploration expenditures intentions for 1991 (\$646 million), shown in

Table 8, are based on a comprehensive survey of exploration companies carried out between December 1990 and March 1991.

**TABLE 1. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> ACTIVITIES BY PROVINCE AND BY TYPE OF WORK, 1989**

Province/Territory	Drilling (Surface and Underground)				Surveys - Other Exploration Work						Total Field Expenditures	Total Including Overhead <sup>2</sup>
	Diamond		Other		Geochemical	Geology	Geophysical		Rock Work	Other Field Costs		
	Metres	Cost	Metres	Cost			Ground	Airborne				
	(000)	(\$000)	(000)	(\$000)			(\$000)					
Newfoundland	104	8 346	0	78	2 837	7 347	2 129	516	2 439	4 827	28 519	36 200
Nova Scotia	32	2 134	1	30	217	1 645	579	0	8 273	4 838	17 715	21 436
New Brunswick	47	3 837	1	51	1 063	1 818	1 146	693	1 644	940	11 193	13 590
Quebec	1 100	70 014	0	0	6 179	20 236	7 098	1 474	16 424	44 371	165 798	185 010
Ontario	1 188	85 174	25	1 922	5 041	23 594	10 885	1 875	35 481	21 376	185 348	217 780
Manitoba	217	17 794	0	2	578	2 686	2 490	855	4 094	3 788	32 286	36 974
Saskatchewan	289	24 940	28	1 591	2 136	6 279	3 457	1 769	2 402	12 950	55 523	63 291
Alberta	5	452	108	2 666	111	148	163	0	5	719	4 265	6 250
British Columbia	717	57 418	127	2 569	9 016	19 605	7 020	2 290	22 516	29 298	149 732	186 623
Northwest Territories	203	16 100	0	2	1 842	11 258	2 793	993	3 023	3 606	39 617	45 708
Yukon Territory	37	5 190	6	560	951	2 057	519	79	1 435	2 705	13 496	15 066
CANADA	3 940	291 399	297	9 471	29 971	96 674	38 278	10 545	97 736	129 418	703 491	827 928

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.

**TABLE 2. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> ACTIVITIES BY TYPE OF COMPANY, 1989**

Type of Company	Drilling (Surface and Underground)				Surveys - Other Exploration Work						Total Field Expenditures	Total Including Overhead <sup>1</sup>
	Diamond		Other		Geochemical	Geology	Geophysical		Rock Work	Other Field Costs		
	Metres	Cost	Metres	Cost			Ground	Airborne				
	(000)	(\$000)	(000)	(\$000)			(\$000)					
1. Companies with a producing mine in Canada	1 997	144 774	136	4 884	10 371	35 400	12 724	3 785	31 152	55 342	298 430	335 373
2. Affiliates of group 1	514	40 299	133	2 231	5 841	19 978	7 100	2 461	13 979	13 177	105 066	126 982
3. Oil companies	73	5 376	0	2	954	2 239	832	169	4 504	2 928	17 003	23 859
4. Foreign companies (excluding group 3)	208	12 764	1	68	1 886	6 049	2 367	779	2 755	8 569	35 237	46 870
5. Junior companies and prospectors	1 066	81 543	25	2 050	9 631	29 567	14 134	2 856	43 917	46 362	230 060	272 589
6. Other companies	82	6 643	1	236	1 289	3 440	1 121	495	1 429	3 042	17 695	22 254

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.

**TABLE 3a. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> EXPENDITURES, NOT INCLUDING OVERHEAD<sup>2</sup>, BY PROVINCE AND BY COMMODITY SOUGHT, 1989**

Province/Territory	Metals					Nonmetals	Coal	Commodity Not Specified	Total Field Expenditures
	Base	Precious	Iron	Uranium	Other				
	(\$000)								
Newfoundland	8 142	16 420	364	17	1 347	1 384	0	846	28 519
Nova Scotia	779	15 628	30	0	316	307	583	72	17 715
New Brunswick	6 301	4 296	0	0	247	230	32	86	11 193
Quebec	43 292	110 667	65	51	3 706	8 016	0	0	165 798
Ontario	42 934	134 575	21	0	72	5 020	0	2 725	185 348
Manitoba	17 250	14 446	0	0	354	15	0	221	32 286
Saskatchewan	10 083	17 748	0	22 753	0	3 757	251	932	55 523
Alberta	0	38	0	800	0	37	3 314	76	4 265
British Columbia	27 610	116 166	5	0	1 244	961	2 531	1 215	149 732
Northwest Territories	4 220	31 034	15	3 159	0	548	0	642	39 617
Yukon Territory	2 701	9 607	0	16	7	0	0	1 166	13 496
CANADA	163 311	470 625	499	26 794	7 292	20 277	6 712	7 980	703 491

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.

**TABLE 3b. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD<sup>2</sup>,  
BY PROVINCE AND BY COMMODITY SOUGHT, 1989**

Province/Territory	Metals					Nonmetals	Coal	Commodity Not Specified	Total Including Overhead
	Base	Precious	Iron	Uranium	Other				
	(\$000)								
Newfoundland	9 375	19 585	384	53	1 443	4 210	0	1 150	36 200
Nova Scotia	1 036	18 213	35	0	351	828	856	117	21 436
New Brunswick	7 447	5 018	0	0	511	278	32	304	13 590
Quebec	47 723	123 729	65	51	4 080	9 363	0	0	185 010
Ontario	48 553	158 705	54	30	175	6 535	0	3 728	217 780
Manitoba	20 336	15 990	0	0	389	16	0	243	36 974
Saskatchewan	10 575	18 875	0	27 733	0	4 269	776	1 064	63 291
Alberta	0	64	0	1 332	0	37	4 738	80	6 250
British Columbia	31 850	146 099	6	0	1 404	1 165	4 701	1 399	186 623
Northwest Territories	4 382	35 162	77	4 411	0	610	0	1 066	45 708
Yukon Territory	3 026	10 694	0	18	12	1	0	1 315	15 066
CANADA	184 301	552 133	621	33 627	8 366	27 311	11 103	10 465	827 928

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.

**TABLE 4a. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> EXPENDITURES, NOT INCLUDING OVERHEAD<sup>2</sup>, BY TYPE OF COMPANY AND BY COMMODITY SOUGHT, 1989**

Type of Company	Metals					Nonmetals	Coal	Commodity Not Specified	Total Field Expenditures
	Base	Precious	Iron	Uranium	Other				
(\$000)									
1. Companies with a producing mine in Canada	102 115	166 495	284	13 243	2 207	5 733	5 595	2 758	298 430
2. Affiliates of group 1	24 448	75 774	0	362	655	193	411	3 223	105 066
3. Oil companies	1 445	14 368	0	257	130	134	670	0	17 003
4. Foreign companies (excluding group 3)	2 847	18 617	0	11 425	0	2 349	0	0	35 237
5. Junior companies and prospectors	25 296	185 358	215	1 508	4 286	11 488	36	1 872	230 060
6. Other companies	7 161	10 014	0	0	14	379	0	127	17 695

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

<sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.



**TABLE 4b. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD<sup>2</sup>, BY TYPE OF COMPANY AND BY COMMODITY SOUGHT, 1989**

Type of Company	Metals					Nonmetals	Coal	Commodity Not Specified	Total Including Overhead
	Base	Precious	Iron	Uranium	Other				
(\$000)									
1. Companies with a producing mine in Canada	109 942	187 580	368	15 485	2 493	7 729	7 853	3 923	335 373
2. Affiliates of group 1	29 602	91 392	3	402	804	202	482	4 094	126 982
3. Oil companies	1 834	18 764	0	321	130	140	2 669	1	23 859
4. Foreign companies (excluding group 3)	3 748	23 570	0	15 670	0	3 866	15	0	46 870
5. Junior companies and prospectors	30 265	218 152	246	1 749	4 924	14 874	83	2 295	272 589
6. Other companies	8 908	12 675	4	0	15	500	0	152	22 254

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

<sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.

**TABLE 5. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> OF SURFACE AND UNDERGROUND DRILLING, BY PROVINCE AND BY COMMODITY SOUGHT, 1989**

Province/Territory	Metals					Nonmetals	Coal	Total
	Base	Precious	Iron	Uranium	Other			
	(000 metres)							
Newfoundland	43	60	0	0	0	2	0	105
Nova Scotia	5	24	0	0	2	1	2	33
New Brunswick	28	16	0	0	3	1	1	48
Quebec	311	743	0	0	6	40	0	1 100
Ontario	290	898	0	0	2	24	0	1 213
Manitoba	142	71	0	0	4	0	0	217
Saskatchewan	63	86	0	153	0	7	9	317
Alberta	0	0	0	4	0	1	108	113
British Columbia	132	693	0	0	5	2	11	844
Northwest Territories	23	172	0	8	0	0	0	203
Yukon Territory	15	28	0	0	0	0	0	42
<b>CANADA</b>	<b>1 051</b>	<b>2 790</b>	<b>0</b>	<b>164</b>	<b>22</b>	<b>79</b>	<b>130</b>	<b>4 236</b>

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

Note: Figures may not add to totals due to rounding.

**TABLE 6. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> OF SURFACE AND UNDERGROUND DRILLING BY TYPE OF COMPANY AND BY COMMODITY SOUGHT, 1989**

Type of Company	Metals					Nonmetals	Coal	Total
	Base	Precious	Iron	Uranium	Other			
(000 metres)								
1. Companies with a producing mine in Canada	684	1 204	0	98	10	23	113	2 133
2. Affiliates of group 1	165	462	0	1	3	0	17	648
3. Oil companies	7	65	0	1	0	0	0	73
4. Foreign companies (excluding group 3)	31	118	0	57	0	3	0	209
5. Junior companies and prospectors	135	889	0	6	10	50	0	1 091
6. Other companies	27	54	0	0	0	2	0	84

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

Note: Figures may not add to totals due to rounding.

**TABLE 7a. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> EXPENDITURES, NOT INCLUDING OVERHEAD<sup>2</sup>, BY PROVINCE AND BY TYPE OF COMPANY, 1989**

Province/Territory	(1) Companies With a Producing Mine in Canada	(2) Affiliates of (1)	(3) Oil Companies	(4) Foreign Companies Excluding (3)	(5) Junior Companies and Prospectors	(6) Other Companies	Total Field Expenditures
	(\$000)						
Newfoundland	5 488	10 198	1 464	136	11 233	0	28 519
Nova Scotia	1 223	2 574	0	2 111	11 790	18	17 715
New Brunswick	4 122	2 512	0	71	4 349	139	11 193
Quebec	81 871	15 507	285	5 796	52 482	9 857	165 798
Ontario	84 244	36 597	3 539	7 836	51 119	2 012	185 348
Manitoba	14 973	13 801	9	354	2 564	586	32 286
Saskatchewan	31 466	2 009	2 201	9 622	10 226	0	55 523
Alberta	3 743	411	0	0	111	0	4 265
British Columbia	52 065	15 281	5 742	5 125	66 883	4 636	149 732
Northwest Territories	15 202	3 558	1 100	4 163	15 457	138	39 617
Yukon Territory	4 034	2 618	2 664	23	3 847	310	13 496
<b>CANADA</b>	<b>298 430</b>	<b>105 066</b>	<b>17 003</b>	<b>35 237</b>	<b>230 060</b>	<b>17 695</b>	<b>703 491</b>

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.

**TABLE 7b. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD<sup>2</sup>, BY PROVINCE AND BY TYPE OF COMPANY, 1989**

Province/Territory	(1) Companies With a Producing Mine in Canada	(2) Affiliates of (1)	(3) Oil Companies	(4) Foreign Companies Excluding (3)	(5) Junior Companies and Prospectors	(6) Other Companies	Total Including Overhead
				(\$000)			
Newfoundland	6 713	11 940	1 930	164	15 453	0	36 200
Nova Scotia	2 324	3 093	7	2 328	13 658	26	21 436
New Brunswick	4 771	2 977	0	79	5 613	152	13 590
Quebec	89 042	18 056	310	6 741	58 471	12 388	185 010
Ontario	92 029	48 541	5 539	10 437	58 641	2 593	217 780
Manitoba	18 139	14 899	9	454	2 841	632	36 974
Saskatchewan	34 236	2 250	2 270	13 200	11 335	0	63 291
Alberta	5 391	482	235	0	142	0	6 250
British Columbia	61 992	17 727	8 751	7 687	84 520	5 946	186 623
Northwest Territories	16 243	4 200	1 845	5 748	17 489	182	45 708
Yukon Territory	4 493	2 816	2 963	32	4 426	336	15 066
<b>CANADA</b>	<b>335 373</b>	<b>126 982</b>	<b>23 859</b>	<b>46 870</b>	<b>272 589</b>	<b>22 254</b>	<b>827 928</b>

Source: Compiled by Energy, Mines and Resources Canada from the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Figures may not add to totals due to rounding.

**TABLE 8. GENERAL EXPLORATION PLUS MINE SITE EXPLORATION EXPENDITURES BY PROVINCE, 1989-91**

Province/Territory	1989 <sup>a</sup>		1990 <sup>p</sup>	1991 <sup>f</sup>
	Field Expenditures	Field and Related Overhead Expenditures	Field and Related Overhead Expenditures	Field and Related Overhead Expenditures
(\$000)				
Newfoundland	28 519	36 200	23 642	16 840
Nova Scotia	17 715	21 436	8 718	9 180
New Brunswick	11 193	13 590	18 523	21 738
Quebec	165 798	185 010	175 739	150 722
Ontario	185 348	217 780	141 215	123 846
Manitoba	32 286	36 974	36 637	34 971
Saskatchewan	55 523	63 291	57 589	51 299
Alberta	4 265	6 250	7 559	7 119
British Columbia	149 732	186 623	226 271	166 792
Northwest Territories	39 617	45 708	33 238	36 735
Yukon Territory	13 496	15 066	22 073	26 995
CANADA	703 491	827 928	751 204	646 237
Canada General	593 966	712 555	643 534	548 333
Canada Mine Site	109 525	115 373	107 670	97 904

Source: Compiled by Energy, Mines and Resources Canada and Statistics Canada from the Federal-Provincial Surveys of Mining and Exploration Companies.

<sup>a</sup> Final. <sup>p</sup> Preliminary estimate (survey carried out December 1990 through March 1991). <sup>f</sup> Forecast (survey carried out December 1990 through March 1991).

Note: Figures may not add to totals due to rounding.

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