

RD82
.8C214
Dec. 1979

LIBRARY / BIBLIOTHÈQUE
JAN 31 1980
GEOLOGICAL SURVEY
COMMISSION GÉOLOGIQUE

The Canadian Mineral Industry Monthly Report

December 1979



Energy, Mines and
Resources Canada

Énergie, Mines et
Ressources Canada

Minerals

Minéraux

PREFACE

This report is prepared in the Mineral Policy Sector of the Department of Energy, Mines and Resources. It is prepared from the best information available to us from many sources, but it is only intended to be a general review of the more important current developments in the Canadian mineral industry and of developments elsewhere that affect, or may affect, the Canadian industry. It should not be considered an authority for exact quotation or an expression of official Government of Canada views.

Mineral Policy Sector
Department of Energy, Mines
and Resources
580 Booth Street
Ottawa, Canada K1A 0E4

PRÉFACE

Ce rapport a été rédigé par le Secteur de la Politique Minérale du Ministère de l'Énergie, des Mines et des Ressources. Bien que nous ayons eu recours à de nombreuses sources pour vous fournir les meilleurs renseignements possibles, cet exposé n'a pour objet que de passer en revue les développements actuels les plus importants de l'industrie minière canadienne, de même que les progrès accomplis ailleurs qui peuvent intéresser l'industrie canadienne. On ne doit pas considérer cet exposé comme une source de renseignements précis ou comme l'expression des vues du Gouvernement canadien.

Secteur de la Politique Minérale
Ministère de l'Énergie, des Mines
et des Ressources
580, rue Booth
Ottawa, Canada K1A 0E4

This document was produced
by scanning the original publication.

Ce document est le produit d'une
numérisation par balayage
de la publication originale.

CONTENTS

1	HIGHLIGHTS - FAITS SAILLANTS
3	ECONOMIC TRENDS - 1979 REVIEW
6	1980 and Beyond
8	Indexes of Industrial Production
16	TAXATION AND LEGISLATION AFFECTING THE MINERAL AND ALLIED INDUSTRIES IN CANADA
16	Provincial
16	Alberta
16	Saskatchewan
16	Quebec
17	Newfoundland
18	REGIONAL PROFILES
18	Ontario
20	Saskatchewan
22	British Columbia
26	METALLIC MINERALS AND PRODUCTS
26	Aluminum
26	Copper
26	Gold
27	Lead
28	Nickel
28	Silver
29	Tin
29	INDUSTRIAL MINERALS AND PRODUCTS
29	Asbestos
30	MINERAL FUELS AND PRODUCTS
30	Petroleum and Natural Gas
30	Uranium
32	NEW PUBLICATIONS - NOUVELLES PUBLICATIONS

THE CANADIAN MINERAL INDUSTRY FOR DECEMBER

L'INDUSTRIE MINÉRALE DU CANADA - DÉCEMBRE

The following constitutes a brief summary of the Canadian mineral industry based upon information that became available in December.

Ceci constitue un résumé d'événements importants survenus dans l'industrie minérale du Canada, selon des renseignements qui étaient disponibles en décembre.

HIGHLIGHTS

1. Canada's unadjusted index of Real Domestic Product was 140.5 in October 1979, a decline of 14.1 per cent from September 1979.
2. The Canadian producer price for copper rose during December from \$1.20 a pound to \$1.23 a pound at month end.
3. Japanese officials will ask the LME to open a Tokyo warehouse which would be the first in Asia, as soon as possible.
4. The monthly average gold price for December 1979 of the afternoon fixing prices on the London Gold market was \$455.11 (U.S.) (\$532.03 Cdn.) an ounce of gold compared with \$391.99 (U.S.) (\$462.40 Cdn.) an ounce for November.
5. Cominco Ltd. announced in November that it will develop the Polaris zinc/lead deposit of Arvik Mines Ltd. at an approximate capital cost of \$150 million.

FAITS SAILLANTS

1. L'indice non désaisonnalisé du produit intérieur réel au Canada était de 140,5 en octobre 1979, soit une diminution de 14,1% par rapport au mois de septembre 1979.
2. Le prix des producteurs canadiens de cuivre est passé au cours du mois de décembre de \$1.20 à \$1.23 la livre, à la fin du mois.
3. Des représentants japonais demanderont au Marché de Londres (LME) d'ouvrir, le plus tôt possible, un entrepôt à Tokyo; il s'agirait du premier entrepôt en Asie.
4. En décembre 1979, le prix mensuel moyen de l'or, selon les fixings de l'après-midi sur le marché de l'or à Londres (LGM), a atteint \$455.11 (\$É.-U.), \$532.03 (\$Can.) l'once, comparativement à \$391.99 (\$É.-U.), \$462.40 (\$Can.) l'once en novembre.
5. La société Cominco Ltée a annoncé en novembre qu'elle mettrait en valeur le gisement de zinc et de plomb Polaris de l'Arvik Mines Ltd. à un coût en capital approximatif de 150 millions de dollars.

6. A 3.5 per cent ad valorem tariff on lead imports was put into effect in the United States in December, replacing the previous tariff of 1 cent (U.S.) a pound.
7. The monthly average silver price for December 1979 was \$21.79 (U.S.) an ounce compared with \$16.60 an ounce for November and \$5.93 an ounce for December 1978.
8. On December 13, 1979, Asbestos Corporation Limited was granted, by the Quebec Court of Appeals, an interlocutory injunction to hold off an immediate takeover by the Quebec government.
6. Un tarif ad valorem de 3,5% sur les importations de plomb est entré en vigueur aux États-Unis au mois de décembre, en remplacement du tarif précédent de un cent américain la livre.
7. Le prix mensuel moyen de l'argent était de \$21.79 (\$É.-U.) l'once en décembre 1979, comparativement à \$16.60 l'once en novembre et à \$5.93 en décembre 1978.
8. Le 13 décembre 1979, la Société Asbestos Limitée (S.A.L.) s'est vue accorder, par la Cour d'appel du Québec, une injonction interlocutoire pour retarder sa prise de possession immédiate par le Gouvernement du Québec.

ECONOMIC TRENDS 1979 REVIEW

Both mining and mineral processing industries in Canada enjoyed one of the best years of the decade in terms of operating revenues and net profits, even though volume of output dropped for a number of major metals. Total value of production reached an all-time high in 1979, exceeding \$26 billion. The value of metals increased 40.4 per cent from the previous year to \$8.0 billion. Mineral fuels showed a 25.5 per cent increase in value, reaching a high of \$14.5 billion. The value of the nonfuel mineral industry increased 33.4 per cent from \$8.7 billion in 1978 to \$11.6 billion in 1979. Values of the leading mineral commodities were: crude petroleum, \$7.6 billion; natural gas, \$4.7 billion; iron ore, \$1.9 billion; copper, \$1.5 billion; natural gas byproducts, \$1.4 billion; and zinc, \$1.1 billion. These numbers indicate a general buoyancy in the major metal and nonmetal markets.

The most startling changes of the year occurred in the gold market. Beyond the wildest predictions, the price of gold moved from a low of \$US 200.00 during 1978 to a high of \$US 564.00 in 1979. Extreme fluctuations throughout the year have led to a general feeling of uncertainty in money markets. In periods of distress, gold becomes attractive, given its ready acceptability and convertibility. The past year was marked by climbing interest rates, reaching all-time highs of 13 to 14 per cent in September, along with a declining dollar (US and Canadian) relative to the West German mark and other strong currencies. Combined with rising OPEC prices have been rumours of demands for payments to OPEC countries in something other than US dollars, putting further downward pressure on both Canadian and US currencies. This comes at a time when, on a per capita basis, Canada's balance of payments deficit for 1979 will be the highest of any western country, reaching \$5.3 billion. As a percentage of GNP it exceeds that of the US by almost three times.

All of these things have encouraged the move away from paper currencies, thus providing the gold mining industry in Canada with a renewed vitality, not felt for many years. The past months have witnessed the reopening of mines long abandoned, expansion of existing mines and new exploration with an air of "gold fever". Previously uneconomic mining ventures have now become profitable especially given the advantage of the depressed Canadian dollar relative to other currencies. Producers are enjoying a fairly wide buffer between costs and revenues. Running a distant second to South Africa in free world gold production, Canada's volume decreased in 1979 by about 9 per cent from 1978, but value increased during the period by 42 per cent. Most metal market analysts agree that gold prices will remain high as long as the industrial economies continue in a slump and the USSR, the other major producer, does not trade on the free market.

The Canadian government announced early in the year the decision to mint Canada's first gold bullion coin. The "Gold Maple Leaf", containing exactly one ounce of gold and having a face value of \$50 was made available in the fall to distributors at the current price of gold on the London Market plus a small premium to cover the cost of manufacturing, marketing and distribution.

Following on the price rise of gold, other precious metals, including silver and platinum, have shown substantial increases in the past year. Silver production, down 6 per cent, showed an 80 per cent increase in value. Platinum, down 47 per cent in output, recorded only a 14 per cent decline in value. A large number of small investors, attracted by the inflation hedge helped to boost silver prices to nearly five times what they were last in 1978.

Another very volatile market was that of copper. Marked by an eight-month strike that started in September 1978 at Inco Limited's (Inco's) Sudbury operation and a strike by Noranda Mines Limited workers at Gaspé Copper Mines, Limited, inventories were drawn down and volume of production reduced in the first half of the year. This, combined with improved consumer demand, caused the price of copper to fluctuate as it had seldom done before. The copper market was formerly one of orderly price changes that came only three or four times a year and was even used by some analysts as a guide to industrial demand. However, the frequent price shifts seen in the past year, reflecting unsettled domestic and international conditions and improvement in world consumption, were beyond speculation. At a price of Cdn. 86 cents a pound in January, by March it had risen to a high of \$1.22 pound. During the summer it stabilized and averaged approximately \$Cdn. 1.00 a pound, but in September it reached a record high of \$1.30 a pound for full-plate cathode. Similar price patterns were seen on the New York Commodity Exchange and on the London Metal Exchange where the highest price levels since 1974 were recorded. The greatly increased earnings of copper producers improved substantially the prospects of new mine openings and capacity expansions. The year was marked by encouraging announcements such as the opening of Highmont Mining Corporation and Valley Copper Mines Limited and the expansion of Lornex Mining Corporation Ltd., already one of the largest producing mines in Canada.

Other base metals, though perhaps not quite as spectacular, showed favorable market conditions. The aluminum industry experienced record price increases brought on by tight market supplies, due partly to labour problems at Aluminum Company of Canada's smelter operations in Quebec. In the nickel industry, Inco Metals Company posted nickel prices in February for the first time since July 1977. The industry, plagued by layoffs and cutbacks in production in 1978, seems to have stabilized. The strike at Sudbury ended in June and with inventories at more "manageable" levels, analysts agree that current record prices of \$US 3.00 per pound should hold.

Record high price levels were also experienced in lead, zinc and molybdenum markets. Cominco Ltd. announced its intentions of bringing three new mines (two lead and one lead-zinc) into production during the next five years; all indications of a healthier industry.

The iron ore industry recorded a strong increase in output of about 40 per cent over the previous year. Export sales hit record highs, given the advantage of a discounted dollar, and a return to full operations after the labour strikes of 1978, but the world industry continued to be plagued by problems of oversupply. Out of eight mines operating in Ontario until two years ago, only four remain. Competition with US producers, along with high costs, have forced small producers to close down and any exploration or expansion plans to be deferred by the larger operators. However, these problems have not been carried over into the steel industry. The sluggishness in the US and European steel markets, has not yet been felt in Canada. In the US in the last six months auto sales fell by 16.7 per cent, largely because of high prices and shortages of gasoline indicating the possibility of pressure on the steel industry in the near future. However, in Canada, The Steel Company of Canada Limited (Stelco) and Dominion Foundries and Steel Limited (Dofasco) have both reported earnings substantially higher than last year. Demand for steel has remained strong. Stelco's new Lake Erie development scheduled to come on stream next April will double the company's capacity to help meet that demand. Stelco also approved a new five-year, \$365 million capital spending program for the Hilton steelworks in Hamilton.

Growth was exhibited in the asbestos industry in 1979 in terms of production, sales and exports despite the uncertainties faced by it in the past few years. The Quebec government continued with its expropriation plans for Asbestos Corporation Limited, by far the largest producer in Canada. General Dynamics Corporation, having controlling interest (54.6 per cent) in Asbestos Corp. has challenged the legality of Bill 121 in the Quebec Superior Court. The industry has also been subjected to much lobbying in Canada and around the world pressing for more stringent safety and health standards. Regulations are now being considered in the US that could restrict the use of certain fibres and asbestos-based products, making the future of industry somewhat unpredictable.

Potash Corporation of Saskatchewan (PCS) has instituted expansion plans based on forecasts of both steady and strong growth in world demand for fertilizer. Almost half of the world's known reserves of potash are in Saskatchewan. Value of production increased 37.8 per cent in 1979, with almost 70 per cent of the potash produced being exported to the US.

Significant increases were exhibited in the dollar values of export trade. Total exports in the first nine months reached \$13.4 billion, 25 per cent greater than in 1978. Export volumes were down

for many commodities even though values were up. Of the leading export commodities, based on the first nine months of 1979, only primary aluminum, refined copper and nickel, in oxide and refined metal, showed decreases in value from the previous year. In these cases, volume was down due to strikes in each industry, but considerably more than was value. Exports of lead in ores and concentrates showed a 33.4 per cent increase in volume and a 186.8 per cent increase in value. These numbers show an encouraging picture, but total crude and fabricated exports as a percentage of domestic exports of all products still show a decline from levels recorded earlier in the decade. In 1970, mineral exports represented 30.9 per cent of total domestic exports. In 1979, that percentage, based on the first nine months, was down to 28.7, even though many metals experienced a price boom. Crude mineral exports as a percentage of total mineral exports increased from 54.6 per cent in 1970 to 61.8 per cent in 1979, indicating a smaller share of exports in fabricated forms where value and benefits to Canadians could be greater.

Other indicators of the strength of the mineral industry's performance in 1979 include the index of Real Domestic Product (RDP) in 1971 dollars. Total RDP showed a steady increase over the past year, but metal mines, in a major slump since early 1978, showed a strong jump in the third quarter of 1979, moving from 82.2 to 106.8. The Industry Selling Price Indexes for iron and steel mills and metal rolling, casting and extruding increased 13.2 per cent and 28.3 per cent respectively, well above the Canadian Consumer Price Index which increased 8.7 per cent last year.

The mineral industry closed the decade by recovering some of the strength exhibited early in the 1970's, though not near the levels achieved in the 1950's and the 1960's. The 1970's have been marred by uncertainties. Inflation averaged more than 7 per cent for the past five years, compared with rates less than half that in the 60's. At the same time productivity in the economy, as measured by real output per worker, was down. The balance of payments deficit reached an all-time high, and the foreign exchange rate reached a new low of US 83.2 cents in 1979. In spite of these downward trends, the mineral industry has shown a very positive recovery.

1980 and Beyond

Growth rates are down for all major industrial sectors of the Canadian economy with the exception of the fuel industry. Projections to 1985 show a rate of growth of 2.5 per cent in nonfuel mineral production, almost half the historical rate of 4 per cent, experienced from 1960-78. The outlook is not as pessimistic for all mineral commodities. On the fuel side, the reverse is true. Off-shore oil discoveries made in 1979 bring a whole new dimension to the oil and gas industry and help to make the goal of self-sufficiency in the 1990's

much more attainable. Oil discoveries in the Beaufort Sea and off the coast of Newfoundland have added excitement to a bleak atmosphere of increasing energy prices and shortages. Sufficient reserves have yet to be proven at the Hibernia field off Newfoundland, before production could begin, but at present the site is said to be capable of producing more than 20,000 barrels a day. If adequate reserves are proven, production could start in two years. Sources of energy, perhaps the key issue of the new decade, will bring record increases in capital spending in the next few years.

The nonfuel sector is also attracting new capital for exploration and development. The last two years have seen a reduction in inventories for major base metals. Those high inventories were caused by a decrease in world demand in response to the energy crisis of 1973. Depressed prices prevalent in the industry for most of the last five years are rising again, leading to improved profits, so that firms are once again in a position to undertake major expansions and new developments. Projected levels of capital spending verify a renewed faith in sustained higher prices for the 1980's, maintained by a strengthening in world demand and a tightening of international markets.

Teck Corporation plans to bring its copper-molybdenum Highmont mine on stream by the end of 1980, producing 3 000 t of molybdenum and 20 000-22 500 t of copper per year and employing between 350 and 375 people. Noranda Mines Limited and Pamour Porcupine Mines Limited have agreed to spend \$4.5 million to bring the Discovery Mines Limited and Camlaren Mines, Limited gold property into production in short order. Asbestos Corporation says it will invest \$122 million by 1984 to expand mines and modernize equipment to increase production by 10 per cent. Cominco Ltd. will proceed immediately to bring its Arvik lead-zinc mine into production at a cost of \$150 million with production to begin in early 1982 and continue for 20 years. Potash Corporation of Saskatchewan announced a 10-year, \$2.5 billion expansion plan that will increase production from 3.5 million t of potash to 11.3 million t in the late 1980's. A joint venture of Noranda Mines Limited and MacDonald Mines Ltd. has announced spending plans of \$5.5 million to prepare a zinc property in the Rouyn-Noranda area of Quebec, to begin production in mid-1981 and create 50-60 jobs.

All of these announcements display the exuberance being felt in the mineral industry despite predictions of recession. The Canadian Mining Journal's 1979 Capital Spending Report calls for capital spending of \$18 billion by the Canadian mining industry in the foreseeable future.¹ "Although expenditures in 1979-80 remain fairly close for fuel and nonfuel producers (\$1.847 billion and \$1.860 billion respectively), by 1985 spending in the fuel-producing industries will total \$15.4 billion, over five times the amount to be spent by nonfuel producers"¹. Shades of the price boom in mineral commodities during 1973 can be felt; at that time confidence in sustained high prices led

¹ The Canadian Mining Journal, volume No. , October 1979.

the industry to invest heavily and expand capacity for almost every mineral commodity. The repercussions of the events that followed are only now fading. Whether the situation will repeat itself cannot be predicted. In 1973 most Western industrialized countries enjoyed simultaneous peaking of growth rates and took advantage of worldwide record prices. If Canada can maintain its competitive position in world markets, the events which followed 1973 may not recur. The resource base is more than adequate, but the costs for new developments must be kept comparable to those in other countries. Producers would appear to be more aware and more prepared for the situation.

This review and outlook may appear to be somewhat contradictory since it stresses a strong mineral industry in a weak economy. The economy, if not stagnating, is growing at a miniscule rate, while the mineral industry stands confident. It enjoyed a positive year, the closing year of a somewhat disappointing decade. Trading partners are either in or approaching recessionary conditions and yet, mining companies are modernizing present operations and planning new ones. This can only be in anticipation of a brighter, healthier new decade. The 1970's fell far short of growth predictions made in the previous decade. As a result, predictions for the 1980's are much more conservative and possibly more realistic in this era of economic restraint.

INDEXES OF INDUSTRIAL PRODUCTION

Table 1 shows Canada's unadjusted indexes of Real Domestic Product (RDP). The overall index in October was 140.5, a decline of 14.1 per cent from September.

The RDP index for Mines, Quarries and Oil Wells increased a modest 0.8 per cent in October to 119.4. Metal mines was down 1.5 per cent with iron mines showing a decrease of 22.7 per cent over the month. Mineral fuels increased from 120.7 in September to 126.6 in October while nonmetal mines decreased from 143.3 to 136.3 over the period.

Primary metal industries showed an increase of 8.6 per cent in October with smelting and refining moving from 76.2 in September to 98.2 in October an increase of 28.9 per cent.

Table 2 compares volume of production in major Canadian minerals. Significant changes in output were recorded from September 1979 to October 1979 in iron ore, (down 28.6 per cent); lead, (down 54.9 per cent); molybdenum, (down 28.2 per cent); nickel, (up 19.4 per cent); silver, (down 18.5 per cent); and zinc (down 40.5 per cent).

TABLE A

Canada, Production of Leading Minerals, 1978-79

		1978	1979 ^P	% Change 1979/1978	1978	1979 ^P	% Change 1979/1978
		(000 tonnes except where noted)			(millions \$)		
Metals							
Copper		659.4	643.8	-2.4	1,084.2	1,515.4	+39.8
Gold	kg	53 966.9	49 175.0	-8.9	382.4	543.1	+42.0
Iron ore		42 930.8	60 185.0	+45.3	1,221.6	1,888.8	+62.3
Lead		319.8	315.8	-1.3	259.6	414.4	+59.6
Molybdenum	t	13 943.4	11 187.0	-19.8	179.1	330.1	+84.3
Nickel		128.3	131.6	+2.6	635.5	826.4	+30.0
Silver	t	1 266.9	1 184.0	-6.5	251.4	451.9	+79.8
Uranium U	t	8 210.6	6 956.0	-15.3	617.5	663.9	+7.5
Zinc		1 066.9	1 148.5	+7.6	817.5	1,107.4	+35.5
Nonmetals							
Asbestos		1 421.8	1 501.0	+5.6	532.4	641.2	+20.4
Gypsum		8 074.4	8 105.0	+0.4	38.6	42.8	+10.9
Potash K ₂ O		6 344.0	7 046.0	+11.1	504.5	695.3	+37.8
Salt		6 451.9	6 672.0	+3.4	98.3	113.9	+15.9
Cement		10 558.3	11 835.0	+12.1	572.6	736.9	+28.7
Clay products		..	..	..	109.6	125.4	+14.4
Lime		2 034.2	2 092.0	+2.8	76.2	79.2	+3.9
Fuels							
Coal		30 478.0	33 120.0	+8.7	779.4	858.0	+10.1
Natural gas	000 m ³	88 610 000.0	94 116 000.0	+6.2	3,923.5	4,708.8	+20.0
Petroleum	000 m ³	76 348.0	89 320.0	+17.0	5,811.0	7,611.0	+31.0

Source: Mineral Policy Sector, Energy, Mines and Resources.

^P Preliminary; .. Not available.

TABLE B
Canada, Nonfuel Mineral Industry Production, 1978-79

	1978	1979 ^P	Change
	(millions of current dollars)		%
Metals	5,698	8,000	+ 40.4
Nonmetals (ex. coal)	1,478	1,833	+ 24.0
Structural materials	1,508	1,737	+ 15.2
Total	8,684	11,570	+ 33.4

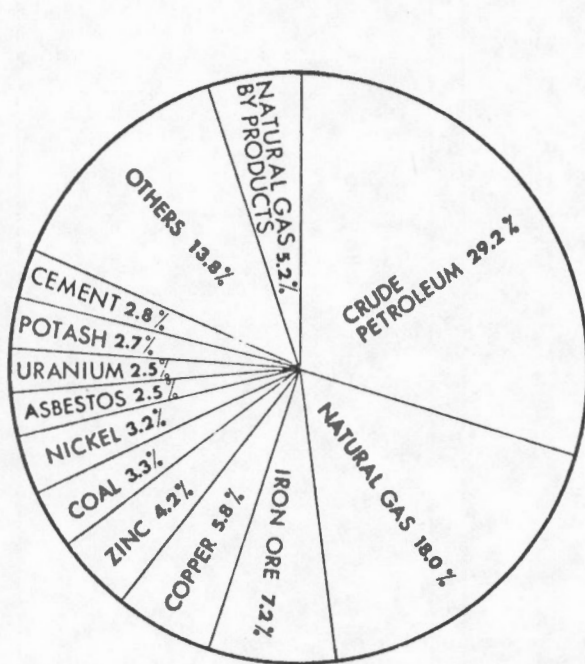
^P Preliminary.

TABLE C
Canada, Exports of Minerals, Crude and Fabricated

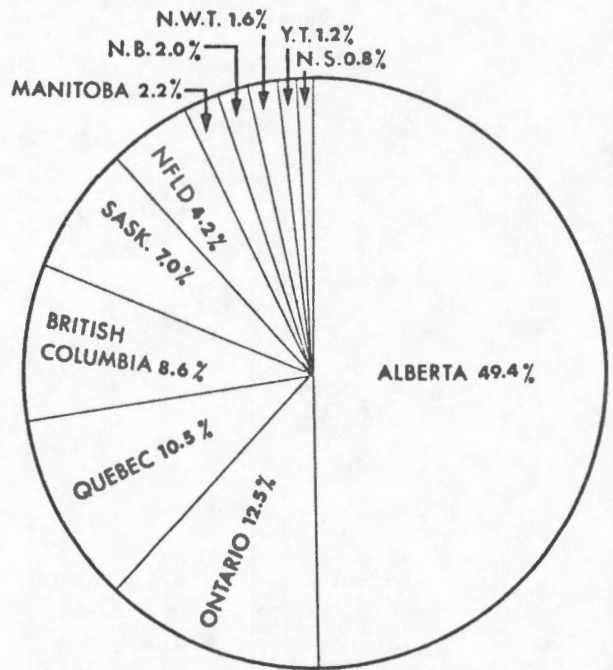
	Year	Year	Year	1st 9 months		% Changes
	1970	1973	1978	1978	1979	1st 9 months 1979 1st 9 months 1978
	(\$ millions)					
Crude						
Ferrous	508.9	497.7	853.6	493.2	1,094.9	122.0
Nonferrous	993.8	1,501.8	1,549.2	1,204.5	1,714.2	42.3
Nonmetallic	453.2	595.5	1,375.8	976.8	1,115.8	14.2
Fuels	884.6	1,998.4	4,514.8	3,403.0	4,326.4	27.1
Total	2,840.5	4,593.4	8,293.4	6,077.5	8,251.3	35.8
Fabricated						
Ferrous	487.3	598.7	1,695.7	1,223.7	1,460.5	19.4
Nonferrous	1,689.7	1,897.8	3,359.7	2,550.2	2,557.6	0.3
Nonmetallic	99.8	166.2	377.2	262.7	334.3	27.3
Fuels	85.1	311.6	776.6	559.1	756.8	35.4
Total	2,361.9	2,974.3	6,209.2	4,595.7	5,109.2	11.2
Total crude and fabricated minerals						
Ferrous	996.2	1,096.4	2,549.3	1,716.9	2,555.4	48.8
Nonferrous	2,683.5	3,399.6	4,908.9	3,754.7	4,271.8	13.8
Nonmetallic	553.0	761.7	1,753.0	1,239.5	1,450.1	17.0
Fuels	969.7	2,310.0	5,291.4	3,962.1	5,083.2	28.3
Total	5,202.4	7,567.7	14,502.6	10,673.2	13,360.5	25.2
Total domestic exports all products						
	16,820.1	24,837.9	51,918.9	37,297.1	46,578.0	
Crude minerals as % of exports, all products						
	16.9	18.5	16.0	16.3	17.7	
Crude and fabricated minerals as % of exports, all products						
	30.9	30.5	27.9	28.6	28.7	
Crude mineral exports as % of mineral exports						
	54.6	60.7	57.2	56.9	61.8	

Source: Statistics Canada.

CANADA MINERAL PRODUCTION, 1979



% OF TOTAL BY COMMODITY



% OF TOTAL BY PROVINCE

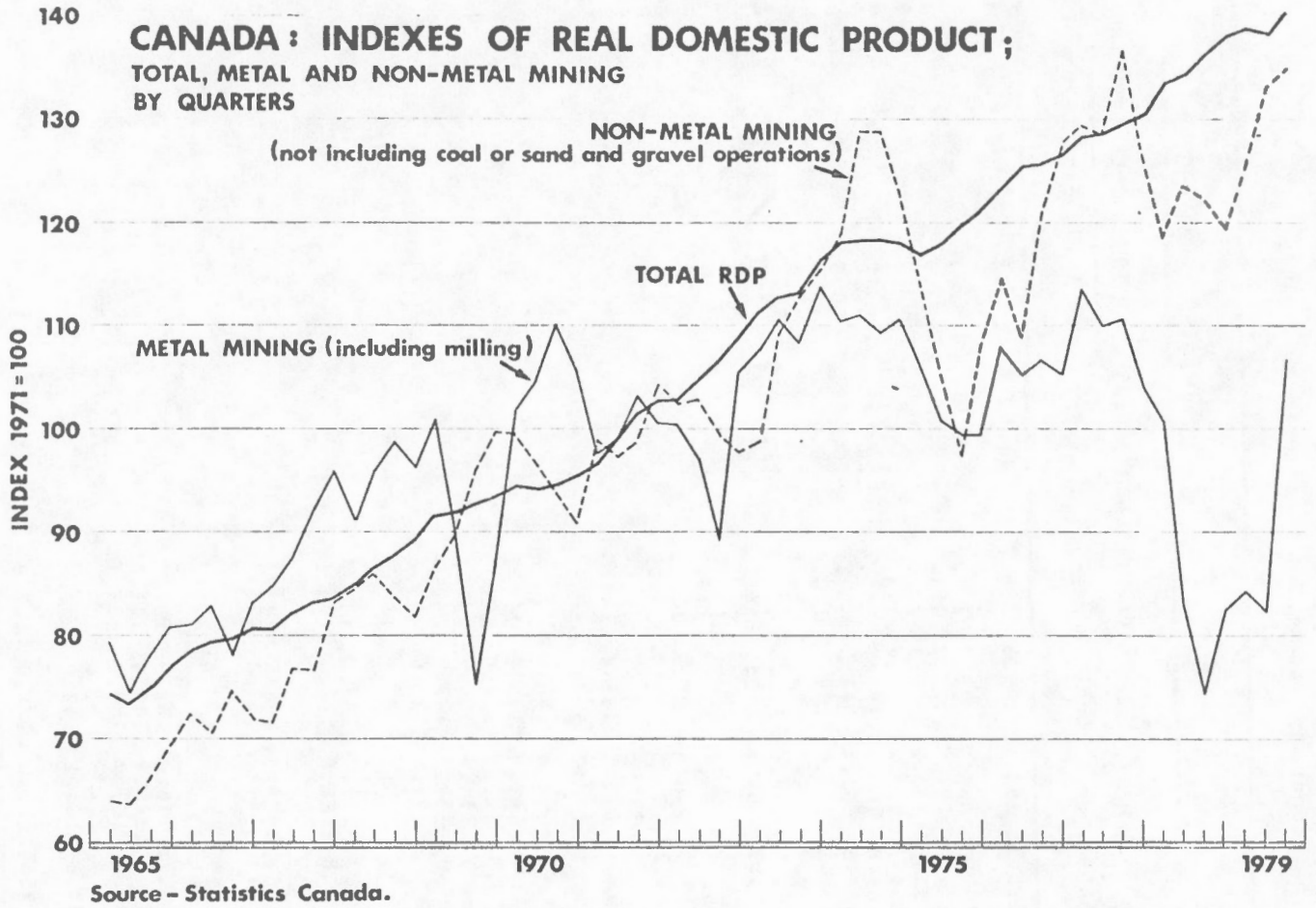


TABLE 1

Canada, Indexes of Real Domestic Product, by Industries Unadjusted (1971=100)

Industry or Industry Group	1978			1979			Percentage Changes			
	Sept	Oct	Average 1st 10 Months	Sept	Oct	Average 1st 10 Months	Sept 1979	Oct 1979	Oct 1979	1st 10
							Sept 1978	Oct 1978	Sept 1979	Months 1979 1978
Real Domestic Product	163.6	137.3	135.1	163.5	140.5	139.2	-0.1	2.3	-14.1	3.0
Primary Industries										
Agriculture	784.9	26.1	132.6	684.9	36.2	128.5	-12.7	38.7	-94.7	-3.1
Forestry	160.1	154.8	117.6	131.0	120.3	121.2	-18.2	-22.3	-8.2	3.1
Fishing and Trapping	137.0	161.0	134.5	133.8	111.3	131.8	-2.3	-30.9	-16.8	-2.0
Mines, Quarries and Oil Wells	102.2	109.4	104.3	118.4	119.4	113.0	15.9	9.1	0.8	8.4
Metal Mines	79.3	89.4	86.0	101.6	100.1	90.4	28.1	12.0	-1.5	5.2
Placer and Gold Quartz Mines	62.8	61.1	64.5	52.4	63.3	57.5	-16.6	3.6	20.8	-10.9
Iron Mines	136.6	134.1	75.1	141.0	109.0	120.6	3.2	-18.7	-22.7	60.6
Other Metal Mines	65.9	79.7	89.7	94.3	99.7	84.6	43.1	25.1	5.7	-5.7
Mineral Fuels	108.2	115.7	110.6	120.7	126.6	124.6	11.6	9.4	4.9	12.7
Coal Mines	241.6	232.1	223.3	262.1	252.1	244.5	8.5	8.6	-3.8	9.5
Crude Petroleum and Natural Gas	97.3	106.2	101.3	109.1	116.3	114.8	12.1	9.5	6.6	13.3
Nonmetal Mines	126.1	124.4	119.0	143.3	136.3	129.5	13.6	9.6	-4.9	8.8
Asbestos Mines	89.7	83.5	86.2	95.5	94.4	92.9	6.5	13.1	-1.2	7.8
Secondary Industries										
Manufacturing	145.6	144.0	133.0	148.5	146.6	139.5	2.0	1.8	-1.3	4.9
Nondurable Manufacturing	146.1	142.9	132.3	149.4	146.4	139.9	2.3	2.4	-2.0	5.8
Petroleum and Coal Products Industries	132.8	138.0	134.4	133.7	140.7	142.6	0.7	2.0	5.2	6.1
Durable Manufacturing	145.0	145.0	133.6	147.6	146.9	139.1	1.8	1.3	-0.5	4.1
Primary Metal Industries	122.4	126.0	123.4	123.4	134.0	124.5	0.8	6.3	8.6	0.8
Iron and Steel Mills	136.2	141.0	135.7	151.4	155.7	146.5	11.2	10.4	2.8	7.9
Steel Pipe and Tube Mills	136.8	139.1	131.1	157.4	172.5	143.9	15.1	24.0	9.6	9.7
Iron Foundries	144.5	162.6	129.8	127.5	127.0	129.6	-11.8	-21.9	-0.4	-0.2
Smelting and Refining	96.9	93.1	102.3	76.2	98.2	86.7	-21.4	5.5	28.9	-15.3
Nonmetallic Mineral Products Industries	165.4	162.8	133.1	163.2	156.2	137.0	-1.3	-4.1	-4.3	2.9
Cement Manufacturers	162.5	171.6	130.8	184.8	183.7	144.8	13.7	7.1	-0.6	10.7
Ready-mix Concrete Manufacturers	144.3	157.1	111.9	159.6	155.6	111.4	10.6	-1.0	-2.5	-0.5
Construction Industry	141.4	136.8	122.4	134.0	130.4	115.1	-5.2	-4.7	-2.7	-6.0
Transportation, Storage, Communication	150.1	148.1	144.9	159.7	157.6	154.3	6.4	6.4	-1.3	6.5
Electric Power, Gas and Water Utilities	138.3	151.4	155.2	148.2	158.9	166.1	7.2	5.0	7.2	7.1
Trade	147.1	143.3	137.8	148.4	146.4	141.4	0.9	2.2	-1.3	2.6
Finance, Insurance, Real Estate Community, Business and Personal Service	152.3	153.6	149.8	157.7	157.4	155.1	3.5	2.5	-0.2	3.5
Public Administration and Defence	137.1	137.4	133.6	142.1	142.0	137.7	3.6	3.3	-0.1	3.1
	128.9	126.7	129.5	126.8	124.5	127.9	-1.6	-1.7	-1.8	-1.2

TABLE 2

Canada, Production of Leading Minerals
('000 tonnes except where noted)

		1978			1979			Percentage Changes		
		September	October	Total 10 months	September	October	Total 10 months	October 79	October 79	1st 10 months
								October 78	September 79	1979 1978
Metals										
Copper		32.3	55.2	561.8	58.4	62.4	511.9	+13.0	+6.8	-8.9
Gold	kg	4 058.5	4 449.7	43 092.3	3 851.6	4 167.4	40 033.2	-6.3	+8.2	-7.1
Iron ore		6 320.4	6 050.0	32 058.3	6 210.7	4 437.0	49 644.0	-26.7	-28.6	+54.9
Lead		25.0	37.4 ^r	253.7 ^r	38.1	17.2	256.3	-54.0	-54.9	+1.0
Molybdenum	t	1 225.6	1 187.5	12 004.6	930.6 ^r	668.6	9 622.5	-43.7	-28.2	-19.8
Nickel		6.0	4.6	116.6	12.9	15.4	101.0	+234.8	+19.4	-13.4
Silver	t	84.5	126.5	1 028.0	114.7	93.5	973.2	-26.1	-18.5	-5.3
Uranium ¹	t	612.0	597.0	5 798.2	581.8	518.4	5 070.0	-13.2	-10.9	-12.6
Zinc		88.3	97.8 ^r	823.9 ^r	144.5	86.0	995.4	-12.1	-40.5	+20.8
Nonmetals										
Asbestos		143.5	138.0	1 172.3	135.6	137.6	1 229.2	-0.3	+1.5	+4.9
Gypsum		802.9	902.5 ^r	6 673.2 ^r	791.3 ^r	779.1	6 655.6	-13.7	-1.5	-0.3
Potash K ₂ O		478.4	494.8	5 250.0	600.1	591.7	5 881.4	+19.6	-1.4	+12.0
Cement		1 145.9	1 227.6	9 002.6	1 180.8 ^r	1 267.0	9 675.1	+3.2	+7.3	+7.5
Lime		174.6	195.6 ^r	1 680.1 ^r	..	..	..	..	..	..
Salt		476.1	567.9	5 042.8	581.8	629.7	5 438.6	+10.9	+8.2	+7.8
Fuels										
Coal		2 505.5	2 614.3	24 804.8	2 801.6	3 012.5	27 427.7	+15.2	+7.5	+10.6
Natural gas	million m ³	6 342.3	7 130.3 ^r	71 941.9	6 597.6 ^r	7 258.2	76 208.0	+1.8	+10.0	+5.9
Crude oil and equivalent	000 m ³	6 482.9	7 254.5 ^r	66 873.8	7 484.0 ^r	8 097.9	76 976.7	+11.6	+8.2	+15.1

¹ Tonnes uranium (1 tonne U = 1.299 9 short tons U₃O₈).^r Revised; .. Not available.

**TAXATION AND LEGISLATION AFFECTING THE
MINERAL AND ALLIED INDUSTRIES IN CANADA**

CANADA

Provincial

Alberta

The **Interest Rate Regulation, AR 355/78** as amended, is further amended by AR 350/79. The amendment extends the 13.5 per cent per year rate of interest to October 31, 1979, and imposes a rate of 14.75 per cent per year for the month of November and subsequent months.

The **Mines and Minerals Act, RSA 1970**, chapter 238, as amended by SA 1978, chapter 23, is again amended by SA 1979, Bill 78. The new amendment will authorize the Minister with the approval of the Lieutenant Governor in Council to enter into development agreements respecting mines and minerals. Several of the amendments are of a housekeeping nature, correcting omissions in the previous amendment, etc. A new Part 10 will authorize the disposition of metallic minerals, formerly described as quartz minerals. This Act comes into force on a date or dates to be fixed by Proclamation.

Saskatchewan

The **Mining, Smelting and Refining District Act RSS 1965**, - c. 369, is repealed by Bill 22 of 1979-80.

Quebec

The **Ministry of Energy and Resources Act, Bill 72**, provides for the establishment and organization of a department of energy and resources.

The bill ascribes the functions, duties and powers of the department of lands and forests and the department of natural resources to the department of energy and resources, except those that devolve to the department of the environment.

Newfoundland

The **Mineral Act, S. Nfld. 1976**, chapter 44 is amended by Bill 69, 1979. The amendment adds a requirement to the existing annual reporting requirements to the effect that any person who has instigated a search for minerals shall submit the name of the person searching and the numbers of persons employed. It also requires a detailed report on drilling activity.

Further, the amendment revises the registration provisions; allows the Lieutenant-Governor in Council to dispense with the owner's consent for a search where that owner cannot be found; permits the Minister to disregard the confidentiality provisions and allows persons to examine diamond drill core or cuttings, held by him; permits a ground staked licence to be issued after thirty days rather than sixty days as is now the case; and makes certain of other housekeeping revisions to strengthen or clarify the Act.

REGIONAL PROFILES

Ontario

Value of Mineral Production

While the value of output of Ontario's mineral industry was up by one-fifth in 1979 compared with the previous year, the effect of the labour dispute at Sudbury during the first five months of the year was evident. Physical output of copper, gold, silver, platinum metals and iron ore was lower than the previous year; nickel, zinc and uranium output were about the same; each commodity showed a substantial increase in value.

Ontario, Production of Principal Minerals, 1979P

Commodity	\$ Value (^{'000,000}) dollars	Change 1978-1979	Proportion of Canada per cent
Nickel	605	27.4	73.1
Copper	435	34.3	28.7
Uranium	391	26.0	58.9
Iron Ore	286	-7.3	15.1
Zinc	391	26.0	24.0
Cement	216	14.8	29.4
Gold	213	37.5	39.0
Silver	167	90.0	37.0
Sand and Gravel	163	12.8	36.3
Stone	109	14.9	31.4
Metals	2,533	23.7	31.7
Nonmetals and Structural Materials	710	14.1	19.9
Fuels	28	6.6	0.2
Total	3,271	21.2	12.5

P Preliminary.

Ontario, Socio-Economic Indicators

		Change Over Amount Previous Year	Proportion of Canada (per cent)
Population ¹ , April 1, 1979	'000 8,493	0.7	35.9
Labour Force ¹ , August 1979	'000 4,460	3.0	38.2
Persons Employed ¹ August 1979	'000 4,190	3.6	38.1
Persons Unemployed ¹ August 1979	'000 269	-6.6	34.8
Employment in Mining ^{1,2} September 1979	'000 32	19.4	20.3
Average Weekly Earnings ³ in Mining, July 1979	\$ 369.69	9.9	90.3
Provincial Gross Domestic Product 1978	\$ 90.8 billion	10.5	39.2

¹ Unadjusted for seasonal variation.

² Mines, Quarries and Oil Wells, including milling, SIC 050-099.
Data for firms of 20 or more employees only.

³ Earnings of All Employees, in firms of 20 or more employees.

Highlights

There was a notable increase in exploration and development activity across the province. A staking rush took place at Kirkland Lake in September with the release of results of an airborne geophysical survey, financed jointly by the federal government and the province. Inco Limited obtained a 5-year exploration licence to 100 square miles of ground north of Sudbury that will probably require a program of deep diamond drilling, in return for pledging to spend \$500,000 annually.

Surface and underground development programs were under-way at the end of the year on both old and new properties, for example, at the old Echo Township property near Dryden, of Goldlund Mines Limited, that dates from the 1940s, and at the new Owl Creek gold deposit recently discovered close to Texasgulf Canada Ltd.'s Kidd Creek mine, where an incline is being driven to explore the property.

Past producers being reactivated include the Renabie gold mine, 310 kilometres northwest of Sudbury, which closed in 1970, and the old Panel mine at Elliot Lake, which Rio Algom Limited de-watered, recovering 21 000 kg of U₃O₈ in the process. The company also plans to bring the Stanleigh mine into production in 1983. At Bancroft, Rare Earth Resources Limited intends to produce from several small properties, and the President of Madawaska Mines Limited was quoted as saying his company expects to receive \$50.50 a pound for U₃O₈ in 1980.

Two long-established iron mines closed in 1979. At Atikokan, Steep Rock Iron Mines Limited laid off 463 people, closing an operation that had been brought on stream during World War II. The National Steel Corporation of Canada, Limited closed its Moose Mountain mine at Capreol in June, affecting 260 jobs. In November 1979, Caland Ore Company Limited of Atikokan laid off 185 of its 450-man workforce. Kerr Addison Mines Limited is in process of closing its Agnew Lake uranium property, near Espanola; about 435 workers will be affected. More than 2.1 million man-days were lost in the strike at Inco Limited, which started September 15, 1978 and ended June 5, 1979, establishing a Canadian record.

Provincial Government Activity

Provincial government activity affecting the mining industry included the Treasurer's budget in April that dropped the marginal mining tax rate from 40 per cent to 30 per cent, raised the basic exemption from \$100,000 to \$250,000 and introduced a Small Business Development Corporation Act under which the Province may make a direct payment to a small company of up to 30 per cent of equity to finance various activities, including mineral exploration and development. The Ontario Geological Survey completed publication of its 1:250,000 scale mineral potential map series and set up a Northern Industrial Minerals Study on talc-magnetite and asbestos deposits of the Timmins-Kirkland Lake area.

Saskatchewan

Value of Mineral Production

Saskatchewan is fifth among all provinces in the value of mineral production at \$1,815 million. It is Canada's only producer of potash and the principal producer of sodium sulphate, and accounts for 41 per cent of uranium production. In 1979, increases in both unit

price and quantity produced for potash caused a 38 per cent gain in the value of production over 1978. For both petroleum and uranium, price increases alone were responsible for the gain in value of production as quantity of production for both minerals declined.

Saskatchewan, Socio-Economic Indicators

			Change Over Amount Previous Year	Proportion of Canada (per cent)
Population ¹ , June 1979	'000	947	1.1	4.0
Labour Force, July, seas. adj.	'000	432	2.1	3.9
Employment July, seas. adj.	'000	416	2.5	4.0
Unemployment July, seas. adj.	'000	16	-5.9	2.0
Employment in Mining July 1979	'000	7.6	13.4	5.2
Average Weekly Wages, Mining and milling, July 1979	\$	393	6.5	96

Saskatchewan, Principal Mineral Production, 1979P

Commodity	\$ Value ('000,000)	Change 1978-1979 (per cent)	Proportion of Canada
Potash	695.3	37.8	100.0
Crude petroleum	684.5	-0.9	9.0
Uranium	273.1	7.6	41.1
Cement	34.7	40.6	4.7
Sodium sulphate	24.0	41.3	91.6
Coal	21.6	16.3	2.5
Metallics	297.0	8.9	3.7
Nonmetallics	731.4	37.5	39.9
Fuels	730.9	-0.3	5.0
Structural materials	55.4	25.7	3.2
Total, all minerals	1,814.7	14.7	6.9

P Preliminary.

Recent Highlights

Exploration, development and production activity in the uranium sector of the Saskatchewan mineral industry remains at high levels. In the Midwest Lake area, extensive diamond drilling programs were conducted during the past season on the discoveries of Esso Minerals Canada, Canadian Occidental Petroleum Ltd. and Asamera Oil Corporation Ltd. Each operator reported favourable results. Development of the deposit of Key Lake Mining Corporation is progressing with completion of a lake dewatering program and submission of an environmental impact report to the government. At Cluff Lake, over 40 per cent of construction has been completed on the Amok Ltd. project in which the Saskatchewan Mining Development Corporation is negotiating a 20 per cent interest at an estimated cost of \$66.9 million. The operations of Cenex Limited have been suspended and placed in receivership, and the assets ordered disposed, because of an insurance dispute and lagging deliveries caused by a fire in January. Public hearings are set to begin in January concerning the application by Eldorado Nuclear Limited for government approval to construct a uranium hexafluoride (UF₆) plant near Saskatoon.

The major highlights in the Saskatchewan potash industry concern provincial taxation methods and industry expansion. The province and the industry appear to be near agreement on the replacement of all existing royalties, taxes and fees with a single payment based on a basic charge on production and a graduated profits tax for a specified period of time. The companies will be required to drop outstanding court actions and compensate the province for all unpaid taxes. The initial phase of a major expansion program by the Potash Corporation of Saskatchewan, which will increase capacity from 3.5 to 11.3 million tonnes, has nearly been completed. Other expansions are expected to follow once the new taxation scheme has been finalized.

British Columbia

British Columbia is third in the value of mineral production in Canada at \$2,741 million, with metals and fuels accounting for 90 per cent of the total. It is Canada's leading producer of copper, molybdenum, lead and coal and a major contributor of natural gas, asbestos, silver and gold. In 1979, the value of production of all principal minerals increased over 1978, but for zinc, molybdenum, and natural gas the gains were solely because of strong unit prices, the quantity of production of these commodities having decreased.

British Columbia, Socio-Economic Indicators

		Amount	Change Over Previous Year	Proportion of Canada (per cent)
Population	'000	2,530	1.5	10.8
Labour Force, July, seas. adj.	'000	1,212	2.1	10.9
Employment July, seas. adj.	'000	1,124	2.7	10.5
Unemployment July, seas. adj.	'000	88	-5.4	11.0
Employment in Mining July 1979	'000	14.4	8.3	9.9
Average Weekly Wages, Mining and milling, July 1979	\$	424	11.6	103

British Columbia, Principal Mineral Production, 1979P

Commodity	\$ Value ('000,000)	Change 1978-1979 (per cent)	Proportion of Canada
Copper	674.5	49.9	44.5
Coal	491.2	31.1	57.3
Natural gas	369.1	38.4	7.8
Molybdenum	322.1	92.1	97.6
Petroleum crude	179.3	22.2	2.4
Lead	115.0	74.8	27.8
Cement	90.4	61.1	12.3
Silver	88.9	95.6	19.7
Gold	88.2	89.2	16.2
Zinc	87.7	19.2	7.9
Sand and gravel	69.7	8.9	15.5
Asbestos	67.3	42.9	10.5
Metallics	1,397.3	60.9	74.6
Nonmetallics	87.4	42.3	4.8
Fuels	1,070.7	32.3	7.4
Structural materials	186.1	29.8	10.7
Total, all minerals	2,741.5	45.6	10.5

P Preliminary.

Recent Highlights

On November 23, the Honourable Robert H. McClelland was appointed minister of Energy, Mines and Petroleum Resources, replacing the Honourable James J. Hewitt. Mr. McClelland had previously been Minister of Health since 1975. He was first elected to the legislature in 1972, having served as alderman for the town of Langley where he was involved in radio broadcasting and newspaper publishing businesses.

Major highlights over the last six months centre on coal sales contracts and coal mine development intentions and expansions. Denison Mines Limited contracted with Romania for 25 to 30 million tonnes of metallurgical coal from the Quintette deposit beginning in 1982. Kaiser Resources Ltd., Fording Coal Limited and Crows Nest Industries Limited contracted with the Korea Electric Company for a combined total of 800 000 tonnes annually to begin in 1982. Norco Resources Ltd. expects to conclude soon a 25-year contract with the Taiwan Power Company for 200 000 tonnes beginning in 1982 and increasing to one million tonnes by 1986, from its Bowron River property near Prince George. Integral to future coal exports from northeastern British Columbia is construction of transportation and other infrastructure, including port facilities at Prince Rupert, for which the companies have requested federal and provincial participation. In southeastern British Columbia, previously announced coal projects include: the mine expansion and a new mine development proposal by Kaiser Resources Ltd.; the proposal for a major new mine by Elco Mining Limited; and the proposal for a new mine by Crows Nest Industries Limited.

The eight and one-half month strike at the Endako molybdenum mine of Placer Development Limited was finally resolved November 1 with the help of provincial mediation. Although supervisory personnel were able to operate the mine at one-third capacity, the strike has severely reduced British Columbia's molybdenum output in 1979. During the strike's duration the Sam Goosly lead-zinc-silver-gold mine, which is under development, was picketed, setting back its start-up date, originally slated for mid-1980.

Potential uranium projects are still awaiting the outcome of the Royal Commission of Inquiry into Uranium Mining in British Columbia. The two most advanced projects are the Birch Island of Denison Mines Limited and the Blizzard of Norcen Energy Resources Limited. The British Columbia government has warned that no uranium mining will be permitted until it is proven to be safe.

The upsurge in the price of gold over the past year has resulted in Erickson Gold Mining Corp. starting up a lode mine at 140 tonnes-per-day, near Stewart, and The Mosquito Creek Gold Mining Company Limited developing a 90 tonne-per-day mine at Wells. Carolin Mines Ltd. recently announced plans to develop a 1 500 tonnes-per-day mine near Hope, to be completed in early 1981.

Two major exploratory projects were recently announced. One is to be conducted on the Trout Lake molybdenum property near Revelstoke of Newmont Exploration of Canada Limited and Esso Minerals Canada. The other is being conducted on what could be a huge porphyry-copper deposit on Gambier Island in Howe Sound by 20th Century Energy Corporation. Exploration on this property is being strongly resisted by residents of the area.

METALLIC MINERALS AND PRODUCTS

Aluminum

Aluminum Company of Canada, Limited (Alcan) announced its intention to complete the third and final (57 000 tonne-a-year) smelter phase at La Baie, Quebec. In western Canada, Alcan is actively pursuing feasibility studies for expanding its power generating and smelting complex at Kitimat, British Columbia. The proposed \$2.0-billion expansion program (spread over the next 10-20 years) is dependent on financing and world demand for aluminum. The bulk of any new output is expected to be for export.

Copper

Copper prices on the London Metal Exchange (LME) were in the \$1.00 to \$1.02 (U.S.) range during December. The Canadian producer price rose during December from \$1.20 a pound to \$1.23 a pound at month end. Copper stocks in the LME and Comex warehouses at month end stood at 126 500 tonnes and 89 680 tonnes respectively.

The Japanese Diet has passed a foreign exchange reform bill that observers say will clear the way for establishment of an LME warehouse in Tokyo. The act will also allow transactions such as hedging without the approval of the Bank of Japan. Japanese copper producers have wanted an LME warehouse in Tokyo for years, as it would allow them to sell surplus copper at the LME price immediately, avoiding the costs of shipping the metal to exchange warehouses in Europe. Japanese officials will ask the LME to open a Tokyo warehouse which would be the first in Asia, as soon as possible.

Philippine Associated Smelting and Refining Corp. (PASAR) is awarding the contract to build a copper smelter in the Philippines to Marubeni Corp. group of Japan. A formal contract was expected to be signed by the end of 1979. The smelter, to be located in Isabel on Leyte Island is to have an annual capacity of 138 000 tonnes, some 110 000 tonnes of this to be refined copper, and the balance blister copper. Estimated cost of the smelter, expected to be in operation in 1983, is \$250 million (U.S.). Smelter feed is expected to come "from all over the Philippines", and Philippine copper requirements are to be met before exports.

Gold

The gold price moved significantly upwards in December 1979 on speculative buying caused by the continuing Iranian situation and an increase in oil prices by OPEC countries following their meeting in Venezuela in December. The opening gold price for December on the

London Gold Market was \$428.00 (U.S.) an ounce, the low of \$426.40 (U.S.) being recorded on December 5. The price moved steadily upwards from this low. The involvement of the U.S.S.R. troops in the overthrow of the Afghanistan government at the end of the month forced the gold price sharply upwards and the price closed on the London Market for the year 1979 and an all-time high of \$524.00 (U.S.) an ounce. The monthly average gold price for December, 1979 of the afternoon fixing prices on the London Gold market, was \$455.11 (U.S.) (\$532.03 Cdn.) an ounce of gold compared with \$391.99 (U.S.) (\$462.40 Cdn.) an ounce for November.

The International Monetary Fund (IMF) held its fortieth gold auction on December 5, 1979, under the bid price method and awarded a total of 440,000 fine ounces of gold to 15 successful bidders at an average price of \$426.37 (U.S.) a troy ounce. Prices offered by successful bidders ranged from \$425.40 (U.S.) to \$429.31 (U.S.) a troy ounce. Bids were received for a total of 1,746,000 ounces, indicating an active interest. The IMF releases the names of the successful bidders but not the amount awarded to each bidder. The bidders were mainly European banks and bullion dealers or associates of European dealers but one sale was made to companies in each of the following countries - Canada, United States and United Arab Emirates.

The Treasury department of the United States did not hold a gold auction in December.

The South African Chamber of Mines reported that it ran out of krugerrands because of a significant increase in demand in the latter part of November after a relatively low demand in October, about 100,000 coins. Krugerrands will not be available until the first part of 1980.

The Royal Canadian Mint announced that it will strike a 100 dollar numismatic gold coin commemorating the centenary of the transfer from England to the Dominion of Canada of a large part of the Canadian Arctic Territories. The obverse of the \$100 coin will bear the effigy of Her Majesty and the reverse will represent an Inuit in a kayak with an iceberg in the background. The coin will have a diameter of 27 millimetres and will contain one half ounce of gold. Coins issued will be 300,000. The price of the coin had not been set at year end.

Lead

Lead price fell steadily throughout December. London Metal Exchange (LME) prices declined from the Sterling equivalent of 54 cents (U.S.) to 51 cents (U.S.) a pound. United States producer prices fell to 55 cents (U.S.) a pound on December 17. Canadian producers prices were lowered to 62.5 cents a pound on December 20.

The price decline was accompanied by a sharp increase in U.S. primary producer stocks. Total producer inventories, according to American Bureau of Metal Statistics rose 115 per cent, 25 176 tonnes in November from 11 700 tonnes in October. United States producer stock are still considered to be below normal, however.

Cominco Ltd. announced in November that it will develop the Polaris zinc-lead deposit of Arvik Mines Ltd. at an approximate capital cost of \$150 million. Production is expected to begin early in 1982. The deposit is located on Little Cornwallis Island about 90 miles southeast of the Magnetic North Pole. The operating rate will be 1 800 tonnes of ore per day. Lead concentrate production will be about 34 000 tonnes a year.

A 3.5 per cent ad valorem tariff on lead imports was put into effect in the United States in December, replacing the previous tariff of 1 cent (U.S.) a pound. A coalition of lead-consuming companies was pressing for a reduction in the ad valorem rate during December. Under the present lead market circumstances, the increased lead tariff which has resulted from the move to an ad valorem rate will be borne by U.S. lead importers and consumers.

ESB Ray-O-Vac Corp. bought the Beech Grove secondary lead smelter from N L Industries, Inc. ESB, a subsidiary of Inco Limited, plans to renovate the smelter in preparation for a Spring 1980 start up. The renovation, which are reported to cost about \$500,000, will include safety and environmental equipment to meet U.S. Environmental Protection Agency and Occupational Safety and Health Administration standards.

Nickel

On December 3, Société Metallurgique Le Nickel (SLN) raised the prices of its nickel products by between 20 and 23.5 cents (U.S.) a pound effective immediately. SLN's price of plating nickel was raised 20 cents to \$3.25 (U.S.) melting nickel to \$3.20 and ferro-nickel products now range from \$3.22 and \$3.29 a pound of nickel content. Inco increased its prices by 20 cents on December 4 for plating and melting nickel and by 17 and 20 cents on its charge nickel. The Japanese raised their domestic selling price the equivalent of 21 cents on December 7 and on December 10, Cubaniquel and Falconbridge Nickel Mines Limited followed the lead of SLN and Inco.

One feature of Inco's new prices is that the company set an iron allowance for its charge nickel, a less pure form used in steel-making. The iron allowance in Europe is 12 cents a pound and elsewhere it is 9 cents a pound. The price of its charge nickel is therefore \$3.08 a pound in Europe and \$3.11 a pound in North America, Latin America and the Far East.

Silver

The silver price moved sharply upwards in December. The opening price for the month as quoted by Handy & Harman of New York was \$19.84 (U.S.) a troy ounce. The price declined to a low of \$18.75 (U.S.) an ounce on December 7 and increased to an all-time high of

\$28.00 (U.S.) an ounce on December 28, 1979, the last day on which Handy & Harman quoted a price. The January spot delivery price quoted on the New York Commodity Exchange Inc. on December 31 was \$34.45 (U.S.) an ounce. Speculative pressure, based on the continuing Iranian situation and the increased oil price resulting from the OPEC meeting, in Venezuela, in December, was mainly responsible for the price increase. The involvement of the U.S.S.R. troops in Afghanistan in overthrowing the government at the end of 1979 will further increase speculative action on the silver market.

The monthly average silver price for December 1979 was \$21.79 (U.S.) an ounce compared with \$16.60 (U.S.) an ounce for November and \$5.93 (U.S.) an ounce for December 1978. The average silver price in Canadian dollars for the month of December was \$812.24 a kilogram (25.26 an ounce) compared with \$630.37 a kilogram (19.61 an ounce) for November.

Placer Development Limited announced Minera Real De Angles S.A. De C.V., a Mexican company in which it has a 34 per cent interest, will bring its silver-lead-zinc property located in the State of Zacatecas, Mexico, into production. Designed capacity of the concentrator will be 10 000 tonnes per day. Projected annual production will be 225 tonnes of silver and 32 000 tonnes of lead in one concentrate and 26 000 tonnes of zinc and 415 tonnes of cadmium in a second concentrate. Ore reserves are estimated at 59 million tonnes averaging 73 grams of silver, 1.0 per cent lead and 0.9 per cent zinc. Partners in the venture with Placer are the Mexican government and Frisco, S.A. De C.V., each with a 33 per cent interest. Financing for the project has to be arranged. Production is expected to begin in 1982.

Tin

President Carter signed the amended HR-595 bill authorizing the disposal of 35 000 lt of tin. The U.S. will be contributing about 5 000 lt of tin to the ITC buffer stock. (The exact quantity will depend on how the tin is valued.) Sales of the remaining 30 000 lt are expected to start around March 1980 and could take three or more years to sell.

Bolivia has requested a meeting of the Organization of American States (OAS) to express its official opposition to U.S. sales of tin from the U.S. government stockpile.

INDUSTRIAL MINERALS AND PRODUCTS

Asbestos

On December 13, 1979, Asbestos Corporation Limited was granted, by the Quebec Court of Appeals, an interlocutory injunction to hold off an immediate takeover by the Quebec government. Based on a

Supreme Court of Canada ruling on Bill 101 (Quebec's language law) earlier in the same day, the Appeal Court judges apparently considered that there was a violation of the general rules for the exercise of the right of expropriation. In mid-January, 1980, Bill 70, which established the Quebec Crown Corporation, la Société nationale de l'amiante (SNA), and also Bill 121, the expropriation bill, are expected to be tested before the Quebec Superior Court of Appeals.

A group of technical experts chosen from the Federal and Quebec governments, along with two medical consultants familiar with the asbestos industry, held technical discussions with representatives of U.S.A. regulatory agencies in Washington. The initial request for bilateral discussions between Canadian experts and their U.S. counterparts arose from a recent meeting at which members of The Quebec Asbestos Mining Association expressed to Minister de Cotret their grave concern that the U.S. Occupational Safety and Health Administration (OSHA) may soon impose an emergency standard to lower the current workplace standard for asbestos exposure from the present 2 fibres per cc. to 0.5 or 0.1 fibres per cc. Overly restrictive U.S. health-environmental regulations for asbestos would greatly reduce Canadian exports because nearly 40 per cent of total asbestos fibre exports from Canada are to the U.S. market. This market was valued at more than \$155 million in 1978.

MINERAL FUELS AND PRODUCTS

Petroleum and Natural Gas

In February, 1979, a report released by the National Energy Board (NEB) titled "Canadian Natural Gas: Supply and Requirements," allowed Canada to export an additional two trillion cubic feet (TCF) (56 656 million cubic metres) over an eight-year period. At that time, Canada was exporting approximately one TCF per year to the United States and this increase would send an additional 250 billion cubic feet annually (35 410 million cubic metres). This additional volume would commence shipment in January, 1980. The revenue from these two TCF, at \$2.16 per MCF (thousand cubic feet), would earn \$4.3 billion.

A more recent report, dated November 1979 and by the NEB, indicated that Canada would increase natural gas exports by an additional 3.75 TCF (106 230 million cubic metres), commencing in November, 1980. The revenue from these export sales, valued at \$3.30 per MCF U.S., would be \$12.4 billion and rising as the price of natural gas is related to that for crude oil.

Uranium

James Bay Development Corporation (JBDC) has announced the discovery of a potentially important uranium occurrence at Lake Gayot, north of LaGrande River, in the James Bay territory, northwestern

Quebec. The property is owned in equal shares by JBDC and Uranerz Exploration and Mining Limited. Although mineralization grading from 0.09 to 0.38 per cent U has been indicated in 60 of 90 holes that have been drilled on the prospect, it is estimated that at least another season will be required to confirm the potential.

Peko-Wallsend Ltd. of Australia will establish a new company, Energy Resources Australia Ltd., which will acquire the Australian government's 50 per cent share in the Ranger uranium project for a reported \$A125 million, thus giving Peko a total 75 per cent interest in the project. Peko has also received approval to sell up to a 25 per cent interest to foreign utilities, if they agree to enter into sales contracts.

NEW PUBLICATIONS

The following publications were prepared in the Mineral Policy Sector, Department of Energy, Mines and Resources and released for distribution in December:

NOUVELLES PUBLICATIONS

Les publications suivantes ont été préparées par le Secteur de la politique minérale du ministère de l'Énergie, des Mines et des Ressources et diffusées pour distribution au cours du mois de décembre.

Annual Reviews of the Canadian Mineral Industry, 1978, Crude Oil; Lead; Natural Gas; Nickel; price \$1.00 a copy.

Revue annuelle de l'industrie minérale du Canada, 1978: L'amiante; le cadmium, le cobalt; prix: \$1 l'exemplaire.

Liste des exploitants n° 7 janvier 1978: Les usines de traitement du gaz naturel au Canada, par le Secteur de la politique de l'énergie.

Prix: Canada: \$1.50

Hors Canada: \$1.80

The above publications are available from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa.

Les publications ci-dessus sont disponibles en s'adressant au: Centre d'édition du gouvernement du Canada, Approvisionnement et Services Canada, Ottawa.

