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The Canadian Mineral Industry Monthly Report

May, 1978



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

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THE CANADIAN MINERAL INDUSTRY FOR MAY

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

HIGHLIGHTS

1. Canada's unadjusted index of Real Domestic Product was 125.5 in March 1978, unchanged from February.
2. The March index of Mines, Quarries and Oil Wells was 106.8, a decrease of 2.3 per cent from the previous month.
3. Copper prices rose steadily during the month of May.
4. The Steel Company of Canada, Limited has announced price increases for various steel products.
5. All producers of refined lead in the United States and Canada dropped their prices during May.
6. The price of platinum moved up sharply in May.
7. The International Trade Commission voted against the petition to implement tariffs and quotas on imported zinc metal in the period 1978-82.
8. The strike at Advocate Mines Limited, Baie Verte, Newfoundland asbestos plant ended on May 22.
9. Domtar Inc., Genstar Limited and Westroc Industries Limited pleaded guilty in May to conspiring together and with Canadian Gypsum Company Limited to prevent competition in the sale of gypsum wallboard.
10. Central Canada Potash Co. Limited launched legal action in May challenging the constitutionality of Saskatchewan's potash reserve tax.

ECONOMIC TRENDS

Table 1 shows Canada's unadjusted indexes of Real Domestic Product (RDP) in terms of 1971 = 100. The overall RDP index in March 1978 was 125.5, showing no change from that of February 1978.

The March RDP index for mines, quarries and oil wells was 106.8, down 2.3 per cent from 109.3 in February. The metal mines index decreased over the month by 4.9 per cent to 96.7. The mineral fuels index was down 0.9 per cent. Of the mineral fuels group, coal mines registered a 13.7 per cent decline in product.

Table 2 compares volume of production in nineteen major Canadian minerals. Notable changes (February 1977 to March 1977) were recorded in output for molybdenum (up 21.2 per cent), nickel (up 46.3 per cent), zinc (up 57.9 per cent), salt (down 46.1 per cent) and cement (up 37.2 per cent).

Table 3 shows the Canadian consumption of selected metals for 1975 and 1976. The consumption of cadmium increased 40.84 per cent over the period while tungsten decreased 25.26 per cent.

Table 4 shows estimated labour costs in selected industries for 1976 with the number of employees and total compensation per employee by industry.

TABLE 1

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

Industry or Industry Group	1977			1978			Percentage Changes			
	Feb	Mar	Average	Feb	Mar	Average	Feb 1978	Mar 1978	Mar 1978	1st 3
			1st 3 Months			1st 3 Months	Feb 1977	Mar 1977	Feb 1978	Months 1978 1977
Real Domestic Product	122.1	123.1	121.3	125.5	125.5	123.7	2.8	1.9	0.0	2.0
Primary Industries										
Agriculture	35.5	27.7	33.6	43.7	32.3	39.1	23.1	16.6	-26.1	16.4
Forestry	120.8	130.8	118.1	127.0	111.0	113.1	5.1	-7.5	-4.7	-4.2
Fishing and Trapping	35.1	64.4	39.6	56.6	42.6	44.8	61.3	-33.9	-24.7	13.0
Mines, Quarries and Oil Wells	117.1	115.8	115.4	109.3	106.8	106.4	-6.7	-7.8	-2.3	-7.8
Metal Mines	114.4	113.2	113.0	101.7	96.7	97.8	-11.1	-14.6	-4.9	-13.5
Placer and Gold Quartz Mines	87.1	74.7	79.2	74.9	70.1	71.4	-14.0	-6.2	-6.4	-9.8
Iron Mines	118.8	126.0	117.7	112.9	73.5	97.0	-5.0	-41.7	-34.9	-17.6
Other Metal Mines	114.6	111.9	113.5	100.2	103.7	99.2	-12.6	-7.3	3.5	-12.6
Mineral Fuels	120.5	119.3	118.6	117.1	116.0	114.7	-2.8	-2.8	-0.9	-3.3
Coal Mines	232.8	230.1	228.6	236.4	204.1	207.7	1.5	-11.3	-13.7	-9.1
Crude Petroleum and Natural Gas	111.3	110.2	109.6	107.3	108.8	107.0	-3.6	-1.3	1.4	-2.4
Nonmetal Mines	138.6	131.6	134.1	125.7	123.8	123.1	-9.3	-5.9	-1.5	-8.2
Asbestos Mines	115.1	115.7	114.1	95.2	94.9	90.2	-17.3	-18.0	-0.3	-20.9
Secondary Industries										
Manufacturing	121.3	123.9	120.4	124.5	126.2	122.2	2.6	1.9	1.4	1.5
Nondurable Manufacturing	118.4	119.6	116.7	122.2	122.7	119.6	3.2	2.6	0.4	2.5
Petroleum and Coal Products Industries	139.0	135.3	137.3	133.6	124.2	131.0	-3.9	-8.2	-7.0	-4.6
Durable Manufacturing	124.2	128.3	124.1	126.8	129.8	124.9	2.1	1.2	2.4	0.6
Primary Metal Industries	113.3	120.3	114.4	125.5	127.8	122.6	10.8	6.2	1.8	7.1
Iron and Steel Mills	120.2	132.5	123.8	140.2	140.7	133.6	16.6	6.2	0.4	7.9
Steel Pipe and Tube Mills	134.6	138.0	131.6	152.7	149.0	144.3	13.4	8.0	-2.4	9.7
Iron Foundries	140.6	118.5	128.2	135.6	133.3	128.1	-3.6	12.5	-1.7	-0.1
Smelting and Refining	95.3	102.8	96.5	99.7	106.9	103.2	4.6	4.0	7.2	6.9
Nonmetallic Mineral Products Industries	100.0	107.9	99.0	104.8	109.4	101.5	4.8	1.4	4.4	2.6
Cement Manufacturers	64.6	83.3	68.5	63.6	35.0	67.2	-1.5	2.0	33.6	-1.9
Ready-mix Concrete Manufacturers	63.9	72.7	62.4	66.5	70.5	61.6	4.1	-3.0	6.0	-1.3
Construction Industry	98.2	96.4	96.5	91.0	90.4	89.3	-7.3	-6.2	-0.7	-7.5
Transportation, Storage, Communication	130.4	132.3	129.6	134.8	136.1	133.6	3.4	2.9	1.0	3.1
Electric Power, Gas and Water Utilities	168.7	153.3	166.4	188.8	159.7	183.0	11.9	10.7	-10.1	10.0
Trade	120.5	125.9	119.7	125.6	127.3	122.1	4.2	1.1	1.4	2.0
Finance, Insurance, Real Estate Community, Business and Personal Service	132.3	132.9	132.3	137.2	137.5	137.0	3.7	3.5	0.2	3.6
Public Administration and Defence	131.8	133.1	131.5	137.5	138.7	137.0	4.3	4.2	0.9	4.2
	123.4	123.9	123.0	122.6	124.5	123.3	-0.6	0.5	1.5	0.3

TABLE 2

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

	1977			1978			Percentage Changes		
	February	March	Total 1st 3 months	February	March	Total 1st 3 months	March 78 March 77	March 78 February 78	1st 3 months 1978 1977
Metals									
Copper	65.9	70.1	207.8	63.8	66.1	186.7	- 5.7	+ 3.6	-10.2
Gold	4 249.5	4 699.8	13 232.5	4 081.0	4 476.4	12 685.5	- 4.8	+ 9.7	- 4.1
Iron ore	949.1	1 339.8	4 867.1	1 341.8	1 196.1	4 408.3	-10.7	-10.9	- 9.4
Lead	19.5	22.9	61.9	27.2 ^x	32.2	81.1	+40.6	+18.4	+31.0
Molybdenum	1 286.2	1 372.9	3 749.8	956.5	1 158.8	3 288.8	-15.6	+21.2	-12.3
Nickel	20.2	19.7	61.9	13.6 ^x	19.9	49.6	+ 1.0	+46.3	-19.9
Silver	107.5	148.8	353.3	107.3 ^x	126.4	334.4	-15.1	+17.8	- 5.4
Uranium (1)	270.9	518.2	1 090.3	489.5	476.7	1 432.4	- 8.0	- 2.6	+31.4
Zinc	77.2	83.2	233.4	62.0	97.9	232.8	+17.7	+57.9	- 0.3
Nonmetals									
Asbestos	109.1	141.4	361.0	97.5	123.8	308.5	-12.5	+27.0	-14.5
Gypsum	381.4	357.6	1 059.9	409.4	448.3	1 210.8	+25.4	+ 9.5	+14.2
Potash K ₂ O	369.5	578.4	1 402.6	491.4	621.6	1 616.5	+ 7.5	+26.5	+15.3
Salt	656.1	466.1	1 764.1	694.3	374.4	1 743.4	-19.7	-46.1	- 1.2
Cement	406.7	581.4	1 344.2	414.6	568.7	1 302.9	- 2.2	+37.2	- 3.1
Clay products \$000	4,266.1	6,761.9	15,017.7	3,643.6
Lime	140.3	154.9	430.5	146.0	163.3	454.5	+ 5.4	+10.3	+ 5.6
Fuels									
Coal	2 642.8	2 839.8	7 887.0	2 634.1	2 584.9	7 709.7	- 9.0	- 1.9	- 2.3
Natural gas 000 m ³	7 568 187.9	8 415 569.6	24 440 131.7	7 763 460.9 ^x	8 577 485.4	25 260 272.6	+ 1.9	+10.5	+ 3.4
Crude oil and equivalent 000 m ³	6 658.5	7 280.2	20 917.5	6 323.7 ^x	7 145.5	20 172.9	- 1.9	+13.0	- 3.6

(1) Tonnes uranium (1 tonne U = 1,299.9 short tons U₃O₈).
^x Revised; .. Not available.

TABLE 3
Canadian Consumption of Selected Metals

	Unit	1975	1976	Percentage Change
Aluminum (primary)	tonnes	293 280	322 206	+ 9.86
Antimony	kilograms	1 177 319	1 476 232	+25.39
Bismuth	kilograms	29 267	21 105	-27.89
Cadmium	kilograms	38 209	53 815	+40.84
Chrome ore	tonnes	36 790	30 783	-16.33
Cobalt	kilograms	123 002	160 492	+30.48
Lead (primary and secondary)	tonnes	89 193	102 654	+15.09
Magnesium	tonnes	5 404 ^r	4 230	-21.72
Manganese ore	tonnes	160 976	238 629	+48.24
Metallic mercury	kilograms	32 869	26 039	-20.78
Molybdenum	kilograms	1 436 883	1 260 329	-12.29
Nickel	tonnes	11 308	9 972	-11.81
Selenium	kilograms	9 933	11 212	+12.88
Tellurium	kilograms	614	589	- 4.07
Tin	tonnes	4 315	4 849	+12.38
Tungsten	kilograms	451 335	337 345	-25.26
Zinc (primary and secondary)	tonnes	98 280	98 897	+ 0.63

TABLE 4

Canada, Estimated labour costs in selected industries, 1976

Industry	Number of Employees (¹ 000)	Total compensation ¹ per employee (\$)
All industries	5 813.5	14,383
Mines, quarries and oil wells	130.6	18,394
Metals	68.2	18,505
Mineral fuels	26.4	19,158
Non-metals	17.0	16,990
Manufacturing	1 686.2	14,110
Primary metals	117.6	16,936
Metal fabricating	136.0	15,225
Non-metallic minerals	52.1	15,696
Petroleum and coal products	17.7	21,631
Construction	286.7	18,384

Source: Statistics Canada, catalogue 72-618.

¹ Total compensation is defined as - wages and salaries, additional cash payments such as, severance pay and the costs to employers of compulsory and voluntary welfare and benefit plans.

TAXATION AND LEGISLATION AFFECTING
MINING AND ALLIED INDUSTRIES IN CANADA

Provincial

Alberta

Bill 39, *The Mines and Minerals Amendment Act*, has been introduced into the Legislative Assembly. The proposed amendments deal with changes necessitated by the elimination of the offices of "Director" and "Mining Recorder". "Oil sands" are redefined to clarify the distinction between crude bitumen, and petroleum and natural gas recoverable through a conventional well.

Part 2 - Coal and Part 3 - Quarriable Minerals are completely rewritten, as are sections 100 to 103 dealing with coal rights in road allowances.

The title to Part 6 is amended by striking out "Bituminous Sands and".

Part 9 - Geophysical Exploration is revised under the heading "Exploration".

Newfoundland

The Newfoundland and Labrador Petroleum Regulations, 1977 are amended by NR 75/78. This amendment

- (a) gives the permittee the option of expressing the well depth in either metres or geological horizon, or both;
- (b) gives the permittee more freedom in regrouping permits;
- (c) allows the Minister to waive the permittee's obligation to require its contractors, subcontractors or suppliers to establish a permanent establishment in the province, where it can be shown that no significant economic benefit would accrue to the province;
- (d) deletes the requirements to spend \$20,000 per year per section during the appraisal period and \$100,000 per year per section during the lease period;
- (e) requires the permittee's obligation under section 120 (1) for any permit year to be calculated on the basis of the number of sections held at the midpoint of the permit year; and
- (f) makes minor changes in the required expenditures for education and training and research and development.

METALLIC MINERALS AND PRODUCTS

Aluminum

The Japanese government will shortly start buying 12 400 tonnes of primary aluminum from five Japanese smelters as part of an official stockpile program designed to aid the industry. In the fiscal year which began on April 1, it is planned to stockpile 20 000 tonnes of aluminum. This material will be added to 9 570 tonnes of aluminum purchased in 1976. The purchase price is 289,200 yen per tonne (about \$1,263 (U.S.)).

India's Industry Minister has announced that an agreement has been reached with Hungary whereby it will assist India to determine the potential of an aluminum plant in the western state of Gujarat. The project calls for a 300 000 tonne-a-year aluminum plant. Plans for two aluminum smelters for the eastern coast of India are being studied.

Cobalt

In recent years Zaire has accounted for about 60 per cent of the world's output of cobalt; Zambia is a distant second followed by Canada, the U.S.S.R. and Cuba. The last three generally produce about equal quantities. In the case of Zaire and Zambia, virtually all cobalt is recovered as a by-product of copper mining. In Canada, during recent years virtually all cobalt output has been recovered as a by-product of nickel mining, whereas in earlier years considerable quantities were produced in association with silver from the Cobalt area of Ontario.

Cobalt is used in making alloys and heat-resisting superalloys, some of which are used in jet engines, missiles and submarines. The bulk of Canada's cobalt sales are to be U.S.A. and U.K.

The conflict in Zaire, although apparently not cutting off its entire cobalt supply, has prompted American and west European companies and the U.S.S.R. to make fairly heavy purchases. Official cobalt prices have recently risen from \$6.85 (U.S.) to \$8.50 (U.S.) a pound and free market prices as high as \$24.00 a pound have been reported.

Most of Canada's output (3.3 million pounds valued at \$18 million in 1977) is supplied by Inco Limited and Falconbridge Nickel Mines Limited; Sherritt Gordon Mines Limited also supplies considerable quantities, largely from imported ores. Canada's nickel producers will certainly welcome increased revenues from cobalt but they can hardly be regarded as a bonanza inasmuch as less than 1 per cent of Inco's revenues are derived from cobalt, 3 per cent for Falconbridge, and 2 per cent for Sherritt Gordon.

It is difficult to predict to what extent Canadian cobalt producers can respond to higher prices, particularly in the short term. Current production levels are largely linked to nickel output and the nickel industry is in a generally depressed state. Nevertheless, given that past cobalt prices have not been conducive to recovering all cobalt values from the ores and residues, one can expect some attempts to make additional recoveries. One might even anticipate renewed interest in the old Cobalt camp, but such interest is not likely to be sustained until one witnesses evidence of strong prices over the longer term.

Copper

Copper prices rose steadily during May. The London Metal Exchange (LME) cash price for wire bars increased from the equivalent of 57 (U.S.) cents a pound at the beginning of the month to 64 (U.S.) cents a pound at month-end. Canadian producer prices remained at 73.125 cents a pound for wirebars and 72.5 cents a pound for cathode. On the last day of the month, however, Canadian producers filed for an increase with the Anti-Inflation Board to bring the Canadian price up into line with new U.S. producer prices. The U.S. producer price remained at 64.625 (U.S.) cents a pound for wirebar and 64.00 (U.S.) cents a pound for cathode until the end of the month when most producers announced a price increase of 3 (U.S.) cents a pound to become effective on June 1. This change was triggered by Kennecott Copper Corporation which on May 26, abandoned the producer pricing basis in favour of a COMEX related price.

The second rebel incursion into the Katanga province of Zaire occurred during May. Although damage was reported to be light following expulsion of the attackers, mine flooding and loss of skilled expatriate workers will no doubt result in a period of substantially reduced production. Some estimates of anticipated losses were as high as 200 000 tonnes over a six month period.

The second major event of May was the hearings of the International Trade Commission in the United States related to the petition of a group of U.S. copper producers who claimed injury and threat of injury from increased imports of refined copper into the United States. Canadian producers made a joint submission to the ITC on May 22, refuting the injury claim. The United States producers, in their submission, proposed a quota system be applied to refined copper imports based upon average import levels during the base period, 1971-1975. Under this proposal, total refined imports would also be limited to the 1971-1975 average. If it were implemented such a quota would not appear to be a severe constraint on Canadian producers, as Canadian exports of refined copper to the United States have not increased since the base period.

Substantial copper purchases for the United States strategic stockpile moved a major step closer during May. The Senate Stockpiles Subcommittee approved a stockpile sales bill providing for disposal of 35,000 long tons of tin and acquisition of 225,000 short tons of copper. Stockpile changes could begin late in 1979 if the bill receives all the necessary approval.

Hudson Bay Mining and Smelting Co., Limited (HBMS) offered to acquire all the outstanding shares of Whitehorse Copper Mines Ltd. (Whitehorse) which it does not already own. HBMS owned about a 41 per cent interest in Whitehorse before the offer.

Gibraltar Mines Ltd. announced that it would suspend operations at its open pit mine near Williams Lake on May 26. Negotiations for a new labour agreement have been unsuccessful. The suspension of operations is related to a strike notice delivered by the union on May 10.

Gold

The International Monetary Fund (IMF) held its twenty-first gold auction on May 3, 1978 under the bid price method and awarded 524,800 troy ounces of fine gold to successful bidders at prices ranging from \$170.11 (U.S.) an ounce to \$171.50 (U.S.) an ounce and averaging \$170.40 (U.S.) an ounce. At the twentieth gold auction 524,800 ounces of gold were awarded to successful bidders at prices ranging from \$177.61 (U.S.) an ounce to \$180.26 (U.S.) an ounce and averaging \$177.92 (U.S.) an ounce. The afternoon fixing price on the London Gold Market on May 3 was \$170.45 (U.S.). There was a strong interest in the auction and the gold price started to move upwards shortly after the sale and reached a high of \$184.90 (U.S.) an ounce on May 31. In all, 192 final bids were submitted at the twenty-first auction for a total of 3,104,000 ounces compared with 122 final bids at the twentieth auction for a total of 1,367,600 ounces. The number of bidders submitting final bids was 24, awards being made to 17 bidders. Successful bidders were mainly European and North American banks and bullion dealers. Over 93 per cent of the bids submitted were in the range of \$165.00 (U.S.) to \$170.99 (U.S.) an ounce.

The twenty-second gold auction will be held on June 7, 1978 but the format will be modified. At the next six monthly auctions 470,000 ounces of gold will be offered at each auction compared with the 525,000 ounces that were offered previously. All auctions will be made under the bid price method. The ratification of the Amendments to the Articles of Agreement of the IMF by the member countries on April 1, 1978 allows governments and central banks to trade freely in the gold auctions. Arrangements have been made for the developing nations to submit non-competitive bids for gold in proportion to their share in the IMF gold quotas as of August 31, 1975. The IMF reported that 39 developing countries have indicated that they reserve the right to submit non-competitive bids at the gold auctions. These countries hold 14.76 per cent of the funds quotas and are eligible for 3.7 million ounces of the total 25 million ounces to be auctioned. They are entitled, but not obligated, to submit bids at any of the monthly auctions before May 1, 1979. These bids will be in addition to the 470,000 ounces being offered to the public. As the number of ounces tendered for under the non-competitive bid program is not known beforehand the results of the new format will be reviewed after the first six months and the necessary adjustments made to ensure that the entire 25 million ounces will be sold within the agreed four year period. It is the intent to release the names of

the non-competitive bidders and the total amount of non-competitive bids where gold has been awarded.

On May 23, the Treasury Department of the United States held its first of six gold auctions to be held over a period of six months. At this auction 300,000 ounces of gold were sold to 12 successful bidders at prices ranging from \$180.01 (U.S.) an ounce to \$182.35 (U.S.) an ounce of gold. Bids totalled 1.36 million ounces and were submitted by 44 bidders. The bidders were mainly European and North American banks and bullion dealers, with three European banks accounting for about 67 per cent of the total. The average auction price was above the \$179.60 (U.S.) an ounce of gold quoted at the afternoon fixing on the London Gold Market on May 23. The next auction will be held on June 20 in which 300,000 ounces of gold will be offered for sale under the bid price method.

The Indian government held three auctions in May. At the first auction on May 5 about one half tonne of gold was sold to 229 successful bidders at prices ranging from 620 to 633 rupees per 10 grammes (\$73 to \$78 (U.S.)). At the second auction on May 17 about one and one half tonnes of gold were sold to 641 successful bidders at prices ranging from 630 to 675 rupees per 10 grammes (\$74. (U.S.) to \$84 (U.S.)). A total of 1,501 bids were received at the third auction but details of sales were not available. The successful bidders in the first two sales received gold below the open market price in India but well above the world gold price.

The strong demand for gold at the IMF auction on May 3 resulted in renewed strength in the gold price. The low gold price of \$168.75 on the London Gold Market was recorded on May 2. The price improved steadily during the month and reached a high of \$184.90 (U.S.) an ounce of gold on May 31. The monthly average gold price for May 1978 of the afternoon fixing prices on the London Gold Market was \$176.29 (U.S.) (\$197.25 Cdn) an ounce compared with \$175.28 (U.S.) (\$200.09 Cdn) an ounce in April.

Iron and Steel

The Canadian Institute of Steel Construction has announced that new bookings of fabricated structural steel, joists and platework by its members increased by about 12 per cent to 56 221 tonnes during the first quarter of 1978 compared with the same period of 1977. Of this total, engineering and commercial projects increased by 62 per cent and 10 per cent respectively while industrial projects were off by 41 per cent and institutional activity declined by 13 per cent. Construction activity in western Canada was particularly buoyant.

The Steel Company of Canada, Limited has announced price increases for various steel products. Effective May 1, 1978, small diameter, electric weld tubing used mainly in the construction industry was increased from 5.5 per cent to 7.7 per cent depending on type. Pressure tubing will

now cost approximately \$580. a tonne. Effective June 5, 1978, carbon steel bars and alloy steel bars used in the automotive industry will increase by 4 per cent to \$320 a tonne and 4.4 per cent to \$330 a tonne respectively. In addition, large diameter, longitudinal welded pipe used for oil and natural gas transmission will be increased by 8.9 per cent to about \$460. a tonne.

Lead

All producers in the United States and Canada dropped the price of refined lead during the first two weeks of May. The U.S. price was dropped from 33 cents to 31 cents a pound while the Canadian price declined one cent to 34.25 cents a pound. The spot price of lead on the London Metal Exchange (LME) was steady during the month and closed at 25.1 cents (U.S.) a pound, an increase of 0.1 cent from the May 1 price. Inventories held in LME warehouses declined from 61 500 tonnes to 57 125 tonnes as of May 26, the lowest level since June, 1975.

The possible closure of the Hoboken lead plant of Metallurgie Hoboken-Overpelt S.A. in Belgium has been averted. An agreement between the company and the city council covering twenty-three items gives the company five years in which to comply with lead emission standards as proposed by the European Economic Community of two micrograms of lead per cubic metre.

Rosario Resources Corporation announced that it plans to expand the capacity of its El Mochito mine in Honduras from 900 tonnes per day to 2 250 tonnes per day. Lead output should increase from about 21 000 tonnes to 24 500 tonnes annually in 1979.

On June 1, the United Steelworkers Union went on strike at the mine mill and smelter operations of AMAX Inc. at Boss and Buick, Missouri. The mine-mill complex which is jointly owned by AMAX and Homestake Mining Company produced about 180 000 tonnes of lead concentrates in 1977 and the smelter, which is operated by AMAX but jointly owned by AMAX, Homestake, Cominco-American Ltd. and Dresser Industries, Inc., has a capacity of 127 000 tonnes a year of refined lead output. Production from the smelter in 1977 was about 115 000 tonnes. With producer stocks in the U.S. at about 60 per cent of normal and concentrate supplies tight, there is a strong possibility of a price increase should the strike last a month or more.

Minérai de fer

Les espoirs de régler une grève dans les mines de minérai de fer de la région du Québec-Labrador ont pris fin lorsque les membres de l'union des Métallurgistes Unis d'Amérique ont rejeté au cours du mois de mai une offre d'un nouveau contrat que leur a soumis la compagnie Iron Ore et qui incluait les clauses de santé, sécurité, sous-contrats et salaires.

La grève qui affecte environ 11 000 employés dure maintenant depuis près de trois mois et affecte les villes de Schefferville, Wabush, Labrador City, Fermont, Gagnon, Sept Iles, Pointe Noire et Port Cartier.

A cause de la grève dans les mines de minerai de fer du Québec-Labrador, la compagnie National Steel Corporation of Canada, Limited a décidé de canceller son plan de fermeture de ses opérations à Capréol pour deux mois au cours de l'été. La compagnie avait planifié la fermeture temporaire de ses opérations à cause d'une faible demande dans l'industrie de l'acier aux Etats Unis. Cette situation est maintenant changée a cause de la grève dans les mines du Québec-Labrador qui fournissent environ 75 pourcent de la production canadienne dont une grande partie est exportée aux Etats Unis.

Nickel

Sherritt Gordon Limited and INCO Metals Company announced an agreement whereby Sherritt will purchase nickel feed material for its Fort Saskatchewan refinery from Inco. This supply of feed will replace material formerly supplied by Sherritt's Lynn Lake mine (closed 1976) and two Australian mines which are being closed because of the depressed nickel price. The length of the contract is not specified nor is the quantity involved although it is likely to be in the 10 to 30 million pound range of contained nickel.

Société Le Nickel announced early in May that production from Noumea in New Caledonia in 1978 would be 44 000 tonnes compared with an originally planned operating level of 50 000 tonnes and an annual capacity of 75 000 tonnes. Weak prices, low first quarter sales and currency adjustments have forced the cutback. The 3,700 workers at the site have threatened to strike on June 1 to protest the lower wage levels resulting from the shorter working hours.

There have been several indications that there is not likely to be a further price increase for nickel products before the fall. Greg-Gary International Corporation of New York brought 8.8 million pounds of Russian nickel into the U.S. market during the first quarter of 1978 and the availability of this metal at about \$1.95 a pound has had a bearish affect on the price of nickel. Another indication of the weakness in posted prices (\$2.10 a pound for cathode) was the sale by tender of 2 000 tonnes of metal to Taiwan by Falconbridge Nickel Mines Limited at \$1.905 (U.S.) a pound. Also, the chairman of Inco Limited, J. Edwin Carter informed a New York audience of security analysts that a price rise in the "near future" was unlikely.

The latest session of the United Nations Law of the Sea Conference closed on May 19 with the most significant development being an agreement between Canada and the United States on a new proposed production ceiling formula. The new 60/40 percentage split formulation does not impose a quota or ceiling on land-based production of nickel. The formula sets a limit on seabed production that is comprised of two elements: the first

being that initial seabed production is allowed an amount equal to 100 per cent of the increase in consumption for the five year period immediately prior to the first commercial production; and second an additional amount equal to 60 per cent of the increase in world nickel consumption thereafter. Land-based producers are guaranteed the amount that they are currently producing plus they can compete freely with seabed producers for the remainder of the growth in world consumption.

Platinum

The platinum price moved up sharply in May. The opening nearby price for the month of May on the New York Mercantile Exchange as quoted in the Globe and Mail was \$211.50 (U.S.) an ounce. The price increased steadily during the month and closed at \$254.80 (U.S.) an ounce, the high for the month. The producer price remained unchanged at \$220.00 (U.S.) an ounce.

Reportedly the main reasons for this price rise were: the reduced quantity of platinum being offered to the market by the U.S.S.R. because of its own demand; and a physical shortage of the metal, caused partly by the planned reduction of output by South African producers and activity by speculators.

Silver

Granby Mining Corporation will close, later this year, its Phoenix Copper Division copper-silver-gold mine near Greenwood, B.C. The company had already suspended mining operations in August 1976 because of exhaustion of ore reserves. Since that time, the mill feed has come from low grade ore stockpiles. The mine, which had been in production, although not continuously, since 1899, produced some 140 000 kilograms (4.5 million troy ounces) of by-product silver during its life.

The Russian government has issued the first set of silver coins to commemorate the Olympic Games to be held in Moscow in 1980. This silver coin program will comprise a total of 28 different coins issued in six series at approximately six-month intervals before the summer of 1980. The first series, comprising six different silver coins, is now being minted and some of these coins are already on sale in many countries, including Canada. The six series will consist of 28 different coins, fourteen of which will have a face value of five rubles each and the remaining fourteen a face value of 10 rubles each. The first series is comprised of four coins each of five ruble face-value and two coins each of 10 ruble face value. It is planned to mint a maximum

of 450,000 silver coins of the first series including both proof and uncirculated varieties. All coins contain 90 per cent silver. The 5-ruble coins measure 33 mm in diameter and weigh 16.67 grams; the 10-ruble coins measure 39 mm in diameter and weigh 33.3 grams. The current sales program calls for all the proof coins to sell at roughly twice their face value. At an "official" conversion value of one ruble = \$1.46 U.S., six proof coins of the first series (4-5 ruble coins and 2-10 ruble coins) would sell for \$116.80 U.S. or approximately \$130.82 Canadian at the current exchange rate between the Canadian and U.S. dollars. Other coin program details now finalized specify that the proof silver coins will be sold in 28-coin collections by direct mail subscription; and uncirculated coins will be sold through a worldwide network of coin dealers. The first series of proof silver coins is expected to be available for June 1978 delivery. These Olympic coins will be marketed in the United States, as in most other western countries, by Numinter, a joint venture of Occidental Petroleum Corp., of Los Angeles, and Banque Lazard Freres, of Paris, which recently signed an exclusive agreement for distribution of the coins in the non-communist world. Agreements have been signed already with seventeen western countries, including the U.S., for sale of the coins. The author recently examined a set of the six silver coins in the first series at the shop of an Ottawa coin dealer. Each of the coins was encapsulated and all were contained in a case, the total selling price of which was \$99.00 Canadian.

Zinc

The International Trade Commission (ITC) voted 5 to 1 against the petition to implement tariffs and quotas on imported zinc metal in the period 1978-1982. The vote which was taken by the Commissioners on June 1, after two days of briefings by ITC staff, concluded that the domestic industry was not being injured nor was it likely to be injured by imports of zinc into the U.S.

Producer zinc prices remained unchanged during May 1978 at \$550 (U.S.) a tonne outside North America, \$639.33 (U.S.) a tonne in the United States, and \$683.42 a tonne in Canada. During the month Hudson Bay Mining and Smelting Co., Limited and A.M. & S. Europe Ltd. increased their selling prices outside North America to \$575 (U.S.) a tonne while Cominco Ltd. increased its price to \$600 a tonne. Zinc prices on the London Metal Exchange increased from \$527.95 to \$592.11 (U.S.) a tonne during the month.

INDUSTRIAL MINERALS AND PRODUCTS

Asbestos

Bill 70 to establish Quebec's National Asbestos Corporation passed third and final reading on May 23, 1978 in the National Assembly. During the second reading, which began in mid-March, only three articles of the twenty-five article bill were approved before the Assembly voted to discontinue the clause by clause study. The publicly owned company has a capitalization of \$250 million and is to be the government's vehicle to buy control of Asbestos Corporation Limited.

Approximately 500 members of the United Steelworkers local began returning to work on May 22 at Advocate Mines Limited, Baie-Verte, Newfoundland. The new two-year contract reportedly satisfied specific union demands concerning occupational safety and health.

Clay Products

Didier Refractory Products Corp., Becancour, officially opened its refractory brick plant. The plant, built at a cost of \$30 million provides 270 jobs at its site 120 kilometres north of Montreal. Annual production is expected to be approximately 50 000 tonnes, primarily of high alumina and magnesite-chrome brick. Monolithic products will also be manufactured, a proportion of which will be exported. The parent company, Didier Werke, A.G. of West Germany, owns 51 per cent of the shares. Quebec's Industrial Development Corporation owns about 30 per cent of the new company and the remainder is owned by private investors from Quebec. The Department of Regional Economic Expansion (DREE) furnished \$6.7 million in grants.

Gypsum

Domtar Inc., Genstar Limited and Westroc Industries Limited pleaded guilty last week to conspiring together, and with Canadian Gypsum Company, Limited to prevent competition in the sale of gypsum wallboard. They were fined a total of \$275,000 under the Combines Investigation Act. The three companies, who controlled 90 per cent of the Western Canadian wallboard market, sold about \$127-million worth of wallboard between 1967-72, but offered the defense that the agreement to lower prices was necessary to protect themselves against wallboard dumped in the southern Prairies by U.S. manufacturers.

Potash

On May 15, Central Canada Potash Co. Limited (a Noranda subsidiary) launched legal action challenging the constitutionality of Saskatchewan's potash reserve tax. Eleven potash producers launched a similar suit in June 1975 but Central Canada was not part of the group. Since then the group action passed a series of preliminary legal hurdles allowing it to be heard shortly in the Court of Queen's Bench, Saskatchewan.

Potash exports for the nine month fertilizer year ending April 30 were up 70 per cent but consumption in North America was down 5 per cent. Late spring plantings are delaying the use of fertilizers; therefore May and June shipments are going to be crucial to the 1978 (fiscal year) performance as will fertilizer application in the fall (which may be at a much higher level than normal). A good market is expected due to the fact that U.S. soils have not been fertilized since 1975 and soil nutrient depletion is intense.

Meanwhile, however, ammonia markets are very weak with prices dropping significantly in the course of the last few weeks. As well, the shortage of rail cars is worse than in any year so far, a factor that will indirectly depress sales of potash this year.

Sulphur

Demand for Canadian elemental sulphur was strong throughout 1977. Shipments reached 5.2 million tonnes, about 30 per cent more than in 1976. Data for the first four months of 1978 show a 20 per cent increase over the same period in 1977 and April 1978 was a record month with offshore shipments of 501 000 tonnes. This, along with North American sales of about 160 000 tonnes, resulted in a net withdrawal from stocks of over 100 000 tonnes during the month.

Record shipments were made during the four month period to Africa (mainly South Africa), Australia and the Far East, together constituting 60 per cent of offshore sales. On the other hand, European and United States purchases were little changed from last year because of poor spring fertilizer demand (fertilizer manufacture accounts for about half of sulphur consumption). However, heavy fall applications are expected at least in the United States (see item on potash).

Canada's booming sulphur sales relate not to a surge in overall demand but rather to supply constraints in the major sulphur producing countries. World sulphur production has been virtually stagnant since 1974. The reasons are: exhaustion of reserves; prohibitive energy costs and slower developments in new sources (pollution abatement, oil shales, coal gasification, tar sands) than most analysts anticipated.

France and Mexico reached a production plateau several years ago, United States Frasch sulphur output (native sulphur mined using an energy intensive system of wells and hot water injection) has declined sharply since 1974, production from new reserves in Poland has been deferred until 1981-82 and Middle East Frasch and by-product sulphur project schedules have proved to have been far too optimistic. Canada's production has declined one million tonnes since 1973 and this trend is expected to continue through the 1980's. However, the limits to Canada's ability to supply sulphur for the present are, stockpile remelting and forming capacity, and rail and port capacities which are being approached under prevailing demand conditions. A world sulphur shortage, perhaps lasting three to five years appears to be inescapable even assuming modest demand growth.

The United States, not long ago the major source of world sulphur, became a net importer two years ago and Canadian sulphur has been delivered to the Ohio valley, the Atlantic seaboard and Florida for the first time. The latter is a 60 car unit train of liquid sulphur from Shell Canada Limited. The freight rate is \$45/short ton giving a plant netback in Alberta of about \$18.00 a tonne. Alberta prices are expected to rise sharply during the second half of this year.

MINERAL FUELS AND PRODUCTS

Petroleum and Natural Gas

The federal government has agreed to extend the drilling season for Dome Petroleum Limited in the Beaufort Sea for the next two years to October 5 - an extra week over previous time constraints. In addition, late season predrilling of locations in preparation for an early start in the following years, previously permitted to a depth of about 1,500 feet has been extended to depths of 5,000 to 6,000 feet for up to two months after the regular drilling season ends. These two decisions essentially mean that Dome's drilling season in the Beaufort Sea is almost doubled from just less than three months to slightly more than five months.

Husky Oil Ltd. has revised its thinking on its proposed 100,000 b/d heavy oil upgrading plant. In a submission to the National Energy Board's (NEB) oil supply-demand hearings, Husky suggested the plant might be better built in two stages of 50,000 b/d each. Husky considered such a phased approach would gear plant capacity more closely to the anticipated field production of heavy oil from the Lloydminster area at the time of the proposed start up date of 1984-85. It would also allow Canadian demand for unprocessed asphaltic crude oils to be met during the initial years of operation of the facility. A smaller plant would provide Husky and other heavy

oil producers with more time to build up production to 100,000 b/d. Negotiations are continuing between the Saskatchewan and federal governments and industry on the \$750 million upgrading plant proposal, but the principal problem is ensuring the supply of sufficient heavy oil.

Home Oil Company Limited and its partners Murphy Oil Company Ltd. and North Canadian Oils Limited commenced drilling on the first of two stratigraphic tests on their gas exploration permits on Cape Breton Island adjacent to the Strait of Canso. The test holes will further define the extent and stratigraphy of the salt section near Port Hawkesbury, as the Home Oil group proceeds with its multi-stage crude oil and product storage project for North America. The holes will be drilled close to two other test holes drilled previously and if successful they will verify that the area is capable of storing a minimum of 100 million barrels of crude oil. In September 1977 the Home Oil group made an application to the United States government for the storage of 100 million barrels of crude oil as part of the United States long term strategic storage program. The proposal is now the subject of a joint Canada - United States study.

Total Eastcan Exploration Ltd., operator for the Labrador Group of Companies comprised of Amerada Minerals Corporation of Canada Ltd., Aquitaine Company of Canada Ltd., Agip Canada Ltd., Gulf Oil Canada Limited, Sun Oil Company Limited and Total Petroleum (North America) Ltd. announced that an agreement had been reached with the Government of Newfoundland and Labrador which will allow the group to apply for exploration and production permits under the Newfoundland and Labrador Petroleum Regulations, 1977. This agreement will secure the previous investment made by the group in which it holds exploration permits from the federal government and will allow the group to resume exploration operations upon issuance of provincial permits from the government of Newfoundland and Labrador. The application for provincial permits does not eliminate the necessity for a settlement of the dispute between the federal and provincial governments as to jurisdiction over offshore mineral rights.

Uranium

Norcen Energy Resources Limited reports continued favourable results of a drilling program on its Blizzard uranium property near Beaverdell, British Columbia. Some 13 holes have been completed in 1978; uranium mineralization has been encountered ranging from 0.09 per cent U to 6.0 per cent U. A total of 33 holes were completed in 1977 of which 30 encountered mineralization with grades averaging 0.09 per cent U over average thicknesses of more than 4.5 metres; holes are averaging about 30 metres in depth. The zone now has an indicated strike length of 760 metres and an indicated width of some 120 metres.

Saskatchewan Mining Development Corporation (SMDC) will exercise its right to buy Inexco Mining Company (Canada) Ltd.'s one-third interest in the Key Lake uranium deposits. SMDC's decision negates Denison Mines Limited's offer, announced in March, to acquire Inexco's interest at an agreed purchase price of \$158.5 million. Under a cooperative agreement signed between SMDC and Eldorado Nuclear Limited in 1977, SMDC will resell the interest it acquires from Inexco to Eldorado, subject to a future right to buy back up to half the interest. Eldorado has established a wholly owned subsidiary, Eldor Resources Ltd., which will arrange the financing and implementation of the acquisition. The sale is conditional on a favourable outcome to the Cluff Lake Board of Inquiry.

It has been reported that France's Compagnie Générale des Matières Nucléaires (COGEMA) and Niger's Office National des Ressources Minières (ONAREM) have agreed to start up a third uranium mine in Niger's Arlit concession. The new mine, which will have a capacity of some 900 to 1 300 tonnes U/year, will be near the two existing operations of Société des Mines de l'Air (SOMAIR) and Compagnie Minière d'Akouta (COMINAK). The new company will be called Société Minière de Tassa N'Taghelgue (SMIT) and will hopefully start-up in 1982-83. SOMAIR has been producing since 1970 and COMINAK went on stream in early 1978.

SPECIAL ITEM

MINERAL INDUSTRY EMPLOYMENT TRENDS

(Iron Ore Mines)

The second of a series of reports on employment trends within the minerals industry has been completed by the Human Resources Section of the Mineral Policy Sector in co-operation with officers from the Minerals and Metals Division. The main conclusions of the report, which covers the iron ore industry, are indicated below.

- . Employment in iron ore mines and related facilities:

1976	17,300
1977	17,400
1978	15,900*

- . 80 per cent of Canadian production originates in Quebec-Labrador, 20 per cent in Ontario.
- . According to already announced intentions plus an estimate of natural attrition, employment in the Canadian iron ore industry may decline by some 1,500 workers or about 8.6 per cent in 1978.
- . In addition, if weak markets, for steel in Western Europe, Japan and the U.S. persist, further cutbacks in production and employment will likely result. Consequently, the total reduction in the 1978 employment level may be in the range of 10-20 per cent. (1,700-3,400 jobs may become a realistic estimate).
- . This figure may increase even further as a result of the current labour dispute in the Quebec-Labrador iron ore mines. It is possible that the employment in iron ore mines may have reached an all time high in 1977 and regardless of any possible increase in production levels in the future, the level may never be higher.
- . The employment cutbacks pose particular problems for the single-industry communities that are dependent on mining for jobs. In the case of Quebec and Labrador more than 11,000 workers in eight communities are affected.

* Based on already announced intentions as of April 1978.

- . Similarly, the contractions in Ontario iron mines affect three single enterprise communities where alternative employment is also difficult to come by. The remaining four Ontario communities are not threatened by the events mentioned above because these iron mines are integrated into a healthy steel industry. Thus employment levels in these communities are expected to remain stable for many years to come. Future expanded ore requirements, however will be obtained from the U.S. where it is estimated the 'Big Three' steel companies will import about 40 per cent of their ore by 1979 versus about 17 per cent in 1974.

RECENT AMALGAMATIONS AND MERGERS PUBLISHED IN THE GAZETTES

Canpac Minerals Limited amalgamated into Fording Coal Limited on December 31, 1977, Source CCAB March 1978.

The following companies amalgamated: Wescan Mining Trucks & Equipment Ltd., Wescan Resource Equipment Ltd., Wescan Resource Equipment Sales Ltd., Gorman's Limited, Coneco Equipment Ltd. and Bear Tools Co. Ltd. to form a new company under name of Wescan Resource Equipment Ltd. on February 10, 1978. Source: Alberta Gazette March 15, 1978.

Uranex Resources Limited was formed by the amalgamation of Landair Explorations Limited and Powerex Resources Limited on February 28, 1978. Source: Ontario Gazette April 22, 1978.

Jaridge Explorations Inc. was formed by the amalgamation of Jacomo Mines Limited, Hiview Gold Mines Limited, Fairview Mining Inc. and Ridgemar Explorations & Development Company Limited on March 1, 1978. Source: Ontario Gazette April 29, 1978.

New Bedford Explorations Limited amalgamated with Deauville Explorations Limited under the name of New Bedford Resources & Developments Limited on March 15, 1978. Source: Ontario Gazette April 8, 1978.

85444 Canada Limited amalgamated with Byron Creek Collieries Limited under the name of Byron Creek Collieries Limited on March 1, 1978. Source: CCAB April 1978.

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 May.

MR 170: *A Summary View of Canadian Reserves and Additional Resources of Iron Ore*; price \$2.00

MR 179: *Mineral Exploration Expenditures in Canada, 1969-1975*; by R.J. Whillans; price \$2.00

Liste des exploitants n° 2; janvier 1977; *L'Activité Metallurgique au Canada fer et Acier de Première Fusion*; price \$2.00

Operators List 3, January 1977: *Metallurgical Works in Canada Nonferrous and Precious Metals*; (Liste des exploitants n° 3, janvier 1977, *L'Activité Métallurgique au Canada Métaux Non Ferreux et Précieux*); prix \$1.50

Preprints, *Canadian Minerals Yearbook 1976*, Coal
and Coke, Tungsten, price 50¢ a copy.

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