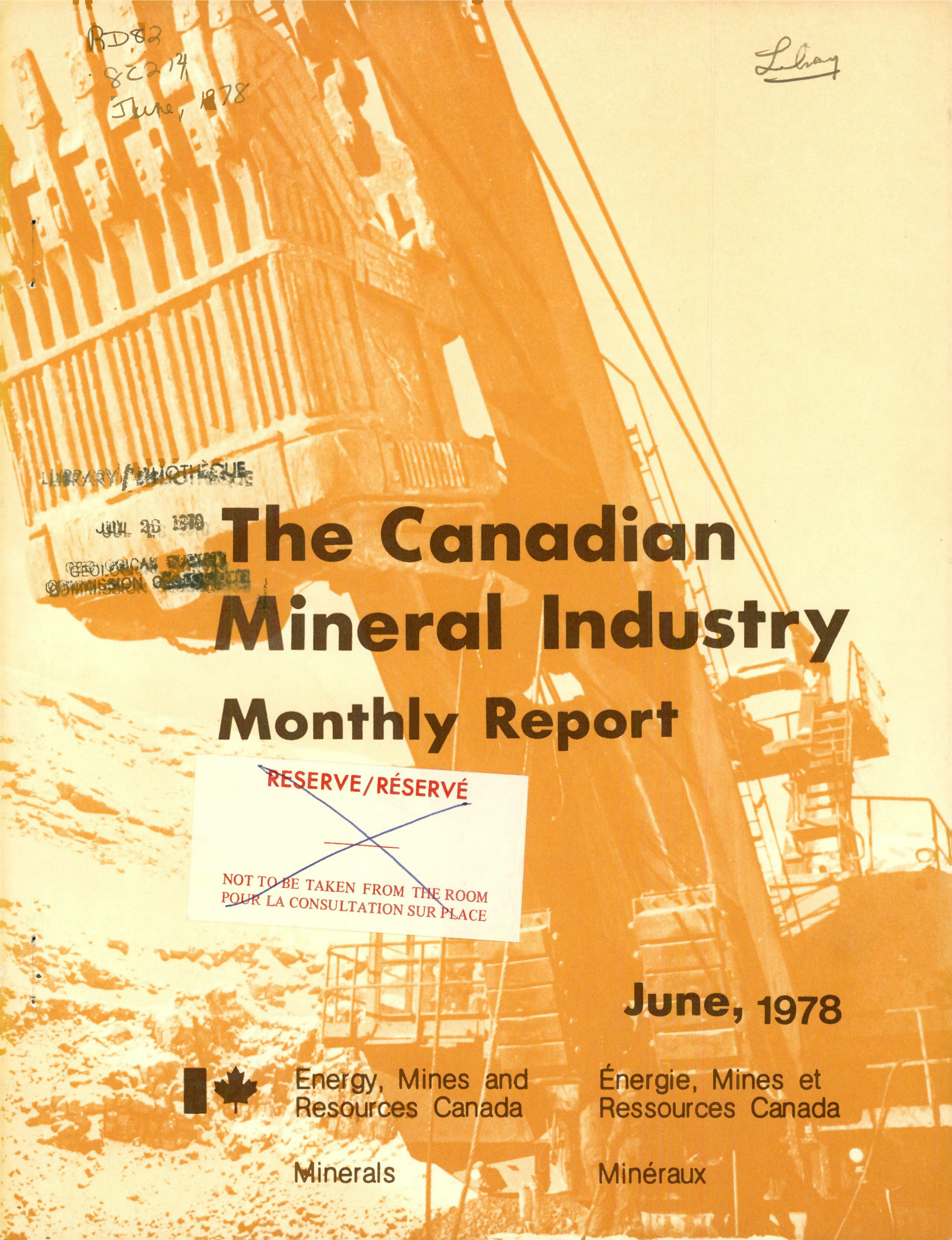

The Canadian Mineral Industry Monthly Report

June, 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'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 JUNE

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

HIGHLIGHTS

1. Canada's unadjusted index of Real Domestic Product was 131.6 in April 1978, an increase of 4.7 per cent from March.

2. The April index of Mines, Quarries and Oil Wells was 99.3, a decrease of 7.9 per cent from the previous month.

3. The Aluminum Company Limited of Canada (Alcan) increased its export price for primary ingot.

4. The price of copper on all markets increased following the damage to copper installations in Zaire by rebel forces.

5. Tree Island Steel Co. Ltd. has revealed plans to build a $50 million steel wire rod mill in British Columbia.

6. AMAX Inc. and Homestake Mining Company have had a *force majeure* on lead shipments in effect since June 1.

7. Nickel producers reduced prices of Class I and II products to March levels in June.

8. A special session of the International Lead and Zinc Study Group will meet in Vienna in July to discuss problems of EEC zinc producers.

9. Steetley of Canada (Holdings) Limited (Steetley Talc) plans to re-open the Penhorwood township talc deposit operations near Timmins, Ontario.

ECONOMIC TRENDS

Table 1 shows Canada's unadjusted indexes of Real Domestic Product in terms of 1971 = 100. The overall RDP index in April was 131.6, an increase of 4.7 per cent over March 1978.

The April RDP index for mines, quarries and oil wells was 99.3, down 7.9 per cent from 107.8 in March. The metal mines index decreased 12.5 per cent over the month due in part to a decrease of 66.0 per cent for iron mines. A decrease of 8.0 per cent and 1.0 per cent was recorded for mineral fuels and non-metal mines respectively.

The April index for primary metal industries was 128.0, a decrease of 1.1 per cent over that of March. Non-metallic Mineral Products Industries showed an increase of 14.4 per cent during the month of April.

Table 2 compares volume of production in nineteen major Canadian minerals. Output increased significantly in April compared with March for iron ore (54.2 per cent), uranium (58.4 per cent) and gypsum (41.5 per cent). Output decreased significantly for lead (38.3 per cent), asbestos (22.2 per cent) and potash (16.2 per cent).

Table 3 shows mining employment and earnings for 1978 and 1977. Employment in smelting and refining increased 7.8 per cent in 1977 over 1976 and average weekly earnings increased for all four sectors.

TABLE 1

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

Industry or Industry Group	1977 Mar	1977 Apr	1977 Average 1st 4 Months	1978 Mar	1978 Apr	1978 Average 1st 4 Months	Percentage Changes: Mar 1978 / Mar 1977	Percentage Changes: Apr 1978 / Apr 1977	Percentage Changes: Apr 1978 / Mar 1978	Percentage Changes: 1st 4 Months 1978 / 1977
Real Domestic Product	123.1	127.6	122.9	125.7	131.6	125.8	2.1	3.1	4.7	2.4
Primary Industries										
Agriculture	27.7	139.2	60.0	30.8	148.6	66.4	11.2	6.8	382.5	10.6
Forestry	130.8	99.6	113.5	125.2	101.2	111.2	-4.3	1.6	-19.2	-2.0
Fishing and Trapping	64.4	58.9	44.4	42.6	81.3	53.9	-33.9	38.0	90.8	21.3
Mines, Quarries and Oil Wells	115.8	109.2	113.8	107.8	99.3	105.1	-6.9	-9.1	-7.9	-7.6
Metal Mines	113.2	105.9	111.2	100.8	88.2	97.1	-11.0	-16.7	-12.5	-12.7
Placer and Gold Quartz Mines	74.7	77.7	78.8	70.1	77.0	72.8	-6.2	-0.9	9.8	-7.6
Iron Mines	126.0	136.4	122.4	73.5	25.0	79.0	-41.7	-81.7	-66.0	-35.4
Other Metal Mines	111.9	99.7	110.1	109.0	104.3	102.7	-2.6	4.6	-4.3	-6.7
Mineral Fuels	119.3	109.1	116.2	114.1	105.0	111.7	-4.4	-3.8	-8.0	-3.9
Coal Mines	230.1	212.3	224.5	204.1	224.0	211.8	-11.3	5.5	9.8	-5.7
Crude Petroleum and Natural Gas	110.2	100.7	107.4	106.7	95.2	103.5	-3.2	-5.5	-10.8	-3.6
Nonmetal Mines	131.6	128.5	132.7	123.8	122.6	123.0	-5.9	-4.6	-1.0	-7.3
Asbestos Mines	115.7	105.3	111.9	94.9	78.2	87.2	-18.0	-25.7	-17.6	-22.1
Secondary Industries										
Manufacturing	123.9	125.1	121.5	126.5	129.4	124.2	2.1	3.4	2.3	2.2
Nondurable Manufacturing	119.6	122.1	118.0	122.7	126.0	121.4	2.6	3.2	2.7	2.8
Petroleum and Coal Products Industries	135.3	119.9	132.9	124.2	114.8	127.5	-8.2	-4.3	-7.6	-4.1
Durable Manufacturing	128.3	128.2	125.1	130.3	132.8	127.0	1.6	3.6	1.9	1.5
Primary Metal Industries	120.3	114.1	114.3	129.4	128.0	124.5	7.6	12.2	-1.1	8.9
Iron and Steel Mills	132.5	124.9	124.0	144.8	141.0	136.5	9.3	12.9	-2.6	10.0
Steel Pipe and Tube Mills	138.0	111.6	126.6	149.0	169.1	150.5	8.0	51.5	13.5	18.9
Iron Foundries	118.5	123.6	127.0	133.3	129.0	128.3	12.5	4.4	-3.2	1.0
Smelting and Refining	102.8	97.7	96.8	105.2	104.4	103.5	2.3	6.9	-0.8	7.0
Nonmetallic Mineral Products Industries	107.9	120.1	104.2	110.6	126.5	108.1	2.5	5.3	14.4	3.7
Cement Manufacturers	83.3	103.7	77.3	85.0	108.6	77.5	2.0	4.7	27.8	0.4
Ready-mix Concrete Manufacturers	72.7	112.1	74.8	70.5	96.1	70.2	-3.0	-14.3	36.3	-6.2
Construction Industry	96.4	101.9	97.8	90.5	99.4	91.9	-6.1	-2.5	9.8	-6.0
Transportation, Storage, Communication	132.3	135.1	131.0	136.9	141.0	135.7	3.5	4.4	3.0	3.6
Electric Power, Gas and Water Utilities	153.3	142.2	160.3	170.6	153.3	176.2	11.3	7.8	-10.1	9.9
Trade	125.9	133.7	123.2	127.1	139.8	126.4	1.0	4.6	10.0	2.6
Finance, Insurance, Real Estate	132.9	132.9	132.4	137.6	137.2	137.1	3.5	3.2	-0.3	3.5
Community, Business and Personal Service	133.1	132.7	131.8	138.9	138.0	137.2	4.4	4.0	-0.6	4.2
Public Administration and Defence	123.9	122.5	122.9	124.3	124.2	123.5	0.3	1.4	-0.1	0.5

TABLE 2

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

		1977			1978			Percentage Changes		
		March	April	Total 4 months	March	April	Total 4 months	April 78 / April 77	April 78 / March 78	1st 4 months 1978 / 1977
Metals										
Copper		70.1	50.3	258.1	65.9[r]	61.5	248.2	+22.3	- 6.7	- 3.8
Gold	kg	4 699.8	4 219.5	17 452.1	4 476.4	4 606.4	17 291.9	+ 9.2	+ 2.9	- 0.9
Iron ore		1 339.8	3 648.4	8 515.5	1 196.1	1 844.4	6 252.7	-49.5	+54.2	-26.6
Lead		22.9	31.2	93.1	32.2	20.5	101.7	-34.3	-36.3	+ 9.2
Molybdenum	t	1 372.9	1 403.6	5 153.4	1 158.8	1 200.1	4 488.9	-14.5	+ 3.6	-12.9
Nickel		19.7	19.8[r]	81.6[r]	19.9	17.1	66.8	-13.6	-14.1	-18.1
Silver	t	148.8	119.5	472.8	119.0[r]	118.1	445.0	- 1.2	- 0.8	- 5.9
Uranium[(1)]	t	518.2	320.2	1 410.4	476.7	755.2	2 579.7	+135.9	+58.4	+82.9
Zinc		83.2	108.4	341.7	97.9	89.8	322.6	-17.2	- 8.3	- 5.6
Nonmetals										
Asbestos		141.4	122.6	483.7	123.8	96.3	404.8	-21.5	-22.2	-16.3
Gypsum		357.6	569.7	1 629.6	448.3	634.1	1 844.9	+11.3	+41.5	+13.2
Potash K_2O		578.4	606.7	2 009.3	621.6	520.7	2 137.2	-14.2	-16.2	+ 6.4
Salt		466.1	394.0	2 158.2	374.4	428.0	2 171.4	+ 8.6	+14.3	+ 0.6
Cement		581.4	724.1	2 068.3	568.7	648.5	1 951.4	-10.4	+14.0	- 5.7
Clay products	$000	6,761.9	7,925.4	22,811.3	5,194.1	..	..	..	..	..
Lime		154.9	146.8	577.3	163.3	168.6	623.1	+14.9	+ 3.3	+ 7.9
Fuels										
Coal		2 839.8	2 342.4	10 229.4[r]	2 584.9	2 397.2	10 106.9	+ 2.3	- 7.3	- 1.2
Natural gas	000 m^3	8 415 569.6	7 618 450.3[r]	32 058 581.9[r]	8 099 780.1[r]	7 729 424.0	32 471 073.5	+ 1.5	- 4.6	+ 1.3
Crude oil and equivalent	000 m^3	7 280.2	6 315.0[r]	27 232.5[r]	7 073.3[r]	5 850.6	25 944.0	- 7.4	-17.3	- 4.7

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

TABLE 3

Canada, Mining Employment and Earnings, 1976 and 1977

		1976	1977	Per cent change
Employment				
Metals	thousands	65.0	64.4	-0.9
Nonmetals[1]	thousands	15.4	16.0	+3.9
Structurals[2]	thousands	4.0	3.9	-2.5
Smelting and refining	thousands	30.7	33.1	+7.8
Average weekly earnings				
Metals	dollars	314.39	343.51	+9.3
Nonmetals[1]	dollars	287.28	315.80	+9.9
Structurals[2]	dollars	272.12	290.28	+6.7
Smelting and refining	dollars	297.52	324.22	+9.0

Source: Statistics Canada

[1] Excluding fuels. [2] Quarries and sandpits.

TAXATION AND LEGISLATION AFFECTING MINING AND ALLIED INDUSTRIES IN CANADA

Provincial

Alberta

The Mineral Rights Compensation Regulation, AR 161/78, under the Mines and Minerals Act, establishes the compensation payable to the lessee of record who is also the original lessee, where the Minister cancels the agreement as to all or any part of the original parcel of land covered by the agreement.

The Geophysical Incentive Program Regulation (AR 35/75 as amended) is further amended by AR 170/78. This amendment clarifies the eligibility for credit of a seismic survey for which an application for certification is received by the Minister after March 31, 1978, or of a survey for which an application for certification was received by the Minister before April 1, 1978, but the final report to the Minister was not available until after June 30, 1978.

A new Geophysical Incentive Program Regulation, 1978 (AR 171/78) has been issued applicable to a program for which an application for a certificate is received by the Minister before April 1, 1980.

British Columbia

Bill 27, *Coal Amendment Act*, 1978

The purpose of this Bill is to amend the *Coal Act*.

In addition to a number of amendments of a housekeeping nature, this Bill

(a) increases the amount of the work requirements to extend the term of the licence,

(b) allows for unlimited grouping of contiguous licences during first 3 terms of a licence and grouping of not more than 15 contiguous licences thereafter,

(c) changes the royalty to 3.5 per cent of the net minehead value of coal sold,

(d) clarifies royalty collection procedures,

(e) increases rentals on licences and leases,

(f) clarifies the issuance of leases and the issuance and renewal of holding leases, and

(g) converts measurements to metric.

Bill 29, *Petroleum and Natural Gas (1965) Amendment Act*, 1978

In addition to a variety of minor amendments of a housekeeping nature, this Bill

(a) converts all units of measure to the metric system,

(b) implements policy changes respecting new conditions on the length of time leases can be held and continued, and

(c) establishes new procedures respecting the pooling of locations for drilling, and unit agreements for production.

Under the *Placer Mining Act*, the table of fees published as BCR 411/75 and the general staking regulations published as BCR 412/75 have been repealed and replaced by BCR 152/78. The new regulation makes minor changes in the fee schedule and clarifies some points in the staking regulations.

Under the *Mineral Land Tax Act*, the *Mineral Land Tax Assessment Regulations*, 1978 have been published as BCR 170/78, corrected by BCR 191/78. The new regulation revises the definitions and provides a new set of formulae for determining the valuation factor.

Newfoundland

Bill 32 is an Act to amend the *Minerals Act*, 1976. The purposes of this Bill are:

(a) to clarify the transitional provisions of *The Minerals Act*, 1976 (the new Act) concerning mineral tenure under the old Act *(The Crown Lands (Mines and Quarries) Act)*;

(b) to enable a mining claim under the old act to be converted into a ground staked licence under the new Act;

(c) to enable several mining claims under the old act to be combined into one ground staked licence under the new Act; and

(d) to enable several development licences issued under the old Act to be combined into one extended ground staked licence under the new Act.

Prince Edward Island

Bill 21, an Act to amend the *Oil, Natural Gas and Minerals Act*, has received first reading. The purpose of the amendment is to change the title of the Act to the *Oil and Natural Gas Act*. Part II is repealed, since it is to be replaced by a separate Mineral Resources Act. All references to specific fees in the Act are replaced by the phrase "the prescribed fee" it being the intention to establish fees by regulation, thus avoiding the necessity to amend the Act whenever fee changes are desired.

METALLIC MINERALS AND PRODUCTS

Aluminum

The Aluminum Company Limited of Canada (Alcan) increased its export price for primary aluminum ingot by 2 cents to 53 cents (U.S.) a pound, cif major world ports, except Latin America and West Africa where the cif price was increased to 54.5 cents (U.S.) a pound from 52.5 cents (U.S.) a pound. The price increase did not apply to the Canadian domestic market. In the United States the company's published price was unchanged at 53 cents (U.S.) a pound.

Output for 1978 at the Volta Aluminum Company smelter of Kaiser Aluminum and Chemical Corporation in Ghana will be lower by 50 000 tonnes because of disruptions in the power supply. Rated yearly capacity of the smelter is 200 000 tonnes.

Copper

Following the damage inflicted by rebel forces on copper installations in Katanga province of Zaire in May, the price of copper on all markets increased. The LME cash wirebar price reached a high of 64.5 (U.S.) cents per pound in early June but quickly declined and ended the month at equivalent 57.9 (U.S.) cents, despite a continuing decline in LME warehouse stocks. North American producers also reacted. The U.S.A. producer price was increased on June 1, by 3 cents to 67 cents (U.S.) for cathode and was decreased by mid-month to 65 cents (U.S.). The Canadian producer price was increased to 75 cents per pound cathode in early June and was decreased to 73 cents at mid-month.

While there still is considerable confusion over the extent of the damage in Zaire and the loss of production that is implied, recent reports on the situation project 1978 production at 380 000 tonnes of copper as compared to 460 000 tonnes in 1977. Forecasts before the incursion estimated Zaire's 1978 production at 525 000 tonnes.

Hudson Bay Mining and Smelting Co., Limited and Minerals and Resource Corp. Ltd. of Bermuda (both members of the Anglo American group) have offered to buy any and all shares of Inspiration Consolidated Copper Co. of Morristown, New Jersey for $33 (U.S.) per share. Inspiration Consolidated owns copper mines, smelting, refining and continuous rod casting facilities in Arizona.

Transportation problems continue to plague copper shipments from Zambia. It is reported that about 130 000 tonnes of copper are awaiting shipment to markets. The main difficulties are delays on the Tazara Railway and congestion at the Port of Dar Es Salaam, Tanzania.

The Third Meeting of the UNCTAD Working Group on Copper was held in Geneva to complete a draft charter for a Standing Intergovernmental Copper Body. Agreement could not be reached on some aspects of the draft, particularly the relationship of the copper body to the UNCTAD. These major areas of disagreement will be given further consideration at the Fourth Preparatory Meeting on Copper, to be held in July.

Gold

Mr. Jacques de Larosière de Champfeu, of France has been appointed Managing Director and Chairman of the Board of Executive Directors of the International Monetary Fund and assumed his duties at the Fund on June 17, 1978. He succeeds Mr. H. Johannes Witteveen of the Netherlands who held the position for a little less than five years, from September 1973 to June 16, 1978.

Bill C-39 - an Act to amend the Currency and Exchange Act received Royal Assent on June 30, 1978. This amendment allows the Governor in Council to authorize the Royal Canadian Mint to strike and issue numismatic and bullion gold coins, to determine their face value and specify the maximum number of gold coins to be struck in a year. The Mining Association of Canada has recommended that Canada produce a gold bullion coin because of its great sales potential.

The International Monetary Fund (IMF) held its twenty-second gold auction on June 7, 1978 under the bid price method and awarded 470,000 fine ounces of gold to successful bidders at prices ranging from $182.86 (U.S.) an ounce to $183.92 (U.S.) an ounce and averaging $183.09 (U.S.) an ounce. At the twenty-first gold auction 524,800 ounces of gold were awarded 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. The afternoon gold fixing price on the London Gold Market on June 7 was $182.95 (U.S.) an ounce. The gold price remained near this level until the middle of the month when it moved slightly upwards. In all, 137 competitive bids were submitted for a total of 1,072,400 ounces of gold compared with 192 competitive bids at the twenty-first auction for 3,104,000 ounces of gold. The number of bidders submitting competitive bids was 21, awards being made to 15 successful competitive bidders. Over 90 per cent of the bids were in the price range of $180.00 (U.S.) an ounce to $183.99 (U.S.) an ounce. Successful bidders were mainly European and American banks and bullion dealers.

In addition to the above gold, 925,200 ounces of fine gold were awarded to member countries submitting noncompetitive bids at the average auction price of $183.09 (U.S.) an ounce. The countries being awarded gold were India, Kenya, Mexico, Nepal and Tanzania. India bought 804,800, the amount the country was entitled to in accordance with its quota in the IMF.

On June 20, the Treasury Department of the United States held its second of six gold auctions and awarded 300,000 ounces of gold to 21 successful bidders at prices ranging from $186.52 (U.S.) an ounce to $190.29 (U.S.) an ounce and averaging $186.91 (U.S.) an ounce. Bids totalling 1.04 million ounces were made by 31 bidders at prices ranging from $172 (U.S.) an ounce to $190.29 (U.S.) an ounce. European banks and bullion dealers received about 87 per cent of the gold sold. The afternoon gold fixing price on the London Gold Market on June 20 was $186.50 (U.S.) an ounce, slightly below the average bid price.

In the first three domestic gold auctions held in India 3 195.7 kilograms of gold were sold at a price range of 620 rupees to 675 rupees for 10 grams (price range of $227 (U.S.) to $247 (U.S.) an ounce of gold). Two auctions were held in June and 3 123.8 kilograms of gold were awarded to successful bidders at prices ranging from 641 rupees to 675 rupees for 10 grams.

The opening and closing gold price on the London Gold Market for the month of June was slightly above $183 (U.S.) an ounce but the price varied during the month from a low of $180.50 (U.S.) an ounce on June 12 to a high of $186.50 (U.S.) an ounce on June 20. The monthly average gold price for June 1978 of the afternoon fixings on the London Gold Market was $183.75 (U.S.) ($206.10 Cdn) an ounce compared with $176.29 (U.S.) ($197.25 Cdn) an ounce in May.

Iron and Steel

Tree Island Steel Co. Ltd. (Tisco) of Richmond, British Columbia has revealed plans to construct a $50 million, steel wire rod mill with annual capacity of 218 000 tonnes, for start-up in 1980. Tisco's two wire mills in Richmond and Los Angeles will each receive about 25 per cent of production from the new plant with the balance to be marketed in western Canada. At present imports are the primary source of rod in the western provinces. The Government of Canada and the Government of British Columbia are involved in the financing of the new plant. Tisco is a private Canadian company with a 19.7 per cent minority interest held by Marubeni Corp. of Japan.

Sydney Steel Corporation (Sysco) of Sydney, Nova Scotia has announced a 10 year contract with Tree Island Steel Co. Ltd. to supply between 1.6 million and 2.2 million tonnes of steel billets commencing in July 1980. The billets will be shipped by boat via the Panama Canal to Vancouver. Since Sysco purchases metallurgical coal from Alberta via the Panama Canal this two-way movement should provide economies in shipping costs.

In addition to the Tree Island contract Sydney Steel has announced that it will supply steel rails to CN Rail for the next six years beginning August 1, 1978 and ending July 31, 1984. Shipments on a fiscal year basis (August to July) will be approximately between 80 000 and 109 000 tonnes. The value of the contract is estimated at about $200 million.

A $20 million railway contract has recently been received by a group of Canadian companies headed by CP Consulting Services to rebuild a railway in Costa Rica. Sydney Steel Corporation will supply rails for the 110 kilometre project which is expected to take two years to complete.

Sidbec-Dosco Limited of Montreal has reported an operating loss of $28.3 million for 1977 down from $36.5 million in 1976 when the company experienced a five month strike. As of December 31, 1977, the accumulated deficit stood at $102.7 million. Sidbec operated at only about 50 per cent of capacity in 1977 with production of some 550 000 tonnes of crude steel, however, Mr. J.P. Gignac, President of Sidbec has stated that he expects the company to operate at about the 90 per cent level for 1978.

The Government of Canada has allowed the temporary nine month suspension of anti-dumping duties on wide flange shapes imported from Japan, Great Britain, France, South Africa and Luxembourg for use in British Columbia, Alberta, Newfoundland and the Yukon to expire on June 29, 1978 as originally intended. This suspension was announced in February by the Minister of Finance in response to strong provincial representations concerning the adverse affect that steel fabricators in these regions were having due to the imposition of these duties. The duties were levied as a result of a finding announced in late December 1977, by the Anti-Dumping Tribunal that dumping and material injury had been caused to the Algoma Steel Corporation, Limited, the only Canadian producer of these products. The effective date of commencement for duties was September 29, 1977.

The Department of National Revenue has ruled that artificial graphite electrodes used in electric arc furnaces are being dumped in Canada by Japanese producers. The Anti-Dumping Tribunal has consequently started formal procedures to determine whether dumping and material injury have been caused to Canadian producers of this product.

The United States Justice Department has ruled that it will not oppose the proposed merger of LTV Corp. and Lykes Corp. The merger would bring together Jones and Laughlin Steel Corporation, an LTV subsidiary and Youngstown Sheet and Tube Co., a unit of Lykes, to form the third largest steel producing company in the United States (based on 1977 production). Shareholders of both LTV and Lykes will vote shortly on the proposed terms of the merger. The Justice Department stated that Lykes falls under the "failing company" exception to the anti-merger provision of the United States anti-trust laws.

Most steel producing companies in the United States have announced an average three per cent price increase on carbon steel mill products, to be effective July 30, 1978. Bethlehem Steel Corporation was the first to announce this price increase and virtually all companies in the industry have followed Bethlehem's lead. Previous general price increases in 1978 occurred in April ($6.06 (U.S.) a tonne) and February (5.5 per cent).

Iron Ore

In mid-June workers at Quebec Cartier Mining Company in northeastern Quebec voted to end a three-month strike that had paralyzed the entire iron ore industry in the Quebec-Labrador Trough. By month-end, most of the company's 3,500 workers had gone back to work but some 6,700 workers of the Iron Ore Company of Canada and Wabush Mines remained on strike.

Lead

Producer lead prices in North America remained unchanged during June at 34.25 cents a pound in Canada and 31 cents a pound in the United States. The London Metal Exchange (LME) spot price was stable during the month and closed at 25.4 (U.S.) cents a pound. Lead stocks held in LME warehouses are at their lowest level since July 1975 and closed the month at 55 725 tonnes. U.S. producer stocks at the end of May also declined slightly to 29 539 tonnes after rising for several months.

Both AMAX Inc. and Homestake Mining Company have declared a *force majeure* on lead shipments effective June 1 as a result of the strike at the jointly owned mine, mill and smelter complex at Buick, Missouri. The smelter has an annual capacity of 127 000 tonnes of refined lead and supplies about 18 per cent of the U.S. metal needs.

Mercury

At its June 13, 1978 offering the United States General Services Administration (GSA) sold 1,000 flasks of 76 pounds each of mercury. No acceptable bids were received for GSA's mercury offering in May 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.

The McDermitt mercury mine in Nevada, U.S.A., produced about 30,100 flasks of mercury in 1977, a 32 per cent increase over its 1976 output. However, the average grade of the ore mined dropped from 0.9 per cent mercury in 1976 to 0.585 per cent in 1977. The McDermitt mine accounts for the bulk of production in the United States. Placer Amex Inc., a wholly-owned subsidiary of Placer Development Limited (a Canadian company), has a 51 per cent interest in the McDermitt property, with Mineral Exploration Company of New Jersey holding the remaining 49 per cent. Noranda Mines Limited holds a 31.5 per cent direct interest in Placer Development Limited.

About mid-June the Spanish government announced that it would soon publish a regional development plan to aid the mercury industry in that country. The plan includes the operation of a new mercury mine which, although not yet fully assessed, is believed to have sizeable reserves which will last at least ten years at current extraction rates. Spain is the world's second largest producer of mercury with its output exceeded only by that of the U.S.S.R.

Nickel

Inco Limited informed its customers on June 1 that the prices of both Class I and II products were being reduced to the March levels. The company also moved back to a delivered basis rather than an fob shipping point price. Although there is no formal Inco price list, consumers report that electrolytic nickel is now priced in U.S. funds at \$2.08 per pound (previously \$2.10) and sinter 75 at \$1.97. All other producers quickly moved to the new levels. Very little business had been consummated at the higher levels due to various price protection schemes announced at the time of the last price increase and due to price discounting.

New product lines appear to be the major tool companies are using to compete for market share. Since Inco introduced the new utility shot and pig late last year and is presently working on a new briquetted oxide, Falconbridge Nickel Mines Limited, AMAX Inc., Société Le Nickel and Western Mining Corporation Limited have or are planning to introduce new products for the specialty steel making and plating industries.

The Noumea works in New Caledonia of Société Le Nickel were struck on June 1 as the workers protested a company instituted work cutback. The company and union appeared to be close to a settlement near month-end but no announcement was available on the negotiations.

Ni-Cal Developments Ltd. of Vancouver has consolidated its holdings in a nickel, chrome and cobalt deposit in California and Oregon through the purchase of Inter American Nickel, a private United States company. Ore reserves are estimated at over 100 million tonnes grading 1 per cent nickel, 2 per cent chrome and 0.05 to 0.2 per cent cobalt. Ni-Cal has filed a report with the Vancouver Stock Exchange which estimates the cost of a 4 500 tonne a day operation at about $200 million. Output would be about 30 million pounds of nickel and 2.0 million pounds of cobalt annually.

Platinum

Rustenberg Platinum Mines Limited, the largest producer of platinum in the Republic of South Africa increased the producer price of platinum by $20 (U.S.) an ounce to $240 (U.S.) an ounce on June 8, 1978. Smaller shipments of platinum metal from the U.S.S.R. to world markets, reduction of output by the producers of platinum in the Republic of South Africa and increased purchases by speculators are largely responsible for the price increase. The dealer price at the end of June was in the range of the producer price.

Silver

World mine production of silver is expected to increase during each of the next three years, but the annual growth rate in each of these years will be less than 1977's seven per cent rise in world output, according to projections of the Silver Institute of Washington, D.C. The Institute estimated world mine production at 9 967 tonnes in 1977, well ahead of the previous year's output of 9 297 tonnes. The Institute also noted that Mexico surpassed the U.S.S.R. as the world's leading producer of silver in 1977. Canada was the world's third largest producer.

The Institute forecast that world mine production of silver will increase during each of the years 1978 through 1980, and that production will drop marginally in 1981. Output in 1978 is projected at 10 186 tonnes, up 2 per cent from 1977. A further 6 per cent jump in world output will bring 1979 production to 10 748 tonnes, and a 4 per cent rise in 1980 will put that year's output at 11 140 tonnes, before a slight drop takes the 1981 figure to 11 094 tonnes.

Following its emergence at the top of the list of world producers in 1977, Mexico is expected to continue its expansion of silver mining during the 1978-1981 period, thus widening the gap between itself and other major producing nations. In the four year period from 1977 to 1981, Mexican output is expected to expand by 35.5 per cent, reaching 1 997 tonnes in 1981.

On the other hand, the U.S.S.R., which will still be the world's second largest mine producer of silver in 1981, will only see its production grow by 31 tonnes a year to 1 524 tonnes in 1981.

The United States, meanwhile, will become an increasingly important producer of silver during the next few years. With a 12 per cent rise in mine output to 1 188 tonnes in 1977, the U.S. passed Peru in silver output to become the world's fourth largest producer. By 1979, according to the Institute's forecast, the U.S. will move past Canada into the number three spot, and by 1980 U.S. production will probably be on a par with that of Russia. U.S. mine output of silver should reach 1 294 tonnes in 1978, a gain of 8.9 per cent over 1977. A further 11.8 per cent jump will take 1979 production to 1 446 tonnes, and the 1 493-tonne mark will be reached in 1980, before production falls off to 1 446 tonnes in 1981.

Among other major silver producing countries, Canadian output will, according to the Silver Institute, rise to 1 437 tonnes in 1980 before declining to 1 372 tonnes in 1981. Australia's output, which was 784 tonnes in 1977, should remain relatively static through the next four years.

Poland, the only major communist producer aside from the U.S.S.R., will produce some 373 tonnes of silver in 1981, versus 302 tonnes in 1977 and 249 tonnes in 1976.

The Silver Institute said its study on world mine production of silver was made with the participation of 292 mining enterprises in 36 countries.

Zinc

On June 22, the EEC Commission reported that zinc producers in the European Economic Community were currently, "losing about $200 million a year or about one-third of their resources and companies which are not members of a large group will be on the verge of bankruptcy in two or three months". It noted that costs of production were at least $750 a tonne of metal compared to the current zinc price of $550 a tonne.

The International Lead and Zinc Study Group decided to convene a special session of the group July 3-6, 1978 in Vienna at the request of six European governments. During that session, the EEC Commission will put forth the view that "production and stock cutbacks are the best way of restoring the balance between supply and demand and eventually raising producer prices". Japan has also written to the Study Group stating their hope that a "consensus will emerge as to the necessity of reducing the level of production of zinc metal ... and that the possibility of reducing mine production will also be considered at this meeting".

Producers' zinc prices remained unchanged during June at $550 (U.S.) a tonne outside North America, $639.33 (U.S.) a tonne in the United States; however, a minority of producers consolidated their overseas prices for zinc at $600 (U.S.) a tonne and in the United States, all producers except National Zinc increased the posted price to $683.43 (U.S.) a tonne but contracted their June shipments at the old price. In Canada, the domestic price was increased to $749.56 a tonne from $683.42 a tonne. Zinc prices on the London Metal Exchange decreased during June from $592.11 (U.S.) a tonne to $554.56 (U.S.) a tonne.

INDUSTRIAL MINERALS AND PRODUCTS

Asbestos

The Quebec Workman's Compensation Board (QWCB) released the results of a medical study on asbestosis carried out between October 1975 and December 1976. A total of 6,785 asbestos mine and mill workers currently employed were X-rayed and 2.37 per cent were shown to have asbestosis according to preliminary reports. Despite the low number of proven cases, X-rays indicated that 21 per cent of those studied had lung abnormalities and 6.41 per cent had what might be asbestosis.

The study, although it is probably comprehensive and will contribute to present epidemiological data, apparently considers only asbestosis. The press has given considerable attention to comparison between the results of the WCB study and a study published by the Confederation of National Trade Unions (CNTU) in March 1975. The CNTU study of 995 workers, conducted by the Mount Sinai School of Medicine, New York City, found that over 60 per cent of the workers employed for more than 20 years in the Thetford region had lung abnormalities.

It should be noted that precise medical definitions needed for reliable comparison between studies relating to asbestosis, as well as to lung cancer and mesothelioma, and for compensation payments, are yet to be evolved. This contributes greatly to the creation of disagreement among interest groups and is a major part of the complex asbestos-health issue.

The United States Department of Health Education and Welfare will launch a public information campaign to inform 400,000 doctors and others of the health risks associated with exposure to asbestos. The campaign is considered to be important because most asbestos-related diseases take from 15-35 years or more to develop. Also, recent studies suggest that workers exposed in the past, particularly during the war years, may just now be facing serious health threats. The letter to doctors, among other things, emphasizes the importance of a discontinuance of smoking.

Johns-Manville Corporation, Denver, Colorado, announced a ban on employee smoking at its asbestos processing plants and at the Jeffrey mine at Asbestos, Quebec. The new plan will become fully effective by December 31, 1978 and will involve an estimated 10,000 workers. The new plan, in most cases, will preclude hiring of smokers and is based on J-M studies along with research by scientists at the Mount Sinai School, New York City. In a paper by Dr. Irving Selikoff, of Mount Sinai, it was emphasized that smokers exposed to the relatively high concentrations of asbestos in the working environments during the past have approximately 90 times greater chance of developing lung cancer than do non-smokers in a non-asbestos working environment.

Cement

The Canadian Portland Cement Association (CPCA) has released its 1977 Energy Report which is based on confidential data supplied from the entire Canadian cement industry. The industry's goal of a 9 per cent to 12 per cent reduction in energy consumption by 1980, compared to the base year of 1974, appears to be realistic as production in 1977 required 4.91 million BTU's per ton, 8.2 per cent lower than the unit consumption in 1974. It is interesting to note the trend to coal within the industry (see page 19).

1977 ENERGY REPORT
CANADIAN PORTLAND CEMENT INDUSTRY

Energy Consumption

	1974 (Base year)	1975	1976	1977	Change 77/74
			Billion Btu's		
Energy used by fuel type					
Coal/coke	5,760	5,754	10,370	11,333	+96.8
Natural gas	26,407	23,817	22,424	21,261	-19.5
Petroleum products	21,176	22,658	16,809	16,038	-24.3
Total fuel	53,343	52,229	49,603	48,632	
Electric power	4,600	4,920	4,847	4,952	+7.7
Total energy	57,943	57,149	54,450	53,584	-7.5
			Million Btu's		
Unit energy consumption/ equivalent tons	5.35	5.16	5.15	4.91	
Per cent improvement from base year	--	3.6%	3.7%	8.2%	

Source: PCA Economic Research Department.

Talc

Steetley of Canada (Holdings) Limited (Steetley Talc), plans to reopen the Penhorwood Township talc deposit (70 kilometres southwest of Timmins) which was shut down in December 1976 by Johns Manville Corporation after a few months of operation (see May 1977 monthly report). Reserves are reported to be large and the present plant capacity is in the order of 25 000 tonnes a year. The talc is free of tremolite (an "asbestiform" mineral). Start-up is scheduled for July. The talc contains magnesite which Johns Manville attempted to produce as a byproduct. Unless Steetley Talc has a practical method for separating these minerals, it will be unsuitable for many high value uses. It could meet paint extender grade specifications, however, and essentially all the low value filler and industrial dusting uses.

Canada Talc Industries Limited of Madoc, Ontario, produces a range of talc products. In recent years, talc as a filler in automobile plastics has become the most important market for the company. In recent months United States Occupational Safety and Health Administration (OSHA) has declared the product unsafe because of its tremolite content. ITC and EMR are investigating ways of assisting Canada Talc at the company's request. Possibly, a means of upgrading the product can be devised.

MINERAL FUELS AND PRODUCTS

Coal

Two companies recently announced the signing of a joint venture agreement for a feasibility study of a coal property in north-eastern British Columbia. Denison Mines Limited and Gulf Oil Canada Limited plan full-scale exploration and feasibility studies of the Belcourt coking coal property approximately 100 kilometres south of Dawson Creek, British Columbia. The $10 to $15 million worth of studies would be managed by Denison Mines Limited with the overall interests on the project divided 60 per cent to Denison and 40 per cent to Gulf Oil Limited. Preliminary work on this property has indicated that production could be developed at the four million tonne per year level. The agreement is subject to final approval by the Foreign Investment Review Agency.

Another major development centering on northeast British Columbia coal was the announcement by Quintette Coal Limited of a conditional agreement with the government of Romania. The agreement provides for future production of up to two million tonnes of coking coal per year and follows a letter of intent received by Quintette in December. The arrangement would include a provision for use of Romanian equipment and material as part of the Romanian contribution to the financing. Quintette is owned 38.25 per cent by Denison Mines Limited of Toronto, 22.5 per cent by Mitsui Mining Overseas Development and Tokyo Boeki Ltd. and 16.75 per cent by Imperial Oil Limited of Toronto.

A Canadian thermal coal mission visited Japan for two weeks in late May. The mission was composed of government representatives from the Departments of Industry, Trade and Commerce and Energy, Mines and Resources and representatives of ten private companies including Union Oil Company of Canada Limited, Denison Mines Limited, Coleman Collieries Limited, Pacific Petroleum Limited, Shell Canada Limited, Kaiser

Resources Ltd., Fording Coal Limited, Luscar Ltd., Byron Creek Collieries Limited and British Petroleum Company. The mission conferred with Japanese government representatives and with several private power companies with a view to assessing the marketability of Canadian thermal coals.

British Columbia introduced amendments to its Coal Act which may result in double rental and lease charges and a fixed percentage royalty. The rental fee which is imposed during the initial development stages will be increased to $2 an acre from the present $1. The lease charge, which comes into effect after a coal deposit is in production, will increase from $2 to $4 per acre. The new royalty rate is to be set at 3.5 per cent of the net minehead value of the coal sold rather than the current $1.50 per ton on metallurgical coal and the $.75 per ton on thermal coal.

The Sydney Steel Corporation (SYSCO) and the Tree Island Steel Co. Ltd. (Tisco) of Richmond, British Columbia recently announced an agreement involving Canadian steel and coal. Under the 10 year agreement Sysco is to ship up to 2.4 million tons of steel billets to British Columbia via the Panama Canal. In return, Sysco will receive coal from western Canada using the same vessels that will haul steel from Nova Scotia. Over the last few years, The Sydney Steel Corp. has been receiving coal from McIntyre Mines in Alberta. The low shipping costs, which will result from the two way use of the ships, was one of the major factors in the completion of this contract.

High concentrations of methane and carbon monoxide gases have resulted in the temporary closure of a Nova Scotia mine. Ninety-five miners of the River Hebert Coal Mine were laid off in early June when the concentrations of gas reached a level which made officials concerned about the safety of the workers. The River Hebert Coal Mine is located in western Nova Scotia near the New Brunswick border and supplies local markets.

Petroleum and Natural Gas

The Alberta Energy Resources Conservation Board (AERCB) will hold a hearing on the Imperial Oil Limited's project to develop its Cold Lake heavy oil leases and to use coal as a fuel for steam production. The meeting will be held in Grande Centre, Alberta, September 5, 1978. In a revised application to the Board, Imperial has increased the cost of the project to $4.7 billion in 1985 dollars. Imperial plans to produce 160,000 b/d of raw bitumen from the Clearwater formation at a depth of about 1,500 feet and construct an upgrading facility using the Flexi-coking process and hydrogenation to produce 141,000 b/d of light gravity crude oil. The hearing will also cover an application for an industrial development permit to use 2.5 million short tons of coal per year as a balancing fuel. Imperial plans on building and operating a mine at Judy Creek. The coal will be transported to Cold Lake by unit train or slurry pipeline. Imperial expects to have partners in up to 50 per cent of the project which will create 6,500 permanent jobs throughout the province if coal is used and about 1,000 less if it does not use coal.

The National Energy Board (NEB) will commence its public inquiry into current and future natural gas requirements for Canada at Calgary on October 11, 1978. The hearings are scheduled to continue in other cities, including Vancouver, Ottawa and Halifax with exact dates and the length of the hearings dependent on the number of submissions received. In conducting the inquiry, the NEB will consider information relating to the reserves and deliverability of gas, including frontier reserves; the domestic demand for gas; the authorized exports; and the surplus of gas in Canada. Forecasts will be requested for a period of about 20 years, from 1978 to the year 2000. The inquiry will also consider methods of determining the surplus of gas remaining after due allowance has been made for future domestic requirements.

Mobil Oil Canada, Ltd. and Petro-Canada have announced that gas and condensate have been found below the 12,000 foot level at Thebaud I-94, a well drilled to appraise the extent of an earlier gas discovery six miles southwest of Sable Island off the Nova Scotia coast. The appraisal well yielded gas at a test rate of 14 Mmcf/d and condensate at 400 b/d. The well is part of a multi-well program financed by Petro-Canada and Kaiser Resources Ltd. to earn up to a 40 per cent interest in 640,000 lease acres in the West Sable Block owned by Mobil Oil Canada, Ltd. and Texas Eastern Transmission Company. The Thebaud I-94 well, drilled as an expendable appraisal about one mile from a gas and condensate discovery made by Mobil and Texas Eastern in 1972, has been abandoned. Additional wells will be required to delineate the extent of the reserves before the possibility of commercial development is decided. The Odeco drilling rig had been moved to the next well site, Cohasset P-42 to evaluate an oil find made by Mobil and Texas Eastern 25 miles southwest of Sable Island in 1973.

The Alberta Energy Resources Conservation Board (AERCB) ruled on Trans-Canada Pipelines Limited's application to remove additional gas from Alberta. In its report, the AERCB is prepared, subject to the approval of the Lieutenant Governor in Council, to amend the permit previously issued to Trans-Canada by adding some 4.8 tcf to the permit volume. It is not prepared to increase the permit term. The Board has recently issued a report on Alberta gas reserves and requirements and is satisfied that a substantial gas surplus exists. The Board's estimate of the remaining recoverable gas reserves in Alberta is some 57.2 tcf.

Uranium

Rules governing foreign ownership of Canada's uranium producing industry are contained in a Bill introduced to Parliament on June 29 by Alastair Gillespie, Minister of Energy, Mines and Resources. The Uranium and Thorium Mining Review Bill draws heavily on policy principles limiting foreign ownership in the uranium industry that were first announced by the Prime Minister and the Minister of Energy, Mines and Resources in 1970. Although the Bill is designed with foreign ownership limitation as one of its principal objectives, there are elements of control contained within the proposed legislation. Hence, it will be complementary to the Foreign Investment Review Act, Parts I and II, which were promulgated in 1974 and 1975 respectively. The Bill would be administered by the Minister of Energy, Mines and Resources. The Foreign Investment Review Agency (FIRA) would act as an adviser to the Minister of Energy, Mines and Resources to ensure harmony between ownership and control principles.

Madawaska Mines Limited and Italy's AGIP SpA have agreed on a price of \$42/lb U_3O_8 (Can. \$) for uranium concentrates shipped in 1977 and 1978 and the same price plus escalation for 1979 shipments. Escalation will be calculated using June 1978 Canadian labour and commodity indices.

Following the release of a report by the Cluff Lake Board of Inquiry, headed by Mr. Justice E.D. Bayda, Premier Allan Blakeney of Saskatchewan announced that the mining and milling of uranium for the Block "D" orebody could proceed at Cluff Lake in northern Saskatchewan, subject to strict occupational health, safety and environmental regulations. Premier Blakeney's government agreed in principle with the expansion of uranium mining and milling in Saskatchewan and has committed itself to an in-depth review of the balance of the Board's recommendations in consultation with federal authorities, organizations and elected officials representing northern people and with the uranium industry.

Eldorado Nuclear Limited's wholly owned subsidiary Eldor Resources Limited, hopes to finance its purchase of a one-third interest in the Key Lake joint venture in northern Saskatchewan by borrowing up to four million pounds U_3O_8 from the Canadian government's uranium stockpile and selling the uranium at current world market prices. Eldor would pay interest on any uranium borrowed and would be required to repay the loan with material from Key Lake production. Eldor's acquisition and development costs are estimated to be about \$250 million. The Saskatchewan Mining Development Corporation (SMDC) has an option to buy half of the one-third interest which Eldor is purchasing.

The Australian government announced its proposals for the regulation and control which it will exercise over the export marketing of uranium. In a statement to the Australian House of Commons on June 1, the Rt. Hon. J.D. Anthony, Deputy Prime Minister and Minister for Trade and Resources, indicated that it will be necessary for uranium producers to seek the approval of the Minister before making any firm offers or entering into any legal commitments. Shipments will continue to be controlled on the basis of individual consignment. At the appropriate time a Uranium Export Authority will be established to advise the Minister for Trade and Resources on matters related to exports under new contracts.

SPECIAL ITEM

CANADA/USSR ASBESTOS EXCHANGE VISIT

An eight member mining and milling, industry-government delegation, visited the two major asbestos mining regions in the Central and Southern Urals. Four asbestos mining companies, Canadian Johns-Manville Company, Limited, Lake Asbestos of Quebec, Ltd., Bell Asbestos Mines, Ltd., and Cassiar Asbestos Corporation Limited, as well as the Quebec Asbestos Mining Association, were represented. The visit took place from May 14-23, 1978 and included visits to a research and development centre as well as discussions with planning officials in Moscow. Soviet asbestos mining officials toured Canadian operations during a 10-day period in September 1977.

Outstanding observations during the visit to Russia included:

1) Mining methods emphasizing rail and relatively small capacity truck haulage at, in some cases, low grade orebodies, resulting in low productivity by Canadian standards.

2) Emphasis on new plants and modernization to increase output from orebodies with sufficient reserves to last into the twenty-first century.

3) Emphasis on labour saving methods and automation as well as on the development of new processing equipment.

4) Large asbestos resources, particularly in Siberia, that are intended to be developed following completion of a new railroad.

5) The apparent increasing emphasis on better environmental control (although conditions were not as clean as in most Canadian mills).

Authorities stated that no systematic studies on health effects had been carried out and that the Western health scare was greatly exaggerated. Canadian industry authorities emphasized that it is of utmost interest to the world asbestos industry in general to attain the best possible control of emissions.

Planning authorities stated that more emphasis is being placed on the use of asbestos-cement construction materials for new projects and that the domestic market for asbestos will greatly expand. Future trends in Russian exports of fibre are unknown although this certainly presents a threat to some Canadian markets based on recent trends. At least some foreign exchange earnings from asbestos exports are directly available to the industry although this apparently is very flexible and is decided on a one- or two-year basis.

A memorandum was signed to formalize a desire by both sides to continue the spirit of scientific-technical cooperation on appropriate problems. It was emphasized by Canadian industry officials that any exchange of information could only be negotiated with the Soviets on a company by company basis.

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 June.

MR 175 - *Mining to Manufacturing: Links in a Chain;* price $5.00.

MR 178 - *Canadian Reserves of Copper, Nickel, Lead, Zinc, Molybdenum, Silver and Gold as of January 1, 1977,* by D.A. Cranstone; J.A. McIntosh and A. Azis, price $2.00.

Preprints, *Canadian Minerals Yearbook 1976,* Aluminum; Calcium; Chromium; Fluorspar; Lithium; Magnesium; Nepheline, Syenite and Feldspar; Selenium and Tellurium; Silica; Silver; Titanium and Titanium Dioxide; Vanadium; price 50¢ a copy.

Operators List 5: *Petroleum Refineries in Canada, 1977,* price $2.00. Bilingual.

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

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