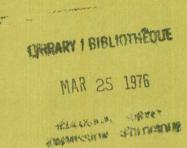
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The Canadian Mineral Industry Monthly Report

February, 1976

Energy, Mines and Resources Canada Énergie, Mines et Ressources Canada

Minerals

Minéraux

PREFACE

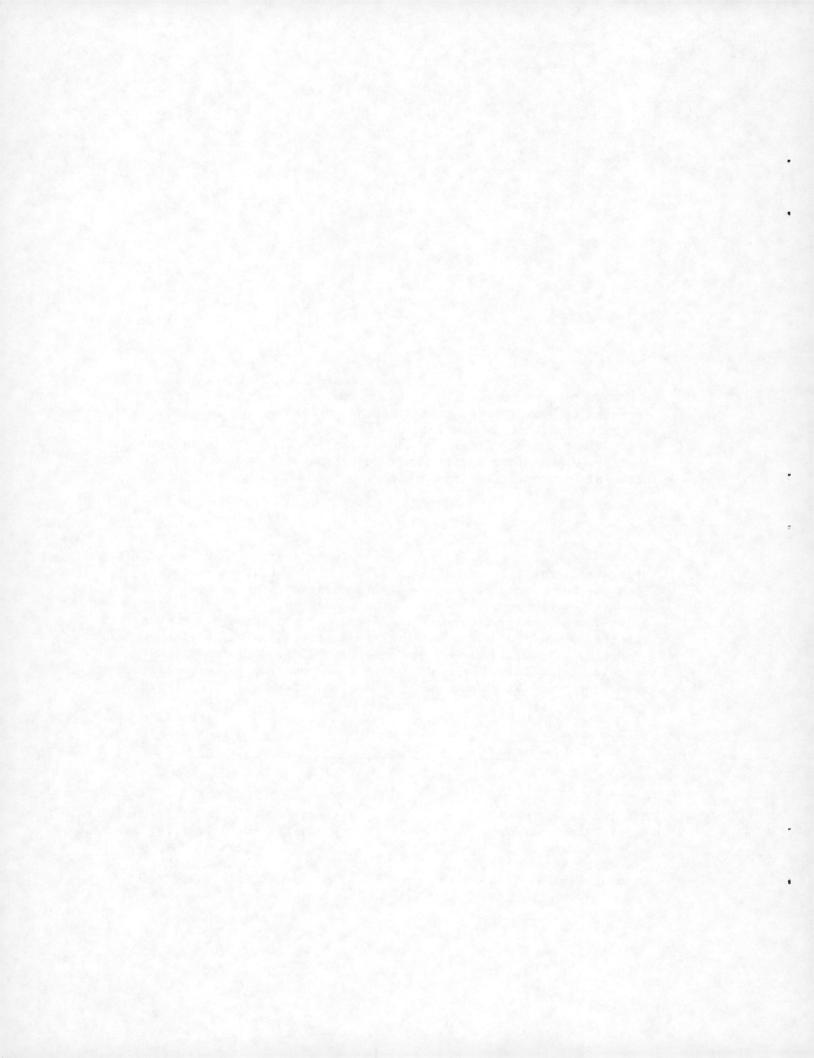
This report is prepared in the Mineral Development Sector of the Department of Energy, Mines and Resources. It is prepared from the best information available to us from many sources, but it is only intended to be a general review of the more important current developments in the Canadian mineral industry 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 l'Exploitation Minérale du Ministère de l'Energie, des Mines et des Ressources. Bien que nous ayons eu recours à de nombreuses sources pour vous fournir les meilleurs renseignements possibles, cet exposé n'a pour objet que de passer en revue les développements actuels les plus importants de l'industrie minière canadienne, de même que les progrès accomplis ailleurs qui peuvent intéresser l'industrie canadienne. On ne doit pas considérer cet exposé comme une source de renseignements précis ou comme l'expression des vues du Gouvernement canadien.

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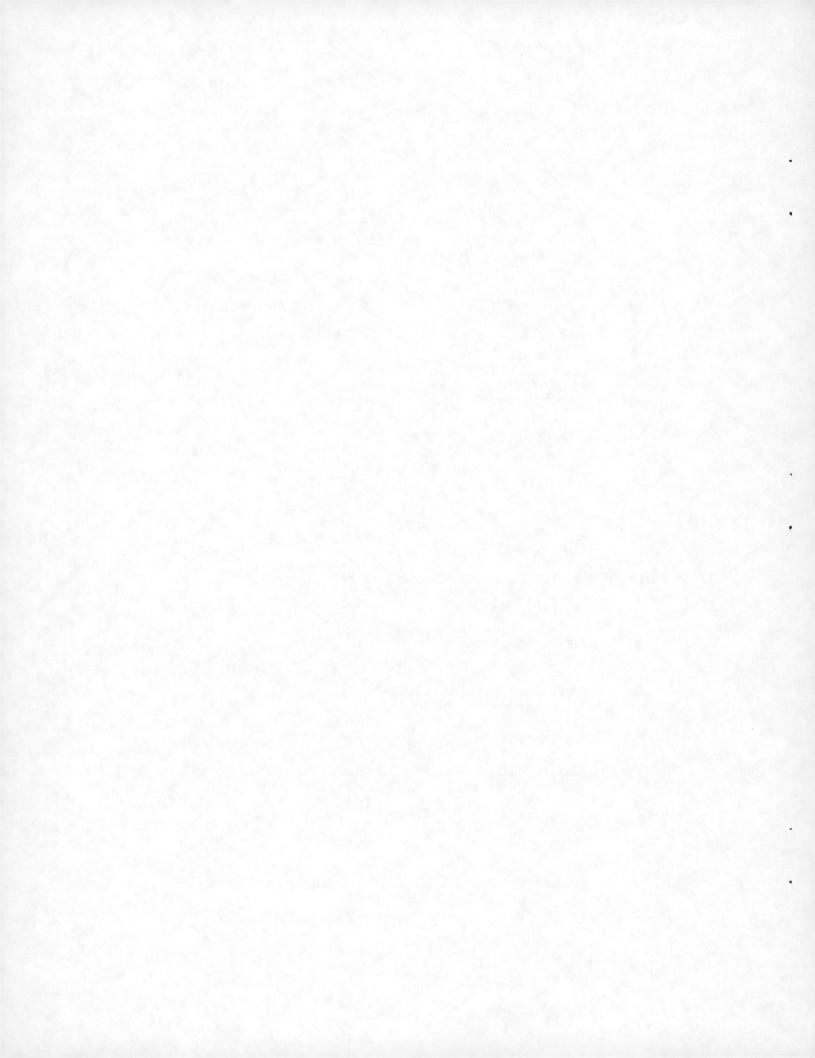
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THE CANADIAN MINERAL INDUSTRY FOR FEBRUARY

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

SUMMARY

- 1. Canada's unadjusted index of real domestic product was 116.3 in December 1975, a decrease of 1.1 per cent from November.
- 2. The December index for total mining was 108.5, a decrease of 3.1 per cent from the previous month.
- 3. The Mining Duties Act in the Province of Quebec has been thoroughly revised; mining duties have been raised.
- 4. Prices for flat rolled aluminum products have been raised in the United States.
- 5. A major copper project in Zaire has been postponed.
- 6. On February 8, Kennecott Copper Corporation temporarily curtailed mining activities at its Nevada mines division.
- 7. Twenty-two per cent o Great Lakes Nickel Limited may be sold to Swedish interests.
- 8. Rengold Mines Ltd. gold mine began production in January.
- 9. Steep Rock Iron Mines Limited was the subject of a takeover bid by Canadian Investments Ltd. in January.
- 10. Shipments of lead and zinc, contracted for delivery to Japan in 1976 have been put back to 1977.
- 11. Kanichee Mining Incorporated ceased production February 6 at its copper-nickel mining operation at Temagami, Ontario.
- 12. The Quebec government has purchased a partially finished nickel refinery site at Becancour.
- 13. The noncommunist world consumption of silver was down sharply in 1975 compared with 1974.
- 14. Thai Zinc Co. Ltd. announced that it was suspending all operations in Thailand at the end of February.
- 15. A new zinc refinery is under consideration in Ireland.
- 16. St. Lawrence Fertilizers Ltd. of Valleyfield, Quebec announced that it will shut down operations in April.

- 17. Ontario Hydro announced the temporary closing of the J. Clark Keith coal-fired power station.
- 18. Panarctic Oils Ltd. has encountered significant volumes of gas off Melville Island.
- 19. Prices for 1976 delivery of uranium to Japan have been renegotiated upwards.
- 20. Efforts are being made to stabilize world tungsten prices.

ECONOMIC TRENDS

Canada's index of real domestic product was 116.3 in December, a decrease of 1.1 per cent from November.

The December index for total mining was 108.5. The metal mines index, at 104.5 showed a 2.3 per cent decrease from November. In this sector, iron mines decreased 9.3 per cent from the previous month. The Miscellaneous Metal Mines group, which includes all nonferrous metal mines, remained virtually unchanged in output from November with a 0.1 per cent decrease.

The mineral fuels index showed a slight increase to 116.5 in December, with coal mines registering an 8.0 per cent decrease. Non-metal mines were down 13.8 per cent to 104.9 in December.

Table 2 compares the production of 19 leading minerals in November and December during the years 1974 and 1975.

Tables 3 and 4 show imports and exports, respectively, of selected mineral commodities.

TABLE 1
CANADA, INDEXES OF REAL DOMESTIC PRODUCT, BY INDUSTRIES UNADJUSTED (1971=100)

| | | 1974 | | | 1975 | | | PERCENTAGE | CHANGES | |
|--|-------|--|------------------------|-------|--|------------------------|----------------------|------------|----------------------|------------------------------|
| INDUSTRY OR INDUSTRY GROUP | NOV | | VERAGE 12 MONTHS | NOV | | VERAGE 12 MONTHS | NOV 1975 NOV 1974 | DEC 1975 | DEC 1975 NOV 1975 | 12 MONTHS 1975 1974 |
| REAL DOMESTIC PRODUCT | 116.4 | 113 3 | 115.8 | 117.6 | 116.3 | 115.6 | 1.0 | 2.6 | -1.1 | -0.2 |
| PRIMARY INDUSTRIES | 110.4 | 113.5 | 113.0 | 111.0 | 110.5 | 113.0 | 1.0 | 2.0 | | -0.2 |
| AGRICULTURE | 33.8 | 30.5 | 82.9 | 25.7 | 32.3 | 81.6 | -24.0 | 5.9 | 25.7 | -1.6 |
| FORESTRY | 145.6 | | 121.1 | 81.6 | | 98.4 | -44.0 | -26.0 | 11.5 | -18.7 |
| FISHING AND TRAPPING | 42.4 | | 84.8 | 55.4 | | 74.1 | 30.7 | 3.2 | 44.0 | -12.7 |
| MINES, QUARRIES AND OIL WELLS | | | | 112.0 | | 106.2 | -0.9 | -7.3 | -3.1 | -7.1 |
| METAL MINES | 106.2 | | 105.7 | 107.0 | The state of the s | 99.9 | 0.8 | -7.8 | -2.3 | -5.5 |
| PLACER AND GOLD QUARTZ MINES | | | 69.9 | 69.6 | | 71.2 | -2.5 | -11.2 | | 1.9 |
| IRON MINES | 125.3 | | 106.9 | 129.4 | | | 3.3 | 5.4 | -9.3 | -0.7 |
| MISCELLANEOUS METAL MINES | 103.2 | | 107.1 | 103.3 | | 99.7 | 0.1 | -10.8 | -0.1 | -7.0 |
| MINERAL FUELS | 117.8 | | | 115.3 | | | -2.1 | -7.6 | 1.0 | -7.6 |
| COAL MINES | 185.9 | | 158.4 | 203.8 | | 200.3 | 9.6 | 1.6 | -8.0 | |
| CRUDE PETROLEUM AND NATURAL | 100.9 | 104.5 | 150.4 | 203.0 | 101.5 | 200.5 | 9.0 | 1.0 | -0.0 | 26.5 |
| GAS GAS | 112 2 | 121.3 | 120 0 | 100 0 | 110.7 | 107 2 | 2 7 | -8.7 | 2.5 | -11.3 |
| NONMETAL MINES | | 118.5 | | 121.7 | | | | | | |
| ASBESTOS MINES | 104.7 | the state of the s | 101.0 | 96.5 | | 64.7 | 2.0 | 1.1.6.2 | -13.8 | -16.5 |
| SECONDARY INDUSTRIES | 104.1 | 07.1 | 101.0 | 90.5 | 02.9 | 04.7 | -7.8 | -4.8 | -14.1 | -35.9 |
| MANUFACTURING | 120 7 | 110.4 | 110 5 | 117 6 | 107.6 | 112 4 | -2.7 | 2 5 | 0.4 | |
| NONDURABLE MANUFACTURING | | 108.2 | | 113.5 | | | | | -8.4 | -5.1 |
| PETROLEUM AND COAL PRODUCTS | 113.2 | 100.2 | 115.5 | 113.5 | 104.7 | 110.3 | -1.5 | -3.2 | -7.8 | -4.4 |
| INDUSTRIES | 120 6 | 132.3 | 127.0 | 131.1 | 136.8 | 124.5 | 1.2 | 3.4 | 1.3 | 1.0 |
| DURABLE MANUFACTURING | | | | | | | | | 4.3 | -1.9 |
| PRIMARY METAL INDUSTRIES | 126.2 | | | | 110.6 | | -3.6 | -1.9 | -9.0 | -5.8 |
| | 121.9 | | 119.0 | | | 107.9 | -10.2 | -10.2 | -8.2 | -9.3 |
| | 125.2 | | | 109.9 | | 111.1 | -12.2 | -12.0 | -7.8 | -9.6 |
| | 157.3 | | | 137.3 | | 141.7 | -12.7 | -24.0 | -16.9 | 0.3 |
| | 154.8 | | | 158.2 | | 123.8 | 2.2 | -4.9 | -31.0 | -14.7 |
| NONMETALLIC MINERAL PRODUCTS | 106.5 | 100.8 | 105.4 | 94.3 | 93.3 | 95.9 | -11.5 | -7.4 | -1.1 | -9.0 |
| INDUSTRIES | 120 4 | 102 2 | 122 2 | 121 1 | 101 0 | 110 2 | 1.2 | 0.4 | 22.2 | 1.0 |
| [[[전기 : [[[[[[[] [[] [[] [[] [[] [[] [[] [[] | 133.5 | | | | | | 1.3 | | | -4.0 |
| READY-MIX CONCRETE MANU- | 133.5 | 99.1 | 121.0 | 140.0 | 84.1 | 117.1 | 4.9 | -14.5 | -39.5 | -8.4 |
| FACTURERS | 132.7 | 63.9 | 110 0 | 122 5 | 667 | 110 4 | 2 2 | | 46.1 | |
| CONSTRUCTION INDUSTRY | 109.6 | | | | | 110.6 | -3.2 | 4.4 | -48.1 | -6.4 |
| TRANSPORTATION, STORAGE, COM- | 109.0 | 90.1 | 107.1 | 110.5 | 102.6 | 104.5 | 7.9 | 13.1 | -13.3 | -2.4 |
| MUNICATION STORAGE, COM- | 125.5 | 122 1 | 100 0 | 101 0 | 124 2 | 104 = | 2.0 | 0 0 | | |
| ELECTRIC POWER, GAS AND WATER | 155.5 | 123.1 | 123.3 | 121.9 | 124.2 | 1/4.5 | -2.9 | 0.9 | 1.9 | 0.9 |
| UTILITIES GAS AND WATER | 127.0 | 134 5 | 100 0 | 1000 | 122 7 | 100 3 | 0.0 | | | |
| TRADE | | 134.5 | | | 133.7 | | -0.8 | -0.6 | 6.1 | 0.0 |
| FINANCE, INSURANCE, REAL ESTATE | 123.3 | | | | 144.2 | | 4.2 | 10.5 | 12.2 | 0.0 |
| | 119.9 | 120.1 | 117.0 | 123.9 | 124.3 | 122.1 | 3.3 | 3.5 | 0.3 | 3.8 |
| COMMUNITY, BUSINESS AND PERSONAL SERVICE | 117 / | 111 | | 100 7 | 101 | | | | | |
| | 117.0 | 110.3 | 114.6 | 122.1 | 121.2 | 119.1 | 4.3 | 4.2 | -1.2 | 3.9 |
| PUBLIC ADMINISTRATION AND DE- FENCE | 112 | 110 | 110 | | | | | | | |
| LENGE | 113.0 | 113.4 | 113.9 | 111.6 | 116.7 | 118./ | 3.5 | 2.9 | -0.8 | 4.2 |

TABLE 2

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

| | | | | | | | | Per | centage Changes | 3 |
|---------------------------------------|---------|-----------|-----------|-------------|-----------------------|-----------|-------------|-------------|-----------------|----------|
| | | | 1974 | | | 1975 | | | | 12 month |
| | | | | Total | | | Total | December 75 | December 75 | 1975 |
| | | November | December | 12 months | November | December | 12 months | December 74 | November 75 | 1974 |
| Metals | | | | | | | | | | |
| Copper | | 71.2 | 88.1 | 905.4 | 69.3r | 66.8 | 785.8 | -24.2 | -3.6 | -13.2 |
| Gold | 000 oz | 138.1 | 140.1 | 1,698.4 | 118.2 | 134.0 | 1,620.8 | -4.4 | +13.4 | -4.6 |
| Iron ore | | 5,884.6 | 4,338.4 | 51,571.1 | 5,046.8 | 4,809.1 | 49,338.2 | +10.9 | -4.7 | -4.3 |
| Lead | | 22.9 | 25.0 | 324.4 | 25.2r | 46.6 | 369.9 | +86.4 | +84.9 | +14.0 |
| Molybdenum | 000 1b | 2,511.8 | 2,337.9 | 30,736.4 | 2,060.8r | 2,815.8 | 28,679.2 | +20.4 | +36.6 | -6.7 |
| Nickel | | 22.2 | 25.4 | 289.1 | 21.8 | 22.6 | 268.8 | -11.0 | +3.7 | -7.0 |
| Silver | 000 oz | 2,777.8 | 3,351.0 | 47,487.6 | 3,100.9r | 3,951.7 | 40,004.2 | +17.9 | +27.4 | -15.8 |
| Uranium U ₃ O ₈ | 000 1b | 586.9 | 934.1 | 9,590.5 | 1,073.8 | 1,307.5 | 10,445.1 | +40.0 | +21.8 | +8.9 |
| Zinc | | 99.5 | 98.0 | . 1,242.3 | 119.6 ^r | 114.0 | 1,159.7 | +16.3 | -4.7 | -6.7 |
| Nonmetals | | | | | | | - | | | |
| Asbestos | | 142.5 | 140.7 | 1,810.7 | 152.3 | 140.1 | 1,163.5 | -0.4 | -8.0 | -35.7 |
| Gypsum | | 671.7 | 485.4 | 7,964.4 | 584.8 | 553.7 | 6,332.4 | +14.1 | -5.3 | -20.5 |
| Potash K ₂ O | | 502.1 | 532.6 | 6,367.0 | 378.7 | 467.2 | 5,209.4 | -12.3 | +23.4 | -18.2 |
| Salt | | 603.6 | 703.0 | 5,564.6 | 447.8 | 503.5 | 5,646.7 | -28.4 | +12.4 | -1.5 |
| Cement | | 976.2 | 543.8 | 11,632.9 | 919.0 | 550.4 | 10,/14.4 | +1.2 | -40.1 | -7.0 |
| Clay products | 000 \$ | 6,057.8 | 4,879.5 | 70,514.9 | 7,433.5 | | | | | |
| Lime | | 155.2 | 162.7 | 1,999.9 | 133.0 | 140.9 | 1,701.5 | -13.4 | +5.9 | -14.9 |
| Fuels | | | | | | | | | | |
| Coal | | 2,281.5 | 2,281.7 | 22,990.2 | 2,401.7 | | | | | |
| Natural gas | MMcf | 259,885.0 | 275,388.0 | 3,023,669.0 | 266,376.0r | 282,193.0 | 3,071,222.0 | +2.5 | +5.9 | +1.6 |
| Petroleum | 000 вы1 | 45,147.0 | 51,223.0 | 613,524.0 | 42,251.0 ^r | 45,064.0 | 517,782.0 | -12.0 | +6.7 | -15.6 |

^{..} Not available; r Revised.

TABLE 3

Canada, Imports of Selected Mineral Commodities

(thousands of dollars)

| | J. | anuary-Decem | % Change | | |
|---|---------|--------------|-----------|-------|-------|
| Commodity | 1973 | 1974 | 1975 | 74/73 | 75/74 |
| Iron ores and concentrates | 39,648 | 38,108 | 122,892 | -3.8 | 222.4 |
| Scrap iron and steel | 35,631 | 56,540 | 56,141 | 58.6 | -0.7 |
| Aluminum ores, concentrates and scrap | 93,519 | 116,799 | 132,995 | 24.8 | 13.8 |
| Other metals in ores, concentrates | ,,,,,, | | 131,773 | 21.0 | 13. |
| and scrap | 161,636 | 185,848 | 154,956 | 14.9 | -16.6 |
| Coal | 167,079 | 302,899 | 576,342 | 81.2 | 90.2 |
| Crude petroleum | 940,687 | 2,646,203 | 3,299,166 | 181.3 | 24.6 |
| Other crude bituminous substances | 8,288 | 6,370 | 8,504 | -23.1 | 33.4 |
| Abrasives, natural | 9,827 | 12,521 | 12,561 | 27.4 | 0.: |
| Phosphate rock | 23,913 | 40,068 | 85,132 | 67.5 | 112.4 |
| Other crude nonmetallic minerals | 54,566 | 67,528 | 82,721 | 23.7 | 22.4 |
| Other waste and scrap materials | 24,156 | 37,768 | 23,196 | 56.3 | -38. |
| Fertilizers and fertilizer materials | 18,808 | 32,409 | | 72.3 | |
| Fuel oil | 131,796 | | 53,758 | | 65. |
| | 30,239 | 236,242 | | 79.2 | -54.6 |
| Lubricating oils and greases | 27,592 | 48,750 | 45,389 | 61.2 | -6.9 |
| Coke of petroleum and coal | | 54,728 | 80,650 | 98.3 | 47.3 |
| Other petroleum and coal products | 24,877 | 33,905 | 42,221 | 36.2 | 24.5 |
| Bars and rods, steel | 94,779 | 247,456 | 136,003 | 161.0 | -45.0 |
| Plate, sheet and strip, steel Structural shapes, steel and | 222,574 | 472,196 | 277,378 | 112.1 | -41.2 |
| sheet piling | 79,369 | 184,385 | 63,402 | 132.3 | -65.6 |
| Pipes and tubes, iron and steel | 94,855 | 150,491 | 183,299 | 58.6 | 21.8 |
| Vire and wire rope, iron and steel | 40,219 | 68,962 | 66,069 | 71.4 | -4.2 |
| Other iron and steel alloys | 121,018 | 136,063 | 211,917 | 12.4 | 55. |
| Aluminum including alloys | 127,805 | 173,659 | 111,871 | 35.8 | -35.5 |
| Copper and alloys | 71,629 | 96,494 | 55,514 | 34.7 | -42.4 |
| Nickel and alloys | 71,672 | 92,939 | 90,362 | 29.6 | -2. |
| Precious metals including alloys | 36,788 | 141,338 | 76,163 | 284.1 | -46.3 |
| Tin, including alloys | 24,177 | 43,886 | 33,353 | 81.5 | -24.0 |
| Other nonferrous metals and alloys | 41,439 | 59,768 | 54,649 | 44.2 | -8:5 |
| Bolts, nuts and screws | 83,026 | 108,298 | 107,332 | 30.4 | -0.9 |
| Other basic hardware | 94,873 | 120,937 | 112,879 | 27.4 | -6.6 |
| Chain | 21,232 | 30,664 | 31,807 | 44.4 | 3. |
| Valves | 64,234 | 78,775 | 119,342 | 22.6 | 51.4 |
| Pipe fittings | 46,734 | 75,766 | 96,079 | 62.1 | 26.8 |
| Other metal fabricated basic products | 105,018 | 151,222 | 163,858 | 43.9 | 8.3 |
| Clay bricks, clay tiles and refractories | 59,432 | 89,678 | 106,784 | 50.8 | 19.0 |
| Sheet and plate glass | 32,962 | | | | |
| [19] [19] [19] [19] [19] [19] [19] [19] | | 36,317 | 32,484 | 10.1 | -10.5 |
| Other glass basic products | 45,058 | 51,836 | 49,288 | 15.0 | -4.9 |
| Abrasive basic products | 28,469 | 37,789 | 34,243 | 32.7 | -9.3 |
| Natural and synthetic gem stones Other nonmetallic mineral basic | 29,978 | 35,876 | 42,852 | 19.6 | 19.4 |
| products | 49,086 | 78,450 | 95,578 | 59.8 | 21.8 |

TABLE 4

Canada, Exports of Selected Mineral Commodities
(thousands of dollars)

| Commodity | Ja | nuary-Decemb | % Change | | |
|---|------------------|--------------|------------------|--------------|--------------|
| | 1973 | 1974 | 1975 | 74/73 | 75/74 |
| Iron ores and concentrates | 461,996 | 542,553 | 685,712 | 17.4 | 26.3 |
| Scrap iron and steel | 35,710 | 31,344 | 31,487 | -12.2 | 0.4 |
| Aluminum ores, concentrates and scrap | 23,086 | 33,835 | 26,308 | 46.5 | -22.2 |
| Copper in ores, concentrates and scrap | | 647,422 | 331,294 | 16.2 | -48.8 |
| Lead in ores, concentrates and scrap | 52,208 | 64,565 | 57,295 | 23.6 | -11.2 |
| Nickel in ores, concentrates and scrap | | | | | |
| Precious metals in ores, concentrates | 441,950 | 438,233 | 515,726 | -0.8 | 17.6 |
| and scrap | 88,564 | 1/6 060 | 120 000 | (5.0 | 11 / |
| : 10kg : 10kg 14kg 1 10kg 15kg 15kg 15kg 15kg 15kg 15kg 15kg 15 | | 146,862 | 130,090 | 65.8 | -11.4 |
| Zinc in ores, concentrates and scrap | 198,088 | 318,601 | 303,825 | 60.8 | -4.6 |
| Radioactive ores and concentrates Other metals in ores, concentrates | 64,150 | 51,309 | 45,282 | -20.0 | -11.7 |
| and scrap | 76,929 | 98,571 | 109,234 | 28.1 | 10 0 |
| [25] 세계 [10] [26] [26] [26] [26] [26] [26] [26] [26 | 1,482,117 | 3,406,785 | 3,051,511 | | 10.8 |
| Natural gas | 350,745 | | | 129.8 | -10.4 |
| Coal and other crude bitumen | 330,743 | 493,640 | 1,092,168 | 40.7 | 121.2 |
| substances | 165,503 | 319,128 | 493,582 | 92.8 | 54.6 |
| Asbestos, unmanufactured | 280,871 | 339,313 | 299,686 | 20.8 | |
| Sulphur | 45,007 | 91,016 | 113,130 | 102.2 | -11.6 |
| Other crude nonmetallic minerals | 82,208 | 80,013 | 77,795 | -2.6 | 24.2 |
| Other waste and scrap materials | 16,605 | 23,181 | 16,249 | 39.6 | |
| Fertilizers and fertilizer materials | 282,649 | 421,147 | 456,189 | 48.9 | -29.9 8.3 |
| Petroleum and coal products | 311,601 | 615,111 | | | |
| Ferroalloys | 12,030 | 15,492 | 622,151 9,643 | 97.4 28.7 | 1.1 |
| Primary iron and steel | 66,073 | 116,078 | 99,597 | 75.6 | -37.7 |
| Castings and forgings, steel | | | | | -14.2 |
| Bars and rods, steel | 97,534 42,267 | 112,585 | 116,953 | 15.4 | 3.8 |
| Plate, sheet and strip, steel | | 65,748 | 51,774 | 55.5 | -21.2 |
| Railway track material | 145,284 | 194,727 | 165,086 | 34.0 | -15.2 |
| Other iron and steel alloys | | 24,288 | 30,022 | 43.3 | 23.6 |
| Aluminum, including alloys | 99,883 | 220,693 | 272,176 | 120.9 | 23.3 |
| Copper and alloys | 373,863 | 508,114 | 438,009 | 35.9 | -13.8 |
| Lead, including alloys | 521,533 | 650,104 | 474,749 | 24.6 | -26.9 |
| 하는 사람들은 사람들은 사람들은 사람들은 사람들은 전에 가장 보면 되었다. 그 아니는 그 사람들은 사람들은 사람들은 사람들은 사람들이 되었다. | 43,197 | 40,237 | 49,492 | -6.8 | 22.9 |
| Nickel and alloys | 377,326 | 436,746 | 413,287 | 15.7 | -5.3 |
| Precious metals, including alloys | 60,052 | 102,573 | 108,943 | 70.8 | 6.2 |
| Zinc, including alloys | 203,540 | 226,594 | 202,985 | 11.3 | -10.4 |
| Other nonferrous metals and alloys | 24,576 | 26,942 | 25,277 | 9.6 | -6.1 |
| Metal fabricated basic products | 160,112 | 218,043 | 226,317 | 36.1 | 3.7 |
| Abrasive basic products Other nonmetallic mineral | 56,673 | 65,813 | 58,087 | 16.1 | -11.7 |
| basic products | 107,774 | 100 006 | 105 261 | 1.1 | 2 / |
| basic produces | 107,774 | 108,996 | 105,264 | 1.1 | -3.4 |

TAXATION AND LEGISLATION AFFECTING MINING AND ALLIED INDUSTRIES IN CANADA

Federal

Territorial Lands Act: The Department of Indian Affairs and Northern Development gave notice on February 6, 1976 of the proposal to substitute new regulations for the Territorial Land Use Regulations, P.C. 1971-2287, SOR/71-580. (Canada Gazette Part I, February 14, 1976).

All measurements in the new regulations are given in the metric system.

The new definitions include "Class A" and "Class B" permits for work or activity on territorial lands. These permits regulate the use of explosives, the weight of vehicles or drilling machinery, campsites, petroleum fuel storage, earth movers and line-cutting.

The proposed regulations are a general revision of the existing regulations, incorporating the following changes and additions: Exemptions would be broadened to include prospecting not requiring a Class A or Class B permit, and a timber operation under the Timber Regulations. Special provision would be made for a small (up to 4,000 litre) fuel cache.

Where an operation threatens to cause erosion, erosion control measures would be required. Provision would be required for rehabilitation of campsites. On completion of a land-use operation, all buildings, machinery, equipment, materials and fuel drums or other storage containers would have to be removed from territorial lands.

The present seven land management zones (three in the Yukon and four in the Northwest Territories) would be consolidated, making each territory a separate land management zone.

Every operator of a land-use operation would be required to display an exact copy of his land-use permit. The application fee for a land-use permit remains at \$10. Where lands shown on the preliminary plan exceed an area of two hectares (approximately five acres), the applicant would be required to pay a land-use fee for each hectare in excess of two of:

- (a) \$20 for lands south of the 65th parallel of north latitude, or
- (b) \$12 for lands north of the 65th parallel of north latitude.

If the land-use fee accompanying the application exceeds the required fee for the lands actually included in the permit, the excess would be refunded; or if the application is refused, the land-use fee would be refunded, but no application fee would be refunded.

Monthly progress reports would no longer be required.

Security deposits would be based on \$2,500 per hectare which is roughly equivalent to the former \$1,000 per acre.

The application form for a land-use permit would be modified slightly, effectively bringing the form up to date.

Provincial

British Columbia

The Petroleum and Natural Gas Royalty Regulations (B.C.R. 737/75) repeals and replaces the former regulations. The new regulations establish new classifications of petroleum and natural gas for prescribing royalties, and give details of new royalties and exemptions. Other provisions include detailed definitions of "allowable cost" and "allowable work"; particulars of the credit system in respect of petroleum transferred to the Province; and new filing requirements.

Quebec

Income Tax Legislation, 1975: The deduction of mining duties and other royalties paid to a public authority in respect of a mining or oil business is prohibited and the Lieutenant-Governor in Council is enabled to grant a deduction in respect of an oil well or a mineral resource.

Mining Duties Act, Bill 89: This act constitutes a thorough revision of the Mining Duties Act, and is effective from April 1, 1975. For purpose of depreciation allowance, two classes of property are established: "property of the first class" meaning roads, buildings, or equipment purchased before April 1, 1975 and actually used in mining, for which the allowance may not exceed 15 per cent of the cost at year end; and "property of the second class" meaning roads, buildings, or equipment purchased after March 31, 1975 and actually used in mining, for which the allowance may not exceed 30 per cent of the cost at year end.

On-and off-property exploration and development expenses not previously written off may be claimed as a development allowance.

An operator may deduct, as an investment allowance, one-third of the cost of his mining property, concentrator, smelter and refinery and off-property exploration expenses incurred in Quebec, but not more than one-third of the annual profit after deducting all specified expenses except the investment allowance and the ore-treatment allowance.

An operator may deduct, as a treatment allowance, an amount equal to:

- (a) if the operator does no smelting or refining, 8 per cent of the cost to him of each allowable depreciable property owned and used by him in Quebec in the processing of ores.
- (b) if the operator does smelting or refining, 15 per cent of the cost of the above property, excluding property used to treat gold and silver ores.

The treatment allowance may not be less than 15 per cent, nor more than 65 per cent, of the annual profit after deducting the specified expenses.

In computing the annual profit, a specified list of expenses is excluded from the eligible deductions.

COMPARISON OF MINING DUTIES

| Taxable Income | Percentage Rate |
|--|--------------------------------|
| 1965 act, effective Jan. 1, 1966 | |
| 0 to \$50,000 over 50,000 to 1,000,000 over 1,000,000 to 2,000,000 over 2,000,000 to 4,000,000 over 4,000,000 | exempt 9 11 13 15 |
| Bill 58, effective April 1, 1974 | |
| 0 to \$150,000 over 150,000 to 1,000,000 over 1,000,000 to 2,000,000 over 2,000,000 to 4,000,000 over 4,000,000 to 10,000,000 over 10,000,000 | exempt 13.5 16.5 19.5 22.5 30. |
| Bill 89, effective April 1, 1975 | |
| 0 to 150,000 over 150,000 to 3,000,000 over 3,000,000 to 10,000,000 over 10,000,000 to 20,000,000 over 20,000,000 | exempt 15 20 25 30 |

This Act limits the duties payable by taking the average taxable income for the current year and the two immediately preceding years and applying a complex formula to recalculate the tax. The operator pays the lesser of the tax as determined by application of the above rates directly, and the tax determined by averaging.

Saskatchewan

Mineral Resources Act: The Petroleum and Natural Gas Regulations have been amended by S.R. 22/76. Basic well-head prices for crude oil have been increased by \$0.60 per bbl. and premium prices by \$0.70 per barrel.

In addition, a new section has been added which allows an operator who is liable to pay the royalty surcharge to claim a deduction for approved expenditures on workovers, repairs and maintenance. The maximum deduction is \$0.12 per bbl. of oil production that is subject to the royalty surcharge, and is limited to 75 per cent of the total expenditures approved by the Minister.

The Oil and Gas Exploration, Development and Production Incentive Regulations, 1974,(S.R. 62/74), have been amended by S.R. 23/76. A new subsection limits the deduction for approved expenditures to 75 per cent of the total approved expenditures, or 75 per cent of the dollar amount determined by the applicable formula. Credits may now be transferred. A new table is provided for determining the reduction in mineral income tax or royalty surcharge. The table replaces the former reduction for production of 1-122 bbls. of \$3.03 per bbl. to \$2.50 per bbl, and leaves the upper end of the scale for production of 623 bbls. unchanged at \$0.01 per barrel. The further deduction from mineral income tax for specified areas has been reduced from \$0.50 per bbl. to rates varying from \$0.25 to \$0.31 per bbl. depending on the production area. A new section provides for an additional deduction from mineral income tax of \$0.60 per bbl. for crude oil from any of the four specified areas.

Another new section allows an operator who is liable to pay mineral income tax to claim a deduction for approved expenditures on workovers, repairs and maintenance. As in the Petroleum and Natural Gas Regulations, the maximum deduction is \$0.12 per bb1. of oil production that is subject to mineral income tax, and is limited to 75 per cent of the total expenditures approved by the Minister.

METALLIC MINERALS AND PRODUCTS

Aluminum

Three United States aluminum companies have increased prices on certain flat rolled aluminum products by 2 to 4 cents a pound, equivalent to a 3 to 5 per cent price increase. The three companies are Aluminum Company of America, Kaiser Aluminum & Chemical Corporation, and Alumax Inc.

Revere Copper and Brass, Inc. has filed a writ in the Jamaican Supreme Court asking for an order restraining Jamaica from collecting its bauxite production levy. Revere claims that the levy is ultra vires and in breach of the Jamaican government's constitution. At Magotty, Jamaica, Revere operates a 220,000 ton a year alumina refinery which has been shut down since August 19, 1975 as a result of curtailments in primary aluminum production in the United States. The Jamaican government required Revere to continue paying the Jamaican bauxite levy as if it were refining at the normal rate of 190,170 tons of alumina a year. Revere has also asked the court to assure that its mining lease will stay in effect even if the mine and refinery shutdowns last more than six months. The company has asked the government's permission for an extended shutdown, but has received no answer. This permission is required under Jamaican law to protect its claim.

The Aluminum Company of America (Alcoa) and the government of Jamaica have begun Phase II negotiations through which the Jamaican government plans to gain control of Alcoa's bauxite and alumina operations on the island. Alcoa had made application to the World Bank's International Centre for Settlement of Investment Disputes (ICSID), appealing the Jamaican action in passing its Bauxite (Production Levy) Act of 1974. Jamaica has failed to respond to Alcoa's complaint before the ICSID by the January 19 deadline.

Phase II negotiations that started last June between Alcan Aluminum Limited and the government of Jamaica are still in progress.

Copper

The events taking place in Angola during February continued to affect the present and future outlook of the African copper industry. In Zambia both imports of supplies and exports of copper have been disrupted, but in spite of these difficulties mines were reported to be operating normally. Copper exports are now being shipped through the Tanzanian port of Dar-es-Salaam, and during February Zambian officials were seeking ways to move part of their exports through the port of

Kilinkini in Kenya. The *force majeure* on Zambian copper shipments in effect late in 1975 was not extended into 1976. Zambia's copper mines are operating at a loss due to the depressed state of the world copper market. In spite of this, there is no intention to shut down any of the mines presently operating.

The war in Angola has also had the effect of interrupting shipments of materials and equipment to the Tenke-Fungurume copper development in neighbouring Zaire. This factor, together with political uncertainties, escalating costs, uncertain prospects for transportation, and low copper prices caused the project to be postponed in mid-construction after the expenditure of \$200 million. This drastic decision will postpone development for an indeterminate period and have an impact on the medium-term world copper supply situation. The planned annual capacity of the project was 130,000 tons of copper cathode and 6,000 tons of cobalt. Production start up was planned for 1978. The project is owned and financed by Japanese, British, U.S., and French interests and the government of Zaire.

In the United States, the Nevada mines division of Kennecott Copper Corporation temporarily curtailed mining activities on February 8, because of the depressed condition of the world copper market. Smelting operations will continue to process the present inventory of copper concentrates. In 1974, Kennecott's Nevada division mines produced 38,000 tons of copper.

United States copper mine production in 1975 was 1.4 million tons, 13 per cent below production in 1974 and the lowest for any year since 1968. Refined copper imports, the largest copper trade category, dropped from 314,000 tons in 1974 to 85,000 tons in 1975. Exports of refined copper increased from 127,000 tons in 1974 to 170,000 tons in 1975.

The Panamanian Government announced that it would sign an agreement during February with Texasgulf Inc., for the joint exploitation of the Cerro Colorado copper deposit in Panama. The cost of the project is estimated at between \$700 million and \$1.8 billion. Production is expected to begin in five years time and the capacity is projected to be 150,000 metric tons of copper per year.

In Canada, Imperial Oil Limited, of Toronto, published details during February of a copper deposit which it holds in the Pitman area of northern British Columbia. Imperial Oil Limited holds 358 mining claims in the area and the company has been exploring the property since 1968. Results to date indicate that the deposit has a copper grade of greater than one per cent. No tonnage estimates have been made.

Shareholders of Great Lakes Nickel Limited of Toronto have approved the sale of a 22 per cent interest in the company to Boliden Aktiebolag of Sweden. This interest together with Boliden's previous

interest and share options could give the Swedish company approximately 60 per cent of Great Lake's issued shares. Boliden officials stated in January that upon completion of the transaction, the company would have a total of \$7.6 million committed to the project. Completion of the transaction is subject to the approval of Canada's Foreign Investment Review Agency.

World stocks of refined copper continued to rise according to the latest available statistics from American Bureau of Metal Statistics. Total stocks of refined copper at the end of December 1975 in reporting countries were equivalent to 1,219,500 tons. Total world stocks of refined copper at the end of December were estimated by other sources to have been in excess of 1,700,000 metric tons, and the surplus world copper production in 1975 was 800,000 metric tons.

London Metal Exchange stocks recorded the first substantial decline in almost a year during the week ending February 20. Stocks declined to 523,000 metric tons, down almost 3,000 metric tons from the February 13 total.

Copper prices on the LME responded to the events in Africa and the decline in warehouse stocks by moving up strongly during February. Cash prices opened the month below 54 cents (U.S.) per pound at the beginning of February and had reached a price of 57.7 cents a pound by the end of the month.

The Canadian producer price for copper remained unchanged during February at 63.375 cents a pound.

Gold

Rengold Mines Ltd., near Missinabie, Ontario, began production in January 1976 at an initial rate of about 300 tons a day at the former producing Renabie gold mine. The tonnage treated will be increased to 500 tons a day following the completion of additional grinding capacity. The Renabie mine closed in 1970 because of the low gold price at that time. The present company obtained the property in 1974 and after carrying out a feasibility study, decided to put the property into production. This is the first gold mine to come into production in Canada since Agnico-Eagle Mines Limited in December 1973.

The gold price was comparatively stable during the month of February, varying between a low of \$128.40 U.S. an ounce and a high of \$133.65 U.S. on the London Gold Market. The monthly average of the afternoon fixing gold price on the London Market for February 1976 was \$131.12 U.S. (\$130.30 Cdn.) an ounce compared with \$131.49 U.S. (\$132.32 Cdn.) in January. The closing price for February was \$132.30 U.S.

Iron Ore

In January 1976 Steep Rock Iron Mines Limited (SRIM) of Atikokan, Ontario was the subject of a takeover bid by Canadian Pacific Investments Ltd. (CPI) of Montreal, whose operating subsidiaries include The Algoma Steel Corporation, Limited and Cominco Ltd. The CPI offer was to purchase 4.85 million or 60 per cent of SRIM's issued shares. On a recommendation of acceptance by SRIM's directors, 5.4 million shares or 67 per cent of SRIM's common stock were tendered on the basis of \$3 a share. The cost of the acquisition to CPI was \$16.2 million. CPI's interest in SRIM's was motivated not by SRIM's current iron ore operations at Atikokan, which will probably cease operation in 1979, but SRIM's ownership of large iron ore reserves in the Lake St. Joseph region of northwestern Ontario. The Lake St. Joseph region has the potential to supply a significant proportion of the iron unit requirements of the Ontario steel industry in the 1980s, as well as serving as a logical source of iron units for future steel developments in the Prairie provinces.

The Sept-Iles pellet plant of the Iron Ore Company of Canada (IOC) continues to experience severe operating problems, after $2\frac{1}{2}$ years of operation. Pellet production reached 3 million tons in 1975, still only 50 per cent of its annual capacity of 6 million tons. Improvements are likely in 1976, with the facility possibly approaching 70 per cent of its rated capacity. Although technical and design difficulties have been encountered in the plant, the major problem appears to exist in the metallurgical processing of the complex "treat-ore" from Schefferville, Quebec.

Financing of the Fire Lake iron ore mine and pellet plant in Quebec continues to progress well, with the announcement in February by the EEC Council of Ministers of a \$78-million loan to British Steel Corporation (BSC). BSC have a 41.67 per cent interest in the Fire Lake project, along with 50.1 per cent by Sidbec-Dosco Ltd. and 8.23 per cent by Quebec Cartier Mining Company. The project is designed for the annual production of 6 million tons of iron ore pellets with start-up scheduled for 1977.

Despite the present depressed demand for steel in most non-communist countries, iron ore prices in Canada continued their upward trend in January. The Lake Erie base price, which is the guiding price mechanism for most North American iron ore sales, increased by 6.9 per cent for pellets and 4 per cent for natural ores. The price of iron ore products has now increased by about 80 per cent over the past three years in the North American market, notwithstanding the severe recession in the U.S. steel industry in 1975. The Australian iron ore producers are attempting to wrest larger price increases in the Japanese market, with many producers seeking increases of up to 90 per cent over current prices. Similarly in the European market Swedish producers have been adopting an aggressive stance for marked increases in iron ore prices. Both Sweden and Australia are members of the recently formed Association of Iron Ore Exporting Countries (AIEC), which implicitly seeks to in-

crease the export earnings accruing from iron ore sales by member countries. Among major noncommunist iron ore exporting countries only Canada, Brazil and Liberia are not members of the Association.

World wide inflation has led to marked increases in capital cost requirements for iron ore development and this is beginning to bestow severe repercussions on both the timing and even the feasibility of many world iron ore developments. United States Steel Corporation recently announced a freeze for an indefinite period on further investment or development of the huge Carajas iron ore deposits in the state of Para, Brazil. These iron ore deposits are among the largest highgrade deposits in the world and contain a minimum of 15 billion tons of high-grade ore. The Carajas development was originally scheduled for start-up in 1977, but most recent estimates range from 1983-85, which is regarded as optimistic by many informed sources. The project would involve the construction of new port facilities and a 900 kilometer railway line to connect the mine-site with the port. Most recent cost estimates of the project exceed $\$2\frac{1}{2}$ billion. Capital constraints are also causing delays in many other major iron ore developments in Australia, Brazil, Ivory Coast, Gabon and Liberia.

In Peru, the Peruvian government and Marcona Corporation are reportedly close to a provisional agreement on compensation terms for the nationalization of Marcona Mining Company. Marcona is requesting a settlement of \$100 million. Shipments of Peruvian iron ore, which came to a standstill after the expropriation in July 1975, are expected to be resumed in the near future.

Lead

Cyprus Anvil Mining Corporation has agreed with its Japanese customers to defer 8.5 per cent of its contracted 1976 lead concentrate tonnage shipments into 1977. This agreement is quite favourable to the company as initial requests from the Japanese were for a 25 per cent cutback in 1976 shipments. Cyprus Anvil will be able to continue normal operations in 1976. The company also suffered a one week strike at the beginning of February, but the 400 members of the United Steelworkers of America have since agreed to a new contract.

The strike at Commonwealth Smelting Ltd.'s Imperial Smelting Process plant at Avonmouth in the United Kingdom is now into its seventeenth week with no sign of a settlement being reached in the near future.

One of the goals of the Yugoslavian government's new fiveyear plan is to increase refined lead production from 150,000 to 242,000 metric tons a year. Japanese production of pig lead in 1975 dropped 14.8 per cent from the 1974 level to 194,247 metric tons. Production in 1976 is expected to increase only slightly to the 210,000 metric ton level.

The spot price for lead on the London Metal Exchange (LME) gained fl4 a metric ton during the month and was fl79.5 a metric ton (16.2 cents a pound Cdn.) on February 27. Stocks on the LME decreased slightly for the first time in over a year. The e are two reasons for the upward price movement:

- (1) increased speculative interest which is a partial spillover from activity in copper trading; and
- (2) depressed scrap prices forcing many secondary companies to operate well below capacity plus low consumer inventories have allowed the primary manufacturers of lead to enter some markets traditionally supplied by the secondary sector.

There were rumours that the primary producers were going to support the LME price at the £185 a metric ton level but this seems unlikely given the lack of success they had in supporting the price early in 1975.

North American prices remained unchanged during the month at 18.5 cents a pound in Canada and 19.0 cents a pound in the United States.

Mercury

Estimated world mine production of mercury in 1975 was 253,850 flasks of 76 pounds each; Spain was the largest producer with an output of 60,000 flasks. World output in 1974 was 262,286 flasks. Canadian output, derived entirely from the Pinchi Lake mine of Cominco Ltd. near Fort St. James, British Columbia, declined from 14,000 flasks in 1974 to 6,000 flasks in 1975 because of the suspension of operations at the Pinchi Lake mine in the summer of 1975. United States mine production of mercury rose sharply in 1975 to 6,750 flasks compared with 2,189 flasks in 1974. The increased output resulted from the start-up in May 1975 of the new McDermitt mercury mine of Placer Amex, Inc. near McDermitt, Nevada, which eventually expects to produce refined mercury at a rate of 20,000 flasks a year.

The United States is still believed to be the world's largest consumer of mercury, but has always produced less than its requirements. Its total consumption in 1975 of primary, redistilled and secondary mercury is estimated at 51,900 flasks compared with 60,070 flasks in 1974. Consumption was off 33 per cent in industrial and control instruments, 18 per cent in electrical apparatus and 11 per cent in chlorine-caustic soda manufacture.

Nickel

Kanichee Mining Incorporated ceased production February 6 at its copper-nickel mining operation at Temagami, Ontario. In December, it received notification from Falconbridge Nickel Mines Limited that Falconbridge was terminating its agreement to purchase Kanichee's copper-nickel concentrates. Kanichee has been unable to negotiate another smelter contract at favourable terms.

The International Nickel Company of Canada, Limited (Inco) and the United Steelworkers of America have negotiated a new three-year collective agreement for Inco's employees at Thompson, Manitoba. The basic wage rate will increase by about 18 per cent the first year and 3.5 per cent in each of the next two years. The agreement contains a clause allowing the union to reopen bargaining with the right to strike if the contract terms are not approved by the Anti-Inflation Board.

Falconbridge Nickel Mines Limited has sold its partly developed nickel refinery site at Becancour, Quebec to the Quebec government for \$1,324,000. Falconbridge had invested about \$4 million in the project.

The Indonesia Nickel Development Company established by the Indonesian government and a consortium of eight Japanese companies, has decided to start construction in mid-1976 of a \$500-million nickel smelting plant on Gebe Island. The plant with a rated capacity of 26,560 metric tons of ferronickel a year is scheduled to start production in 1980.

Silver

Estimated noncommunist world mine production of silver in 1975 was 235.0 million troy ounces compared with 241.5 million ounces in 1974. Mexico's mine output of 42.0 million ounces put it in first place as a silver producing country for the first time since 1967. With the exception of 1970, Canada has been the noncommunist world's leading producer since 1968. Canadian mine output of silver declined from 42.8 million ounces in 1974 to 39.1 million ounces in 1975. United States mine output of silver increased from 33.8 million ounces in 1974 to 34.1 million ounces in 1975.

Estimated noncommunist world consumption of silver for industrial and coinage uses totalled 390.0 million ounces in 1975 compared with 459.9 million ounces in 1974. Industrial usage declined by 71.9 million ounces. There was a rise in coinage use from 33.0 to 35.0 million ounces. The gap between new production and consumption was again met by demonitized coinage; secondary silver derived from discarded jewelry, silverware, films, etc.; liquidation of speculative holdings; and withdrawals from industrial and governmental stocks.

In the United States, the world's largest silver consumer, consumption for industrial uses and for coinage was estimated at 155.0 and 3.0 million ounces, respectively, in 1975, compared with 177.0 and 1.0 million ounces in 1974. Most end-use categories declined but jewelry, sterling ware and catalysts showed increases. Much of the decline in 1975 was accounted for by substantially reduced demand from speculators and investors for small bars and stampings.

Zinc

Cyprus Anvil Mining Corporation has agreed to defer to 1977, 20 per cent of zinc shipments scheduled for 1976 to its Japanese customers (initial press reports last month indicated that there might be a 30 per cent cutback). This agreement is certainly beneficial to Cyprus Anvil as it will be able to maintain mine production at normal levels during 1976. A strike which began January 31 at Cyprus Anvil's Faro mine lasted one week as the 400 members of the United Steelworkers of America union ratified a new contract.

Intermetco Ltd. plans to construct a \$2 million plant in La Prairie, Quebec for the reclamation of zinc, aluminum, copper and stainless steel. The company, in partnership with The Steel Company of Canada, Limited, presently operates the Fers et Métaux Récyclés Ltée. at La Prairie. The present operation is an automobile shredding plant. The metal reclamation plant is expected to be in the pilot plant stage by mid-1977.

The Yugoslavian government has issued a new five-year plan and intends to increase refined zinc production from 115,000 to 195,000 metric tons a year.

The strike at Commonwealth Smelting Ltd.'s Avonmouth zinc-lead plant in the United Kingdom is now in its seventeenth week with no sign of settlement. The refinery produces about half of the U.K.'s zinc requirements but because of the high stock levels, the strike has had no major effect on the market.

Madison Industries Inc. is building a \$1.5 million (U.S.) expansion to its secondary zinc refinery at Old Bridge, New Jersey. The plant's annual scrap requirements will increase to 50,000 tons from 20,000. The expansion will be completed by June and the plant will use the increased capacity to expand its output of zinc sulphates and zinc chloride.

The Thai Zinc Co. has announced that it will suspend all operations in Thailand at the end of February. Thai Zinc was originally to have constructed a 25,000 metric tons-a-year smelter but The New Jersey Zinc Company of the United States became involved in 1973 and announced plans for a 60,000 metric tons-a-year smelter. The plant

would use New Jersey's process for treating the silicate ores. The major problem has been the unsettled political climate and recent nationalization of tin operations jointly owned by Billiton N.V. of the Netherlands and Union Carbide Corporation of the U.S. Elections are to be held in April, but it is unlikely that the political situation will stabilize sufficiently to allow the project to go ahead. Perhaps an indication of New Jersey's position is that it recently entered into a joint venture exploration program in Brazil with Canadian and other United States interests. The exploration venture in Minas Gerais state is particularly interested in zinc silicates and carbonates for which New Jersey's improved process would be applicable.

Preliminary production figures from Japan show that slab zinc output in 1975, 701,335 metric tons, was down 17.5 per cent from the 1974 level.

The Irish Industrial Development Authority is inviting proposals from established mining companies for participation in a zinc refinery project and operation of the plant on a partnership basis with the government. Reports indicate that the agency is prepared to negotiate direct cash grants toward the cost of fixed assets of the project. Noranda Mines Limited is already heavily involved in the Irish situation with its 19.93 per cent interest in the Navan lead-zinc project. Noranda, through its subsidiary Kerr Addison Mines Limited, agreed to purchase 75 per cent of International Mogul Mines Limited interest in Mogul of Ireland. Mogul of Ireland operates the Silvermines mine, a 3,000 tons-a-day lead-zinc-silver producer.

Zinc prices remained unchanged in North America. The London Metal Exchange price was quiet with the spot quote increasing $\pounds 1.75$ during the month to £341.75 a metric ton (30.9 cents a pound Cdn.) on February 27.

INDUSTRIAL MINERALS AND PRODUCTS

Fertilizers

St. Lawrence Fertilizers Ltd. of Valleyfield, Quebec has announced that it will shut down operations on April 23 because of depressed economic conditions. Fertilizer producers in eastern Canada have recently suffered from a downturn in fertilizer consumption, sharp increases in the price of phosphate rock, and competition from United States companies with captive phosphate rock supplies.

MINERAL FUELS AND PRODUCTS

Coal

Ontario Hydro has announced the temporary closing of the J. Clark Keith coal-fired power station in Windsor for a period of up to 30 months. The closure is due mainly to an estimated decrease in demand growth for electric power in the next few years. The station, in operation since 1951, is one of Ontario Hydro's oldest thermal stations. During the shutdown Ontario Hydro will investigate the possibility of converting the station to burn heavy fuel oil.

Saskatchewan Power Corporation has announced the opening of a new mine in the Estevan area to supply 350,000 tons of lignite annually to its nearby Boundary Dam power station. The mine, scheduled to commence operation in mid-1976 will be the third mine supplying lignite to the power station.

Petroleum and Natural Gas

Panarctic Oils Ltd. announced that their W. Hecla P-62 well had encountered significant volumes of gas from the Bjorne sandstone, a new discovery horizon in the Hecla field. Panarctic's latest success has been drilled from an ice platform, in over 450 feet of water and about eight miles from the west coast of Sabine Peninsula of Melville Island. The P-62 well is almost in the centre of the Hecla field which lies largely offshore and has the potential of being the largest gas fields found by Panarctic in the Arctic Islands to date. On a test of the Bjorne sandstone, the well produced gas at rates of up to 6.5 million cubic feet a day from a gross pay section of 165 feet at the 3,300 foot level. Currently, the principal producing formation of the Hecla field, the Borden sandstone, is being evaluated. Initial tests show that this formation is flowing gas from a pay section of about 40 feet at a depth of approximately 2,800 feet. A third sandstone unit above the Bjorne and Borden formations is also gas bearing. As soon as the Hecla P-62 well has been evaluated a follow-up well will be drilled 15 miles offshore from an ice pad located in 1,000 feet of water. A success there would substantially reduce the gap between proven reserves and the reserve base required for economic development of Arctic Island natural gas.

The National Energy Board (NEB) will initiate an allocation scheme for the export of Lloydminster heavy crudes during March and April in an attempt to bolster the seasonal drop in sales which has been aggravated by the overall reduction of oil exports this year.

NEB has allocated 35,000 b/d of Lloydminster crudes during the two months within the 510,000 b/d export limit and is asking United States refiners to nominate for them separately from other oil. If demand is less than 35,000 b/d the balance will be prorated on the basis of deliveries during November 1, 1974 to October 31, 1975. U.S. refiners may decline all or any portion of the allocation, but will not be permitted to make up their total licence volume with other crudes. The board asked refiners to indicate whether they would process or exchange their allocations and if they would take any additional volumes that might be declined by others.

Early in February, the Alberta government approved five separate recommendations of the Alberta Energy Resources Conservation Board for removal of natural gas from the province. The approvals represent essentially the first additional Alberta natural gas since 1971. The bulk of the gas will go to TransCanada PipeLines Limited and involves an additional total volume of 1.4 trillion cubic feet. The gas will be for use in eastern Canada, primarily Ontario. When TransCanada's original permit application was considered by the Alberta government in 1971, the average wellhead price of gas was 16 cents an Mcf (thousand cubic feet). Any natural gas removed under the permit approved today will be sold at an effective average wellhead price of approximately 97 cents an Mcf.

Interprovincial Pipe Line Limited, the sole transporter of western Canadian oil to Ontario, the United States mid-west, and in the future to Quebec, is requesting 40,000 b/d of oil from Alberta for a total of 2.4 million barrels to fill the newly constructed Sarnia to Montreal pipeline extension. Filling the 515-mile, 30-inch line is expected to continue through March and April. Interprovincial expects to be pumping about 200,000 barrels a day of western Canadian oil by May, 1976 increasing to 350,000 b/d by yearend.

Uranium

Denison Mines Limited of Toronto has renegotiated its 1976 delivery price with its Japanese uranium customers. It is reported that the eight Japanese power companies have agreed to pay \$21.45 per pound $\rm U_3O_8$, up from last year's \$12 per pound, for delivery in 1976. Denison is delivering some 2,000 short tons $\rm U_3O_8$ per year under Japanese contracts that began in 1969 and end in 1984, for a total of 27,250 short tons $\rm U_3O_8$ over the period.

The federal government will loan Atomic Energy of Canada Limited (AECL) \$30 million to help build a 600 MWe CANDU reactor at Point Lepreau, New Brunswick. The federal government agreed to finance 50 per cent of the reactor cost (up to a maximum of \$350 million).

AECL may have to purchase \$25 million worth of heavy water which was intended for sale to India. With the current Canadian embargo on nuclear exports to India the heavy water must stay in Canada until nuclear relations with India are clarified. Should it be decided not to export the heavy water to India, AECL will be obligated to buy it at a cost of \$15 million this fiscal year and \$5 million in each of the next two fiscal years.

Australia's federal government has lifted the ban on uranium exports imposed by the recently defeated Labour government. The Liberal National Country Party coalition has introduced measures to encourage private mining industries by lifting the ruling that the Australian Atomic Energy Commission would conduct all but one uranium exploration activity in Australia's Northern Territory. In addition the government has announced that it will sell its 41.6 per cent interest in Mary Kathleen Uranium Limited to private Australian industry.

SPECIAL ITEM

REPORT ON THE MEETING OF THE WORKING GROUP OF THE UNCTAD COMMITTEE ON TUNGSTEN REGARDING PRICE STABILIZATION

Introduction

On January 19-23, a meeting of the Working Group of the UNCTAD Committee on Tungsten was convened to discuss alternative proposals for the stabilization of tungsten prices. The terms of reference for the Tenth Session of the Working Group on Tungsten included the following:

Identify and evaluate the practical, economic and technical aspects of proposals which could be incorporated in an intergovernment producer/consumer arrangement with special emphasis on the feasibility of proposals based on a system of minimum and maximum prices for the commodity; and proposals which would provide a system of exchange of necessary and timely data for the purpose of improving understanding of the market and greater stability of prices. In considering a system of minimum and maximum prices, the Working Group should give particular attention to and make recommendations, as appropriate, on:

- i) definition of the base product(s);
- ii) appropriate price indicator;
- iii) appropriate mechanisms to defend minimum
 and maximum prices;
- iv) any other factors relevant to the successful operation of a system of maximum and minimum prices.

The above was developed at the Ninth Session of the UNCTAD Committee on Tungsten held at Geneva from July 28 to August 2, 1975, when a group of producer countries, led by Bolivia, advocated an international agreement to stabilize tungsten prices.

Summary

It was fairly predictable that progress would be slow at the January meeting on Tungsten. On the producers' side, particularly among the members of the Primary Tungsten Association*, there was an unrealistic urgency to get on with the preparation of a draft agreement on tungsten. In this respect they were tending to ignore the terms of reference laid down for the Working Group by the Ninth Session of the Committee on Tungsten or, at best, reading more into the terms of reference than was intended. On the consumer countries' side, the attitudes varied from cautious support for the idea of an international agreement (Sweden, Britain and France) to outright opposition (U.S.A., Japan and the Federal Republic of Germany).

Apparently the tungsten industry in Germany favours an agreement but the German government is politically opposed to increasing the numbers of commodity agreements for minerals. The United States opposition is based on the country's traditional attitude regarding commodity arrangements and, in the case of tungsten, because the United States has grave reservations regarding the practicability of a tungsten arrangement. Their reservations hinge on what the U.S. believes is a lack of in-depth knowledge about the tungsten market. This is partly true but even though the published information is limited, there are knowledgeable people available, in all of the major tungsten trading nations, who could be called upon for advice during the drafting of an arrangement. So the continual protestations by the U.S.A., Japan and Germany about the lack of information was, to a certain extent, a red herring. Japan's opposition to an international arrangement appears to be somewhat similar to that of Germany.

However, it is true that all countries, with the possible exception of the United States, which is the only country providing detailed information on tungsten to the United Nations, could improve the quality and timeliness of their responses to the U.N. questionnaires. China is particularly vulnerable to the charge that it is not providing statistical data on tungsten production and trade to the U.N., and that being so, what reason is there to believe that it will provide proof to demonstrate its adherence to an international agreement? The U.S., Germany and Japan are, of course, quite happy to exploit this chink in the PTA's armour. For their part, the Chinese contend that, if and when an agreement is signed, China will not only live up to the terms of the agreement but it will also supply all the relevant data.

The French were cautious in their contributions to the discussions, apparently not wanting to show too much enthusiasm for an international agreement for tungsten but on the other hand being prepared to intervene in a constructive manner whenever the discussions appeared to be reaching an impasse. The Swedes have expressed a willingness, as consumers, to participate in the drafting of an agreement but, like the French, were cautious about showing any enthusiasm.

^{*} Companies from: Portugal, Bolivia, Australia, France, Thailand, Peru and Spain. China participates as an observer.

The Portugese are most anxious for an agreement to stabilize tungsten prices because their mine, like Canada Tungsten, will be in serious trouble if the price of concentrates starts to fall below \$75 a stu*. The Republic of Korea, which in the past has been rather vociferous at the UNCTAD meetings, has been strangely quiet at the last two meetings, apparently quite content to let Bolivia and China carry the ball. The U.S.S.R. has contented itself with expressing approval at an attempt to arrive at an agreement to stabilize the price of tungsten and letting others discuss the hows, wheres and whens.

Recommendation

Notwithstanding the wide range of views held by the delegations attending the Working Group discussions there was considerable progress. The Working Group recommended that:

The UNCTAD secretariat prepare a document setting forth the major alternative approaches to a tungsten stabilization arrangement, and including, insofar as possible, an outline of such an arrangement based on a system of minimum and maximum prices, which taking into account the various alternative approaches discussed at this meeting, might attract the widest degree of support. The secretariat's paper should be circulated to member countries well in advance of the Committee's 10th Session (November 15-19, 1976). The full Committee would then reach a decision as to whether there is sufficient basis for an agreement.

Conclusion

Depending on what the Secretariat is able to accomplish before the November meeting of the Tungsten Committee, it is possible that a draft of a tungsten stabilization arrangement will be available for consideration. Failure or success will depend on how well the Secretariat can comply with the British admonition -"In order to identify measures which would be capable in practice of stabilizing the price of tungstencontaining materials, it is essential to analyze in detail the organizational and legislative dispositions which would be necessary both internationally and within individual participating countries in order to put such a scheme or schemes into effect. Only then will it be possible for potential participants to judge between the merits (both theoretical and practical) of different proposals; to judge whether, technically and legally,

^{*} short ton unit = 20 pounds.

particular schemes would be capable of being put into operation in their countries; and, finally, to judge the acceptability of any scheme." - or at least prepare a document that will permit the Tungsten Committee to grapple with these aspects at the November meeting.

NEW PUBLICATIONS

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

Preprints, Canadian Minerals Yearbook, 1974: Cadmium; Gold; Lithium; Magnesium; Natural Gas; Platinum Metals; Silicon, Ferrosilicon and Silicon Carbide; Titanium and Titanium Dioxide.

Single copies of preprints are available from Information Canada, Ottawa, for $25\c c$ a copy.

