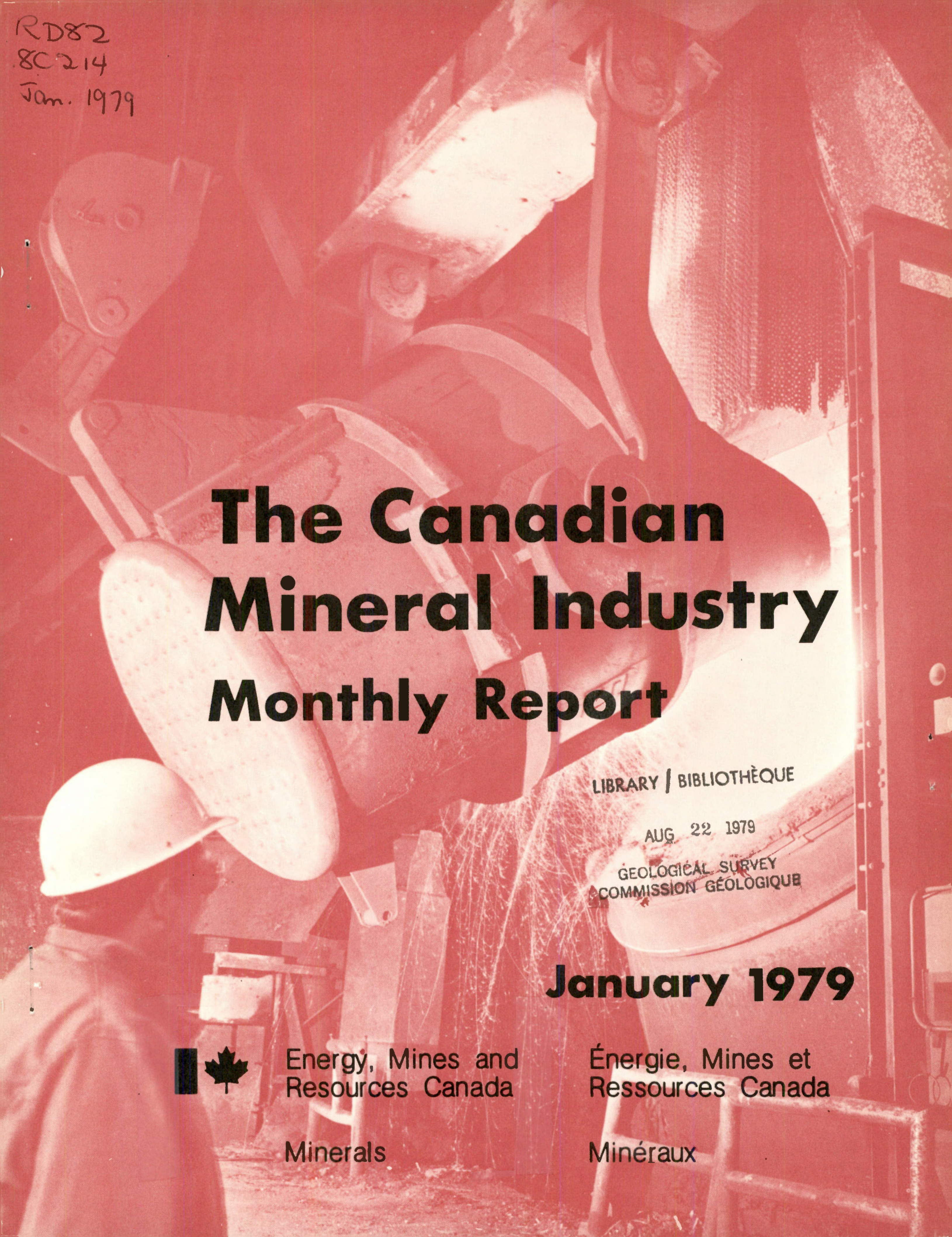

The Canadian Mineral Industry
Monthly Report

January 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.

Ce rapport a été rédigé par le Secteur de la Politique Minérale du Ministère de l'Energie, 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.

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THE CANADIAN MINERAL INDUSTRY FOR JANUARY

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

HIGHLIGHTS

1. Canada's unadjusted index of Real Domestic Product was 137.6 in November 1978, an increase of 1.5 per cent from October 1978.

2. The November index for Mines, Quarries and Oil Wells was 108.1 a decrease of 0.4 per cent from the previous month.

3. The cash price for copper wirebar on the London Metal Exchange (LME) advanced during January from the equivalent of 71 to 81 (U.S.) cents a pound.

4. Dominion Foundries and Steel, Limited (Dofasco) has announced plans to build a fourth continuous galvanizing line, scheduled to be completed by mid-1981.

5. The Export Development Corporation and the Canadian Imperial Bank of Commerce have arranged a $77.5 (U.S.) million loan to help finance the sale of Canadian equipment and service for a new steel plant to be built in Trinidad.

6. The producer and dealer price of platinum increased sharply in 1978. The producer price during 1978 moved from an opening price of $180 (U.S.) to $300 (U.S.) an ounce. The dealer price was in the range of $185 (U.S.) an ounce at the beginning of the year and closed in the range of $340 (U.S.) an ounce.

7. Five hundred and fifty members of the United Steelworkers of America began returning to work on January 16, 1979 at the Cassiar Asbestos Corporation Limited mine in Cassiar, British Columbia following a four-month strike.

8. Canadian Industries Limited (CIL) has undertaken a $100 million expansion to double its capacity at the Bécancour, Quebec plant of chlorine and caustic soda.

9. In a tentative agreement reached this month, Mexico may export 100,000 b/d of crude oil to Canada, through Petro-Canada, the national oil company.

10. The Australian government has announced that it will proceed with a study of the feasibility of establishing a commercial uranium enrichment plant in Australia.

ECONOMIC TRENDS

Table 1 shows Canada's unadjusted indexes of Real Domestic Product in terms of 1971 = 100. The overall RDP index for November 1978 was 137.6 an increase of 1.5 per cent over that of October.

The November index for mines, quarries and oil wells was 108.1 compared with 108.5 for October. Metal mines showed a decrease of 11.8 per cent over the period. Mineral fuels and non-metal mines showed increases of 8.6 per cent and 5.7 per cent respectively.

The RDP index for primary metal industries increased 4.1 per cent from 125.6 in October to 130.7 in November while nonmetallic mineral products industries declined 7.1 per cent from 168.0 to 156.0.

Table 2 compares volume of production for nineteen major Canadian minerals. Output increased in nine of these minerals, the most significant being nickel (13.0 per cent), uranium (76.7 per cent), zinc (12.9 per cent) and salt (16.0 per cent). Substantial decreases were recorded in copper (33.2 per cent), molybdenum (24.3 per cent), asbestos (12.9 per cent) and clay products (15.4 per cent).

Table 3 compares average weekly wages of hourly rated employees based on the period November 1977 to October 1978 for the manufacturing, nonmetallic, metallic, mining and construction sectors.

TABLE 1

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

Industry or Industry Group	1977 Oct	1977 Nov	1977 Average 1st 11 Months	1978 Oct	1978 Nov	1978 Average 1st 11 Months	Oct 1978 / Oct 1977	Nov 1978 / Nov 1977	Nov 1978 / Oct 1978	1st 11 Months 1978 / 1977
Real Domestic Product	130.7	132.3	129.1	135.5	137.6	133.2	3.7	4.0	1.5	3.2
Primary Industries										
Agriculture	33.9	54.5	106.9	26.1	48.8	111.4	-23.0	-10.5	87.0	4.3
Forestry	127.0	133.7	119.5	157.7	176.6	125.8	24.2	32.1	12.0	5.3
Fishing and Trapping	121.5	85.4	91.3	134.4	90.6	106.1	10.6	6.1	-32.6	16.2
Mines, Quarries and Oil Wells	114.8	119.0	114.2	108.5	108.1	103.3	-5.5	-9.2	-0.4	-9.5
Metal Mines	108.1	110.0	109.9	90.3	79.6	85.7	-16.5	-27.6	-11.8	-22.0
Placer and Gold Quartz Mines	70.8	75.1	73.7	67.7	67.3	70.8	-4.4	-10.4	-0.6	-3.9
Iron Mines	138.0	125.9	130.3	152.0	136.1	89.7	10.1	8.1	-10.5	-31.1
Other Metal Mines	102.5	107.7	106.6	76.1	66.2	85.4	-25.8	-38.5	-13.0	-19.9
Mineral Fuels	108.7	123.2	112.5	116.9	126.9	112.0	7.5	3.0	8.6	-0.4
Coal Mines	203.9	216.4	211.3	249.0	257.9	228.6	22.1	19.2	3.6	8.2
Crude Petroleum and Natural Gas	100.9	115.6	104.4	106.1	116.2	102.5	5.2	0.5	9.5	-1.8
Nonmetal Mines	151.4	135.0	131.1	126.4	133.6	122.1	-16.5	-1.0	5.7	-6.8
Asbestos Mines	127.6	108.4	110.4	87.8	88.1	90.4	-31.2	-18.7	0.3	-18.1
Secondary Industries										
Manufacturing	132.6	132.1	125.4	143.2	144.9	133.9	8.0	9.7	1.2	6.7
Nondurable Manufacturing	130.3	128.7	123.1	142.5	142.8	133.2	9.4	11.0	0.2	8.2
Petroleum and Coal Products Industries	120.2	139.3	132.8	129.1	145.5	133.5	7.4	4.5	12.7	0.6
Durable Manufacturing	134.9	135.5	127.7	143.9	146.9	134.5	6.7	8.4	2.1	5.4
Primary Metal Industries	119.4	124.6	117.7	125.6	130.7	124.5	5.2	4.9	4.1	5.8
Iron and Steel Mills	123.9	130.8	124.2	142.8	151.9	138.7	15.3	16.1	6.4	11.8
Steel Pipe and Tube Mills	116.4	111.9	115.2	144.1	134.4	134.2	23.8	20.1	-6.7	16.5
Iron Foundries	145.1	147.4	123.8	129.8	130.5	114.3	-10.5	-11.5	0.5	-7.7
Smelting and Refining	106.2	112.0	105.9	92.9	93.7	101.3	-12.5	-16.3	0.9	-4.3
Nonmetallic Mineral Products Industries	161.3	150.6	135.4	168.0	156.0	141.2	4.2	3.6	-7.1	4.3
Cement Manufacturers	153.6	137.8	127.5	171.6	137.9	131.4	11.7	0.1	-19.6	3.1
Ready-mix Concrete Manufacturers	175.7	135.6	133.2	177.6	141.2	128.8	1.1	4.1	-20.5	-3.3
Construction Industry	136.3	124.0	121.4	127.0	115.4	114.3	-6.8	-6.9	-9.1	-5.9
Transportation, Storage, Communication	139.4	138.3	137.0	144.2	144.6	141.6	3.4	4.6	0.3	3.4
Electric Power, Gas and Water Utilities	143.1	160.5	145.4	148.9	165.2	153.8	4.1	2.9	10.9	5.7
Trade	136.6	144.6	132.8	143.6	150.5	138.0	5.1	4.1	4.8	3.9
Finance, Insurance, Real Estate	143.5	145.4	142.2	152.2	156.1	148.6	6.1	7.4	2.6	4.5
Community, Business and Personal Service	132.6	133.7	129.4	136.5	136.9	133.2	2.9	2.4	0.3	2.9
Public Administration and Defence	123.2	122.5	124.6	123.4	123.0	125.8	0.2	0.4	-0.3	1.0

TABLE 2

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

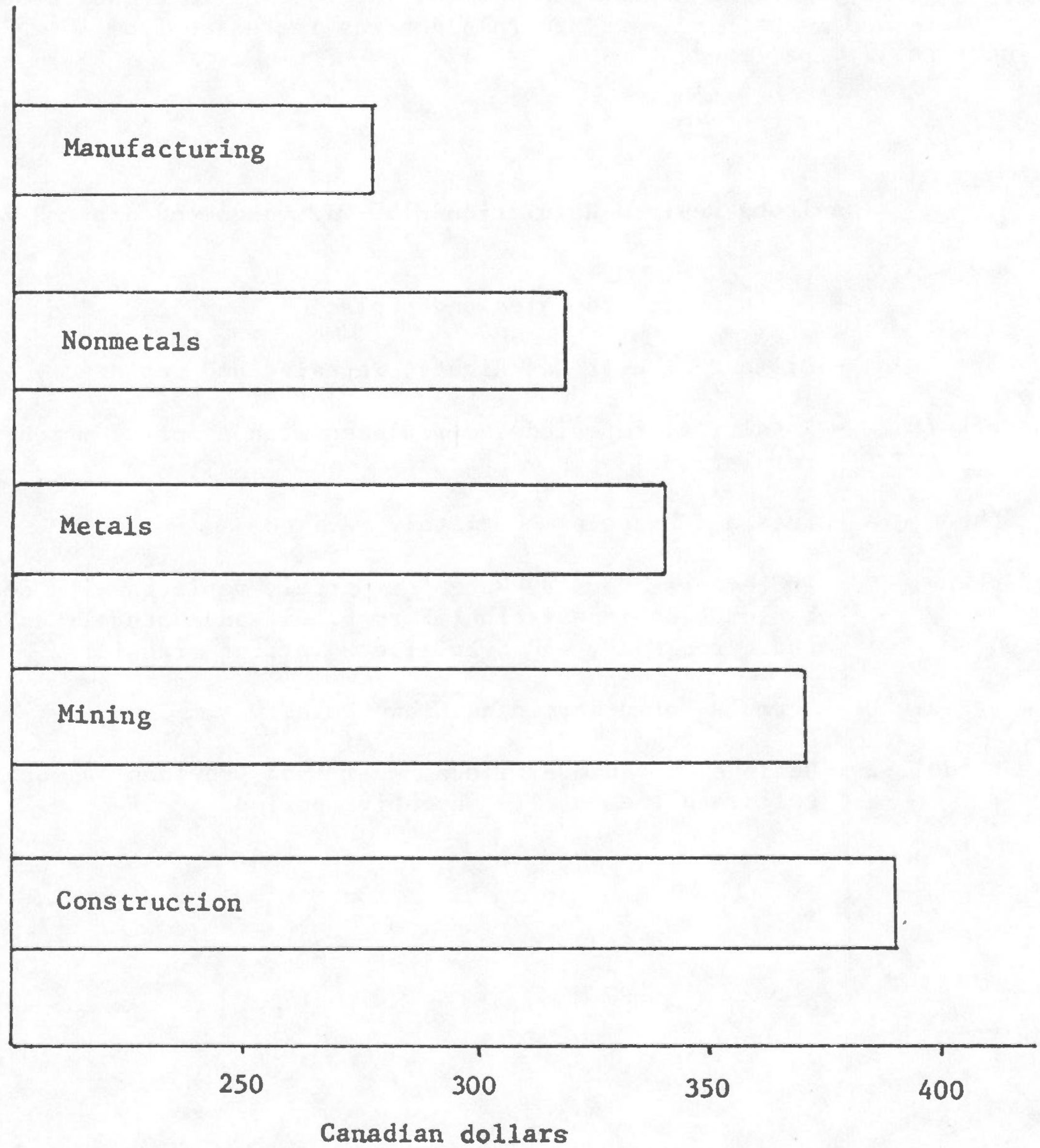
		1977			1978			Percentage Changes		
		October	November	Total 11 months	October	November	Total 11 months	November 78 / November 77	November 78 / October 78	1st 11 months 1978 / 1977
Metals										
Copper		66.0	65.5	728.2	55.2	36.9	598.2	-43.7	-33.2	-17.9
Gold	kg	4 146.2	4 606.9	48 446.4	4 449.7	4 249.8	47 342.2	- 7.8	- 4.5	- 2.3
Iron ore		5 825.9	5 866.0	49 377.9	6 050.0	5 966.5	38 024.7	+ 1.7	- 1.4	-23.0
Lead		24.2	22.7	256.6	31.8	35.2	283.8	+55.1	+10.7	+10.6
Molybdenum	t	1 443.6	1 796.0[r]	15 417.6[r]	1 187.5	898.5	12 903.1	-50.1	-24.3	-16.3
Nickel		17.6	18.6	214.3	4.6	5.2	119.7	-72.0	+13.0	-44.1
Silver	t	122.5	123.1	1 281.1	126.5	115.1	1 143.1	- 6.5	- 9.0	-10.8
Uranium[1]	t	593.4	455.1	5 413.5	597.0	1 055.1	6 853.3	+131.8	+76.7	+26.6
Zinc		106.4	81.7	1 013.9	95.5	107.8	928.5	+32.0	+12.9	- 8.4
Nonmetals										
Asbestos		137.2	127.8	1 397.0	138.0[r]	120.2	1 292.5	- 6.0	-12.9	- 7.5
Gypsum		851.3	564.4	6 588.0	910.4	810.3	7 491.5	+43.6	-11.0	+13.7
Potash K_2O		416.6	454.3	5 392.5	494.8	545.7	5 795.7	+20.1	+10.3	+ 7.5
Salt		497.8	600.0	5 361.6	567.9	659.0	5 701.7	+ 9.8	+16.0	+ 6.3
Cement		1 070.9	876.0	9 582.3	1 227.6	..	..	..	..	..
Clay products	$000	9,808.9	8,798.1	90,944.2	11,774.8	9,967.8	96,558.6	+13.3	-15.4	+ 6.2
Lime		160.3	158.3	1 685.8	195.6	179.9	1 860.0	+13.6	- 8.0	+10.3
Fuels										
Coal		2 240.1	2 395.6	25 977.8	2 614.3	2 799.8	27 626.6	+16.9	+ 7.1	+ 6.4
Natural gas	000 m^3	7 548 394.4	9 006 230.8[r]	83 084 752.8	7 155 724.6[r]	7 639 348.1	78 926 366.7	-15.2	+ 6.8	- 5.0
Crude oil and equivalent	000 m^3	6 396.8	7 547.6[r]	74 944.2	7 253.3[r]	7 910.6	74 455.0	+ 4.8	+ 9.1	- 0.6

[1] Tonnes uranium (1 tonne U = 1.299 9 short tons U_3O_8)
[r] Revised; .. Not available.

TABLE 3

Canada, Average Weekly Wages of Hourly Rated Employees

(available data: November 1977 to October 1978)



TAXATION AND LEGISLATION AFFECTING THE MINERAL AND ALLIED INDUSTRIES IN CANADA

CANADA

Provincial

Alberta

By **Alberta Regulation 430/78,** the rate of interest payable on arrears under the Mines and Minerals Act was increased from 10.75 per cent to 12.5 per cent.

Manitoba

Manitoba Revised Regulation M160-RIP was amended by MR 231/78 as follows:

Sec. 1 - Definitions, repealed and replaced

Part I - Oil and Natural Gas Rights, repealed and replaced

Part II - Royalties, repealed and replaced with a more comprehensive regulation

Schedule A - Fees and Rentals, completely revised

Schedule C - Incremental Royalty Rate per Barrel, replaced with Form A, Exploration Reservation; Form B, Oil and Natural Gas Lease; and Forms C, D, and E to effect various transfers.

Schedule D - Formula for determining Crown Royalty

Schedule E - Defines "incentive wildcat well" and provides an equation to calculate the royalty incentive period.

REGIONAL PROFILES

Manitoba

Since the Conservative government came to power in 1976, it has removed legislation that provided for provincial government involvement in mineral exploration and has promised changes in taxation legislation. By these changes the province expected an increase in the exploration activity of the private sector.

Base metals account for roughly 75 per cent of Manitoba's mineral production, nickel alone being 50 per cent. The total value of production in 1977 was an all-time high in the province.

Principal Mineral Production, 1978 (Preliminary)

Commodity	Value ($'000)	Change 1977-78 (per cent)	Proportion of Canada (per cent)
Nickel	162,424	-43.0	24.9
Copper	99,378	7.8	9.2
Zinc	43,915	-8.8	5.5
Petroleum (crude)	43,032	6.4	0.7
Cement	34,447	17.1	7.1
Sand and gravel	30,195	2.8	8.0
Stone	12,250	8.3	3.8
Gold	10,740	39.1	2.8
Cobalt	7,568	78.5	27.8
Silver	5,509	17.9	2.3
Metals	330,818	-25.1	5.9
Nonmetals	6,683	9.9	0.4
Fuels	43,632	7.9	0.3
Structural materials	82,858	9.7	6.1
Total	463,991	-17.6	2.3

Economic Indicators, 1978

		Amount	Change Over Previous Year (per cent)	Proportion of Canada (per cent)
Population, July 1, 1978	'000	1,032.7	0.3	4.39
Labour force, Oct., seas. adj.	'000	480	3.6	4.32
Employment, Oct., seas. adj.	'000	449	2.7	4.4
Unemployment, Oct., seas. adj.	'000	31	19.2	3.4
Employed in mining, June	'000	5.9	(13.3)	4.59
Average weekly wages in mining and milling, June	$	339.98	12.0	90.5
GPP (1977 preliminary)	$000,000	8,630.00	8.2	4.1

Highlights

1. **Manitoba Regulation 328 (74),** which provided for government participation in mineral exploration, was rescinded in October, and companies are no longer required to submit their exploration programs to the government. The Minister of Mines, Natural Resources and Environment, Brian Ransom, announced earlier that all the exploration agreements that the government had with private exploration companies had been transferred to Manitoba Mineral Resources Ltd., a provincial Crown corporation. No further site-specific exploration will be carried out by the department.

2. Mr. Paul E. Jarvis, the former deputy minister of the Manitoba Departments of Northern Affairs and of Renewable Resources and Transportation Services was recently appointed deputy minister of the Department of Mines, Natural Resources and Environment.

3. Granges Exploration AB in Canada has now drill-indicated reserves of more than 3.5 million tonnes averaging 2.6 per cent copper and 4.3 per cent zinc with minor silver and gold, at its Trout Lake deposit in the Flin Flon area.

4. Hudson Bay Mining and Smelting Co., Limited is building a concentrator near Snow Lake.

REGIONAL PROFILES

Newfoundland

The level of mineral production in Newfoundland in 1978 declined significantly because of a four-month strike at Iron Ore Company of Canada and a lock-out at the Wabush Mines operations in Labrador. Iron ore accounts for more than 80 per cent of the total value of the province's mineral production.

The level of exploration both on the island and in Labrador has been increasing steeply over the last two years, mainly because of major changes to the mineral land tenure system. This is reflected in the numbers of claims staked, which went up to 2,085 in 1977 and 6,380 for the first ten months of 1978. Of total exploration expenditures in 1978, roughly 53 per cent was spent on nonferrous metals, 30 per cent on uranium and 17 per cent on iron ore.

Principal Mineral Production, 1978 (Preliminary)

Commodity	Value ($'000)	Change 1977-78 (per cent)	Proportion of Canada (per cent)
Iron ore	504,973	-31.9	43.9
Zinc	41,113	1.1	5.1
Copper	18,211	30.3	1.6
Asbestos	12,539	-57.4	2.0
Fluorspar	-	-	-
Sand and gravel	7,650	8.9	2.0
Lead	6,595	16.7	2.6
Cement	5,440	5.1	1.1
Metals	577,568	-28.7	10.4
Nonmetals	17,820	-57.6	1.1
Fuels	-	-	-
Structural materials	15,969	5.1	1.1
Total	611,357	-17.9	3.1

Economic Indicators, 1978

		Amount	Change Over Previous Year (per cent)	Proportion of Canada (per cent)
Population, July 1, 1978	'000	569.6	0.6	2.4
Labour force, Oct., seas. adj.	'000	202	6.3	1.8
Employment, Oct., seas. adj.	'000	168	6.3	1.6
Unemployment, Oct., seas. adj.	'000	34	6.2	3.7
Employed in mining, June	'000	2.5	(59.7)	1.9
Average weekly wages in mining and milling, June	$	345.10	(3.4)	91.8
GPP (1977 preliminary)	$000,000	2,975.00	8.3	1.4

Highlights

1. According to latest announcements, the Buchans lead-zinc mine of ASARCO Incorporated will close down in March 1979, leaving 400 miners without work. Meanwhile, Price (Nfld.) Pulp & Paper Limited, the owner of the property, has decided to spend $1.2 million on exploration in the area.

2. Rio Tinto Canadian Exploration Limited has now over half a million tons assaying 0.29-0.43 oz. gold, 0.57-1.40 oz. silver, plus copper, lead and zinc values, in three deposits at its extensive Cape Ray option in the extreme southwest corner of Newfoundland.

3. The **Mineral Holdings Impost Regulations, N.R. 51/78,** was filed on August 24, 1978. They require an operator to submit a report of all expenditures, exploration work and pre-production development for the minister's approval before any claim may be made for a deduction from the impost.

4. **The Mineral Regulations, N.R. 48/78,** under the Mineral Act 1976 were filed on August 14, 1978. The regulations prescribe the manner of staking claims, the type and amount of assessment work required. The regulations also incorporate the former Mines (Safety of Workmen) Regulation 1975.

5. Peat and Marwick Ltd., receiver for the bankrupt Come-by-Chance oil refinery, have accepted a bid from the First Arabian Corp. to buy the 100,000 barrel-a-day plant. The Foreign Investment Review Agency and the Newfoundland Supreme Court will have to give approval before the arrangement can proceed.

6. The federal and Newfoundland governments have agreed to establish and jointly fund the Lower Churchill Development Corp. Under the agreement, Ottawa initially will provide up to $5 million for completing economic, marketing and financing studies on the hydro-electric potential of the Gull Island and Muskrat Falls sites.

7. Westfield Minerals Limited has located uranium mineralization in the Corner Brook area of western Newfoundland. The company planned to drill 20 holes during December in order to obtain fresh samples and to test the continuity of the radioactive zone.

METALLIC MINERALS AND PRODUCTS

Aluminum

In keeping with the recent normalization of US/China relations, Aluminum Company of America (Alcoa) has signed a letter of intent with China's Ministry of Metallurgical Industry's Import and Export Company to bid on the design and construction of mine-to-metal aluminum projects in China. The letter provides for Alcoa's feasibility study of two integrated aluminum projects and modernization of an existing aluminum fabricating plant. Kaiser Aluminum & Chemical Corporation has also been invited to send a technical group to China.

The Edea Aluminum plant of Pechiney Ugine Kuhlman Development, Inc. in Cameroon is to be expanded to produce 80 000 tonnes in 1981, compared with 1978 output of 42 000 tonnes. The expansion, beginning 1979, will cost a total of about $130 (U.S.) million and does not include the new hydro-electric station being built at Song Loulou.

Reuters reported that an aluminum smelting plant, with an annual production capacity of up to 500 000 tonnes, is to be built by South Korean, French and Malaysia interests in the Malaysian state of Sabah. Cost of the project is in excess of $727 (U.S.) million and startup is scheduled for 1982.

Deputy Prime Minister Doug Anthony of Australia stated that Australia will continue to apply its own export controls on bauxite and alumina. Recently, the International Bauxite Association (IBA) recommended an increase in the production levy (established in 1977) to a minimum indexed rate of 2 per cent of the average U.S. producer price for 97.5 per cent unalloyed ingot. The IBA also endorsed a target levy range for alumina of 16 per cent to 19 per cent of ingot price. Australia's view has consistently advocated that International Commodity Marketing Agreements can be effectively implemented when both producers and consumers are involved, and that the decisions of the IBA are only recommendations and not binding on members.

A Japanese three-member consortium (Nippon Light Metal Company Ltd.; C. Itoh & Co., Toko Bussan) have concluded an aluminum smelter and technology export agreement with the China National Technical Import Corp., valued at $150 (U.S.) million. The contract, signed on January 7, calls for the construction of an alumina electrolytic reduction plant (annual capacity of 80 000 tonnes of ingot) to be built in Southern China and the plant should be operational by about March 1981.

Japanese aluminum smelters which are implementing production cutbacks have been given government financial assistance in order to bring about a structural improvement in the Japanese aluminum industry.

Cobalt

Sozacom, the state metals marketing agency of Zaire has announced that effective January 1, prices on new orders of cobalt will be guaranteed for the current month and for two forward months. This will help to stabilize price increases which are threatening, due to limited supplies. However, African Metals, the United States distributor of Zairian cobalt is making no such guarantees.

Zaire's Parliament has also expressed dissatisfaction with Zaire's Belgian marketing associate - Société Genérales des Minerais SA (SGM) and passed a resolution calling for Sozacom to assume all responsibility for marketing Zairian mineral products.

Copper

January was a month of spectacular price strength for copper. The cash price for wirebars on the London Metal Exchange (LME) advanced during January from the equivalent of 71 to 81 (U.S.) cents a pound. Producer prices also advanced rapidly during the month. Prices in Canada were raised by 3 cents a pound on January 2; 4 cents a pound on January 19; and a further 4 cents a pound on January 30, for a total advance of 11 cents a pound to 96 cents for cathode and 96.625 cents for wirebars. Prices in the United States made a similar move. Noranda Mines Limited was quoting a U.S. price at month-end of 80 (U.S.) cents a pound for cathode and 80.625 (U.S.) cents a pound for wirebars. These increases have now carried producers' prices to record levels in Canada. The previous high was 82.5 cents a pound in 1974. Further price increases were pending at month-end.

There was a small change in the U.S. producer price structure during January. Cities Service Company will increase its copper cathode premium effective in March, to 3 cents a pound above the Commodity Exchange, from the present 2.5 cents premium.

Copper stocks continued to fall during January. LME stocks fell from 369 350 tonnes on January 5 to 324 550 tonnes on January 26. Comex stocks fell in the same period from 162 400 tonnes to 155 400 tonnes.

Craigmont Mines Limited now plans to extend operations at its copper mine near Merritt, British Columbia until 1980. Mining will continue until the fall of 1979 and the concentrator will continue to operate until the first quarter of 1980. It had been planned to close the mine and concentrator in October 1979.

The Quebec government continues to press for bilateral mineral agreements between Canada and consuming countries. Quebec's Minister of Natural Resources stated during January that the reluctance of the federal government to enter bilateral commodity agreements is thought by Quebec to stem from allegations of involvement in an international uranium pricing cartel in the early 1970s.

Noranda and the striking work force at the Gaspé mine and smelter held talks during January for the first time since the strike began in October. Noranda has informed its United States and overseas customers of a continuation of its 25 per cent delivery cutback into February 1979.

Negotiations between Inco Limited and its striking employees from the Sudbury area also proceeded intermittently during the month. No agreement had been reached by month-end.

Production of primary copper in Canada in the first 10 months of 1978 amounted to 561 000 tonnes compared with 663 000 tonnes in the same period of 1977.

Imports of refined copper in the United States, which were running at an average rate of 55 000 tonnes per month in the first half of 1979, declined steadily during the second half. In October, imports were only 14 693 tonnes. The high level of refined copper imports in 1977 and 1978 led to the U.S. copper producers' petition for relief against imports in February 1978.

The Anaconda Company informed its personnel involved in the construction of the Sar Chesmeh project in Iran to leave the country. Interruption of fuel supplies to the project had brought construction to a standstill. **Force majeure** was declared on copper shipments from Sar Chesmeh on January 5.

Gold

The price of gold varied considerably during the month of January 1979, from a low of $216.55 (U.S.) an ounce on January 15 on the London Gold Market to a high of $236.10 (U.S.) an ounce on January 24. The strength of the gold sales at the United States Treasury auction on January 16 had a bullish influence on the gold price trend. The monthly average gold price for January 1979 of the afternoon fixing prices on the London Gold Market was $227.27 (U.S.) (270.41 Cdn.) an ounce of gold compared with $207.83 (U.S.) (245.02 Cdn.) an ounce for December.

The International Monetary Fund (IMF) held its twenty-ninth gold auction on January 3, 1979 under the bid price method and awarded 470,000 fine ounces of gold to successful bidders, at prices ranging from

$219.13 (U.S.) an ounce to $221.00 (U.S.) an ounce and averaging $219.34 (U.S.) an ounce. The average price at the twenty-eighth gold auction was $196.06 (U.S.) an ounce. The afternoon fixing price on the London Gold Market on January 3 was $218.60 (U.S.) an ounce. Competitive bids were received for 1,479,600 ounces. Awards were made to nine successful bidders out of the 17 competitive bidders. The successful bidders were European banks and bullion dealers.

In addition 16,400 ounces were awarded to a member country submitting a non-competitive bid at the average auction price of $219.34 (U.S.) an ounce.

On January 16, 1979 the Treasury Department of the United States held its ninth auction under the new sales program and awarded 1,500,100 troy ounces of gold to successful bidders at an average price of $219.21 (U.S.) an ounce. Awards of 1,000,000 ounces whose gold content is 99.50 to 99.94 per cent were made to 18 successful bidders at prices ranging from $219.23 (U.S.) to $220.00 (U.S.) an ounce and averaging $219.71 (U.S.) an ounce. Awards of 500,100 troy ounces of gold whose fine gold content is 89.9 to 90.1 per cent were made to 14 successful bidders at prices ranging from $217.51 (U.S.) to $220.93 (U.S.) an ounce and averaging $218.22 (U.S.) an ounce. The average gold bid price at the eighth auction was $214.17 (U.S.) an ounce. The afternoon fixing price on the London Gold Market on January 16, 1979 was $220.65 (U.S.) an ounce. The major purchasers of gold were European banks and bullion dealers but substantial purchasers were some North American bullion dealers. Awards were made to 23 companies and individuals. In all, bids were received from 41 companies and individuals and totalled 6,770,400 ounces of fine gold.

East Malartic Mines, Limited announced that because of ore reserve depletion, and a reduction in the grade of ore it will curtail development and place its mine, near Malartic, northwestern Quebec, on a salvage basis.

Iron and Steel

Dominion Foundries and Steel, Limited (Dofasco) has announced plans to build a fourth continuous galvanizing line. The $40 million project is scheduled to be completed by mid-1981. Dofasco estimates that this new line will increase its galvanizing capacity by about 40 per cent.

Canada and the European Economic Community have reached agreement on a co-operative research and development program in the steel sector. The $2 million, three year program will be aimed at improving blast furnace efficiency and in particular the behaviour of coke and its effect on blast furnace performance. A total of 23 blast furnaces in

Belgium, West Germany, France, Holland, Italy and Great Britain and three blast furnaces in Canada will be involved. Dominion Foundries and Steel, Limited of Hamilton and The Algoma Steel Corporation, Limited at Sault Ste. Marie are the Canadian participating companies.

Effective January 14, 1979, The Algoma Steel Corporation increased the price of its No. 1 and No. 2 rails by about 11 per cent. No. 1 rail (about 60 pounds a yard) will now cost $16.75 per hundredweight. Also Algoma increased the price of structural shapes by 6.9 per cent to about $340 a tonne.

The Export Development Corporation and the Canadian Imperial Bank of Commerce have arranged a $77.5 (U.S.) million loan to help finance the sale of Canadian equipment and service for a new steel plant to be built in Trinidad. The plant will have capacity of about 415 000 tonnes of steel per year.

The United States International Trade Commission has ruled that dumping of steel wire nail products by two Canadian manufacturers is not causing injury to the domestic industry. In November 1978, the United States Treasury Department ruled that Siraco Wire and Nail Co. of Marieville, Quebec and Titan Steel & Wire Co. Ltd. of Surrey, British Columbia were selling certain nail products at less than fair value in the United States market.

The 45-day strike of steelworkers in West Germany came to an end in mid-January. An agreement was reached between West German Iron and Steel Employers Federation and IG Metall, the steelworkers union and subsequently approved by the steelworkers. The strike, the first in over 50 years, affected some 100,000 workers and closed 19 steel plants.

Lead

Tight supplies of concentrates and metal combined with cold weather and strong demand from battery manufacturers worked to push the lead price to record highs on the London Metal Exchange (LME) and in North America. The LME spot price increased 4.6 cents (U.S.) to 47.1 cents a pound at month-end. The sterling price increased from £459 a tonne to £520 a tonne during the period. Inventories of lead held in LME warehouses declined slightly to 15 225 tonnes, down 250 tonnes from the January opening level.

Most producers in North America are running late in shipments to customers and the recent cold weather has caused production difficulties for several mid-west U.S. producers. The producer price moved from 38 cents (U.S.) to 42 cents a pound at month-end.

The Binsfeld-Hammer plant of Metallgesellschaft AG of West Germany came back into production at mid-month after a fire forced the closure of the 120 000 tonne-a-year plant in late December. January production was expected to be 60 per cent of normal capacity.

The United Kingdom government was approached by the Chloride Group Ltd., the country's largest battery manufacturer, to investigate the possibility of speculative activity in lead pricing on the LME. However, the government declined to pursue the matter noting that a genuine lead shortage had developed.

Mitsubishi Metal Corporation and Nichimen Trading Company have reached agreement with Chinese officials to upgrade China's existing lead-zinc metallurgical plants and expand output at the Hankou lead-zinc mine. In addition, new mining projects are to be developed in Guansu, Sichiu and Qinghai provinces. The agreement is essentially a barter deal with payment taking the form of long term supply contracts for lead, molybdenum and other base metals.

Magnesium

Société Française D'electrometallurgie (Sofrem), a subsidiary of Pechiney Ugine Kuhlmann Development, Inc. (PUK), has offered to build a magnesium plant using its own exclusive "Magnetherm" process for the People's Republic of China. It is estimated that China produces in excess of 1 000 tonnes of magnesium annually. Chromasco Limited, Canada's only producer of magnesium, initiated a discussion with PUK in 1977 for the licensing of the "Magnetherm" technology to increase plant capacity. Negotiations are still in progress and resolution of the terms are expected this year.

Mercury

The mercury market, after displaying relatively minor price fluctuations from March through October 1978, began to show signs of firming up sharply from November onwards. The Metals Week New York price rose from a level of about $149 (U.S.) to $152 (U.S.) a flask (76 pounds each) in mid-November to $190 to $210 at the end of January 1979. European mercury prices also rose during the same period to a level of $210 to $215 in equivalent $U.S. at the end of January. The Metals Week New York mercury price averaged $153.32 a flask in 1978 and ranged between a low of $131 and a high of $179.

The recent rise in prices is mainly attributed to Minas de Almaden y Arrayanes, whose Almaden mercury mine in central Spain is the largest producer in the world, withdrawing from the free market and selling on a restricted basis. Minas de Almaden ceased entering into long-term contracts and has been quoting continually higher prices for spot sales of mercury. Reports also indicate that the Chinese, who have from time to time been significant suppliers, have withdrawn from the market and may not be shipping mercury metal again until April.

Minas de Almaden pushed its spot price of mercury up to $200 (U.S.) a flask, **f.o.b.** Spanish port, effective the beginning of 1979, from $180 in December and $160 in November 1978. Mercury production at the Almaden mine is still curtailed at about 48,000 flasks whereas its normal capacity is around 60,000 flasks a year. Algeria's main mercury producer,Societe Nationale de Recherches et d'Exploitations Minieres (Sonarem), said about mid-January that sales should then have been conducted at or near $200 (U.S.) a flask. The Algerian producer, with an annual capacity of about 15,000 flasks, is an important supplier to the European market.

Some traders feel the current thinness of the dealer market could be one reason for the sharp run up in free market prices during the past few months since in recent years mercury consumption has been, adversely affected by pollution and environmental problems. Weakness of the U.S. dollar and a resurgence of buying interest from eastern Europe, Pakistan and India in the past several weeks also contributed to firming prices. Although metal in merchants' hands is tight there is no overall shortage of mercury as both the Spanish and Italian, and possibly the Yugoslavian producers still hold large stocks of mercury. The main Italian and Yugoslavian mercury mines have, however, not been in operation since early 1977.

On January 18, a meeting of the producer-oriented International Association of Mercury Producers (ASSIMER) was held at the Association's headquarters in Geneva, Switzerland. Delegates from four member countries, namely Spain, Italy, Yugoslavia, and Algeria attended the meeting. The only two other member countries of the Association, namely Peru and Turkey, were not represented. The meeting was called to discuss the mercury market in general but prices in particular. Representatives attending the meeting decided not to withdraw from the free-market for the time being but, instead, to meet demand selectively. Apparently no formal agreement on prices was reached. A spokesman for Minas de Almaden said it had decided not to enter into sales contracts involving regular deliveries during 1979, but it will examine each purchase bid geared to prices which will be based on current free market conditions. The price range set for January 22 was $210 (U.S.) to $215 (U.S.) a flask. The producers are expected to meet again at the end of March 1979 to reappraise market conditions.

At its January 9, 1979 offering of mercury the United States General Services Administration (GSA) sold 1,000 flasks of mercury. The entire amount was sold to Minemet Metals, Inc. of New York at a price of $179.09 (U.S.) per flask. This price represents a significantly firming trend over the price of $168 received by GSA at its previous sale in December 1978. Each month GSA offers a maximum of 1,000 flasks of mercury for sale from its surplus stocks. These stocks do not require Congressional authorization prior to being sold and are exclusive of the 191,304 flasks of mercury contained in the U.S. strategic stockpile, none of which may be disposed of without Congressional approval.

Nickel

Contract negotiations between Inco Metals Company and Local 6500 of the United Steelworkers of America representing 11,700 striking Inco employees in Sudbury were off again - on again during the month. After nine days of talks negotiations broke down on January 12. Late in the month, the Ontario Ministry of Labour announced that mediated talks would resume January 30. While there are several outstanding issues to be settled, the most contentious appears to be a proposed restructuring of the grievance procedure. Up to the present both sides have adopted inflexible positions on this issue.

Platinum

In 1978, Canadian production of the platinum group metals - platinum and palladium (the major metals), rhodium, iridium, ruthenium and osmium - was estimated at 8 678 000 grams valued at $55,672,000 compared with 14 474 687 grams in 1977 valued at $61,988,406. Volume of production decreased by 40 per cent, largely because of cutbacks in nickel production in Canada because of world oversupply and a strike at Inco Limited's Sudbury operations. A significant rise in the price of platinum was responsible for the dollar value of production being lower by only 10.2 per cent.

The producer and dealer price of platinum increased sharply in 1978, mainly because the unsettled state in world currencies, especially the United States dollar, encouraged the purchase of platinum by speculators and investors as a hedge to protect the basic value of their funds. The producer price during 1978 moved from an opening price of $180 (U.S.) to $300 (U.S.) an ounce. The dealer price was in the range of $185 (U.S.) an ounce at the beginning of the year and closed in the range of $340 (U.S.) an ounce, recording a high of $370 (U.S.) near the end of October. The producer price of palladium was comparatively stable during 1978 opening at $65 (U.S.) an ounce and closing at $80 (U.S.) an ounce. The dealer price at the beginning of the year was about $52 (U.S.) an ounce and increased to a high of $79 (U.S.) an ounce in October and closed in the range of $66 (U.S.) an ounce.

The producer price for rhodium at the beginning of 1978 was $460 (U.S.) an ounce and increased to $650 (U.S.) an ounce at year-end. The announcement that rhodium would be used as a catalyst in automobile converters to control nitrous gas emissions sparked the increased interest in rhodium. The dealer price of rhodium was generally slightly above the quoted producer price. The producer price of iridium, ruthenium and osmium remained unchanged in 1978 at $310 (U.S.) an ounce; $65 (U.S.) and $155 (U.S.) respectively. The dealer price of indium was comparatively stable and varied from $230 (U.S.) to $260 (U.S.) an ounce. The dealer price for ruthenium ranged from $30 (U.S.) an ounce to $38 (U.S.) and that for osmium remained unchanged at $135 (U.S.) an ounce.

Rustenburg Platinum Holdings Limited announced that its output would be increased to 37 324 kilograms in 1979 from 31 100 kilograms to meet the expected increased requirements of the automobile industry. Demand for the other users of platinum is in close balance with supply.

The platinum producers of the Republic of South Africa raised their price of platinum to $325 (U.S.) an ounce from $300 (U.S.) an ounce towards the end of January. At the same time the price of palladium was raised to $85 (U.S.) an ounce from $80 (U.S.) an ounce. The dealer price of platinum strengthened during the month of January 1979 from the nearby opening price of $344.50 (U.S.) an ounce on the New York Mercantile Exchange to a high of $388.60 (U.S.) an ounce on January 30.

Silver

Canadian mine producers of silver, whether their silver output be byproduct or the primary product, are deriving considerable financial benefit from the recent upsurge in silver prices. The significant and sustained weakness of the Canadian dollar opposite its United States counterpart and opposite other strong western currencies such as the German Deutsch mark and the Japanese yen has also contributed to the current well-being of the Canadian silver producers. The principal source of silver in Canada remains in certain base-metal ores which account for about 80 per cent of total production in the form of a byproduct or coproduct. A good portion of the remaining 20 per cent represents silver recovered from base-metal ores where silver accounts for the major portion of the value. The balance is derived from gold-silver ores or silver-cobalt ores; the latter are mined in the Cobalt district of northern Ontario. Accordingly, the supply of newly mined Canadian silver continues to depend more on the production of base-metal ores than on the demand for or, for that matter, the price of silver.

This year marks the 75th anniversary of the discovery of silver in the Cobalt district of Ontario in 1904. Mine production of silver in the Cobalt and nearby Gowganda areas of northern Ontario rose from 6 434.5 kilograms (206,875 troy ounces) in 1904 to an all-time high of

980 001.9 kilograms (31,507,791 ounces) in 1911, after which it declined almost steadily until the end of World War II. From 1946 through to and including 1959, silver mine output from the Cobalt-Gowganda area displayed a rising trend, reaching a high of 207 060.9 kilograms (6,657,162 ounces) in 1959. In the past five years production ranged between about 22 500 kilograms (750,000 ounces) and 52 500 kilograms (1,750,000 ounces). A continuing rise in silver prices, especially if it is accompanied by continuing weakness in the Canadian dollar vis-à-vis its United States counterpart, could result in an increasing output of silver from the Cobalt area as well as a resurgence of exploration for silver-containing ores in the same area. At the present time there are only three significant producers mining silver-cobalt ores in the Cobalt district.

The New York silver price as quoted by Handy and Harman began a sharply rising trend in the second half of January. The $6.50 (U.S.) a troy ounce barrier was broken on January 24 when a price of $6.555 obtained. A new all-time high of $6.742 was reached on January 29, 1979 and on January 31 a further record high of $6.753 prevailed. The previous all-time high of $6.700 was recorded on February 26, 1974.

The Canadian silver price, as quoted by The Northern Miner, has closely followed its United States counterpart, with the essential difference being the currency exchange rate. It also began a sharply rising trend in the second half of January. The $7.50 (Cdn) a troy ounce barrier was broken on January 22 when the quotation was $7.595. A new all-time high of $8.055 was reached on January 29, 1979 and was followed by a further record high of $8.112 on January 31. The previous all-time Canadian high prior to September 1978 was $6.526 which was obtained on February 26, 1974.

Stockpile issues, including that for silver, could be a lively topic for the United States 96th Congress. President Carter's administration is expected to push for legislation for disposal of silver from the nation's strategic and critical materials stockpile. Although a number of bills were introduced in Congress since the beginning of 1977, to dispose of silver, none have been passed as of the end of January 1979. It appears that the Administration and key congressional leaders hope that policy issues, rather than specific commodity legislation, will dominate the early congressional calendar thereby ensuring that some sort of stockpile legislation will be passed this term.

Administration sources say that its new proposals will parallel those put forth in 1978 which called for the sale, by General Services Administration (GSA), of 1 875 tonnes (62.5 million ounces) over a two and one half year period. However, the compromise version of that proposal which finally emerged from Senator Gary Hart's (Democrat; Colorado) stockpile subcommittee called for the disposal of only 450 tonnes (15 million ounces). That proposal, however never reached the Senate floor for a vote. The Carter Administration, nevertheless, has repeatedly stressed its commitment to slashing the strategic silver stockpile to zero. In the latter part of January 1979, Representative Silvio Conte (Republican; Massachusetts) reintroduced a bill in the United States

House of Representatives to sell 4 338.9 tonnes (139.5 million ounces) of silver from the strategic stockpile. A similar bill failed in 1978.

The new goal of zero for silver established late in 1976 by the United States Federal Preparedness Agency (FPA) remains unchanged. However, although the strategic stockpile still contains 4 338.9 tonnes of silver, none of this surplus silver may be disposed of without Congressional approval.

Tin

The 12th Session of the International Tin Council was held January 16-19 in London, England. Canada confirmed its intention to contribute $4.5 million (Canadian funds) to the buffer stock of the 5th International Tin Agreement with the first installment amounting to $1.6 million. Norway, a newly-admitted consumer-member, also contributed to the buffer stock as did Belgium/Luxembourg.

At the January meeting, Bolivia, supported by France and Holland, pressed for an increase in the buffer stock manager's operating range from $1,350-1,700 to $1,500-1,900 Malaysian. Most producers were in favour of the Bolivian proposal but deferred to their previous "gentlemen's agreement" not to change the range before July.

The 6th International Tin Agreement negotiations are tentatively scheduled to begin in April-May 1980.

Zinc

Foreign competition for contracts with China to develop its resource industry has intensified given the agreements made with American, German, and Japanese firms. Belgium is the latest contender and is discussing the development of certain zinc deposits including metal processing, technology transfer, and transportation. Belgian banks are reportedly prepared to provide a five billion Belgian franc line-of-credit, and the possibility of a further one billion Belgian francs of state-credit is associated with projects under discussion.

In the United States, the Treasury Department has increased the penalty duty on imports of zinc metal from Spain to 2.64 per cent from 1.29 per cent effective January 17, 1979.

During the month of January the European producers' price basis for zinc was increased $40 to $760 (U.S.) a tonne. In the United States producers' zinc prices increased one cent to 35.5¢ (U.S.) a pound and in Canada producers' zinc prices increased two cents to 41¢ (Cdn.) a pound. Cash prices on the London Metal Exchange were $707.89 (U.S.) a tonne at year-end and $727.92 (U.S.) a tonne at the end of January.

INDUSTRIAL MINERALS AND PRODUCTS

Asbestos

At the Cassiar Asbestos Corporation Limited mine, in Cassiar, British Columbia, 550 members of the United Steelworkers of America began returning to work on January 16, 1979 following a four-month strike. Details of the agreement were not released, however wages were the major issue. Other major asbestos industry strikes in 1978 lasted for three months at Advocate Mines Limited, Newfoundland and for four months at Carey-Canadian Mines Ltd., Quebec.

The financial status of United Asbestos Inc. has improved substantially since March 1977 when it closed its Matachewan, Ontario, mining operation and went into receivership. The company shares in the revenue from the Black Lake mine of Lake Asbestos of Quebec, Ltd. based on a formula of profitability and is presently meeting commitments to pay amortization costs and interest on secured debt. The outlook for United Asbestos Inc. is much improved, however, no decisions have been announced regarding possible participation of other interests or for reopening of the mine.

Caustic Soda

Canadian Industries Limited (CIL) has undertaken a $100 million expansion to double its capacity at the Bécancour, Quebec plant of chlorine and caustic soda. Start-up is scheduled for the fall of 1979.

MINERAL FUELS AND PRODUCTS

Petroleum and Natural Gas

In a tentative agreement reached this month, Mexico may export 100,000 b/d of crude oil to Canada, through Petro-Canada, the national oil company. Initial deliveries could amount to 15,000 b/d, expanding to 100,000 b/d and could start as early as 1979 for a five to ten year period. The crude oil would be sold at world price and be part of an overall trade package which could include Canadian exports of metallurgical coal, Candu reactors and technology. It is intended that imports of the Mexican crude oil would displace supplies from the Middle East. If the agreement is consummated, details of the Mexican shipment will be worked out by Petro-Canada and Petroleois Mexicanos (Pemex), the Mexican government's oil agency. As yet, no firm commitments have been made by either Mexico or Canada for the agreement.

An application to the National Energy Board (NEB) was filed by Petro-Canada on January 17, on behalf of the partners of the Arctic Pilot Project, to export 250 MMcf/d of natural gas. Petro-Canada, in partnership with The Alberta Gas Trunk Line Company Limited (AGTL) and Melville Shipping, has spent two years and more than $11 million developing the project which proposes to deliver gas to southern markets via liquefied natural gas (LNG) carrier from undeveloped gas fields on Melville Island in the Arctic. The $1.5 billion project will involve drilling eight onshore wells in the Drake Point field on Melville Island. Produced gas from the field will be transported 160 kilometres by pipeline to Bridport Inlet on the southern coast of Melville Island where it will be liquefied by an LNG facility and pumped to a 200,000 m^3 storage facility. The liquefied natural gas will be transported to southern markets by two Arctic Class 7 icebreaking LNG tankers. These tankers will be 333 metres long and will be designed to carry 140,000 m^3 of LNG. The LNG will be regasified at a southern terminal, the site of which is still to be determined.

The Alberta Energy Resources Conservation Board will hold a public hearing in Fort McMurray, Alberta on January 30, 1979, for the purpose of hearing representations respecting an application by Great Canadian Oil Sands Limited to amend their approved original application to recover oil or a crude bitumen hydrocarbon product from oil sands. The applicant requests permission to expand existing facilities in order to increase the authorized synthetic crude oil production to 3,772,275 cubic metres (23,725,000 barrels) of snythetic crude oil per year. The proposed expansion would include a third mining train, additional bitumen extraction facilities, expansion of the delayed coking process capacity and the addition of other facilities.

Uranium

Esso Minerals Canada has announced that, on the basis of the first 90 of 172 drill holes drilled in 1978, their Midwest Lake, Saskatchewan deposit contains 1 291 800 tonnes of ore, grading 2.9 per cent uranium for a total of 37 300 tonnes of uranium. Mineralization is found over a zone up to 2 380 metres long. The deposit also contains significant quantities of nickel, cobalt and silver.

Asamera Oil Corporation Ltd. continues to drill its uranium prospect in the Keefe Lake-Henday Lake area of northern Saskatchewan. Uranium mineralization has been encountered in 27 of 46 holes drilled on the prospect, with grades varying from 0.11 per cent to as high as 14.0 per cent uranium. A second prospect, in the Dawn Lake area, is also of interest. Uranium mineralization has been encountered in 12 of 15 holes drilled, with grades ranging up to 4.0 per cent uranium.

The discovery of uranium at the minesite of Consolidated Durham Mines & Resources Limited, in the Lake George area, 40 kilometres south-east of Fredericton, New Brunswick, in late 1978 has sparked a staking rush in the area. More than 1,200 claims have reportedly been staked by a number of companies. Consolidated Durham is currently examining its antimony workings in more detail, in a joint venture with Eldorado Nuclear Limited which could lead to the establishment of a mill.

The Australian Government has reached agreement with Peko-Wallsend Operations Ltd., the Electrolytic Zinc Company of Australasia Ltd. and the Australian Atomic Energy Commission, on the terms and conditions under which the Ranger uranium deposits will be developed. The three partners in the joint venture project have signed a management agreement with Ranger Uranium Mines Pty. Ltd. (RUM), which will be responsible for the mining and related operations. Production should commence in about three years at an annual rate of some 2 540 tonnes of uranium.

The Australian Government has also announced that it will proceed with a study of the feasibility of establishing a commercial uranium enrichment plant in Australia. Potential collaborators in the study include the European URENCO consortium, Japan and France. Australian State governments and private companies will be included in the study as fully as possible, and the possibility of multi-nation participation will be fully examined.

NEW PUBLICATIONS

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

Preprints, **Canadian Minerals Yearbook,** 1977, Barite and Celestite; Calcium; Lightweight Aggregates; price 50¢ a copy.

Pretirages 1977, Le césium; le colombium (niobium) et le tantale; le silicium, le ferrosilicium, le carbure de silicium et l'alumine fondue; prix 50¢ une copie.

Operators List 5 - **Petroleum Refineries in Canada 1978;** price $2.00 a copy.

Operators List 7 - **Natural Gas Processing Plants in Canada, 1978;** price $2.00 a copy.

The above publications are available from the Publishing Centre, Department of Supply and Services, Ottawa.

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