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The Canadian Mineral Industry Monthly Report

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Minerals

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Minéraux

PREFACE

This report is prepared in the Mineral Policy Sector of 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 expression of official or an Government of Canada views.

PRÉFACE

Ce rapport a été rédigé par le Secteur de la Politique Minérale du Ministère de l'Énergie, 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 développements actuels les plus importants de l'industrie minière canadienne, de même que les progrès accomplis ailleurs qui intéresser peuvent 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.

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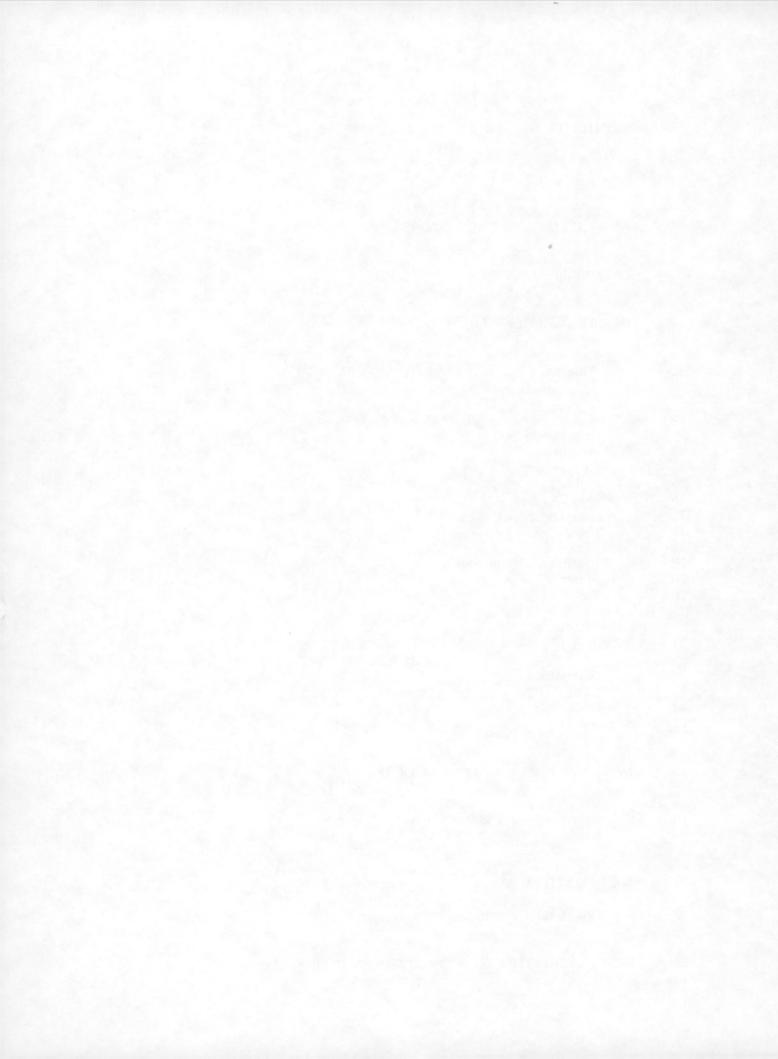
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THE CANADIAN MINERAL INDUSTRY FOR FEBRUARY L'INDUSTRIE MINÉRALE DU CANADA - FÉVRIER

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

HIGHLIGHTS

- Canada's unadjusted index of Real Domestic Product was 135.9 in December 1979, a decrease of 4.2 per cent from November 1979.
- 2. The December index for Mines, Quarries and Oil Wells was 117.9, down 1.8 per cent from the previous month.
- Noranda Mines Limited has stated that it would probably have to close its copper smelter at Rouyn, Quebec if it were forced to meet proposed new environmental requirements.
- 4. The monthly average gold price for February 1980, of the afternoon fixing price on the London Gold Market, was \$665.32 (U.S.) (\$769.11 Cdn.) per ounce.
- 5. Dome Mines, Limited has announced that it will spend \$50 million over a four year period in an expansion program at its gold property in the Timmins district of northeastern Ontario.

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

FAITS SAILLANTS

- 1. L'indice non désaisonnalisé du produit intérieur réel du Canada était de 135,9 en décembre 1979, soit une diminution de 4,2% par rapport à novembre 1979.
- En décembre, l'indice des mines, carrières et puits de pétrole était de 117,9, soit une diminution de 1,8% par rapport au mois précédent.
- 3. La société Noranda Mines Limited a déclaré qu'elle devrait probablement fermer sa fonderie de cuivre de Rouyn (Québec) si elle était tenue de se conformer aux mesures environnementales proposées.
- 4. En février 1980, le prix moyen mensuel de l'or, selon les fixings de l'après-midi sur le marché de l'or à Londres, était de \$É.-U. 665,32 (\$Can 769,11) l'once.
- 5. La <u>Dome Mines Limited</u> a annoncé qu'elle dépenserait 50 millions de dollars, sur une période de quatre ans, au programme d'expansion de sa propriété aurifère, située dans le district de Timmins, dans le nord-est de l'Ontario.

- 6. All striking unions at Inco Limited's Clydach, Wales, nickel refinery voted to accept the company's latest offer and end the 19-week old strike.
- 7. The average producer price of platinum as quoted by Metals Week for 1979 was \$351.70 (U.S.) per ounce compared with \$237.25 in 1978.
- 8. The Cambridge, Ontario dolomitic lime plant of the Domtar Inc. Chemical Group closed its operations in January, 1980.
- 9. The government of British Columbia has announced a seven-year moratorium on uranium exploration and mining in the province because of concern that these activities will do irreversible harm to the environment.

- 6. Tous les syndicats qui avaient déclenché une grève à l'affinerie de nickel de l'Inco Limited, à Clydach, pays de Galles, ont voté en faveur des dernières offres de la société pour ainsi mettre un terme à une grève qui dure depuis 19 semaines.
- 7. Le prix moyen à la production du platine, selon le Metals Week était de \$É.-U. 351,70 l'once en 1979, comparativement à \$É.-U. 237,25 en 1978.
- 8. L'usine de chaux dolomitique de Cambridge (Ont.), de la Domtar Inc. Chemical Group, a cessé ses opérations en janvier 1980.
- 9. Le Gouvernement de la Colombie-Britannique a annoncé l'imposition d'un moratoire de sept ans sur l'exploration et l'extraction de l'uranium dans cette province, compte tenu des inquiétudes que suscitent ces activités en ce qui a trait aux dommages irréversibles causés à l'environnement.

ECONOMIC TRENDS

Table 1 shows Canada's unadjusted indexes of Real Domestic Product in terms of 1971=100. The overall RDP index for December was 135.9, a decrease of 4.2 per cent from the previous month.

The index for mines, quarries and oil wells declined slightly over the month from 120.0 in November to 117.9 in December. Iron mines showed the largest increase of 11.7 per cent, moving from 123.7 to 138.2. Both primary metal industries and nonmetallic mineral products industries showed substantial declines of 14.6 per cent and 23.7 per cent respectively. Ready-mix concrete manufacturers moved from 127.6 in November to 103.8 in December, a decline of 45.8 per cent.

Table 2 compares volume of production in eighteen major Canadian minerals. Output increased significantly in December compared with November for uranium (61.3 per cent); asbestos (19.7 per cent), salt (25.6 per cent) and cement (40.7 per cent). Output decreased significantly for molybdenum (13.1 per cent), zinc (14.5 per cent), gypsum (22.6 per cent) and potash (12.2 per cent).

Table 3 shows the volume of crude and fabricated minerals transported by Canadian railways in 1978 and 1979. Figures A and B illustrate by major product the percentage distribution of railway freight. In 1979, minerals represented over 60 per cent of the freight transported by railways. Of that 60 per cent, crude minerals represented approximately 51 per cent and fabricated minerals 9 per cent.

		1978		4444	1979			Percentage	Changes	*****
Industry or Industry Group	Nov		verage 12 Months	Nov		verage 12 Months	Nov 1979 Nov 1978	Dec 1979 Dec 1978	Dec 1979 Nov 1979	12 Months 1979 1978
Real Domestic Product		*****		***	****	139.6	2.2	1.1	-4.2	3.1
Primary Industries Agriculture Forestry Fishing and Trapping Mines, Quarries and Oil Wells Metal Mines Placer and Gold Quartz Mines	43.1 167.0 92.7 110.0 79.4	44.5 143.1 80.0 110.3	117.8 123.8 126.5 105.3 85.1 64.8	40.1 149.9 96.2 120.0 99.7 62.9	41.2 131.8 47.7 117.9 99.0	116.5 127.3 127.7 113.4 90.4	-7.0 -10.2 3.8 9.1 25.6 4.0	-7.4 -7.9 -40.4 6.9 20.4	2.7 -12.1 -50.4 -1.8 -0.7	-1.1 2.8 0.9 7.8 6.1
Iron Mines Other Metal Mines Mineral Fuels Coal Mines Crude Petroleum and Natural	120.0 70.4 127.5 251.4	124.4 72.3 129.8 236.8	82.9 86.7 113.6 226.8	123.7 95.5 127.3 230.3	138.2 91.2 128.8 215.5	122.3 84.0 125.3 240.9	3.1 35.7 -0.2 -8.4	11.1 26.1 -0.8 -9.0	11.7 -4.5 1.2 -6.4	47.5 -3.1 10.4 6.2
Gas Nonmetal Mines Asbestos Mines Secondary Industries Manufacturing	117.4 131.7 83.8	126.9	104.3 120.7 85.5	118.9 145.9 100.9	134.4	131.3	1.3 10.8 20.4	0.6 5.9 12.5	2.4 -7.9 -10.5	11.1 8.8 9.2
Nondurable Manufacturing Petroleum and Coal Products	144.0	127.9	132.9	147.1	127.1	138.1	1.2	-0.6	-13.4 -12.8	3.9
Industries Durable Manufacturing Primary Metal Industries Iron and Steel Mills Steel Pipe and Tube Mills Iron Foundries Smelting and Refining	149.8 148.7 131.5 150.0 133.2 164.3 93.9	130.9 118.1 131.2 125.5 132.8	136.7 134.6 123.7 136.5 130.8 132.9	154.2 148.5 135.2 155.6 164.8 115.8	127.6 115.5 125.0 113.5 102.4	138.5 124.6 145.4 143.1 125.2	2.9 -0.1 2.8 3.7 23.7 -29.5	4.7 -2.5 -2.2 -4.7 -9.6 -22.9 12.2	-0.2 -14.1 -14.6 -19.7 -31.1 -11.6 -1.6	6.4 2.9 0.8 6.5 9.4 ~5.8 ~10.9
Nonmetallic Mineral Products Industries Cement Manufacturers Ready•mix Concrete Manu∗	149.6	122.7	133.6	151.3	109.5	143.1	1.1	= 5.9 = 0.2	~23.7 ~31.2	1.1
facturers Construction Industry Transportation, Storage, Come	127.4 124.0	66.4 100.7	109.4 120.8	124.2 127.6	67.3 103.8	123.1	~ 2.5 2.9 6.0	1.4 3.1 3.6	-45.8 -18.7	-2.2 2.0
Electric Power, Gas and Water Utilities	169.2	195.5	159.7	179.2	194.5	169.6	5.9	~0.5	8.5	6.2
Trade Finance, Insurance, Real Estate Community, Business and Personal	149.1		140.8	149.6		155.6	0.3	0.5	9.3	2.0
Service Public Administration and Deffence	137.9	134.4	134.0	143.0	139.0	138.3	3.7	3.4 ~2.0	-2.8	3.2

TABLE 2 Canada, Production of Leading Minerals ('000 tonnes except where noted)

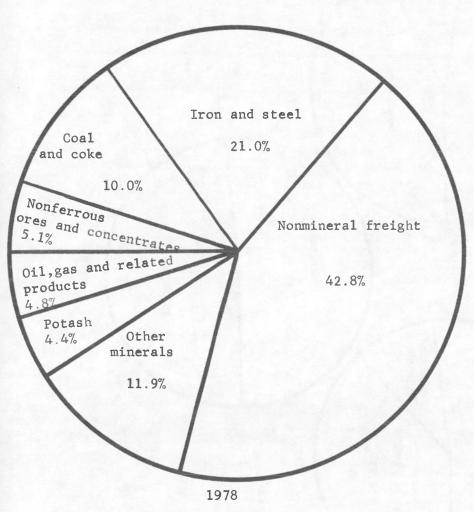
			1978			1979			Percentage Cha	nges
		No. of the last								1st 12 months
		November	December	Total 12 months	November	December	Total 12 months	December 79 December 78	December 79 November 79	1979 1978
letals										
Copper		36.9	54.7°	659.4r	59.6	62.6	634.2	+14.4	+5.0	-3.8
Gold	kg	4 211.2	4 550.5r	53 966.9r	4 448.0	4 611.7	49 092.9	+1.3	+3.7	-9.0
Iron ore		5 966.4	4 906.0r	42 930.8r	5 027.5	5 035.2	59 706.7	+2.6	+0.2	+39.1
Lead		35.1	30.9°	319.8r	27.4	28.4	312.0	-8.1	+3.6	-2.4
Molybdenum	t	898.5	1 040.3°	13 943.4°	850.8	739.2	11 212.5	-28.9	-13.1	-19.6
Nickel		5.2	6.5°	128.3r	14.7	13.1	128.8	+101.5	-10.9	+0.4
Silver	t	115.1	116.1r	1 266.9°	93.1	102.4	1 168.7	-11.8	+10.0	-7.8
Uranium ¹	t	1 055.1	1 028.4	8 210.6	612.8	988.2	6 671.1	-3.9	+61.3	-18.8
Zinc		108.0	88.0	1 066.9	83.7	71.6	1 150.7	-18.6	-14.5	+7.8
onmetals										
Jilme Ca 13										
Asbestos		120.2	129.3r	1 421.8r	127.4	152.5	1 509.2	+17.9	+19.7	+6.2
Gypsum		800.0	601.2°	8 074.4r	887.9	687.5	8 231.0	+14.4	-22.6	+1.9
Potash K ₂ 0		545.7	548.3r	6 344.0r	633.2	555.9	7 070.5	+1.4	-12.2	+11.4
Salt		659.0	750.2r	6 451.9r	640.0	804.0	6 882.6	+7.2	+25.6	+6.7
Cement		921.9	569.6	10 558.3	996.0	591.0	11 375.5	+3.8	+40.7	+7.7
Lime		179.9	174.2	2 034.2						
uels										
Coal		2 795.4	2 833.8	30 484.0	2 782.8	2 803.3	33 013.8	-2.8	+0.7	+8.3
Natural gas Crude oil and	million m ³	8 135.1	9 059.5°	89 136.5°	8 447.7°	9 184.3	94 447.3	+1.4	+8.7	+6.0
equivalent	000 m3	7 648.9	8 036.0°	82 558.7°	7 743.5°	8 108.1	92 832.1	+0.9	+4.7	+12.4

¹ Tonnes uranium (1 tonne U = 1.299 9 short tons U308). r Revised; .. Not available.

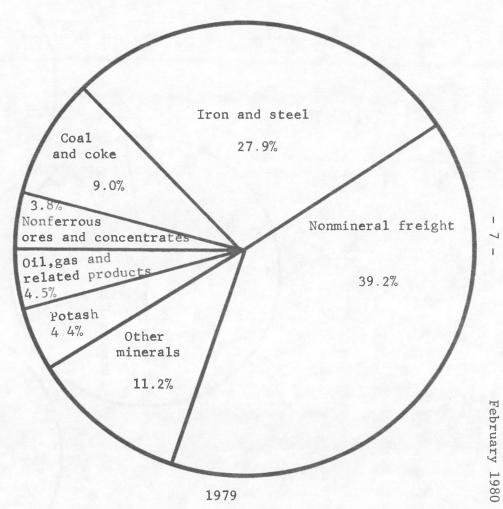
TABLE 3 Canada, Railway Transportation of Minerals

	19	978	19	979		entage ange
		(000)	tonnes)		%
Crude minerals						
Alumina and bauxite	2	532	1	882	-	25.7
Coal	20	929	20	579	-	1.7
Copper ores and concentrates	1	984	1	698	_	14.4
Copper-nickel ores and concentrates	4	049	2	778	_	31.4
Gypsum	4	893	4	897	+	0.1
Iron ore, concentrates and pellets	42	408	62	137	+	46.5
Lead and zinc ores and concentrates	2	637	2	713	+	2.9
Potash	9	711	10	543	+	8.6
Sand, gravel and crushed stone	-	622		473	_	3.2
Sulphur		403		084		12.6
Other mine products		008		350		8.5
Total crude minerals	103	176	122	134	+	18.4
abricated minerals	2	263	2	303		1.8
Coke	2	869	2	812	+	6.6
Iron and steel, primary and		009		012		0.0
manufactured	2	671	Jı.	143		12.9
Nonferrous metals, primary &	2	011	4	143	+	12.9
manufactured	1	572	1	361		13.4
Oil, gas and related products		514		645		
Other fabricated minerals		015		080	+	1.3
Other labricated minerals		015	3	000	+	2.6
Total fabricated minerals	21	904	22	344	+	2.0
Total crude and fabricated minerals	125	080	11111	478		15.5
INTINOI CITO	123	000	174	710	•	10.0
Total revenue freight	218	783	237	780	+	8.7
rude and fabricated as a percent						
of total freight	5	7.2	60	0.7		

FIGURE A
Canada, Railway Transportation of Minerals



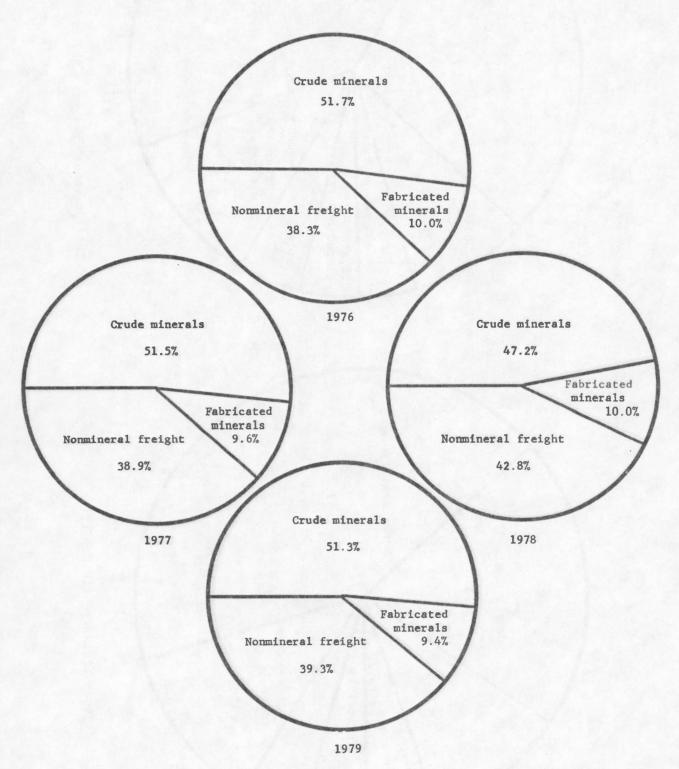
Total revenue freight = 218.8 million tonnes



Total revenue freight = 237.8 million tonnes

FIGURE B

• Crude and Fabricated Minerals Transported by Canadian Railways



REGIONAL PROFILES

QUEBEC

The value of mineral production in 1979 was up 30 per cent over the 1978 values. This was largely caused by the upsurge in the price of metals, but another important factor was the lack of any major labour-management disputes. In 1978 the iron ore industry suffered a four-month strike, which severely reduced output for the year. Iron ore production value was up 90 per cent in 1979, to a value of \$640 million, and this was sufficient to put it first in value of production. The commodities showing the next largest percentage gains were silver, gold, molybdenum, copper and asbestos.

Principal Mineral Production, 1979 (preliminary)

Commodity	Value	Change From 1978	Proportion of Canada
	(\$'000)	(per o	
Iron Ore	639,881	89.6	33.9
Asbestos	532,932	21.1	83.1
Stone	193,144	-2.7	55.7
Copper	189,887	28.1	12.5
Cement	153,488	17.9	20.8
Gold	150,788	40.6	27.8
Zinc	79,521	8.6	7.2
Sand & Gravel	70,880	9.3	15.8
Titanium Oxide	66,595	-24.5	100.0
Iron Remelt	46,438	-46.0	100.0
Silver	23,077	49.9	5.1
Lime	16,037	-0.9	20.3
Columbium	15,492	8.9	100.0
Peat	11,389	-0.6	33.7
Molybdenum	7,965	29.8	2.4
Metals	1,157,969	45.0	14.5
Nonmetals	633,585	13.7	34.6
Structural Materials	456,296	3.7	26.3
Fuels		-	-
Total	2,247,850	29.3	8.6

Socio-Economic Indicators, 1979

		Amount	Change From Previous Year	Proportion of Canada
		20.00	(per	cent)
Population, Oct. 1	'000	6,302.3	-0.3	26.5
Labour Force Dec. seas. adj.	'000	2,923	1.7	25.8
Employment Dec. seas. adj.	'000	2,646	2.8	25.1
Unemployment Dec. seas. adj.	'000	272	-11.4	33.5
Employed in Mining & Milling, Sept.	'000	23.2	3.4	16.7
Average Weekly Wage Mining & Milling, Sept.	es,	419,62	11.2	98.7
Provincial Gross Domestic Product (1978)	\$	56.2 billion	12.1	23.9

Expected Gold Developments - 1980

The recent rapid increase in the price of gold has stimulated considerable gold mining activity in Quebec, and in particular northwestern Quebec. Mines that are expected to open this year include:

- 1. The Gwillim gold mine of Campbell Chibougamau Mines Ltd., located 30 kilometres northwest of Chibougamau, is scheduled to be brought back into production in April. The mine had been developed in 1974 but was allowed to flood in 1975 because of the drop in metal prices.
- 2. Mid-Canada Gold and Copper Mines Limited, a subsidiary of Dumont Nickel Corporation, plans to bring its Bourlamaque township gold property into production in the spring. The ore will be custom-treated at a nearby mill.
- 3. Quebec Sturgeon River Mines Limited is expected to bring its Bachelor Lake property into production in the summer. Proven ore reserves are 709 850 tonnes at 0.194 oz/t gold.

- 4. El Coco Explorations Ltd. is planning to put its optioned Dasserat township property of Gold Hawk Mines Limited into production by July, at a rate of 500 tons per day. Ore will be shipped to the Belmoral mill. Reserves are in the order of 825 000 tonnes at 0.25 oz/t Au.
- 5. Long Lac Mineral Exploration Limited and Quebec Mining Exploration Company (SOQUEM) are expecting to bring into production the Doyon (Silverstack) mine in northwestern Quebec in early 1980.

Other Highlights

- 1. Important uranium occurrences have been found in the Lake Gayot area, north of the LaGrande River, in the James Bay territory of northwestern Quebec. Joint ownership of the area is held by the James Bay Development Corporation and Urangesellschaft Canada Limited.
- 2. International Iron Ores Limited and Atlantic Iron Ores Limited have announced that they are considering the use of Arctic natural gas in the development of the major iron deposits in the Ungava area. Liquid natural gas would be delivered to the Ungava, regasified and used, and then potentially a certain excess quantity could be piped via Schefferville to pelletizing plants at Sept Iles, Pointe Noire and Port Cartier on the St. Lawrence North Shore.

ALBERTA

The commodity with the largest increase in value of production in 1979 was crude petroleum, but the commodity with the highest percentage increase in value was sulphur. Sulphur demand was firm, and both volume of sales and the price had increased over the previous year. Production of sulphur in Alberta is a result of the processing of sour natural gas, and huge inventories of elemental sulphur have accumulated in the province over the years. Formed sulphur inventories are very low though, and expansion of forming capacity was undertaken in 1979.

The dominance of fuels in the province's mineral production is demonstrated by the fact that 97.0 per cent of last year's production came from fuels, as opposed to 1.8 per cent for structural materials and 1.2 per cent from nonmetallics.

Principal Mineral Production, 1979 (preliminary)

Commodity	Value	Change From 1978	Proportion of Canada
	(\$'000)	(per	the state of the s
Crude Petroleum	6,686,481	36.1	87.9
Natural Gas	4,265,148	18.8	90.6
Natural Gas			
By-Products	1,313,770	27.1	97.2
Coal	231,500	9.9	27.0
Cement	155,783	37.2	21.1
Sulphur	141,942	42.4	97.8
Sand and Gravel	55,900	20.4	12.4
Clay Products	11,500	2.7	9.2
Salt	7,939	11.5	7.0
Lime	6,475	27.0	8.2
Peat	3,073	-36.7	9.1
Sodium Sulphate	2,184	-6.7	8.3
Quartz	2,100	7.0	9.1
Stone	945	19.3	0.3
Fuels	12,496,899	27.6	86.0
Structural Materials	230,603	30.2	13.3
Nonmetallics	157,238	35.7	8.6
Total	12,884,740	27.7	49.4

Synthetic Oil Plants

- Syncrude Canada Ltd. was forced to shut down its second coker in early February because of circulation problems, which, in combination with its first coker undergoing maintenance work, meant that production was completely halted. Technical problems have plagued the plant since its startup in September 1978, and this stoppage of production is expected to last about a month.
- Alsands Oil Limited announced in January that work would start immediately on site preparation for its 140,000 barrels per day synthetic fuel plant even though final approval has not been obtained from the Alberta Cabinet. A \$9 million program to clear and drain the muskeg was initiated.

Socio-Economic Indicators, 1979

		Amount	Change From Previous Year	Proportion of Canada
			(per	cent)
Population, Oct. 1	'000	2,030.8	3.0	8.6
Labour Force Dec. seas. adj.	'000	1,039	7.8	9.2
Employment Dec. seas. adj.	'000	1,001	8.3	9.5
Unemployment Dec. seas. adj.	'000	38	-5.0	4.7
Employed in Mining & Milling, Sept.	'000	43.6	18.2	31.4
Average Weekly Wage	es,			
Mining & Milling, Sept.	\$	474.67	12.6	111.6
Provincial Gross Domestic Product (1978)	\$	28.1 billion	14.3	11.9

Plans were announced by Shell Canada Limited to build the world's first refinery designed to process synthetic crude. Feedstock for the \$350 million plant will initially come from the two existing producers, Syncrude and Suncor Inc., but eventually will be shifted to the Alsands Oil Limited operation.

Other Highlights

- 1. Union Oil Company of Canada Limited has announced that it will begin construction by the end of next year of a new \$100 million coal mining project near Hinton, 275 kilometres west of Edmonton, if approval is received from the Alberta Energy Resources Conservation Board. Planned production is three million tonnes of clean thermal coal a year for 37 years.
- 2. A significant discovery of medium gravity oil was made in southeastern Alberta. The field is in a river bed block area about 100 miles by 150 miles.

METALLIC MINERALS AND PRODUCTS

Aluminum

On January 25, 1980, the U.S. producers list price for aluminum ingot was 66.0 c - 71.0 c per pound as compared with the Metals Week U.S. market price of 87.0 c - 90.0 c per pound. By February 21, 1980, the U.S. producers list price for ingot remained the same, however, the Metals Week U.S. market price increased to 91.5 c - 93.0 c per pound.

Demand for aluminum is expected to be strong in Europe in 1980. European automakers are expected to use aluminum to cut back weight for fuel economy gains. EEC officials expect production capacity to rise by less than 3 per cent per year through 1983, while demand will increase at a rate of 5-6 per cent over the next three years.

Japan's primary aluminum producers are facing record electricity rate hikes. Power companies have applied to MITI for a 64.4 per cent increase beginning April 1st. Twenty-two per cent of Japan's aluminum electrical power comes from commercial utilities. Seventy-eight per cent comes from producer-owned power plants, of which 75 per cent are oil-fired.

Copper

Copper prices on the London Metal Exchange (LME) opened the month at \$1.36 (U.S.), peaking at \$1.44 (U.S.) a pound on February 11. Prices then dropped to \$1.18 (U.S.) a pound by February 25, and rose to \$1.26 (U.S.) a pound at month-end. The Canadian producer price rose from \$1.51 a pound at the beginning of February to \$1.63 a pound on February 15, dropped to \$1.41 a pound about February 25, then closed the month at \$1.43 a pound. At month-end, copper stocks in the COMEX and LME warehouses stood at 117 035 tonnes and 116 600 tonnes respectively.

Teck Corporation has agreed to transfer a 14 per cent partnership interest in its Highmont copper-molybdenum project to Metallgesellschaft Canada Limited with the project to be operated under Teck management as an 86-14 per cent partnership after completion. Metallgesellschaft will acquire its interest on November 1 in return for \$14.4 million, with Metallgesellschaft to assume its share of all completion and deficiency guarantees. A further increase in its interest, from 14 per cent to 20 per cent is open to Metallgesellschaft prior to the closing date, for an additional payment and proportional increase in guarantees.

Noranda Mines Limited has stated that it would probably have to close its copper smelter at Rouyn, Quebec if it were forced to meet proposed new environmental requirements. The statement was made early in February at hearings before the Quebec government Bureau d'Etude des Substances Toxiques. The bureau recommended that Noranda and Falconbridge Copper Limited centralize waste collections from the concentrator and smelter and the Falconbridge concentrator. Noranda said it considers this recommendation unwise, and it would make continued operation of its Horne smelter unprofitable.

The bureau also suggested that Noranda may be required to install a sulphuric acid plant to recover sulphur dioxide emissions from its smelter. Noranda said that construction of an acid plant would not be economically feasible because there isn't a sufficiently large market for sulphuric acid in Quebec. The company said it could not assume the losses of building an acid plant at the 250 000 tonne-a-year capacity copper smelter without endangering its own profitability.

Iron Ore

The Hanna Mining Company increased the Lake Erie base price of its iron ore pellets from 66.7 cents a metric ton unit in mid August, to 72.48 cents in mid February, 1980. The increase of 8.7 per cent covers increased costs for energy, supplies and labour.

Iron and Steel

Major steel producers in Canada posted price increases of about 7 per cent for some products, effective April 1, 1980. These are to cover basically the cost increases for raw materials, energy and labour. The following summarizes price increases by company and products.

Company	Products	Price Increase \$/net ton	% Increase
The Steel Company of Canada, Limited	Semi-finished and hot rolled bars Steel plate Tin plate Black plate	31.20 23.14 44.45 39.55	6.8 5.2 6.6 7.5
Dominion Foundries and Steel, Limited	Steel plate Tin mill products Specialty steels: Random-oriented steel Grain-oriented steel	23.69 42.10 49.60 99.18	5.2 6.7 6.9 8.5
The Algoma Steel Corp., Ltd.	Structural steel	27.55	7.5

Steel prices are expected to rise another 6 to 7 per cent this fall.

Gold

The gold price in February continued the erratic price movements that has been characteristic over the last few months but it did show a little more stability. Price movements were generally related to favourable or unfavourable political situations, moving downward on favourable news and increasing in price on unfavourable or uncertain news. The opening price on the London Gold Market for February was \$675.00 (U.S.) per ounce. The gold price trend was generally upwards until a high of \$714.50 (U.S.) per ounce was recorded on February 11. Gold prices declined from the high to a low of \$606.00 (U.S.) per ounce on February 20. The gold price recovered from this low, closing for the month at \$637.00 (U.S.) per ounce.

The monthly average gold price for February 1980, of the afternoon fixing prices on the London Gold Market, was \$665.32 (U.S.) (\$769.11 Cdn.) per ounce compared with an average price of \$675.31 (U.S.) (\$785.97 Cdn.) per ounce for January 1980 and an average gold price of \$455.11 (U.S.) (\$532.03 Cdn.) per ounce for December, 1979.

The International Monetary Fund (IMF) held its forty-second gold auction on February 6, 1979, under the bid price method and awarded a total of 440,000 fine ounces of gold to 5 successful bidders at an average price of \$712.12 (U.S.) a troy ounce. Prices offered by successful bidders ranged from \$711.99 (U.S.) to \$718.01 (U.S.) an ounce. Bids were received for a total of 1,939,600 ounces, indicating a strong interest. The successful bidders were European banks and bullion dealers or associates of European Banks.

The Treasury Department of the United States did not hold a gold auction in February.

The IMF completed the last of four annual sales or restitution of gold to member countries based on agreement reached in August 1975. Sales of gold in the fourth distribution to 126 members amounted to 6,122,663 ounces of fine gold. The amounts of gold sales were calculated in proportion to individual members quotas in the IMF as of August 31, 1975. The gold was sold at a price equivalent to SDR 35 per ounce. Total sales to the 126 member countries over the four-year period amounted to 24,507,063 ounces.

In the fourth distribution, Canada's quota was 235 328 ounces. Total sales to Canada under the program amounted to 941 394 ounces. The publication "IMF Survey" Vol. 9, No. 4, February 18, 1980 carries a complete list of gold sold or restituted to each of the 126 member countries.

Early in 1980 Canada sold 250,000 ounces of gold from its official reserves, netting the government a reported \$174 million. Canada's official reserves of gold at the end of 1979 were 22.18 million ounces.

Dome Mines, Limited has announced that it will spend \$50 million over a four-year period in an expansion program at its gold property in the Timmins district of northeastern Ontario. The expansion program will involve the sinking of a new shaft to a depth of about 1 645 metres and increasing the mill capacity by about 50 per cent to about 2 720 tonnes per day. The plans call for the replacement of the present grinding circuit. The company estimates that about 200 additional jobs will be added.

Noranda Mines Limited and Pamour Porcupine Mines, Limited are to spend approximately \$4.5 million to bring the Gordon Lake gold property of Camlaren Mines, Limited near Yellowknife, Northwest Territories into production. Discovery Mines Limited owns two thirds of the property and Camlaren the remaining one third. Discovery controls Camlaren through ownership of 66 per cent of its outstanding shares. A portable cyanide plant with a capacity of about 140 tonnes will be installed on the property. After all costs have been recouped by all parties and 45 360 tonnes milled the profits will be divided 60 per cent to Noranda and Pamour, 26.7 per cent to Discovery and 13.3 per cent to Camlaren.

The Republic of South Africa announced that it will mint a new gold coin. The coin will be exactly one half the size of the existing krugerrand, containing one half ounce of gold. Tentative plans call for the minting of the coin in the latter part of the year after amending legislation has been passed and the design completed. The gold price has risen to such an extent that it is now beyond the means of many buyers and the smaller coin may have a more receptive market.

Lead

During February, lead prices rose on the London Metal Exchange (LME). At month end the LME cash price for lead was £ 532 per tonne, the equivalent of 55 U.S. cents a pound, or 63 Canadian cents a pound, for an increase of approximately 4 cents a pound during the month.

Producers prices of lead in the United States and Canada were unchanged from one month earlier at 50 U.S. cents and 57 cents a pound respectively at month end.

Stocks of lead on the LME reached a 10-year low at the end of February, 11 300 tonnes. Lead stocks in the United States, on the other hand, continued to rise. The low LME Stock position and the increased cash price for lead resulted partially from a strike at the United Kingdom lead smelter of Britannia Metals. A price backwardation, in effect on the LME for most of February, also reflected the physical shortage of metal resulting from this strike.

In the United States, the Senate Finance Committee held hearings early in February on bill HR-6089, a bill to reverse the 3.5 per cent ad valorem tariff now in effect on U.S. lead imports. No further action was expected until March when the House Ways and Means Committee holds its hearings on the bill.

At month-end ASARCO Incorporated announced that it intends to proceed with development of a new lead/zinc/silver mine at Westfork, Missouri. The mine will produce 46 000 tonnes of lead in concentrate annually and will start up in 1984.

Canadian production of primary lead to the end of December 1979 was as follows: mine production - 341 115 tonnes, smelter production 312 045 tonnes, refinery production - 183 769 tonnes.

Nickel

On February 28, Inco Limited increased the price of its plating and melting nickel by 25 cents a pound and the price of its charge nickel by 24 cents. On the same day Falconbridge Nickel Mines Limited raised the price of its nickel products by 25 cents a pound. Inco's new prices are: plating nickel \$3.50 (U.S.) a pound; melting nickel \$3.45, and charge nickel \$3.32 a pound in Europe and \$3.35 a pound in North America, Latin America and the Far East. Falconbridge has increased its nickel plating grades to \$3.50 a pound, the price of its melting grades goes to \$3.45 and ferronickel is now \$3.44 a pound of nickel content. On February 29, Société Metallurgique Le Nickel raised the price of its ferronickel products by 25 cents a pound.

All striking unions at Inco's Clydach, Wales, nickel refinery voted to accept the company's latest offer and end the 19-week old strike. The settlement includes a 31 per cent wage increase. Workers are to return to work March 3, but no estimate was given as to the length of time it would take to repair flood damage during the plant's closure and return the plant to full production.

Platinum Group Metals

In 1979, Canadian production of the platinum-group metals (platinum and palladium, the major metals, and rhodium, indium, ruthenium and osmium) was estimated at 5 754 000 grams valued at \$56.193 million compared with 10 768 428 grams in 1978 valued at \$65,292,791. Inco Limited is the largest producer of platinum metals in Canada and the labour strike at its mines which lasted for nearly half the year was largely responsible for the sharp decline in production. Although volume of production declined by 46.6 per cent in 1979 compared to the previous year the value of production declined by only 13.9 per cent because of a substantial increase in the price of most of the platinum-group metals in 1979.

The average producer price of platinum as quoted by Metals Week for 1979 was \$351.70 (U.S.) per ounce compared with \$237.25 in 1978. The average dealer price in 1979 was \$444.60 (U.S.) per ounce compared with \$260.77 in 1978. The average producer and dealer prices for palladium in 1979 were \$113.14 (U.S.) and \$119.56 per ounce respectively. Comparable prices for 1978 were \$70.87 (U.S.) and \$63.02 per ounce.

The producer prices for iridium, rhodium and ruthenium at the end of 1979 were \$350.00 (U.S.); \$800.00 and \$45.00 per ounce, respectively. Platinum was quoted at \$420.00 (U.S.) and palladium at \$150.00 per ounce.

In 1980, platinum and palladium have been under the same speculative pressures as those for gold and silver. In mid-February the dealer price for platinum was being quoted in the area of \$915.00 (U.S.) per ounce. This is much higher than the \$420.00 per ounce producer price and the \$710.00 per ounce dealer price at the end of 1979. The mid-February dealer price for palladium was \$280.00 (U.S.) per ounce compared with a price of \$182.50 at the end of 1979. At the end of January the producers raised the price of palladium by \$25 per ounce to \$175.00 per ounce. In mid-February the producer price of iridium was raised by \$50.00 per ounce to \$400.00 an ounce in response to a strong demand by consumers, especially in Europe.

Silver

The silver price was erratic in February 1980 but it was comparatively stable after a period of sharply rising prices: The opening price for the month as quoted by Handy & Harman of New York was \$34.80 (U.S.) per ounce. The high for the month of \$39.00 (U.S.) per ounce was recorded on February 6 and the low of \$31.00 (U.S.) per ounce on February 20. The closing price for the month of February was \$35.20 (U.S.) per ounce. The price movements were largely the markets reaction to uncertain political situations. The silver market is in a precarious position because of the amount of silver in the hands of speculators.

The monthly average silver price for February 1980 was \$35.085 (U.S.) per ounce compared with \$38.26 (U.S.) per ounce for January and \$21.79 (U.S.) per ounce for December 1979. The average silver price in Canadian dollars for the month of February was \$1303.98 per kilogram (\$40.56) per ounce compared with \$1428.71 per kilogram (\$44.44 per ounce) for January.

Effective February 20, 1978 the French government announced that the 5, 10 and 50 franc silver coins will cease to be legal tender and can be freely traded for the first time. The decision was made because the sharp rise in the silver price made the value of the silver metal contained in the coins much higher than the face value of the coins. The public's reaction was immediate and a large number of coins were offered to coin dealers in early trading.

Tin

It was reported that Conzinc Riotinto of Australia Ltd. will develop a tin deposit in Malaysia. Production is expected in 1982 and the ore is projected to last 25 years.

Construction of Thailand's second tin smelter began last week. The Thai Pioneer Enterprize smelter will have an initial capacity of 3,600 mtpy which can be expanded to 5,200 mtpy. Thailand's present and only smelter Thaisarco, has a capacity of 35,000 mtpy.

Shell Canada Limited is continuing its drilling exploration program on a tin deposit near Kemptville, Nova Scotia.

Ministers from major tin-producing countries met in Chiang-Mai, Thailand to discuss possible joint actions in Tin Council Sessions prior to the negotiations for the Sixth Agreement beginning on April 14th in Geneva. Among their discussions were the proposed changes to the existing agreement focusing on plans to revamp the voting system, modifications to the buffer stock, retention of export controls and more frequent fixing of the buffer stock price range.

The tin market has been unsettled since year-end. Factors affecting the price include Malaysian holidays which affect ore shipments to smelters, the General Services Administration new tin sales program, the U.K. steel strike, suggestions of tin as a hedge against inflation and general market speculation. On average general trend has been steady higher prices. Tin prices have risen from $824.8 \/e/lb$ to $866.4 \/e/lb$ from January 2nd to February 15th (U.S. Metals Week composite price).

INDUSTRIAL MINERALS AND PRODUCTS

Asbestos

The suit by Asbestos Corporation Limited (ACL) against the Quebec government, challenging the government's efforts to expropriate assets of the company through Bill 70 (established Société nationale de l'amiante-SNA) and Bill 121 (the expropriation bill) is expected to be heard in Quebec Superior Court beginning in April. ACL was granted, by the Quebec Court of Appeals, an interlocutory injunction to hold off an immediate takeover by the Quebec government.

Lime

The Cambridge, Ontario dolomitic lime plant of the Domtar Inc.'s Chemical Group closed its operations in January, 1980. The plant, which produced lime for the steel and construction industries,

had been under severe economic pressure for many years and the closure at this time was spurred by a strike which began May 13, 1979. Thirty-eight workers are affected by the closure.

Phosphate

President Carter ordered an embargo on export or re-export from other countries of U.S.-origin phosphates to the Soviet Union (effective February 4, 1980).

The suspension of exports for an indefinite period covers marketable phosphate rock, all concentrates, phosphoric acid, and phosphatic fertilizers.

The embargo's main target will be superphosphoric acid (70 per cent P_2O_5) about 1 million tonnes per year sold under a 20-year contract to the U.S.S.R. by Occidental Petroleum Corporation.

Sulphur

On February 14, 1980 Texasgulf Chemicals Company, a division of Texasgulf Inc., announced a price increase of \$10.00 (U.S.) per long ton for Frasch sulphur to \$116.00 (U.S.) per long ton fob Tampa. This is the second price increase in 1980, the last being \$10.50 per long ton on January 2, 1980.

Reconstruction work on the Second Narrows Bridge in Vancouver was proceeding on schedule, and the bridge is expected to be back in operation by the middle of March 1980. The bridge, a railway link between the south and north shores of the Vancouver ship channel, was rammed and seriously damaged on October 12, 1979 by a Japanese freighter. The mishap completely isolated Vancouver Wharves, the bulk terminal located on the north shore, which normally handles about half of the sulphur export shipments.

Two new Frasch sulphur mines in the U.S. are being developed for production. Freeport Minerals Corporation is developing its sulphur mine on Carllou Island, off the coast of Louisiana. The new facility is expected to produce 300,000 tons per year of elemental sulphur at a cost of \$25 million (U.S.). Startup is planned for early 1981. Duval Corporation is opening a small sulphur mine at Phillips Ranch in Culberson County, Texas. The new mine, scheduled to come on stream in the third quarter of 1980, will operate at a rate of 200 tons per day at a cost of \$4 million (U.S.).

MINERAL FUELS AND PRODUCTS

Coal

Provincial and federal government officials recently announced that Lingan Two, the second of four proposed coal-fired electrical generating units on Cape Breton Island will now come on stream in June 1980. Originally this 150 megawatt unit had been scheduled to become operational in 1981. The early completion of this second unit will allow Nova Scotia to displace more than 1.6 million barrels of oil. Approximately 400 000 tonnes of coal produced annually from Nova Scotian mines will now supply the electricity that would otherwise have been produced with imported oil. A third and fourth coal-fired unit are also under consideration.

In early February, Crows Nest Resources Limited, a subsidiary of Shell Canada Resources Limited, completed a second contract with a South Korean utility company for the sale of thermal coal. A long term contract for 400 000 tonnes of coal was signed with the Korea Electric Co., approximately six months after a contract for 350 000 tonnes had been signed with the same company. The new contract will provide coal for the Go-Jeong thermal power station while the previous contract was for the Sam Chon Po power station. Crows Nest Resources will develop a new mine at Line Creek near Fernie in southeastern British Columbia to produce this coal. Production is scheduled to begin in 1982 for one contract and in 1983 for the other contract.

Three coal mines in western Canada recently made known mine expansion plans. Fording Coal Limited revealed a multi-million dollar expansion program for its southeastern British Columbia operations that would increase production capability from 3 to 5 million tonnes per year. A new hydraulic mine, new mining equipment and extra storage facilities would require up to 400 new employees. Fording currently supplies coking coal to Japanese and other overseas customers.

Kaiser Resources Ltd., another southeastern B.C. coal producer, is also considering a multi-million dollar expansion program. The major development in this program would be a new open pit mine at Greenhills, 40 kilometres north of its existing operations. Other elements in the program would include expansion of Kaiser's coal preparation plant and its port facilities at Roberts Bank south of Vancouver. Both Kaiser and Fording's expansion plans are conditional on developing new or expanded contracts.

The third company to recently report expansion plans was Luscar Ltd., a coking and thermal coal producer with mines in Alberta and Saskatchewan. Luscar expects to nearly double its current output

of 6 million tonnes by the mid-1980's. This increased output will come from one new coal mine and expansion of output of several existing mines. Increased domestic requirements for thermal coal in Alberta, Saskatchewan and Ontario will account for most of the planned increase in output although some expansion of coking and thermal coal production for export markets is also under consideration.

Petroleum and Natural Gas

In Canada's East Coast offshore, under the jurisdiction of EMR's Resource Management Branch, the year 1979 proved to be highly successful in terms of activity, new discoveries and level of drilling expenditures.

During the year, nine drilling units operated on ten wells with drilling expenditures exceeding \$170 million. Seismic expenditures were almost \$15 million. The total metreage drilled for the year was approximately 32 000 metres. The cumulative number of wells drilled since 1966 is 156, with the East Coast accounting for almost all of the activity.

The "Discoverer Seven Seas", a dynamically-positioned drillship, established a world record for deep water drilling: The Texaco-Shell et al Blue H-28 well was drilled in 1 486 metres of water and reached a total depth of 6 103 metres.

Mobil Oil Canada, Ltd. completed a five-well program off the East Coast. The last well of the program, the Mobil-Texaco PEX Venture D-23, found significant quantities of natural gas near Sable Island. The venture well was drilled by Odeco's Gulftide, the only jackup unit active in Canada's offshore.

Possibly the most significant discovery made in 1979 was Chevron Standard Limited's Hibernia P-15 well which found oil on the Grand Banks area off Newfoundland. Mobil, holder of the acreage with Chevron as the operator, is conducting a year-round drilling program to evaluate the discovery and other prospects in the same geological basin.

Uranium

The government of British Columbia has announced a seven-year moratorium on uranium exploration and mining in the province because of concern that these activities will do irreversible harm to the environment. The decision puts an immediate end to the provincial Commission of Inquiry that was investigating the health and

safety aspects of the uranium industry, under the chairmanship of Dr. David Bates. The Inquiry's schedule of hearings, which was to be completed in February, had recently been extended to October 1980. The moratorium will negate the contract negotiated last year for the sale of uranium to Korea Electric Company from the province's Blizzard deposit, which was to be developed by Norcen Energy Resources Limited on behalf of itself and several joint venture partners, including Ontario Hydro.

The Saskatchewan government has named a five-member board of inquiry under the chairmanship of Robert Mitchell to inquire into the proposed Key Lake uranium project. Mr. Mitchell has been quoted as saying that the board will "ensure that the proposal meets provincial and federal standards and will make what recommendations it deems necessary on conditions under which the project might proceed". No time-table has been set for the duration of the inquiry.

ESI Resources Limited has received final approval to recover uranium as a by-product of phosphoric acid production at its plant near Calgary, Alberta. The recovery plant has been built adjacent to Western Co-operative Fertilizers Limited's (WCFL) phosphoric acid fertilizer plant. It will recover up to 70 tonnes U per year for export to US customers. The phosphate rock used by WCFL in its fertilizer operation is imported from the United States.

Shareholders of Rio Algom Limited and Preston Mines Limited have approved the merger of the two companies and a certificate of amalgamation was issued by Ontario's Minister of Consumer and Commercial Relations on January 30, 1980. The new company, to be known as Rio Algom Limited, has two uranium producing operations in Ontario's Elliot Lake area (Quirke and Panel) and is rehabilitating a third (Stanleigh) in the same area.

Commonwealth Edison Company of Chicago has asked Brinco Limited to discuss a revision to their agreement in principle reached last August, respecting the development of Brinco's Kitts/Michelin deposits. It had been agreed that Commonwealth Edison would arrange financing of the \$160 million project and purchase up to a reported 6 920 tonnes U. The new discussions will be aimed at reaching a mutually acceptable arrangement in view of the current depressed state of the uranium market.

The Nuclear Exchange Corporation (NUEXCO) reported that its uranium "exchange value" fell to \$U.S. 104/kg U (\$U.S. 40.00/lb U $_3$ O $_8$) in January 1980. This represents a decline of \$U.S. 8.45/kg U (\$U.S. 3.25/lb U $_3$ O $_8$) since May 1979; the exchange value's high was in mid-1978 at \$U.S. 112.84/kg U (\$U.S. 43.40/lb U $_3$ O $_8$). The exchange value is defined as "NUEXCO's judgement of the price at which transactions for significant quantities of natural uranium in concentrate could be concluded as of the last day of the month".

The Organization for Economic Co-operation and Development (OECD) has released the eighth in a series of reports on world uranium supply. The studies are carried out jointly by the Nuclear Energy Agency (NEA) of OECD and the International Atomic Energy Agency (IAEA) at two-year intervals. The latest OECD "Red Book", as it is known in the industry, reported the following uranium resource estimates:

	Reasonably As	ssured Resources	Estimated Additional Resources (1000 tonnes U)		
	At costs up to \$80/kg U	At costs of \$80 to \$130/ kg U	At costs up to \$80/kg U	At costs of \$80 to \$130/ kg U	
Worldl	1850	740	1480	970	
Canada ²	215	20	370	358	

World excludes the USSR, Eastern Europe and China.

The NEA/IAEA's reported that world production in 1978 amounted to 33 900 tonnes U and that planned production for 1979 was 38 400 tonnes U. It was estimated that, under optimum conditions, the world's known resources (summarized in the above table) could support increasing levels of production rising to 98 000 and 119 000 tonnes U/year by 1985 and 1990, respectively.

² Canada (EMR) equates its high and low "price" categories to the NEA/IAEA's high and low "cost" categories.

SPECIAL ITEM

UNCTAD Committee on Tungsten 12th Session, Geneva, February 25-29, 1980

Background

The 12th session of the Committee on Tungsten took place against a background of 17 years of discussions during which the 29 member nations have failed to achieve a consensus on measures to bring about the desired stability in the tungsten market. Over the years, the Committee has achieved some success in providing market transparency and thereby contributing to market stability. Although producers and consumers alike agree on the desirability of reducing price volatility, they have not been able to agree on how to go about it. In an effort to resolve this producer-consumer impasse, five special sessions were held during 1977-79. These special sessions revealed three basic positions:

- those favouring a full-fledged Intergovernmental Tungsten Agreement with supply management, stocking measures and price parameters;
- 2) those favouring a producer-consumer consultative forum; and
- a compromise proposal to establish a type of consultative forum and gradually introduce, as required, economic provisions.

Outcome

The agenda for the 12th regular session effectively called for a thorough review of discussions and proposals to date with the view to determining a course of action - i.e. the establishment of a formal institution on tungsten. From the outset it became quite apparent that the positions of most delegations had not changed from earlier meetings and that further debate on the institutional matters would likely prove sterile, as it did. Nevertheless, the Committee was able to engage in a fruitful discussion on current and short-term market prospects for tungsten and to examine the experiences of the International Tungsten Indicator, a pricing barometer that was started in the U.K. in July 1978.

From a Canadian perspective, the 12th session can be considered a success inasmuch as delegates were able to go beyond the institutional debate and exchange market information. The agenda for

the next session to be held during the next 18 months or so will provide for a similar, and perhaps even fuller, discussion on tungsten market developments and prospects.

Canada has an important stake in the tungsten discussions and market. At present, Canada Tungsten Mining Corporation Limited in the Northwest Territories is our sole producer, the entire output being exported as concentrate. Canada Tungsten is 65% owned by AMAX Inc. of Denver, Colorado. AMAX has interests in other tungsten deposits in the NWT that offer development prospects in the years ahead. More immediately, a New Brunswick deposit is scheduled to be brought into production in 1981.

NEW PUBLICATIONS

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

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 février.

Annual Reviews of the Canadian Mineral Industry, 1978, Zirconium; Bismuth; price \$1.00 a copy.

Revues annuelles de l'industrie minérale du Canada, 1978: Le plomb; le pétrole brut; le sable et le gravier; prix: \$1 l'exemplaire.

MR 186 Réserves canadiennes de cuivre, nickel, plomb, zinc, molybdène, argent et or au 1^{er} janvier 1979 price: Canada \$2.00, Other Countries \$2.40.

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, Approvisionnements et Services Canada, Ottawa.

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