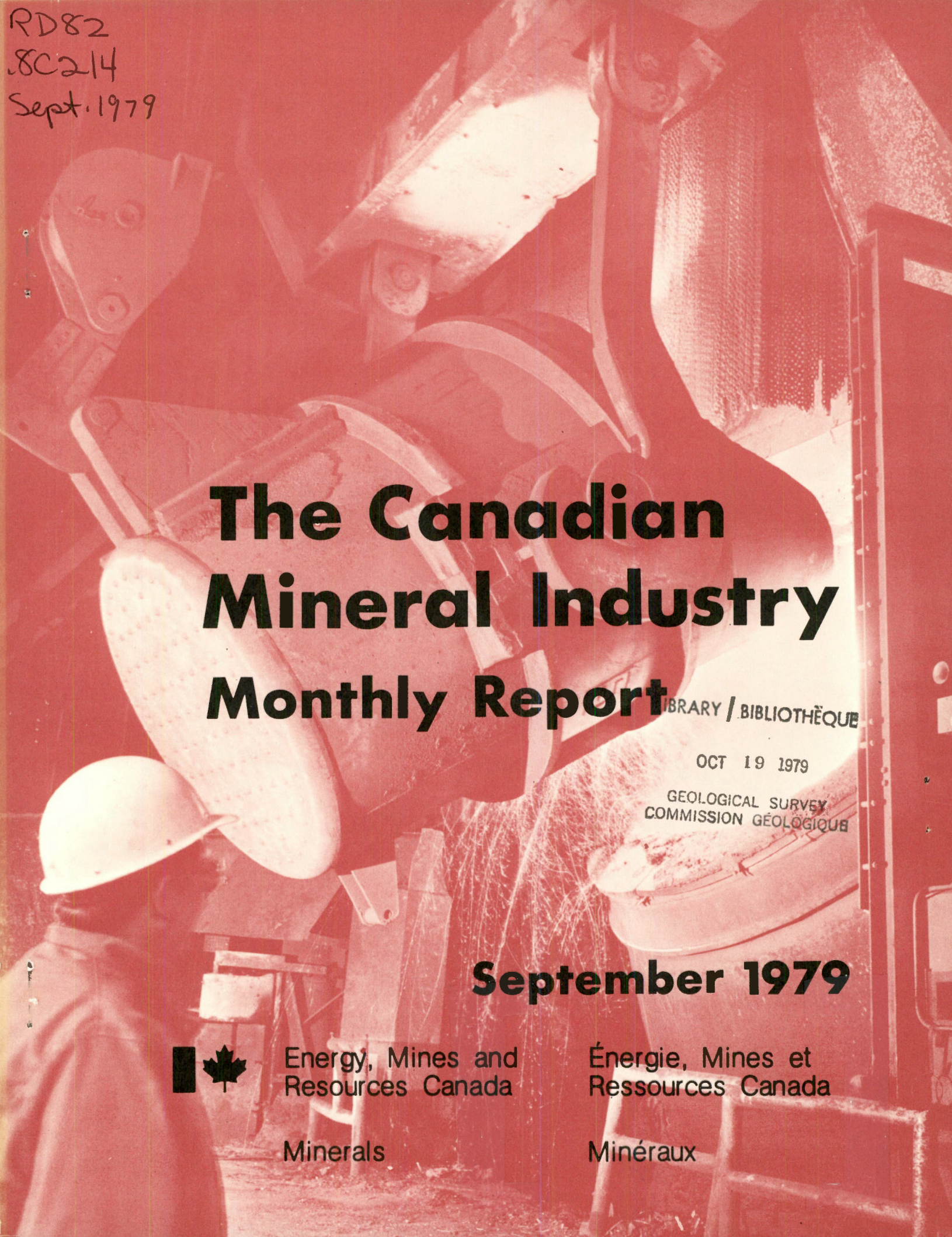

The Canadian Mineral Industry

Monthly Report

September 1979

Energy, Mines and Resources Canada

Minerals

Énergie, Mines et Ressources Canada

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 reneignements précise ou comme l'expression des vues du Gouvernement canadien.

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THE CANADIAN MINERAL INDUSTRY FOR SEPTEMBER

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

HIGHLIGHTS

1. Canada's unadjusted index of Real Domestic Product was 133.1 in July 1979, a decrease of 5.3 per cent from June 1979.

2. The July index for Mines, Quarries and Oil Wells was 114.2, showing no change from the previous month.

3. The closing fixing price on the London Gold Market was a new record high of $397.25 (U.S.) $461.05 (Cdn.) an ounce on September 28.

4. The Canadian gold bullion coin, "The Gold Maple Leaf", went on sale in early September with great success.

5. Sydney Steel Corporation (Sysco) shut down one of its two blast furnaces causing a lay-off by November 1, 1979 of some 800 workers.

6. The U.S. Environmental Protection Agency formally extended for one year new proposed standards to reduce the lead content of gasoline.

7. On September 14, workers at Brenda Mines Ltd., represented by the United Steelworkers of America went on strike closing down production at Canada's second largest molybdenum producer.

8. United Asbestos Inc. announced that it has arranged a $35 million bank loan allowing the company to pay all creditors.

9. The Quebec government has decided to proceed with the development of a rock salt mine on the Magdalen Islands.

ECONOMIC TRENDS

Table 1 shows Canada's unadjusted indexes of Real Domestic Product in terms of 1971=100. The overall RDP index for July 1979 was 133.1 down 5.3 per cent from 140.5 in June 1979.

The July index for Mines, Quarries and Oil Wells showed no change over the month remaining at 114.2 Mineral fuels and nonmetal mines both showed decreases in July of 1.8 per cent and 28.1 per cent from the previous month. Primary metal industries decreased from 120.7 in June to 103.4 in July and nonmetallic mineral products industries decreased from 163.0 to 145.0.

Table 2 compares volume of production in major Canadian minerals. Output increased significantly in July compared with June for copper (43.3 per cent), iron ore (16.9 per cent) and molybdenum (44.6 per cent). It decreased significantly for lead (74.0 per cent), uranium (27.9 per cent), zinc (14.3 per cent), asbestos (30.3 per cent) and potash (12.1 per cent).

Tables 3 and 4 show a breakdown of capital and repair expenditures for mines, quarries and oil wells by region and by type of mining in constant 1971 dollars. Actual expenditures in the mining industry in 1977 totalled $3,015.8 million and revised intentions for 1979 totalled $3,187.6 million. Table 5 records the breakdown for the nonfuel mineral industry including mining (crude), smelting and refining and semi-manufacturing.

Table 6 shows the value of Canada's nonfuel mineral trade for the first six months of 1979 and Figures A and B demonstrate the breakdown of imports and exports on a percentage basis.

TABLE 1

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

Industry or Industry Group	1978			1979			Percentage Changes			
	June	July	Average 1st 7 Months	June	July	Average 1st 7 Months	June 1979 / June 1978	July 1979 / July 1978	July 1979 / June 1979	1st 7 Months 1979 / 1978
Real Domestic Product	137.0	128.7	131.3	140.5	133.1	135.8	2.6	3.4	-5.3	3.4
Primary Industries										
Agriculture	1.6	41.6	67.7	8.0	36.1	68.0	400.0	-13.2	351.2	0.4
Forestry	111.3	93.4	104.8	120.6	116.1	118.8	8.4	24.3	-3.7	13.4
Fishing and Trapping	176.9	293.8	115.9	213.6	267.2	123.7	20.7	-9.1	25.1	6.8
Mines, Quarries and Oil Wells	112.5	90.1	104.6	114.2	114.2	110.7	1.5	26.7	0.0	5.9
Metal Mines	90.8	64.2	88.2	87.6	99.9	85.0	-3.5	55.6	14.0	-3.6
Placer and Gold Quartz Mines	65.0	65.5	65.3	54.7	52.0	57.2	-15.8	-20.6	-4.9	-12.4
Iron Mines	32.6	44.0	52.7	133.0	153.9	116.6	308.0	249.8	15.7	121.3
Other Metal Mines	106.5	69.1	98.1	78.0	88.9	78.6	-26.8	28.7	14.0	-19.9
Mineral Fuels	120.8	102.0	110.2	124.3	122.1	125.8	2.9	19.7	-1.8	14.2
Coal Mines	222.4	217.7	219.3	258.8	246.1	244.6	16.4	13.0	-4.9	11.6
Crude Petroleum and Natural Gas	112.5	92.5	101.3	113.3	111.9	116.1	0.7	21.0	-1.2	14.7
Nonmetal Mines	132.0	94.4	118.4	146.1	105.1	128.2	10.7	11.3	-28.1	8.3
Asbestos Mines	101.2	78.5	84.9	106.6	86.1	92.0	5.3	9.7	-19.2	8.3
Secondary Industries										
Manufacturing	144.2	119.0	130.7	148.1	123.0	138.5	2.7	3.4	-16.9	6.0
Nondurable Manufacturing	139.6	122.4	128.8	147.7	128.5	137.9	5.8	5.0	-13.0	7.0
Petroleum and Coal Products Industries	141.0	146.3	132.8	143.5	147.1	143.0	1.8	0.5	2.5	7.7
Durable Manufacturing	148.7	115.6	132.5	148.4	117.5	139.1	-0.2	1.6	-20.8	5.0
Primary Metal Industries	136.5	113.1	126.1	120.7	103.4	125.4	-11.6	-8.6	-14.3	-0.5
Iron and Steel Mills	152.2	137.1	138.3	148.1	133.6	146.5	-2.7	-2.6	-9.8	5.9
Steel Pipe and Tube Mills	144.8	94.1	132.1	162.1	129.9	139.1	11.9	38.0	-19.9	5.3
Iron Foundries	140.2	88.6	126.1	128.9	87.5	134.7	-8.1	-1.2	-32.1	6.8
Smelting and Refining	111.4	90.8	106.8	68.6	59.9	88.2	-38.4	-34.0	-12.7	-17.4
Nonmetallic Mineral Products Industries	150.5	139.6	122.4	163.0	145.0	127.5	8.3	3.9	-11.0	4.1
Cement Manufacturers	165.6	176.6	115.8	188.3	189.8	127.4	13.7	7.5	0.8	10.1
Ready-mix Concrete Manufacturers	156.7	138.7	96.4	151.9	135.3	92.4	-3.1	-2.5	-10.9	-4.1
Construction Industry	135.9	137.2	115.0	126.8	130.5	107.1	-6.7	-4.9	2.9	-6.8
Transportation, Storage, Communication	150.8	150.1	142.8	160.2	159.6	151.8	6.2	6.3	-0.4	6.3
Electric Power, Gas and Water Utilities	133.1	126.8	161.0	146.7	142.5	172.6	10.2	12.4	-2.9	7.2
Trade	151.4	137.0	135.9	155.1	142.3	139.7	2.4	3.9	-8.3	2.8
Finance, Insurance, Real Estate	151.2	150.0	148.9	156.7	156.5	154.1	3.6	4.3	-0.1	3.5
Community, Business and Personal Service	135.7	128.7	133.3	139.6	132.0	137.2	2.9	2.6	-5.4	2.9
Public Administration and Defence	134.4	137.0	129.3	132.3	133.8	128.1	-1.6	-2.3	1.1	-0.9

TABLE 2

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

		1978			1979			Percentage Changes		
		June	July	Total 7 months	June	July	Total 7 months	July 79 / July 78	July 79 / June 79	1st 7 months 1979 / 1978
Metals										
Copper		66.7	44.6	426.4r	38.6	55.3	320.2	+23.9	+43.3	-24.9
Gold	kg	4 387.0	4 371.8	30 313.7r	3 637.1	3 932.8	28 094.7	-10.0	+8.1	-7.3
Iron ore		2 138.3	2 801.2r	12 837.9	6 458.9	7 552.3	32 117.2	+169.6	+16.9	+150.2
Lead		27.9	26.7	179.5r	31.2	8.1	175.2	-69.7	-74.0	-2.4
Molybdenum	t	1 072.5	1 049.2	8 449.2	747.5	1 080.9	6 896.1	+3.0	+44.6	-18.4
Nickel		15.2	6.8	103.4r	10.9	11.7	58.5	+72.1	+7.3	-43.4
Silver	t	123.5	82.5	737.9r	85.3	89.5	665.2	+8.5	+4.9	-9.9
Uranium[1]	t	359.3	399.7	4 008.1	803.2	579.2	3 823.2	+44.9	-27.9	-4.6
Zinc		93.0	67.9	549.1r	93.8	80.4	658.8	+18.4	-14.3	+20.0
Nonmetals										
Asbestos		126.0	93.2r	726.5r	138.8	96.8	812.5	+3.9	-30.3	+11.8
Gypsum		880.5	693.4	4 081.0	802.7	726.4	4 218.3	+4.8	-9.5	+3.4
Potash K_2O		615.5	431.0	3 724.9	676.1	594.5	4 109.7	+37.9	-12.1	+10.3
Salt		500.1	442.0	3 599.6	493.0	477.0	3 741.9	+7.9	-3.3	+4.0
Cement		1 233.9	1 153.6	5 370.3	1 340.9	1 282.3	5 813.6	+11.2	-4.4	+8.3
Lime		173.2	159.4	1 134.1	..	..	..	..	..	..
Fuels										
Coal		2 255.5	2 356.3r	17 127.6r	2 753.6	2 595.5	19 046.4	+10.2	-5.7	+11.2
Natural gas	million m^3	6 064.5	7 380.9	52 992.2	6 910.6r	6 523.8	55 224.9	-11.6	-5.6	+4.2
Crude oil and equivalent	000 m^3	7 841.6	6 246.5	46 162.8	7 639.3r	7 943.4	53 885.6	+27.2	+4.0	+16.7

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

TABLE 3

Canada, Capital and Repair Expenditures
Mining, Quarrying and Oil Wells, 1977-79[1]
(1971 dollars)

		Construction	Machinery and Equipment	Total
		(millions of dollars)		
Atlantic Region	1977	47.0	101.5	148.5
	1978	68.6	85.2	153.8
	1979	135.0	99.2	234.2
Quebec	1977	197.4	231.0	428.4
	1978	99.4	136.2	235.6
	1979	93.4	139.8	233.2
Ontario	1977	131.5	171.3	302.8
	1978	98.7	123.7	222.4
	1979	115.3	132.7	248.0
Prairie Region	1977	1,139.1	447.0	1,586.1
	1978	1,269.7	354.7	1,624.4
	1979	1,542.0	337.1	1,879.1
British Columbia	1977	179.3	135.0	314.3
	1978	215.8	136.3	352.1
	1979	272.3	143.5	415.8
Northwest Territories and Yukon	1977	193.8	41.9	235.7
	1978	127.6	52.8	180.4
	1979	118.5	58.8	177.3
Canada	1977	1,888.1	1,127.7	3,015.8
	1978	1,879.8	888.9	2,768.7
	1979	2,276.5	911.1	3,187.6

[1] 1977 Actual, 1978 Preliminary actual, 1979 Revised intentions.

TABLE 4

Canada, Capital and Repair Expenditures - Mining, Quarrying and Oil Wells, 1977-79[1]
(1971 dollars)

	Capital Expenditures			Repair Expenditures			Capital and Repair		
	1977	1978	1979	1977	1978	1979	1977	1978	1979
	(millions of dollars)								
Metal mines									
Gold	14.5	17.5	19.4	8.0	8.5	7.9	22.5	26.0	27.3
Iron	262.6	83.3	70.3	142.0	111.2	123.6	404.6	194.5	193.9
Copper-gold-silver	105.9	74.6	90.8	87.8	88.5	87.2	193.7	163.1	178.0
Silver-lead-zinc	44.8	39.2	41.2	22.2	23.2	23.9	67.0	62.4	65.1
Other metal mines	142.2	114.5	161.3	89.4	50.6	54.0	231.6	165.1	215.3
Total metal mines	570.0	329.1	383.0	349.4	282.0	296.6	919.4	611.1	679.6
Nonmetal mines									
Asbestos	60.4	53.2	54.4	46.9	52.6	51.8	107.3	105.8	106.2
Other nonmetal mines[2]	196.2	189.3	164.2	124.3	117.6	117.0	320.5	306.9	281.2
Total nonmetal mines	256.6	242.5	218.6	171.2	170.2	168.8	427.8	412.7	387.4
Mineral fuels									
Petroleum and gas	1,424.3	1,504.0	1,885.8	244.3	240.9	234.8	1,668.6	1,744.9	2,120.6
Total mining industry	2,250.9	2,075.6	2,487.4	764.9	693.1	700.2	3,015.8	2,768.7	3,187.6

[1] 1977 Actual, 1978 Preliminary actual, 1979 Revised intentions; [2] Includes coal mines, gypsum, salt, potash and miscellaneous nonmetal mines and quarrying.

TABLE 5

Canada, Capital and Repair Expenditures - Non-fuel Mineral Industry, 1977-79[1]
(1971 dollars)

	Capital Expenditures			Repair Expenditures			Capital and Repair		
	1977	1978	1979	1977	1978	1979	1977	1978	1979
	(millions of dollars)								
Crude									
Metal mines	570.0	329.1	383.0	349.4	282.0	296.6	919.4	611.1	679.6
Nonmetal mines	256.6	242.5	218.6	171.2	170.2	168.8	427.8	412.7	387.4
Total	826.6	571.6	601.6	520.6	452.2	465.4	1,347.2	1,023.8	1,067.0
Smelting and refining									
Smelting and refining	145.2	121.9	..	125.8	98.5	95.2	271.0	220.4	..
Iron and steel	228.4	182.7	..	256.9	286.0	289.1	485.3	468.7	..
Total	373.6	304.6	..	382.7	384.5	384.3	756.3	689.1	..
Semi-manufacturing									
Steel pipe and tube mills	10.6	19.4	..	17.1	20.2	21.7	27.7	39.6	..
Iron foundries	14.7	20.1	..	17.1	19.4	19.1	31.8	39.5	..
Metal rolling, casting and extruding	20.6	26.7	..	18.8	18.5	17.9	39.4	45.2	..
Nonmetallic mineral products	162.4	145.7	187.1	108.1	102.7	105.6	270.5	248.4	292.7
Total	208.3	211.9	..	161.1	160.8	164.3	369.4	372.7	..
Total mineral industry	1,408.5	1,088.1	1,239.9	1,064.4	997.5	1,014.0	2,472.9	2,085.6	2,253.9

[1] 1977 Actual, 1978 Preliminary actual, 1979 Revised intentions.
.. Not available.

TABLE 6

Canada's Non-fuel Mineral Trade, First Six Months, 1979

	Imports	Exports
	January-June 1979	January-June 1979
	(millions of dollars)	
Crude		
Ferrous	78.1	545.8
Nonferrous	73.4	594.7
Industrial	130.2	761.8
Total	281.7	1,902.3
Smelted and refined		
Ferrous	58.4	91.0
Nonferrous	508.0	1,652.5
Total	566.4	1,743.5
Semi-manufactured		
Ferrous	666.2	740.7
Nonferrous	293.0	220.6
Industrial	402.5	294.2
Total	1,361.7	1,255.5
Total mineral trade[1]	2,209.8	4,901.3

[1] Excluding scrap.

FIGURES A AND B

Canada's Non-fuel Mineral Trade, First Six Months 1979

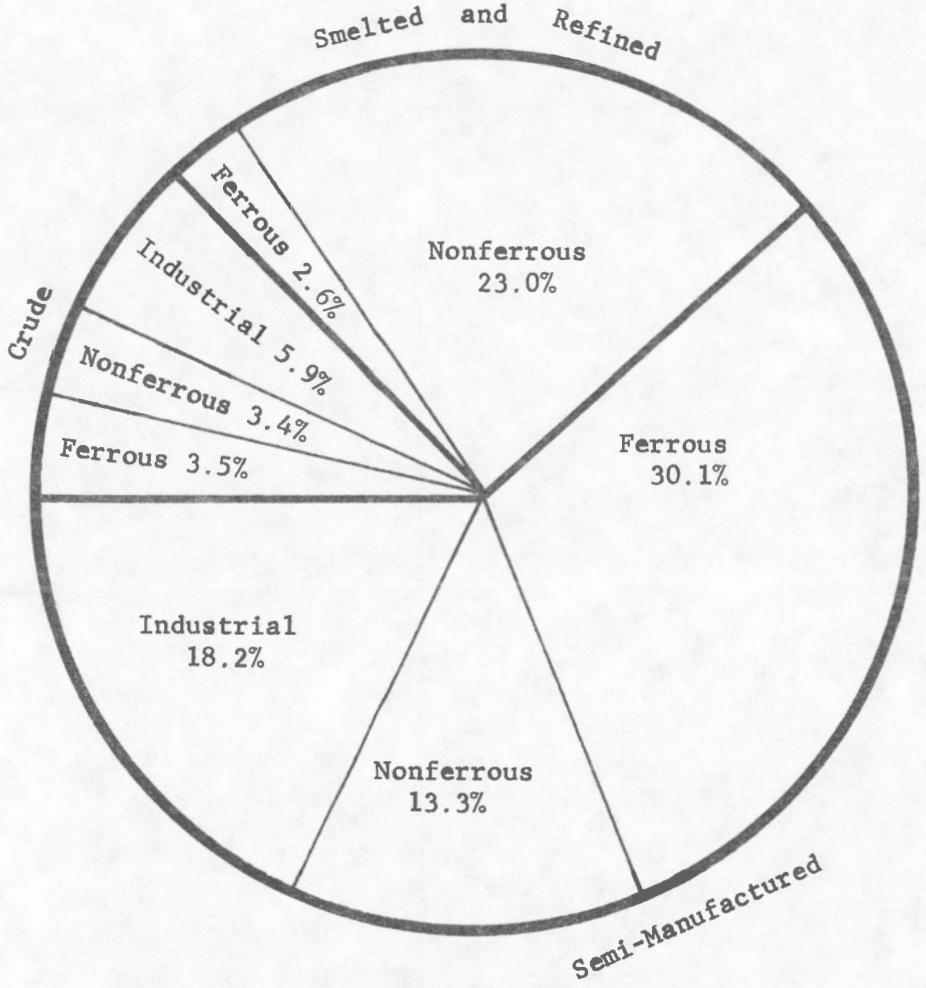

Figure A

Imports

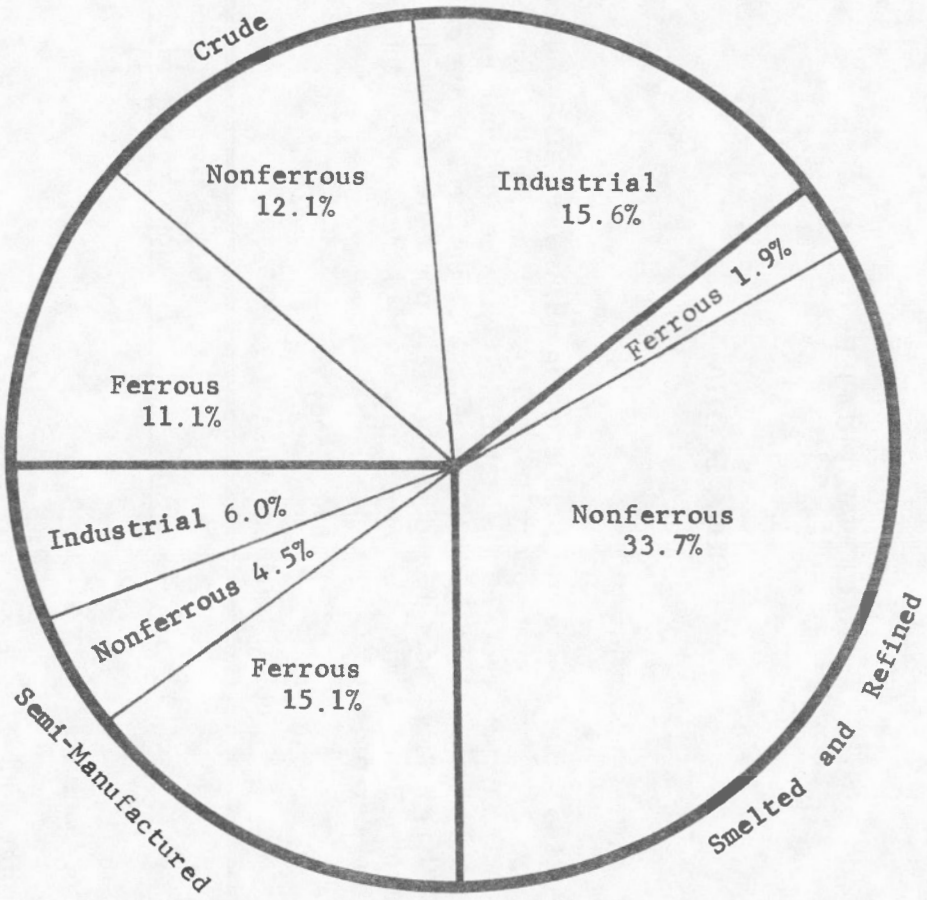

Figure B

Exports

REGIONAL PROFILES

NOVA SCOTIA

Value of mineral production

The value of mineral production in 1978 was $203.7 million, an increase of 27.8 per cent over 1977 with coal accounting for $113.6 million, or 55.8 per cent of the total. The value of coal production increased by 46.4 per cent in 1978 and was 15.5 per cent of the national total. Although Nova Scotia produced only 1.0 per cent of Canada's total mineral production, it was the largest producer of gypsum and the second largest producer of salt.

Socio-Economic Indicators, 1978-79

		Amount	Change Over Previous Year (per cent)	Proportion of Canada
Population, Jan. 1	'000	845.4	0.7	3.6
Labour Force, July seas. adj.	'000	347	0.6	3.1
Employment, July seas. adj.	'000	314	1.9	3.0
Unemployment, July seas. adj.	'000	33	-10.8	4.1
Employed in Mining April (est.)	'000	4.7	2.2	3.8
Average weekly wages in mining, April (est.)	$	299	5.7	71.8
GPP (1977 preliminary)	$000,000	5,560	7.7	2.6

Principal Mineral Production, 1978 (preliminary)

Commodity	Value ($000,000)	Change 1977-78 (per cent)	Proportion of Canada (per cent)
Coal	113.60	46.4	15.5
Gypsum	23.65	13.6	64.3
Salt	19.23	10.3	18.5
Sand and gravel	18.49	1.5	4.9
Cement	14.34	27.5	3.0
Stone	7.59	9.7	2.4
Clay	4.72	3.8	4.4
Barite	1.05	-36.3	56.8
Peat	0.72	0.9	2.4
Quartz	0.32	1.6	1.6
Metallics	-	-	-
Nonmetallics	44.98	9.9	2.9
Fuels	113.60	46.4	1.0
Structural materials	45.14	10.3	3.3
Total all minerals	203.71	27.8	1.0

Recent Highlights

1. The Yava Mines Limited lead deposit of Barymin Explorations Limited, on Cape Breton Island, has been successfully brought into production with a mill capacity of 540 tonnes of ore per day. Plans are initially to mine the higher grade (5.42 per cent lead) section containing 1 120 000 tonnes of ore which is sufficient for six years of production. Another section of the deposit is known to contain an additional 16 800 000 tonnes averaging 3.44 per cent. Planned backfilling procedures will permit recovery of 90 per cent of the ore-in-place.

2. The Nova Scotia government has asked the federal government not to approve a possible DREE grant of $17 million to Quebec Mining Exploration Company (SOQUEM) for infrastructure for a $51.5 million salt mine on the Magdalen Islands. Salt from the mine would be used on Quebec roads, displacing salt now purchased from Nova Scotia and leading to layoffs.

3. The new Gays River zinc-lead mine of Esso Minerals Canada located 50 kilometres northeast of Halifax, is expected to start production at the end of this year. The concentrator has a rated capacity of 1 360 tonnes of ore per day, and ore reserves are estimated at 11 million tonnes averaging approximately 7 per cent combined zinc-lead at a ratio of about 2:1. The $27 million operation has been designed to produce 47 000 tonnes of lead and zinc concentrate annually containing 12 000 tonnes of lead and 18 000 tonnes of zinc.

REGIONAL PROFILES

NEW BRUNSWICK

Value of mineral production

The value of mineral production in 1978 was $306.3 million, a 5.8 per cent increase from 1977 with metallic minerals accounting for $250.3 million or 81.7 per cent. The leading minerals were zinc, lead, silver and copper, which together comprised almost 80 per cent of the total value. Although New Brunswick produced only 1.5 per cent of Canada's total mineral production, the province is the largest producer of antimony and bismuth and is the third largest producer of lead, zinc and silver.

Socio-Economic Indicators, 1978-79

		Amount	Change Over Previous Year	Proportion of Canada
			(per cent)	
Population, Jan. 1	'000	699.2	0.9	3.0
Labour Force, July seas. adj.	'000	277	1.1	2.5
Employment, July seas. adj.	'000	246	2.9	2.4
Unemployment, July seas. adj.	'000	31	-11.4	3.9
Employed in Mining April (est.)	'000	2.5	-3.8	2.0
Average weekly wages in mining, April (est.)	$	336	14.6	80.8
GPP (1977 preliminary)	$000,000	3,975	9.1	1.9

Principal Mineral Production, 1978 (preliminary)

Commodity	Value ($000,000)	Change 1977-78 (per cent)	Proportion of Canada (per cent)
Zinc	131.50	-10.8	16.6
Lead	57.54	49.3	23.0
Silver	35.43	47.4	14.8
Copper	17.57	-4.6	1.6
Cement	15.79	7.3	3.3
Stone	10.15	6.4	3.2
Peat moss	8.73	3.3	29.0
Coal	8.45	35.2	1.2
Sand and gravel	6.60	7.5	1.8
Antimony	5.60	-15.8	73.1
Other	8.90	-	-
Metallics	250.33	4.9	4.5
Nonmetallics	10.37	3.3	0.7
Fuels	8.54	34.8	0.1
Structural materials	37.02	7.5	2.7
Total all minerals	306.26	5.8	1.6

Recent Highlights

1. The Sullivan Mining Group Ltd. and Billiton Exploration Canada Limited have agreed to develop the Mount Pleasant tungsten-molybdenum deposit at a cost estimated at $80 million. A 2 000 tonne-a-day concentrator will process 650 000 tonnes per year of ore to produce approximately 600 tonnes of molybdenum concentrate and 1 800 tonnes of tungsten concentrate. This mine will become the second in Canada to produce tungsten concentrate when production begins in 1981.

2. There has been a major increase in uranium exploration in New Brunswick spurred by the discovery last year of uranium minerals associated with the host rock in the antimony mine of Consolidated Durham Mines and Resources Limited, west of Fredericton. While first underground sampling has indicated a less than encouraging grade of four to five and one-half pounds per ton of uranium oxide, this is higher than at some producing mines. The potential for uranium in New Brunswick is good because the underlying geological structure is similar to the Colorado Plateau where most of the U.S. uranium reserves are located. More than 20 companies are presently actively engaged in exploration for uranium.

3. The St. Lawrence Cement Company is proceeding with plans to strip mine coal at 100 000 tonnes per year from the Lake Stream deposit, jointly owned with the government-owned Provincial Holdings Ltd., to supply fuel for its cement-producing operations in Quebec.

METALLIC MINERALS AND PRODUCTS

Aluminum

Alcan Aluminum Corporation raised its 99.5 aluminum published price by 2.5 (U.S.) cents per pound to 60.5 cents effective September 5, 1979. Alumax Inc. is the only U.S. primary producer to remain below 60 cents, charging 58.3 cents per pound since April.

Alcan's announced price increase did not follow the settlement of Aluminum Company of Canada Limited's strike, as was expected. The level of inventories held by fabricators and the guidelines of the Council on Wage and Price Stability appear to be the determinant factors in influencing the U.S. ingot price.

Status report of Aluminum Company of Canada Limited's domestic expansions:

The $5 million Research and Development Centre extension at Kingston, Ontario has been completed. The addition will mean 100 new jobs.

In Arvida, Alcan is expanding its experimental product development centre with a $7 million addition.

Alcan Canada Products Ltd., a subsidiary of Alcan Aluminum Limited, is reported planning a $5 million extrusion plant at Laval, Quebec.

The first phase (57 000 tonnes per year potline) of the $200 million Grande Baie expansion at Arvida is on schedule. This capacity should enter into production in 1981. Authorization has been given to proceed with phase II also of 57 000 tonne capacity.

Alcan Smelters and Chemicals Limited has announced the construction of a new $46 million carbon paste plant at Kitimat, British Columbia. Construction is to begin in early 1980 with start-up scheduled for May 1982. The building will replace the existing carbon plant.

There is an unconfirmed report that the U.S. may be considering plans to increase its strategic stockpile of calcined bauxite 10 times to two million tonnes. Sourcing is to come from Guyana with represents 85 per cent of world supply. The U.S. decision may be based on concern over supply, which was cut during a recent month-long Guyanese strike which reduced output by two-thirds. Calcined bauxite is used to make high aluminum refractories, essential in the production of steel.

Gold

The opening quote on the London Gold Market for September was $319.30 (U.S.) ($372.66 Cdn.) a troy ounce, which was the low price for the month. The price of gold rose sharply during September. The closing fixing price on the London Gold Market was a new record high of $397.25 (U.S.) ($461.05 Cdn.) an ounce on September 28. The monthly average gold price for September 1979, of the afternoon fixing prices on the London Gold Market was $355.12 (U.S.) ($413.85 Cdn.) an ounce, compared to $300.75 (U.S.) ($352.04 Cdn.) an ounce for August.

The International Monetary Fund held its thirty-seventh gold auction on September 5, 1979, under the bid price method, and sold 444,000 fine ounces of gold at an average price of $333.24 (U.S.) a troy ounce. Prices offered by successful bidders ranged from $332.01 (U.S.) to $333.50 (U.S.) an ounce. Bids totalling 1,650,000 ounces were submitted by 21 bidders. The four successful bidders were the Bank of Nova Scotia (Toronto), Deutsche Genossenschaftbank, Frankfurt, Swiss Bank Corp., Zurich, and Swiss Credit Bank, Zurich.

On September 18, 1979, the Treasury Department of the United States held its seventeenth gold auction and sold 750,000 troy ounces of gold at an average price of $377.78 (U.S.) an ounce. Prices offered by the four successful bidders ranged from $377.50 (U.S.) to $379.00 (U.S.). Ten firms bid for a total of 2.55 million ounces, with the lowest bid $310.00 (U.S.) an ounce.

Union Bank of Switzerland, Zurich, bought 6,000 ounces at $379.00 (U.S.) an ounce, The Bank of Nova Scotia, Toronto, bought 375,000 ounces at $378.00 (U.S.), Credit Suisse Zurich, bought 339,000 ounces at $377.50 (U.S.), and Swiss Bank Corp., Zurich, bought 30,000 ounces.

The Canadian gold bullion coin, "The Gold Maple Leaf", went on sale in early September, with great success. The one fine ounce coin has a face value of $50.00, but is sold at a price established daily, based on the current market value of gold plus a premium to cover the cost of manufacturing, marketing and distribution. The premium charged by the Royal Canadian Mint to the eight primary distributors is 3 per cent and the total premium paid by purchasers after including dealer markup amounts to around 6 per cent, with provincial sales tax to be charged in some provinces.

One million Gold Maple Leafs are scheduled for production in 1979, and two million each year in 1980 and 1981. As Canadian gold producers can already sell all the gold they can produce, the gold bullion coin will not directly affect the demand for Canadian-produced gold, but may possibly increase total world demand for the metal, thereby exerting an upward pressure on the gold price, and thus assisting Canadian gold producers.

As total annual world gold production is currently close to 40,000,000 ounces, the Gold Maple Leaf will amount to about 2.5 per cent of world production in 1979, and about 5 per cent in 1980 and 1981. As Canadian gold production amounts to about 1,700,000 ounces a year, and is not likely to increase significantly over the next few years, the gold required for the 1980 and 1981 Gold Maple Leaf production will exceed Canadian production. Any shortfall will be made up with Canadian-produced gold already held in Canada's official gold reserves. The ounces of the gold coin program is to be reviewed at a later date before a decision is made concerning its possible continuation beyond 1981.

Iron Ore

Australia and Brazil have reached an agreement on iron ore. The agreement involves exchange of information and discussion as to how each country perceives future iron ore markets, output and price levels. Both countries compete with Canada for iron ore markets in Japan and Europe.

Iron and Steel

As a result of continued poor performance, Sydney Steel Corporation (Sysco) shut down one of its two blast furnaces. This will mean the lay-off by November 1, 1979 of some 800 workers or about one quarter of the total labour force at the plant. The situation is expected to have a serious economic impact on this area which has steel and coal as its main industries.

Mr. Robert de Coster has replaced Jean-Paul Gignac as president of Sidbec. The new president brings with him extensive experience in industry including Trust Royal, Rock City Tobacco, Irving Oil, Les Petroles Inc., and McDonald Currie and Co.

Lead

On the London Metal Exchange the cash price of lead rose from the equivalent of 58 (U.S.) cents or 68 (Cdn.) cents a pound on September 3 to the equivalent of 61 (U.S.) cents or 71 (Cdn.) cents a pound on September 28. The rise in terms of sterling was greater than this, but sterling declined during the month relative to both the U.S. and the Canadian dollar. Producer prices in the U.S. and Canada remained unchanged until very late in the month at 66 (U.S.) cents and 58 (Cdn.) cents a pound respectively. On September 28, Cominco Ltd. raised its price for lead sold in the U.S. and Canada by 5 cents to 63 (U.S.) cents and 71 (Cdn.) cents a pound. LME lead stocks at the end of September were 26 375 tonnes.

Mine production of lead in Canada up to the endof July was 212 274 tonnes compared with 204 298 tonnes in the same period of last year. Both smelter and refinery production were running at a slightly lower rate in the first seven months of 1979 than in 1978.

Prestolite Canada announced a $7 million expansion, modernization and consolidation program which will increase battery production capacity by 60 per cent at its plant at Maple, Ontario. The program will enable Prestolite to fulfill a recently awarded $30 million contract with Ford Motor Company of Canada Limited for automotive batteries for Fords' Canadian assembly plants.

The U.S. Environmental Protection Agency formally extended for one year new proposed standards to reduce the lead content of gasoline. Refiners can continue to produce gasoline with a lead content of 0.8 gram per gallon until October 1980, at which time they must meet a standard of 0.5 gram per gallon.

Molybdenum

On September 14, workers at Brenda Mines, represented by the United Steelworkers of America, went on strike closing down production at Canada's second largest molybdenum producer. Brenda normally accounts for about 25 per cent of Canadian molybdenum production. Both labour and management are seeking mediation to settle the strike.

Placer Development Limited's Endako mine, the largest producer with 50 per cent of production and 60 per cent of the Canadian market, has been on strike since February 14, 1979. Supervisory personnel continue to operate the Endako facilities at about one-third of capacity with the bulk of the production being sold in Japan at $20 (U.S.) a pound, a price approximately mid-way between current producer and dealer prices.

As a result of the Endako strike and an earlier eight month strike at Gaspé Copper Mines, Limited the supply of producer-priced molybdic oxide in Canada has been drastically reduced. A prolonged strike at Brenda will exacerbate the domestic supply situation. Canadian molybdenum consumers will find it necessary to purchase an increasing proportion of their requirements in a very tight world market, at high dealer prices.

Nickel

General Motors Corporation, has been working for several years to develop an alternative to the lead acid battery as a source of power for an electric car. Research has centered on zinc-nickel oxide batteries. The low power output and heavy weight of conventional batteries have made them less than ideal for propelling electric cars. Zinc-nickel oxide batteries can store 2 to 2-1/2 times as much energy as lead acid batteries of the same weight, but until now have been rechargeable only about one-third the number of times a lead-acid battery can be recharged. General Motors engineers have apparently found a way to beat this problem. The new battery could power an electric car for 100 miles and be recharged overnight by plugging it into home wall sockets. Some experts say an electric car should have a 200-mile range, be rechargeable in a few minutes and run at highway speeds. General Motors has plans to begin offering electric-powered vehicles in the mid-1980s.

The United States government is spending millions of dollars yearly on battery research and plans to subsidize putting 10,000 electric cars on the road by 1986.

Silver

The upward trend in the silver price which began in the latter part of August 1979 continued in September and silver prices increased sharply, mainly because of investment and speculative buying. The opening silver price for the month of September was $10.91 (U.S.) an ounce, the low for the month. The silver price increased steadily until it reached an all time high of $16.85 (U.S.) an ounce on September 20. Prices eased from this high to a low of $14.80 (U.S.) an ounce but recovered towards the end of the month, closing at $16.50 (U.S.) an ounce.

The average silver price for September was $13.96 (U.S.) an ounce, an increase of 49.6 per cent over the average price of $9.33 (U.S.) an ounce in August.

The average silver price in Canadian dollars for the month of September was $523.10 a kilogram ($16.27 Cdn. an ounce).

Titanium

The titanium sponge metal market is becoming increasingly active as producers increase capacity and consumers search for new supplies.

Osaka Titanium Company of Japan, a major world supplier of titanium sponge, will almost double its capacity to 11 000 tonnes from 6 000 tonnes by mid March 1980. This move is the result of customer requests for larger orders and faster delivery.

Meanwhile Toho Titanium Co. also of Japan has increased sponge capacity by 25 per cent to 6 000 tonnes a year. By the end of 1980, the Japanese anticipate a titanium sponge capacity nearly equal to that of the United States.

Timet, a division of Titanium Metals Corp., of America plans to increase its domestic titanium sponge capacity to 16 000 tonnes from 13 000 tonnes. The expansion plans are based on the strength of increased demand from both domestic and foreign aerospace development production industries as well as nuclear power and desalination equipment manufacturers. Timet is the largest single producer of titanium products in the free world.

In the U.S., Cometals, a subsidiary of Commercial Metal Co., has contracted to take the first imports of Chinese titanium sponge. The deliveries, to start next month, are essential to replacing the loss over the past year of Russian imports. It is thought that exports of Soviet titanium sponge have been curtailed in order to supply increased domestic military demands.

Titanium Slag

Quebec Iron and Titanium (Q.I.T.), Canada's sole producer of titanium dioxide has been shut down since June 9, 1979. The working conditions inside the plant is one of the main points of contention between the workers and management.

Tin

Two scheduled 1979 International Tin Council Preparatory Meetings are to be held in London, England and Sydney, Australia in November. The meetings will cary out preliminary work to prepare for the Sixth International Tin Agreement which will succeed the present Agreement in 1981.

The Senate Armed Services Committee will focus on two separate tin disposal bills, **S.27** and **S.1397.** **S.27** was introduced by Senator Randolph and calls for the disposal of 35,000 long tons of tin, while **S.1397** is Senator Hart's omnibus bill, which calls for the sale of 10,000 long tons of tin in addition to 15-million ounces of silver and 1.5-million carats of industrial diamonds.

Last week, the House Armed Services Committee defeated another bill, HR-3385, which called for the sale of 15-million ounces of silver. Thus, it is doubtful that Hart's bill, which includes the silver sale provision, can survive without amendment.

Zinc

A reduction in EEC zinc consumption this fall has resulted in surplus production and increased producer stocks. This in turn has resulted in a price weakness at the zinc price of $780 a tonne as discounts are reported at the $730 a tonne level. At mid-year EEC producers had increased prices to $840 a tonne prompting the EEC commission to launch a price-fixing investigation and these plus rising stocks have contributed to a softening in prices.

In the United States in August, National Zinc reduced its domestic price for zinc by 1.5 cents a pound to 35.5 cents a pound. Other producers followed suit but in late September, producers began to raise prices to 37.5 cents a pound. The softness in market prices is temporary since mine production is in short supply and insufficient to meet current rates of metal production or metal demand. In the meantime, it is reported that EEC producers are requesting Commonwealth Producers (Canada and Australia) to reduce their sales in Europe so that European producers can restore a balanced market.

INDUSTRIAL MINERALS AND PRODUCTS

Asbestos

Quebec's finance minister announced on September 21, 1979 the province's terms to purchase the controlling interest in Asbestos Corporation Limited (ACL). It was stated that the offer of $42 a share will remain open until 5:00 p.m. October 4. If the offer is not acceptable to General Dynamics Corporation (GDC), Quebec apparently will wish to proceed with expropriation. However, expropriation is expected to be complicated by ACL's renewed efforts to obtain a permanent injunction blocking this move. The company, on July 25, 1979, lost a bid for a permanent injunction in Superior Court and an appeal is expected in October.

United Asbestos Inc. announced that it has arranged a $35 million bank loan allowing the company to pay all creditors. Since falling into default in March 1977, the company has been run by an agent for the Mercantile Bank of Canada, the major creditor.

It has been estimated that expenditures amounting to about $20 million over a two-year period are necessary to reactivate the mine situated in Midlothian township near Matachewan, Ontario.

Earnings from a joint venture have allowed the company to repay $14 million of $46.4 million. Increased prices and improved demand for asbestos have contributed to a more optimistic outlook for the company. Estimated ore reserves are 26.5 million tonnes grading 7.7 per cent fibre.

Salt

On September 7, 1979 the government of Quebec advised the federal Department of Regional Economic Expansion (DREE) that a decision had been made to proceed with the development of a rock salt mine on Magdalen Island. The proposed mine is to have a capacity of 1 250 000 tonnes a year and will employ 125. Reserves are in excess of 107 million tonnes at an average purity of 95.5 NaCl. Cost is estimated at $51.6 million. Quebec requested that approximately $17 million should be provided for infrastructure and transportation under a DREE program which is funded 60 per cent by the federal Government and 40 per cent by the Quebec Government.

Quebec consumes 1.8 to 1.9 million tonnes of rock salt a year, principally for highway ice control and in the chemicals industry. The province's intention is to use domestically produced salt, displacing shipments from Ontario, Nova Scotia and imports from the United States. The most likely mine to be effected is the Pugwash mine of Canadian Salt Company Limited in Nova Scotia. Nova Scotia's Minister of Mines as well as the presidents of the Canadian Salt Company and of Domtar Inc., have made representations to DREE and other federal ministries requesting that federal funds not be used to develop an industry in one region of the country at the expense of private industry in adjacent regions.

MINERAL FUELS AND PRODUCTS

Coal

Kaiser Resources Ltd. recently marketed a cargo of coking coal to Italy by way of Cape Horn around the tip of South America. Shipments of coal from the port of Vancouver to Europe have traditionally been routed through the Panama Canal because of the shorter distances involved. However vessels using this latter route are limited to cargoes of less than 50 000 tonnes. The shipment by Cape Horn exceeds 100 000 tonnes.

Canadian coal exports to Europe in 1978 exceeded 1.6 million tonnes of which approximately 1.2 million tonnes originated from Vancouver and the rest from Nova Scotia. Sales to Europe in 1979 are expected to equal or exceed those of 1978.

Crude Oil and Natural Gas

Despite the fact that drilling costs have been rising faster than the domestic rate of inflation in the past three years, drilling activities in western Canada have been steadily increasing.

In 1978 the Canadian drilling industry enjoyed a record year. The activities increased by 14.5 per cent relative to 1977 in western Canada in terms of exploration and development completions. Consensus was that with the advent of wellhead prices for oil and gas and a partial modification of fiscal differences between federal and provincial authorities, industry responded positively. Speculations, however, were that with the declining export gas market which the domestic sales have failed to fill will impact negatively on the drilling activities in 1979.

In 1979, nevertheless, the first five months of the year showed a 17 per cent increase in drilling relative to the 1978 record year comparable period. Saskatchewan recorded the highest growth of 51 per cent in drilling in the first half of the year primarily in response to the mounting demand for heavy oil. Alberta drilling incentives may play a larger role in boosting activity; for example, much of the land purchased in the West Pembina and Wapiti Basin regions must be explored, otherwise those lands revert to the Crown.

Perhaps in anticipation of oil and gas price increases at the wellhead, drilling completions in 1979 may exceed 8,000 wells across the country. The constraints may result from slowly expanding gas markets as well as rig shortages.

Uranium

Rio Algom Limited has completed the rehabilitation of its Panel mine and mill at Elliot Lake, Ontario. The mill has commenced operation and is expected to reach its full capacity of 2 990 tonnes or ore per day in October. The Panel facility has been inactive since its closure in June 1961 and has been rehabilitated at a reported cost of $134 million.

Agnew Lake Mines Limited has indicated that operations at its Agnew Lake uranium mining production facility will be phased out over a six-month period and discontinued when stopes currently being developed are completed. The property will then be placed on a salvage basis with

leaching and milling continuing for as long as it is economic to recover uranium from broken rock already underground and on surface. Since production began in June 1977, production has averaged less than 40 per cent of designed capacity.

The federal government has announced that Eldorado Nuclear Limited is one of several Crown companies that it wishes to return to the private sector. An advisory group has been set up to make recommendations to the government as to the desirability of making these companies private and the methods for doing so.

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 September.

Reviews, **Canadian Minerals Yearbook,** 1978, Calcium; Gypsum and Anhydrite; Lime; price 50¢ a copy.

Operators List 4, January 1978, Coal Mines in Canada, price $2.50.

Operators List 7, January, 1979, Natural Gas Processing Plants in Canada, price $2.50.

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

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