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The Canadian Mineral Industry Monthly Report

September 1980



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.

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PRÉFACE

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

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THE CANADIAN MINERAL INDUSTRY FOR SEPTEMBER

L'INDUSTRIE MINÉRALE DU CANADA - SEPTEMBRE

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 131.8 in July, down 5.7 per cent from the previous month.
2. The July index for Mines, Quarries and Oil Wells was 113.7, down 8.5 per cent from 124.2 in June.
3. The Aluminum Company of Canada, Limited will do a preliminary study of a \$500 million aluminum smelter in Manitoba similar to that being constructed at Grande Baie, Quebec.
4. Atlantic Richfield Company announced that its subsidiary, The Anaconda Company was suspending operations indefinitely at its copper smelter at Anaconda, Montana and the copper refinery at Great Falls, Montana.
5. The official opening of The Steel Company of Canada Limited (Stelco) Lake Erie Works greenfield steel complex at Nanticoke, Ontario was held on September 16 and 17.

Ceci constitue un résumé d'événements survenus dans l'industrie minérale du Canada, selon les renseignements disponibles en septembre.

FAITS SAILLANTS

1. L'indice non désaisonnalisé du produit intérieur réel du Canada était de 131,8 en juillet, soit une baisse de 5,7 % par rapport au mois précédent.
2. En juillet, l'indice des mines, carrières et puits de pétrole était de 113,7, soit une baisse de 8,5 % par rapport au niveau de 124,2 enregistré en juin.
3. L'Aluminium du Canada Limitée entreprendra l'étude préliminaire d'une fonderie d'aluminium au Manitoba, au coût de 500 millions de dollars, semblable à celle en cours de construction à Grande Baie, Québec.
4. La société Atlantic Richfield a annoncé que sa filiale, la société The Anaconda Company avait suspendu ses opérations indéfiniment à sa fonderie de cuivre à Anaconda, Montana et à l'affinerie de cuivre à Great Falls, Montana.
5. L'inauguration officielle du complexe sidérurgique (greenfield) du Lac Érié de la société The Steel Company of Canada Limited (Stelco) à Nanticoke (Ont.), a eu lieu les 16 et 17 septembre.

6. President Carter announced on September 30, 1980 that the trigger price mechanism (TPM) would be reinstated on October 21, 1980 as part of the administration's revitalization program for the United States steel industry.
7. Construction at the Highmont copper/molybdenum mine is essentially completed.
8. BP Minerals Limited won the provincial tender for potash exploration on the Millstream structure in New Brunswick.
9. Work is expected to begin shortly on a program to increase the coal handling capacity at Roberts Bank, south of Vancouver under an agreement signed by federal and British Columbia government representatives.
6. Le président Carter a annoncé, le 30 septembre 1980, que le mécanisme du prix de référence "Trigger price" serait remis en vigueur le 21 octobre 1980. Cette mesure entre dans le cadre du programme de relance de l'industrie sidérurgique proposé par l'Administration américaine.
7. Les travaux de construction à la mine de cuivre/molybdène à Highmont sont presque terminés.
8. La société BP Minéraux Limitée a obtenu le contrat du gouvernement provincial en vue de l'exploration de la potasse au gisement Millstream au (N.-B.).
9. En vertu d'une entente signée par les représentants du gouvernement fédéral et de la Colombie-Britannique, les travaux qui entrent dans le cadre d'un programme visant à accroître la capacité de traitement du charbon à Roberts Bank, au sud de Vancouver, doivent débiter prochainement.

ECONOMIC TRENDS

Table 1 shows Canada's unadjusted indexes of Real Domestic Product in terms of 1971=100. The overall RDP index for July was 131.8, a 5.7 per cent decline from the previous month. The index for Mines, Quarries and Oil Wells was 113.7, down 8.5 per cent from 124.2 in June. Metal mines, nonmetal mines and mineral fuels all showed significant decreases over the month of 13.7 per cent, 20.5 per cent, and 2.6 per cent respectively.

In the manufacturing sector, all components of primary metal industries and nonmetallic mineral products industries showed declines with the largest being iron foundries at 38.8 per cent.

Table 2 compares volume of production in nineteen major Canadian minerals. Output increased significantly in July compared with June for lead (112.6 per cent); zinc (18.1 per cent) and gypsum (15.5 per cent). Output was down significantly for nickel (29.1 per cent); uranium (31.4 per cent) and asbestos (33.2 per cent).

Table 3 and Figures A and B compares volume of minerals transported through the St. Lawrence Seaway in 1978 and 1979.

TABLE 1

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

Industry or Industry Group	1979			1980			Percentage Changes			1st 7 Months 1980
	June	Average 1st 7 Months		June	Average 1st 7 Months		June 1980	July 1980	July 1980	
							June 1979	July 1979	June 1980	1979
Real Domestic Product	140.9	133.3	135.2	139.7	131.8	135.8	-0.9	-1.1	-5.7	0.4
Primary Industries										
Agriculture	13.4	41.9	69.7	29.1	47.6	74.6	117.2	13.6	63.6	7.0
Forestry	129.0	112.0	114.3	87.4	102.6	103.1	-32.2	-8.4	17.4	-9.8
Fishing and Trapping	216.8	253.1	131.6	184.8	200.3	111.9	-14.8	-20.9	8.4	-15.0
Mines, Quarries and Oil Wells	116.8	116.5	112.9	124.2	113.7	118.8	6.3	-2.4	-8.5	5.3
Metal Mines	85.0	97.1	82.9	101.5	87.6	96.4	19.4	-9.8	-13.7	16.3
Placer and Gold Quartz Mines	54.7	52.0	57.2	55.5	55.7	54.7	1.5	7.1	0.4	-4.4
Iron Mines	129.9	150.3	113.9	123.6	107.5	105.5	-4.8	-28.5	-13.0	-7.4
Other Metal Mines	75.4	86.1	76.4	98.3	84.2	96.1	30.4	-2.2	-14.3	25.8
Mineral Fuels	125.9	123.1	126.5	124.5	121.3	123.0	-1.1	-1.5	-2.6	-2.8
Coal Mines	258.8	246.1	244.6	298.7	276.2	250.2	15.4	12.2	-7.5	2.3
Crude Petroleum and Natural Gas	115.0	113.0	116.9	110.2	108.6	112.6	-4.2	-3.9	-1.5	-3.6
Nonmetal Mines	146.6	105.6	128.8	145.8	115.9	134.7	-0.5	9.8	-20.5	4.6
Asbestos Mines	107.7	87.0	92.9	100.5	81.2	88.0	-6.7	-6.7	-19.2	-5.3
Secondary Industries										
Manufacturing	143.9	118.2	133.6	137.4	112.9	130.2	-4.5	-4.5	-17.8	-2.5
Nondurable Manufacturing	143.1	121.1	132.2	140.4	119.0	132.1	-1.9	-1.7	-15.2	-0.1
Petroleum and Coal Products Industries	145.7	136.0	139.8	146.3	149.5	143.5	0.4	9.9	2.2	2.7
Durable Manufacturing	144.7	115.4	135.0	134.3	106.8	128.4	-7.2	-7.5	-20.5	-4.9
Primary Metal Industries	120.8	103.4	125.0	126.3	100.0	127.4	4.6	-3.3	-20.8	1.9
Iron and Steel Mills	146.9	132.5	145.3	142.3	107.6	143.9	-3.1	-18.8	-24.4	-1.0
Steel Pipe and Tube Mills	139.5	112.6	120.4	127.6	89.3	118.4	-8.5	-20.7	-30.0	-1.7
Iron Foundries	124.7	87.3	126.5	103.9	63.6	100.7	-16.7	-27.1	-38.8	-20.3
Smelting and Refining	68.6	59.9	88.2	108.8	103.1	110.5	58.6	72.1	-5.2	25.2
Nonmetallic Mineral Products Industries	149.9	133.6	115.6	130.6	115.2	106.6	-12.9	-13.8	-11.8	-7.8
Cement Manufacturers	194.6	196.2	131.7	174.6	171.1	122.1	-10.3	-12.8	-2.0	-7.3
Ready-mix Concrete Manufacturers	156.5	139.4	94.0	126.5	122.0	87.0	-19.2	-12.5	-3.6	-7.5
Construction Industry	139.0	143.9	115.9	120.9	124.5	107.2	-13.0	-13.5	3.0	-7.5
Transportation, Storage, Communication	163.3	162.3	154.2	167.1	166.2	159.5	2.3	2.4	-0.5	3.4
Electric Power, Gas and Water Utilities	145.2	141.7	171.7	142.1	143.4	173.9	-2.1	1.2	0.9	1.2
Trade	156.1	143.3	139.2	148.3	137.2	135.7	-5.0	-4.3	-7.5	-2.5
Finance, Insurance, Real Estate	154.8	154.4	151.7	161.1	160.1	158.9	4.1	3.7	-0.6	4.7
Community, Business and Personal Service	139.3	131.6	137.0	144.3	135.8	140.8	3.6	3.2	-5.9	2.7
Public Administration and Defence	132.8	136.1	128.9	132.7	135.5	128.3	-0.1	-0.4	2.1	-0.5

TABLE 2

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

		1979			1980			Percentage Changes		
		June	July	Total 7 months	June	July	Total 7 months	July 80 July 79	July 80 June 80	1st 7 months 1980 1979
Metals										
Copper	kg	38.6	55.3	320.2	66.0	56.2	426.0	+1.6	-14.9	+33.0
Gold		3 637.1	3 932.8	28 094.7	4 088.1	4 293.2	28 591.5	+9.2	+5.0	+1.8
Iron ore		6 458.9	7 552.3	32 117.2	5 181.9	5 727.3	27 355.4	-24.2	+10.5	-14.8
Lead	t	31.2	8.1	175.2	13.5	28.7	161.0	+254.3	+112.6	-8.1
Molybdenum		800.6	1 126.9	7 048.9	1 002.2	847.2	7 113.2	-24.8	-15.5	+0.9
Nickel		10.9	11.7	58.5	16.5	11.7	112.7	0.0	-29.1	+92.7
Silver	t	85.3	89.5	665.2	86.8	86.6	676.1	-3.2	-0.2	+1.6
Uranium ¹	t	562.5	579.2	3 582.5	604.0	396.1	3 652.5	-31.6	-34.4	+2.0
Zinc		93.8	80.4	658.8	57.4	67.8	504.0	-15.7	+18.1	-23.5
Nonmetals										
Asbestos	\$000	138.8	96.8	812.5	125.3	83.7	685.1	-13.5	-33.2	-15.7
Clay products		..	..	..	9 702.9 ^r	10 495.8	58 459.1	..	+8.2	..
Gypsum		802.7	726.4	4 218.3	573.0	661.7	4 135.8	-8.9	+15.5	-2.0
Potash K ₂ O		676.1	594.5	4 110.0	618.9	626.3	4 019.9	+5.4	+1.2	-2.2
Cement		1 340.9	1 282.3	5 813.6	1 079.7	1 101.9	4 228.6	-14.1	+2.1	-27.3
Lime		..	..	..	168.2	167.1	1 190.0	..	-0.7	..
Salt		493.0	447.0	3 741.9	571.6	643.4	3 993.1	+43.9	+12.6	+6.7
Fuels										
Coal	million m ³	2 753.6	2 595.5	19 046.4	3 061.8	3 143.6	20 392.0	+21.1	+2.7	+7.1
Natural gas		6 910.6	6 957.7	56 669.3	6 190.7 ^r	6 243.7	51 480.6	-10.3	+0.9	-9.2
Crude oil and equivalent	000 m ³	7 646.1	7 945.3	53 938.9	7 554.1 ^r	7 698.1	52 743.6	-3.1	+1.9	-2.2

¹ Tonnes uranium (1 tonne U = 1.299 9 short tons U₃O₈).

^r Revised; .. Not available.

September 1980

TABLE 3

Canada, Crude and Fabricated Minerals Transported Through the
St. Lawrence Seaway, 1978 and 1979

	Montreal-Lake Ontario Section		Welland Canal Section	
	1978	1979	1978	1979
	(tonnes)			
Crude minerals				
Coal	853 116	455 325	4 906 242	7 067 442
Iron ore	12 285 257	13 441 896	14 224 586	13 714 946
Aluminum ores and concentrates	118 750	161 999	118 750	161 999
Clay and bentonite	16 987	237 380	16 963	237 380
Gravel and sand	13 759	27 845	76 930	284 152
Petroleum, crude	-	11 254	-	11 254
Stone, ground or crushed	96 478	335 378	1 193 433	1 379 422
Stone, rough	3 844	9 195	5 145	7 414
Salt	677 651	756 422	1 258 237	1 354 097
Phosphate rock	49 776	75 225	17	27 243
Sulphur	6 544	138 700	6 544	138 700
Other crude minerals	934 746	756 378	893 031	466 332
Total crude minerals	15 056 908	16 406 997	22 699 878	24 850 381
Fabricated mineral products				
Coke	2 255 841	2 103 300	2 291 341	2 270 269
Gasoline	98 778	171 284	95 488	210 704
Fuel oil	1 712 743	2 110 957	826 258	1 519 327
Lubricating oils and greases	131 876	67 394	133 304	60 393
Other petroleum products	206 369	139 244	122 273	98 147
Tar, pitch and creosote	29 315	27 352	44 882	32 111
Pig iron	219 923	120 302	209 830	111 350
Iron and steel: bars, rods, slabs	327 412	128 365	301 982	119 588
Iron and steel: nails, wire	35 290	23 907	32 985	22 799
Iron and steel: manufactured	2 939 135	2 589 384	2 790 274	2 400 906
Scrap iron and steel	580 443	524 197	535 990	494 846
Cement	20 873	21 014	374 402	522 314
Total fabricated minerals	8 557 998	8 026 700	7 759 009	7 862 754
Total crude and fabricated minerals	23 614 906	24 433 697	30 458 887	32 713 135
Total all products	51 657 530	50 187 359	59 575 722	60 023 466
Crude and fabricated minerals as a per cent of total	45.7	48.7	51.1	54.5

- Nil.

MINERALS TRANSPORTED THROUGH THE ST. LAWRENCE SEAWAY, 1979

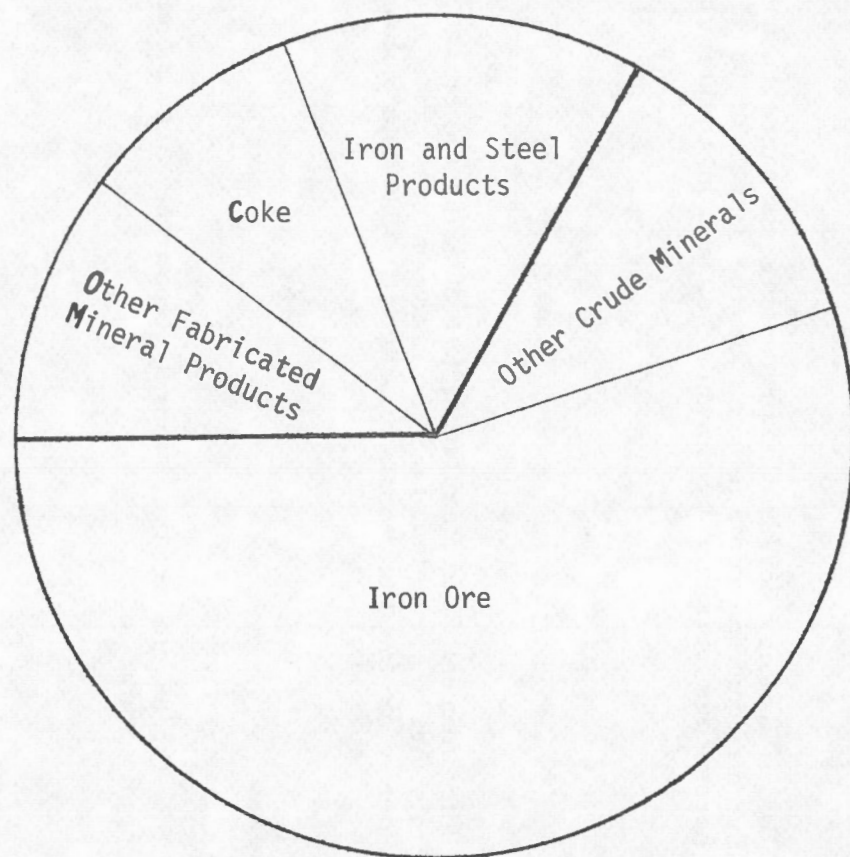


Figure A
Montreal-Lake Ontario Section

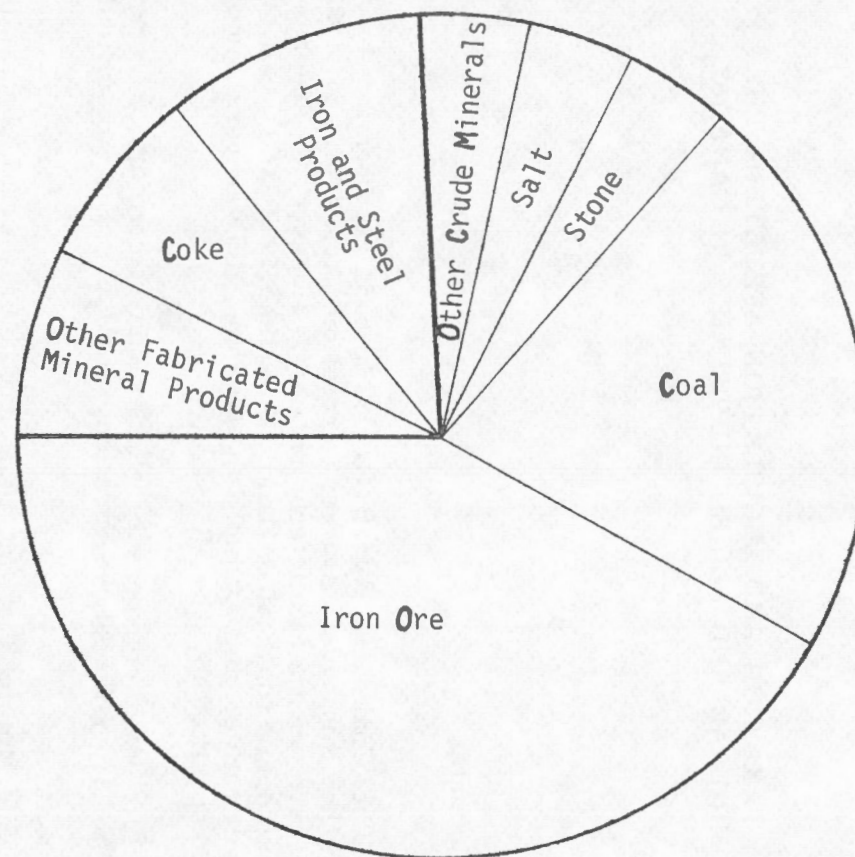


Figure B
Welland Canal Section

**TAXATION AND LEGISLATION AFFECTING THE
MINERAL AND ALLIED INDUSTRIES IN CANADA**

Provincial

British Columbia

The **Coal Act, R.S.B.C. 1979, c.51** is amended by 1980, Bill 61, the Revised Statutes Correction Act (No. 2) 1980, to provide that, on the Minister's request, a lessee, a licensee or a person exploring for coal on land other than coal land shall, in the prescribed manner and at his own expense, deliver core samples to a location specified by the Minister.

Further, any person who examines core at or removes a core sample from the above location, shall pay the prescribed fee.

The **Mining Tax Act, R.S.B.C. 1979, c.267** is amended by the Finance Statutes Amendment Act, 1980 to set the tax rate at 15 per cent of the entire net income where the net income exceeds \$50,000; and to authorize a regulation to vary the processing allowance.

By B.C. Reg. 269/80 the processing allowance is amended so that the maximum percentage shall be the lesser of (a) 70% or (b) the percentage obtained by formula set out in the regulation.

Alberta

The **Interest Rate Regulation (AR 355/78)** under the **Mines and Minerals Act** is amended to reduce the interest rate to 13.75 per cent per year for the month of August, 1980 and subsequent months.

Saskatchewan

SR 185/80 under the **Mineral Resources Act** amends the royalty on oil production.

REGIONAL PROFILES

Nova Scotia

Value of Mineral Production

The value of mineral production in 1979 was \$208.7 million, down from \$210.7 in 1978 as a result of a 16.7 per cent decline in coal production, which accounted for 48.2 per cent of total. Nova Scotia is Canada's largest producer of gypsum, second largest producer of salt and third largest producer of coal.

Principal Mineral Production, 1979P

Commodity	Value (\$'000,000)	Change From 1978 (per cent)	Proportion of Canada
Coal	100.5	-16.7	12.9
Gypsum	26.4	7.3	68.5
Salt	24.3	22.6	24.7
Cement	22.9	88.4	4.0
Sand and gravel	20.5	3.3	4.9
Other	14.1	-	-
Metallics	-	-	-
Nonmetallics	53.0	12.7	3.6
Fuels	100.5	-16.7	0.9
Structural materials	55.2	28.7	3.7
Total all minerals	208.7	-0.9	1.0

P Preliminary.

Socio-Economic Indicators, 1980

		Amount	Change From Previous Year	Proportion of Canada (per cent)
Population, Jan. 1	'000	851.0	0.6	3.6
Labour Force				
May, seas. adj.	'000	360	2.6	3.1
Employment				
May, seas. adj.	'000	323	1.6	3.0
Unemployment				
May, seas. adj.	'000	37	12.1	4.2
Employment in Mining*				
Jan. (preliminary)	'000	4.7	-2.1	3.4
Average Weekly Wages**, Jan. (preliminary)	\$	356	20.5	78.7
Gross Provincial Product, 1978	\$000,000	5,636	10.8	2.4

Source: Statistics Canada.

* Mines, Quarries and Oil Wells, including milling, SIC 050-099.
Data for firms of 20 or more employees only, Catalog 72-002.

** Earnings of All Employees, in firms of 20 or more employees,
Catalog 72-002.

Exploration

Northumberland Mines Limited announced in August that it planned to bulk test a gold deposit expected to contain about 0.25 oz. of gold per ton at Cochrane Hill, 40 kilometres from Antigonish.

In August, Amax of Canada Limited entered into a joint venture with Louisbourg Property Holdings to spend \$150,000 in 1980 on exploration of a silver-copper-bismuth prospect, seven miles west of Louisbourg.

Shell Canada Resources Limited is continuing exploration on its tin prospect 40 kilometres from Yarmouth. Over the past four years, the company has spent \$2.7 million and identified a deposit estimated at more than 20 million tonnes containing 0.2 per cent tin, in an area of 1 400 metres by 500 metres to a depth of 100 metres. Additional drilling and metallurgical tests and mine feasibility studies are required before the economic significance of the property can be determined.

Mine Developments

On September 4, Holder Associates was awarded a contract for engineering services for tunnel driveage for the proposed Donkin-Morien coal mine. The contract for driveage is expected to be awarded in January 1981. The initial work will consist of two parallel tunnels at a 15 degree slope for 3.5 kilometres, to reach and evaluate the under-sea coal seams previously identified under a \$12-million federal-provincial offshore drilling program that was carried out in 1977 and 1978 under the Canada-Nova Scotia Mineral Development Sub-Agreement. Initial development and evaluation will cost about \$30 million. If the project proceeds and a mine is developed, two more tunnels will be driven. Total cumulative cost for the project will amount to \$400 million to \$450 million. Coal from the mine would be used to fire additional thermal-electric generating stations, designated Langan 3 and 4.

Selco Mining Corporation Limited is continuing its program begun in May to reclaim coal from the waste dumps of the old Princess Colliery at Sydney Mines, closed two years ago. The recovered coal is sold to Cape Breton Development Corporation (DEVCO), to be blended with coal from the No. 26 and Langan mines and marketed to the nearby Langan power station.

In April, the province awarded a five-year contract to produce nearly 200 000 tonnes of coal a year from a surface pit at Point Aconi on Cape Breton Island. Production was to begin by late summer.

REGIONAL PROFILES

New Brunswick

Value of Mineral Production

The value of mineral production in 1979 was \$465.4 million, up from \$339.6 million in 1978 as a result of a 65.2 per cent increase in metallic minerals, led by zinc, lead, silver and copper, which accounted for 87.8 per cent of the total. This increase was mainly due to metal price increases. New Brunswick is Canada's largest producer of antimony and bismuth, second largest producer of zinc and third largest producer of lead and silver.

Principal Mineral Production, 1979P

Commodity	Value (\$'000,000)	Change From 1978 (per cent)	Proportion of Canada
Zinc	255.1	63.0	31.2
Lead	99.3	68.3	38.3
Silver	74.9	88.2	29.8
Copper	25.7	51.1	2.4
Cement	15.8	24.9	2.8
Sand and gravel	11.6	10.5	2.8
Stone	10.8	9.6	3.0
Coal	10.1	15.8	1.3
Peat	10.0	0.9	28.6
Other	16.5	-	-
Metallics	465.4	65.2	8.2
Nonmetallics	11.7	3.3	0.8
Fuels	10.2	15.7	0.1
Structural materials	42.6	13.2	2.8
Total all minerals	529.9	56.0	2.6

P Preliminary.

Socio-Economic Indicators, 1980

		Amount	Change From Previous Year	Proportion of Canada (per cent)
Population, Jan.	'000	704.8	0.9	3.0
Labour Force May, seas. adj.	'000	288	1.7	2.5
Employment May, seas. adj.	'000	254	0.8	2.4
Unemployment May, seas. adj.	'000	34	9.7	3.9
Emploment in Mining* Dec. 1979 (preliminary)	'000	2.6	8.3	1.9
Average Weekly Wages**, Dec. 1979 (preliminary)	\$	367	7.1	81.2
Gross Provincial Product, 1978	\$000,000	4,396	11.5	1.9

Source: Statistics Canada.

* Mines, Quarries and Oil Wells, including milling, SIC 050-099.

Data for firms of 20 or more employees only, Catalog 72-002.

** Earnings of All Employees, in firms of 20 or more employees, Catalog 72-002.

Exploration Activities

Canadian Occidental Petroleum Ltd. (Oxy) announced in a report published in June that it has until April 1981 to complete evaluation and select one-half of the 500,000 acres of Albert formation oil shales licenced to it. The remainder will revert to the province. Oxy has so far explored 1,000 acres and found oil shales evenly distributed to 250 feet containing hydrocarbons of from eight to ten per cent. A feasibility study is being conducted by the company using the surface mining and retorting method of recovery.

Claims in effect in July were in excess of 23,000, an all-time record for the province.

Mine Developments

Construction of the Mount Pleasant tungsten-molybdenum mine, being developed under a joint venture between Brunswick Tin Mines Limited and Billiton Canada Ltd., is on schedule for start-up by early 1982. The province estimates that up to four per cent of the world's tungsten could be contained in the Mount Pleasant area.

Under an exploration and development agreement with the province, the Potash Company of America (PCA) has begun sinking the second of two shafts and construction of potash refining facilities northeast of Sussex. Underground exploration is being conducted and bulk samples evaluated. Although no official announcement has been made, it is expected that the operation could be brought on stream in 1982.

Denison Mines Limited, party to the second exploration and development agreement with the New Brunswick government, is about one year behind PCA. On its property, southwest of Sussex, it is currently sinking its first shaft, which is at 1,700 feet and expected to reach its designed depth of 2,400 feet by year end. Production could begin in time for the 1983 spring fertilizer season. It was announced in September that Potash Company of Canada Limited, controlled by French and West German potash companies, has acquired a 40 per cent partnership interest from Denison, subject to approval by the New Brunswick government. The partnership would operate under the name Denison-Potacan Potash Co., with Denison responsible for managing the operation and Potash Company of Canada Limited for world-wide sales.

On September 10, the province entered into a third agreement, on a property near Millstream, 9 kilometres west of Sussex, with BP Canada Inc.

A proposal by the National Harbours Board for construction of a potash shipping terminal at Saint John is being considered by the federal Treasury Board.

Capital investment in mine development in New Brunswick in 1980 is expected to reach \$96 million. This compares to a range of \$15 million to \$41 million annually during the period of 1970-78. Spending in 1981 and 1982 is forecast at \$202 million and \$225 million.

Late in September, employees at the zinc-lead-copper mine of Brunswick Mining and Smelting Corporation Limited ended a four-month strike by accepting the company's latest contract offer.

The agreement provides for a 21-cent-an-hour wage increase across-the-board plus five cost-of-living adjustments over the 39-month contract. The lead smelter workers had accepted a new three-year contract in mid-June.

Coal Policy Developments

The province published its coal policy in June. The New Brunswick Electric Power Commission (NBPC) is to have first option on all new coal development. The province will, at periodic intervals, open specific areas to exploration. The definition of the areas is based on a drilling program of the Carboniferous Basin, conducted over the past three years and funded under the Canada-New Brunswick Sub-Agreement for Minerals and Fuels. If NBPC refuses the option, the designated area would be opened to industry on a competitive bid basis.

METALLIC MINERALS AND PRODUCTS

Aluminum

United States aluminum producers have announced an increase in the price of primary ingot from 72 to 76 cents (U.S.) a pound effective October 1, 1980.

The Canadian Reynolds Metals Company, Limited is negotiating with the Quebec government for preferential electric power rates in support of a possible expansion of its aluminum smelter at Baie Comeau, Quebec, from 175 000 to 250 000 tonnes a year.

Alcan Aluminium Limited and the union representing the smelter workers at Kitimat, B.C., are negotiating a new contract. The workers will be in a position to strike on October 23rd.

The Aluminum Company of Canada, Limited, will do a preliminary study of a \$500 million aluminum smelter in Manitoba similar to that being constructed at Grande Baie, Quebec. The plant would be designed to process bauxite from Jamaica, Guyana and Brazil. If the study proves encouraging, more detailed feasibility studies will be undertaken.

Pechiney Ugine Kuhlmann Corporation is to participate in building an alumina-aluminium plant in the Indian state of Orissa. This plant will produce 800 000 tonnes of alumina a year. The construction is expected to take four years. By the mid 1980s, India will be a net exporter of both aluminum and alumina.

Norsk Hydro Elektrisk Kvaestofaktieselskab a.s. of Norway has decided to increase its aluminum output from 110 000 to 160 000 tonnes a year.

Kobe Steel, a Japanese company, has won a contract to build a 5 000 tonne a year aluminum foil mill at Zhov Xian near Peking, China. It will also help in modernizing and expanding existing foil mills in China.

Copper

Copper prices for wirebar on the London Metal Exchange (LME) ranged from 90.3 cents (U.S.) to 97.8 cents (U.S.) a pound during September. The low price was recorded September 1

and the high September 23, with the copper price at 90.8 cents (U.S.) a pound on September 30. The Canadian producer price for wirebar ranged from \$1.07625 a pound early in September to a peak of \$1.21625 a pound on September 23-25, then dropped to \$1.21625 a pound by September 30. The U.S. producer price for wirebar ranged between 95 cents (U.S.) and \$1.035 (U.S.) a pound during the month.

At month-end, copper stocks in COMEX and LME warehouses stood at 168 035 tonnes and 125 250 tonnes respectively (total 293 235 tonnes), compared with 172 854 tonnes and 118 625 tonnes (total 291 479 tonnes) at the end of August.

Noranda Mines Limited is modifying its Horne concentrator at Noranda, Quebec, to treat ore from its New Insco Mines Ltd. and Les Mines Gallen Limitée properties, at a cost of \$3.6 million. Another \$4 million will be spent on the New Insco property, where reserves are currently about 900 000 tonnes grading 2.6 per cent copper. New Insco ore production will be about 122 000 tonnes per year and employment will total about forty.

Texasgulf Inc., which expects to begin operating its new copper smelter smelter-refinery early in 1980, recently announced that annual capacity of the plant can be raised from 65 000 tonnes a year to about 100 000 tonnes by using more oxygen in the smelting process. Preliminary work is underway on new oxygen and sulphuric acid plants and an expansion of the copper refinery with construction to begin early in 1982. The company also plans to build a precious metals refinery.

Atlantic Richfield Company announced that its subsidiary, The Anaconda Company, was suspending operations indefinitely at its copper smelter at Anaconda, Montana and its copper refinery at Great Falls, Montana. The company said that the plant could not be economically retrofitted to satisfy required environmental standards. The closings will affect 1 500 employees. Anaconda's Berkeley pit at Butte, Montana will continue to operate.

On September 30, the Intergovernmental Committee for the Integrated Program for Commodities, of the United Nations Conference on Trade and Development (UNCTAD), met concerning the future of the deadlocked UNCTAD copper negotiations. The UNCTAD committee instructed Secretary General Gamani Corea to "Hold consultations on the question of further preparatory work on copper with the main consuming and producing countries, then decide on what further steps would be appropriate". This decision has temporarily shelved the question of reopening preparatory talks, which ended with the Seventh Preparatory Meeting on February 22, 1980.

The U.S. copper strike had not been finally settled at the end of September, although workers at Kennecott Copper Corporation had returned to work on September 10. Kennecott agreed to raise average wages by 39 per cent over three years,

assuming an inflation rate of 11 per cent. Cities Service Company and its nearly 600 striking workers reached a tentative wage and benefit settlement on September 29, but this remained to be approved by leaders of the National Nonferrous Coordinated Bargaining Committee before being voted on by union members. Also, non-economic contractual issues still remained on the bargaining table. A tentative economic package was reached between the unions and Inspiration Consolidated Copper Company, a few days before the end of September, and was accepted by the unions on September 30. Local non-economic contractual issues still remain to be settled at Inspiration, but were expected to be cleared up within a few days.

Further negotiations of the unions with United States Metals Refining Company (AMAX) were scheduled to begin September 30, and with ASARCO Incorporated, Magma Copper Company (Newmont) and the Copper Range Company (Louisiana Land & Exploration Company) on October 1. Talks between the unions and Duval Corporation (Pennzoil Company) were still going on, with the contract, covering some 2,000 workers, to expire at midnight September 30.

No further talks were scheduled between the unions and Phelps Dodge Corporation, The Anaconda Company (Atlantic Richfield Company) and ANAMAX Mining Company (jointly owned by Anaconda and AMAX).

Gold

The monthly average for September 1980 of the afternoon fixing gold prices on the London Gold Market was \$673.63 (U.S.) (\$784.51 Cdn.) per ounce of gold, compared with an average price of \$627.15 (U.S.) (\$726.99 Cdn.) for August 1980.

The price of gold moved generally upward throughout the month, moving above \$650.00 (U.S.) per ounce on September 5 and above \$700.00 (U.S.) on September 22. Market analysts attribute this trend to uncertainty and tension in the Middle East. In the early part of the month OPEC oil ministers met to discuss oil pricing policy. Later, warfare broke out between Iran and Iraq and the gold price responded by moving through the \$U.S. 700 level. As fears that other countries might be drawn into the fighting subsided, the gold price fell back below \$700 (U.S.) to close the month at \$666.75 (U.S.).

IU/International Corporation has announced that its wholly-owned subsidiary, Echo Bay Mines Ltd., will proceed with development of its Lupin gold property at Contwoyto Lake. Proven, probable and possible reserves to the 650 foot horizon are estimated at 2.7 million tons with an average grade of 0.38 oz. gold per ton. Development costs are estimated at \$100 million (U.S.).

Gold exploration activity appears very strong, with interest being shown in areas that have no record of gold production as well as in the historic gold mining areas. Drilling results announced to date suggest that, if gold prices remain strong, production decisions for a number of both new and reactivated gold mines will be forthcoming.

The strike that began at Giant Yellowknife Mines Limited on July 10 continues. Belmoral Mines Ltd. near Val d'Or remains shut down pending the outcome of an inquiry into the cave-in in May that killed eight miners. Work on the mill is continuing.

Iron and Steel

The official opening of Stelco's Lake Erie Works Greenfield steel complex at Nanticoke, Ontario was held on September 16 and 17. Stage One capacity at Lake Erie Works is 1.2 million metric tons of slab per year. Major components of the complex consist of a 1 190 metre long unloading dock, a 4 764 tonne per day blast furnace, two 230 tonne capacity basic oxygen furnaces and a two-strand continuous slab caster. Construction is in progress on a coke oven facility and a hot strip mill, with completion of the former scheduled for 1981 and of the latter for 1983. The complex employs approximately 1,000 people. Currently, slab production is trucked to Stelco's Hilton Works at Hamilton.

President Carter announced on September 30, 1980 that the trigger price mechanism (TPM) would be reinstated on October 21, 1980 as part of the administration's revitalization program for the United States steel industry. A previously imposed TPM was suspended in March 1980 after the United States Steel Corporation filed anti-dumping complaints against steel producers in seven western European countries. U.S. steel withdrew its dumping complaints after the announcement of the revitalization program.

The revitalization program is the result of discussions between officials of the government, the steel industry and the United Steel Workers of America. Under the new formula, the trigger price will increase approximately 12 per cent above the TPM of March 1980, reflecting new cost information. The TPM will remain in place for a minimum period of 3 years and can be extended to 5 years to help insure that unfair import competition will not disrupt the U.S. industry's modernization program.

In addition there is a proposal for a 40 per cent liberalization of depreciation rules, an extra 10 per cent credit for investment in distressed areas, refundability provisions for both regular and new investment credits, a \$600 million research and development fund, and a proposal to amend environmental regulations to extend the period of compliance.

Other parts of the new policy include programs to help workers and communities affected by plant closures and lay-offs in the steel industry.

Up until the TPM was suspended in March of this year, Canadian steel was exported to the United States at prices below the trigger price but no action was taken by U.S. officials because 4 Canadian firms (The Algoma Steel Corporation, Limited, Dominion Foundries and Steel, Limited, Ivaco Ltd. and Stelco) had obtained preclearance. These companies were granted preclearance on demonstrating that their selling price was above the cost of production, and the exports by other producers or vendors were sold at comparable prices.

It is expected that U.S. officials will be more stringent when the TPM is reinstated, with one result being that many more Canadian exporters will probably have to obtain preclearance or face an anti-dumping investigation when steel is exported at prices below the trigger price.

Mercury

The General Services Administration (GSA) continues to offer 1,000 flasks of mercury at monthly auctions. In August 1980 the GSA sold 500 flasks of mercury (34.473 kilograms each) to Northbrook Metals, Northbrook, Illinois at an average price of \$390.48 (U.S.) per flask, and 500 flasks to Phillip Brothers Division of Engelhard Minerals & Chemicals Corporation at \$392.85 (U.S.). In September the GSA sold 1,000 flasks of mercury to Northbrook Metals at \$400 (U.S.). The next GSA auction will be held on October 14, when 1,000 flasks of mercury will be offered for sale on a competitive sealed bid basis.

Molybdenum

Industry sources estimate the reduction of molybdenum output due to the U.S. copper industry strike, now in its 12th week, at about 1 500 tonnes per month. However, reduced demand in the steel industry resulting from the current economic recession in the U.S. has more than off-set this loss of production.

As markets continued to weaken through September, Duval Corporation in the U.S. lowered the price for technical grade molybdic oxide to \$9.75 (U.S.) from \$11.04 (U.S.) per pound. AMAX Inc. announced that it is readjusting its pricing structure by narrowing the gap between its domestic price and the export

price. Effective October 1, AMAX will lower its export price from \$11.04 (U.S.) to \$10.20 (U.S.) per pound and will raise its domestic price from the current \$9.00 (U.S.) per pound to \$9.70 (U.S.). On September 29, Noranda Sales Corporation Ltd. and Placer Development Limited also announced that they are lowering their molybdenum price to match the AMAX export price.

Construction at the Highmont Mining Corporation copper/molybdenum mine is essentially completed. However, due to some delivery problems with mill equipment, production has been delayed until January, 1981. Initial production at Highmont will be at an annual rate of 3 600 tonnes of molybdenum in sulphide concentrate but this will decline to about 2 000 tonnes in subsequent years.

The construction of a lubricant plant at Placer Development's Endako mine has been completed. Production of high purity lubricant grade molybdenum disulphide at a rate of one million pounds per year is to commence late in October.

Silver

The silver price moved sharply upwards in September after being comparatively stable for three months. Uncertainty over the future oil price structure as a result of the OPEC meeting in early September followed by the Iraq-Iran conflict were important factors in the price increase. Activity by speculators could also have been a factor. The opening silver price, as quoted by Handy & Harman of New York, was \$16.24 (U.S.) an ounce and was near the month's low. The monthly high of \$24.25 (U.S.) was recorded on September 22. The closing silver price for the month was \$20.45 (U.S.).

The monthly average Handy & Harman silver price for September, 1980 was \$20.14 (U.S.) per ounce of silver compared with \$15.90 (U.S.) for August. The average silver price in Canadian dollars (Handy & Harman) for the month of September was \$754.56 per kilogram (\$23.47 per ounce) compared with \$592.96 (\$18.44) for August.

The strike at Brunswick Mining and Smelting Corporation Limited, which is a major silver producer, was settled on September 25 (see item on zinc).

On September 11, 1980 workers at the United Keno Hill Mines Limited at Elsa, Yukon Territory, went on strike. United Keno is one of the major silver producers in Canada, output in 1979 being 77 179 kilograms (2,481,356 ounces). In 1979, employment at the mine totalled about 300.

On September 20, 1980 workers at the silver mine of Sunshine Mining Company, Kellogg, Idaho, rejected the latest contract offer from the company. Sunshine Mining is one of the largest silver producers in the United States and operations have been suspended since March 15, 1980 because of the labour strike.

Zinc

North American zinc producers have now all switched to a high-grade or special high-grade base rather than prime western for pricing their zinc products. This is logical in that electrolytic special high grade producers have for many years been the dominant force in the industry and the pyrometallurgical prime western producers that once dominated the industry are mostly closed down. Electrolytic producers have to add lead to their base product to produce the prime western grade and now they are charging more for it rather than less as under the previous pricing system.

On September 22, Cominco Ltd. raised its base price for zinc in world markets other than Canada and the United States to \$845 (U.S.) from \$780 (U.S.) a tonne and Australian Mining & Smelting Limited raised theirs to \$805 a tonne. Since then, Noranda, Hudson Bay Mining and Smelting Co., Limited and Canadian Electrolytic Zinc Limited of Australia have followed Cominco's lead. However, European producers have not yet changed their prices because they believe an increase, particularly to \$845, is unrealistic in relation to market conditions.

More than 1,300 employees of the Mining Division of Brunswick Mining and Smelting Corporation Limited at Bathurst, New Brunswick voted September 25 to accept the company's latest offer and end a four-month strike. The employees have been on strike since May 31. Employees at the smelting division also went on strike May 31 but accepted new contract terms and returned to work June 18. The gain for employees over the contract they rejected in May is a 21 cent an hour wage increase over a three-year period and some minor adjustments in other contract terms.

INDUSTRIAL MINERALS AND PRODUCTS

Potash

BP Minerals Limited won the provincial tender for potash exploration on the Millstream structure in New Brunswick. A detailed province-company agreement is being drawn. It consists of a three-year exploration licence and a commitment for minimum expenditures of \$250,000 per year. This will allow the drilling of three holes (one hole costs \$200-300,000). With favourable results it will take about 12 holes to prove up a potash deposit before a decision to start underground exploration is made.

Potash Company of America (PCA) completed their underground drifting and plan to make an announcement on their final production decision towards the end of October. The company hit some salt horses and additional underground drilling is taking place.

Denison announced that it intends to take into partnership on a 60-40 basis the Potash Company of Canada which is a French-German corporation registered in Toronto that was originally created to sell potash from the Alwinal mine in Saskatchewan expropriated three years ago. Denison will retain control. The province has not yet given its final agreement on this proposal, which is also being considered by FIRA. Meanwhile, mine shaft progress continues; some water problems necessitated grouting and small delays. The shaft is now at the 1,750-foot level.

In Saskatchewan 315 workers at Lanigan and Potash Corporation of Saskatchewan staged a three-day wildcat strike. They claimed that the mine violates health and safety regulations. For example the mine lacks emergency power as required under the law.

MINERAL FUELS AND PRODUCTS

Coal

A new long term contract has been signed between an Alberta coal producer and the Japanese steel industry. Gregg River Coal Ltd., a subsidiary of Manalta Coal Ltd. of Calgary, recently announced that a 15-year contract for the annual supply of 2 million tonnes of metallurgical coal had been completed. A

new mine costing approximately \$180 million and eventually employing up to 600 miners will be developed south of Hinton, Alberta to produce this coal. First deliveries are scheduled to begin in late 1982, with the coal moving out through the port of Vancouver.

Work is expected to begin shortly on a program to increase the coal handling capacity at Roberts Bank, south of Vancouver under an agreement signed by federal and British Columbia government representatives. The agreement provides for the expenditure of approximately \$50 million of federal government money to help develop additional terminal facilities and to widen the existing causeway. Terminal capacity will be increased from its current level of 10 million tonnes to approximately 20 million tonnes per year. Provision has been made to increase this further as demand warrants up to nearly 30 million tonnes annually. Actual dredging is expected to begin in 1981, with completion of capacity expansion to 20 million tonnes scheduled for 1983.

The Minister of Energy, Mines and Resources Releases Coal Discussion Paper and a Statement on its Position Towards Production and Export of Liquids from Canadian Coal

The Hon. Marc Lalonde, Minister of Energy, Mines and Resources released a Discussion Paper on Coal at the 32nd Canadian Conference on Coal at Vancouver in September. The paper is the first of several that the federal government will release in coming months to stimulate public discussion of Canada's energy options. Coal currently provides nearly 9 per cent of Canada's domestic primary energy supply and the paper points out that this could grow to between 12 and 18 per cent in the next twenty years. To achieve this growth Canadian thermal coal consumption was forecast to grow from 29 million tonnes in 1980, to between 44 and 59 million tonnes in 1990 and 70-85 million tonnes by the year 2000. Production of coking coal for export and other coal was also forecast to increase.

The paper discussed the use of coal to help displace oil in the generation of electricity in eastern Canada, the increased use of coal in conventional coal-to-electricity process in western Canada, the possible use of coal in future oil sands developments for steam-raising to increase liquid product yields and issues influencing future coal developments in Canada. The Minister encouraged public responses to this paper.

At the same conference, the Minister announced that the federal government was prepared "to examine proposals for the production of liquids from coal in Canada on a case-by-case basis", and that it was prepared "to negotiate terms for the export of the liquid product to other nations as exceptions to the usual

conditions administered by the National Energy Board". The Minister pointed out that Canada would need to ensure that any such developments would provide substantial benefits to the nation, including: access to technology developed in the process of setting up liquefaction plants; access to investment opportunities and maximum use of Canadian goods and services in the construction and operation of these large scale facilities.

Uranium

Denison Mines Limited's mill expansion project which would have doubled the throughput capacity from 6 400 to 14 000 tonnes of ore per day has been severely set back as a result of a multi-million dollar fire that destroyed the new facility. Normal production will continue at the existing mill which was not damaged by the blaze but it is uncertain whether Denison's contract commitments will be affected. No one was injured in the fire.

Legislation concerning the seven-year moratorium on uranium exploration and mining in British Columbia has been strengthened by a regulation designed to stop all types of exploration and mining if significant quantities of uranium are discovered; the limit is 0.05 per cent uranium in isolated samples and 0.01 per cent at exploration sites, developed orebodies and producing mines. The percentage of uranium must be reported to the chief inspector of mines within seven days and, following review, work may be permitted to resume only where the uranium content is below the allowable limit.

Eldorado Nuclear Limited has dropped its option on roughly 6 square kilometres of land near Warman, Saskatchewan, northeast of Saskatoon. The company had proposed a \$100 million uranium refinery for the site but was unable to negotiate a one-year extension to the existing option. Eldorado will consider alternative possibilities in Saskatchewan, including the Warman and Saskatoon areas.

Denison Mines Limited has received approval from the Australian government to acquire the Koongara uranium interests of Noranda Australia Ltd., located some 225 kilometres southeast of Darwin in Australia's Northern Territory. As reported earlier, approval was subject to a 90-day examination period by the Australian Foreign Investment Review Board (FIRB). Denison must comply with the FIRB guidelines which require 75 per cent Australian equity in the project when the development stage is reached, and Australian control when the project comes into production. Environmental and aboriginal land rights matters must be resolved by Denison which hopes to proceed with development as soon as possible. Reserves in the No. 1 and No. 2 orebodies are estimated to contain about 11 300 tonnes U and are amenable to year-round open pit mining.

The Australian government has negotiated the sale of its share of the Ranger uranium project, Northern Territory, to Energy Resources of Australia (ERA), the consortium formed to acquire the interests of the joint partners in the project as well as the interests of the government. The terms include the reimbursement of all past expenditures incurred by the Australian Atomic Energy Commission, payments in lieu of uranium royalties and a premium of \$125 million (A). Recent sales contracts negotiated by ERA with West Germany and Japan are worth more than \$2,000 million (A). Construction of the ore treatment plant and other facilities is half completed and overburden removal has begun. Commercial production of about 2 540 tonnes/year of uranium in concentrate is expected by late 1981.

South African uranium producers have reportedly begun to stockpile uranium oxide as a result of continued market weakness and the decline in the spot price for uranium. Recovered as a by-product at gold mining operations, South African uranium can be produced at costs reported to be in the order of \$30 (U.S.)/kg U, considerably less than uranium produced at conventional operations in the other major producing countries.

SPECIAL ITEM

Lake Erie Works, Nanticoke, Ontario

The Lake Erie Works (LEW) is the only Greenfield steel complex to be constructed in North America in many years and is the largest single venture in the history of Canadian steelmaking. The origin of LEW dates back to 1962 when Stelco, confined by limited space at its Hilton Works in Hamilton, decided to construct a new steel complex to meet long-term expansion needs. Stelco eventually selected the Nanticoke area, a region of marginal farmland on the shore of Lake Erie, where Texaco Canada Inc. was building a refinery and Ontario Hydro had decided to establish a coal-fired thermal plant. Located in the centre of the Ontario steel market, the site is attractively situated with respect to coal and iron ore supplies which can be shipped from points in northern Ontario and the U.S.A. without having to pass through the Welland Canal. Also, production can be closely coordinated with the nearby Hilton Works, located some 60 kilometres to the northeast.

Land acquisition was started in 1968 and, in total, 10 square miles (6,600 acres) of land were acquired. Groundbreaking ceremonies were held in May, 1974.

The venture required the construction of a 1 190 metre long unloading dock, situated in the lee of Long Point on Lake Erie. Self-unloading ships up to 305 metres in length (45 000 tonnes) can transfer coal and iron ore pellets onto the dock from where it is moved by a 2 km long conveyor system to the raw materials yard. All materials move from one process to the next in a general south to north direction, from the off-loading of coal and iron ore to the casting of slabs.

Construction is well underway on the 45 coke ovens battery which is scheduled for completion in 1981. Annual capacity of the unit will be 522 000 tonnes. An associated coke chemical recovery plant will separate coke oven gas, tar, light oils and other byproducts. Until such time as the coke ovens are completed, coke will be supplied from Hamilton.

The blast furnace, with a rated capacity of 4 764 tonnes per day, is scheduled to operate at 2 722 tonnes a day during Stage I production. A conveyor belt transports raw materials from a computer-controlled stockhouse to the blast furnace. The pre-mixed raw materials are charged into the blast furnace by a computer-controlled rotating distributor, which permits even spreading of the charge in the furnace shaft. Three stoves provide hot air to the furnace to raise the temperature of the burden to 1,200°C. Torpedo ladle cars are used to transport molten iron to the basic oxygen furnace shop.

Steel is made in two basic oxygen furnaces, each with a capacity of 230 tonnes. After tapping and transferring the molten metal from a ladle to the tundish, the steel flows into a two-strand continuous slab caster that features vertically oscillating, water-cooled copper molds. This caster can produce slabs up to 300 mm thick (currently 240 mm), and 1 880 mm wide. Slabs are cut by torch into lengths up to 12.2 metres in length and weighing 36.3 tonnes.

A hot strip mill at LEW is scheduled for start-up in 1983. The building for this mill is already fully enclosed. Until such time as the hot strip mill is completed, slabs will be trucked to Hilton Works for processing.

The total cost of LEW Stage I is \$829 million. Pollution abatement and environment protection costs amount to over 10 per cent of this total. A landscaped greenbelt, where 75,000 trees have been planted, surrounds the complex. High earth berms have been built to reduce noise and to confine wind-blown particles, as well as to conceal much of the complex from public view. All conveyor belts are housed or covered to prevent dusting. Several ponds of reclaimed water and natural run-off, complete with water-fowl, have been blended into the site landscape. In addition, the latest environmental technology, reclamation of off-products and energy saving devices have been incorporated into the design.

One of the striking features of LEW is the large expanse of open land available for future expansion. Current annual capacity of 1.2 million tonnes is primarily limited by the capacity of the continuous caster. As market demand grows, additional casters can be added. The complex has been designed to permit the addition of incremental units up to an annual capacity of 5.4 million tonnes. Ultimately, the site could accommodate a complex capable of producing 18 million tonnes of steel a year.

NEW PUBLICATIONS

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

NOUVELLES PUBLICATIONS

Les publications suivantes ont été préparées par le Secteur de la politique minérale du ministère de l'Énergie, des Mines et des Ressources et diffusées pour distribution au cours du mois de septembre.

Revue annuelle de l'industrie minérale du Canada, 1978: le béryllium, le gaz naturel, le phosphate, le talc et la pierre de savon; pyrophyllite, la barytine et la célestite, la syénite néphélinique et le feldspath, le bismuth, le columbium (niobium) et le tantale, le mercure, le spath fluor, le césium, les aggrégats légers, l'antimoine, le chrome, le magnésium, les métaux du groupe platine, le tungstène, le zirconium. Prix \$1 l'exemplaire.

Annual Reviews of the Canadian Mineral Industry, 1978: Statistical summary of the Canadian mineral industry. Price \$1.00.

The above publications are available from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa.

Les publications ci-dessus sont disponibles en s'adressant au: Centre d'édition du gouvernement du Canada, Approvisionnement et Services Canada, Ottawa.

