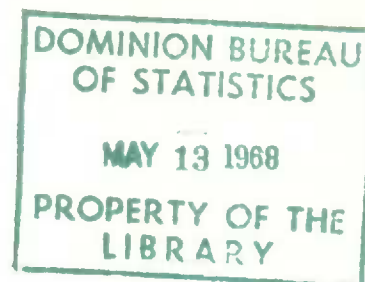


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ASBESTOS MINES

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ASBESTOS MINES

1964

This report includes statistics for industry 071—Asbestos Mines of Standard Industrial Classification Manual (Catalogue No. 12-501). For statistical purposes, the industry Asbestos Mines is defined as including establishments primarily engaged in mining and milling asbestos fibre.

Canadian producers of asbestos shipped 1,419,851 short tons of crude and milled fibres valued at \$145,193,443 during 1964. In the preceding year the shipments were 1,275,530 tons valued at \$136,956,180. Excluded from the aforementioned figures were the values of containers which amounted to \$5,056,871 in 1964 and \$5,008,384 in 1963. The quantity of asbestos increased 11.3 per cent and the total value was up 6.0 per cent.

Asbestos has a variety of industrial uses. The longer-fibred spinning material is formed into textiles, packing and certain insulating and heat-resisting friction materials. Other fibres are used in the asbestos cement industry for the production of pipe, shingle, tile, millboard, siding, roofing, etc., and for the production of asbestos paper. The short-fibred material is used in protective coatings, plastics, in the manufacture of lubricating greases and in a number of specialized applications where it has characteristics desired as an industrial filler.

Technical information is shown in an annual review "Asbestos" published by the Department of Energy, Mines and Resources, Ottawa.

Data presented in this report under the heading of Asbestos Mines (Tables 1-8) reflect the full implementation of the revised Standard Industrial Classification (S.I.C.) and the New Establishment Concept including an extension of the latter to cover total activities of mining establishments (see Explanatory Notes section of this report). Commodity statistics reflecting total production from all sources, world figures on production, trade data, etc. are presented along the same general lines as in the earlier issues of this report.

The combination of improvements in internal procedures with the introduction of the final stage of the establishment concept in the annual Census of Mining produced changes which, for some industries, required major adjustments in industry statistical data—see Explanatory Notes. In the case of the industry under review in this report, the changes primarily affected the items relating to number of establishments and cost of materials and supplies as evidenced in the comparative series of statistics presented in Tables 1 and 2. The reduction in the number of establishments indicated is the result of the exclusion of non-producers. These latter are no longer being included as establishments under the new definition. The higher cost of materials reflects the broadening of the coverage of materials used under the new definition—see Explanatory Notes.

SYMBOLS

The following standard symbols are used in Dominion Bureau of Statistics publications:

- .. figures not available.
- ... figures not appropriate or not applicable.
- nil or zero.
- amount too small to be expressed.
- p preliminary figures.
- r revised figures.
- x confidential to meet secrecy requirements of the Statistics Act.

TABLE 1. Principal Statistics, Asbestos Mines, 1957-63

Basis: Revised Standard Industrial Classification

| Year | Establishments | Employees | Salaries and wages | Cost of fuel and electricity at works | Cost of materials and supplies | Value of production | Value added ¹ |
|------------|----------------|-----------|--------------------|---------------------------------------|--------------------------------|---------------------|--------------------------|
| | number | | | | dollars | | |
| 1957 | 22 | 7,357 | 32,283,287 | 6,008,420 | 14,558,214 | 108,014,041 | 87,447,407 |
| 1958 | 22 | 6,997 | 32,025,137 | 5,740,515 | 12,798,276 | 95,271,323 | 76,732,532 |
| 1959 | 21 | 6,653 | 31,448,638 | 5,951,664 | 13,729,736 | 110,996,692 | 91,315,292 |
| 1960 | 22 | 6,688 | 33,057,847 | 6,133,788 | 14,887,770 | 125,236,902 | 104,215,344 |
| 1961 | 23 | 6,875 | 35,093,133 | 6,666,383 | 14,645,395 | 133,407,157 | 112,095,379 |
| 1962 | 18 | 6,997 | 36,072,604 | 7,184,372 | 16,700,356 | 135,065,565 | 111,180,837 |
| 1963 | 17 | 6,823 | 35,507,888 | 7,638,031 | 16,274,404 | 141,998,121 | 118,085,686 |

¹ Value of production less cost of fuel, electricity, process supplies and freight.

See footnote Table 2.

TABLE 2. Principal Statistics, Asbestos Mines,¹ 1961-64

Basis: Revised Standard Industrial Classification and New Establishment Concept

| Year | Estab- lish- ments | Mining activity | | | | | | | Total activity | | | | |
|------------|--------------------------|-----------------------------------|-----------------------|--------|---|---|--------------------------------|----------------|--------------------------------|------------------|-----------|--------------------------|----------------|
| | | Production and related workers | | | Cost of fuel and elec- tricity | Cost of materials and supplies | Value of produc- tion | Value added | Working owners and partners | | Employees | | Value added |
| | | Number | Man- hours paid | Wages | | | | | Number | With- drawals | Number | Salaries and wages | |
| | | | | | | | | | | | | | |
| | No. | | '000 | | \$'000 | | | | | \$'000 | | \$'000 | |
| 1961 | 12 | 5,680 | 12,240 | 27,969 | 6,518 | 19,279 | 132,827 | 107,031 | — | — | 6,773 | 34,686 | 108,727 |
| 1962 | 12 | 5,798 | 12,738 | 28,745 | 7,140 | 20,579 | 135,019 | 107,300 | — | — | 6,936 | 35,850 | 109,271 |
| 1963 | 13 | 5,656 | 12,115 | 28,012 | 7,709 | 22,337 | 142,134 | 112,088 | — | — | 6,828 | 35,570 | 114,139 |
| 1964 | 11 | 5,269 | 11,914 | 29,132 | 7,749 | 22,683 | 151,414 | 120,982 | — | — | 6,544 | 37,852 | 123,539 |

¹ Refer to Explanatory Notes for description of concepts and definitions and an explanation of differences in Tables 1 and 2. See also text page 3.**TABLE 3. Employment and Payroll, Asbestos Mines, 1961-63**

Basis: Revised Standard Industrial Classification

| Year | Employees | | | | | | | | | | Salaries and wages | | | | |
|------------|--------------------------------|--------|-------|--------|-----------------------------------|--------|------------------------------|--------|-------|--------|-----------------------------------|-------|---|-----------------------------------|--------|
| | Production and related workers | | | | Adminis- trative and office | | Sales and distribution | | Total | | Production and related workers | | Admin- istra- tive and office | Sales and distrib- ution | Total |
| | Mining | | Other | | | | | | | | | | | | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Mining | Other | | | |
| | number | | | | | | | | | | \$'000 | | | | |
| 1961 | 5,742 | 35 | — | — | 948 | 150 | — | — | 6,690 | 185 | 28,403 | — | 6,691 | — | 35,093 |
| 1962 | 5,831 | 33 | — | — | 977 | 156 | — | — | 6,808 | 189 | 29,038 | — | 7,034 | — | 36,072 |
| 1963 | 5,630 | 31 | — | — | 1,000 | 162 | — | — | 6,630 | 193 | 28,044 | — | 7,464 | — | 35,508 |

See footnote Table 2.

TABLE 4. Employment and Payroll, Asbestos Mines, 1961-64

Basis: Revised Standard Industrial Classification and New Establishment Concept

| Year | Employees | | | | | | | | | | Salaries and wages | | | | |
|------------|--------------------------------|--------|-------|--------|-----------------------------------|--------|------------------------------|--------|-------|--------|-----------------------------------|-------|---|-----------------------------------|--------|
| | Production and related workers | | | | Adminis- trative and office | | Sales and distribution | | Total | | Production and related workers | | Admin- istra- tive and office | Sales and distribu- tion | Total |
| | Mining | | Other | | | | | | | | | | | | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Mining | Other | | | |
| | number | | | | | | | | | | \$'000 | | | | |
| 1961 | 5,646 | 34 | — | — | 944 | 149 | — | — | 6,590 | 183 | 27,969 | — | 6,717 | — | 34,686 |
| 1962 | 5,766 | 32 | — | — | 982 | 156 | — | — | 6,748 | 188 | 28,745 | — | 7,104 | — | 35,850 |
| 1963 | 5,625 | 31 | — | — | 1,010 | 162 | — | — | 6,635 | 193 | 28,012 | — | 7,557 | — | 35,570 |
| 1964 | 5,235 | 34 | — | — | 1,104 | 171 | — | — | 6,339 | 205 | 29,132 | — | 8,720 | — | 37,852 |

See footnote Table 2.

TABLE 5. Production and Related Workers, Asbestos Mines, 1963 and 1964

Basis: Revised Standard Industrial Classification and New Establishment Concept

| Year and month | Mine | | | Mill | |
|-----------------|---------|--------|-------------|-------|--------|
| | Surface | | Underground | Male | Female |
| | Male | Female | Male | | |
| | number | | | | |
| 1963 | | | | | |
| January | 2,417 | 17 | 458 | 2,640 | 13 |
| February | 2,398 | 16 | 449 | 2,628 | 12 |
| March | 2,393 | 18 | 450 | 2,626 | 13 |
| April | 2,382 | 18 | 433 | 2,627 | 13 |
| May | 2,449 | 18 | 442 | 2,679 | 13 |
| June | 2,517 | 20 | 435 | 2,792 | 12 |
| July | 2,485 | 18 | 430 | 2,844 | 16 |
| August | 2,405 | 18 | 379 | 2,828 | 14 |
| September | 2,526 | 19 | 426 | 2,815 | 13 |
| October | 2,508 | 17 | 421 | 2,793 | 13 |
| November | 2,504 | 18 | 432 | 2,784 | 13 |
| December | 2,485 | 18 | 426 | 2,777 | 13 |
| Averages | 2,456 | 18 | 432 | 2,736 | 13 |
| 1964 | | | | | |
| January | 2,201 | — | 377 | 2,613 | 32 |
| February | 2,249 | 1 | 371 | 2,598 | 32 |
| March | 2,127 | 1 | 362 | 2,599 | 32 |
| April | 2,141 | 1 | 415 | 2,768 | 33 |
| May | 2,165 | 1 | 401 | 2,932 | 32 |
| June | 2,222 | 1 | 340 | 2,816 | 32 |
| July | 2,205 | 1 | 358 | 2,828 | 31 |
| August | 2,203 | 1 | 338 | 2,773 | 32 |
| September | 2,172 | 1 | 294 | 2,670 | 34 |
| October | 2,133 | 1 | 291 | 2,647 | 33 |
| November | 2,135 | 1 | 290 | 2,674 | 32 |
| December | 2,133 | 1 | 290 | 2,677 | 34 |
| Averages | 2,174 | 1 | 344 | 2,716 | 32 |

TABLE 6. Purchased Fuel and Electricity Used, Asbestos Mines, 1963 and 1964

Basis: Revised Standard Industrial Classification and New Establishment Concept

| Description | 1963 | | 1964 | |
|---|-----------|-------------|----------|-------------|
| | Quantity | Cost | Quantity | Cost |
| | | \$'000 | | \$'000 |
| Bituminous coal: | | | | |
| (a) From Canadian mines | ton | 4,136 | 59 | 4,183 |
| (b) Imported | " | — | — | 48 |
| Sub-bituminous coal (from Alberta mines only) | " | — | — | — |
| Anthracite coal | " | 130 | 2 | 146 |
| Lignite coal | " | — | — | — |
| Coke | " | — | — | — |
| Gasoline (including gasoline used in cars and trucks) | Imp. gal. | 519,812 | 188 | 498,804 |
| Fuel oil including kerosene or coal oil | " | 24,055,054 | 3,645 | 24,196,402 |
| Wood | cord | 4,219 | 62 | 4,769 |
| Gas: | | | | |
| (a) Liquefied petroleum gases | Imp. gal. | 62,062 | 20 | 72,452 |
| (b) Other manufactured gas | M cu. ft. | — | — | — |
| (c) Natural gas | " | 311,660 | 166 | 225,000 |
| Other fuel | ... | — | — | — |
| Electricity purchased | kwh. | 540,289,215 | 3,566 | 455,729,577 |
| Steam purchased | ... | — | — | — |
| Total fuel and electricity used | ... | 7,709 | ... | 7,749 |
| Electricity generated: | | | | |
| (a) For own use | kwh. | 14,336,000 | ... | 14,513,300 |
| (b) For sale | " | — | — | — |

TABLE 7. Materials and Supplies, Asbestos Mines.¹ 1963 and 1964
 Basis: Revised Standard Industrial Classification and New Establishment Concept

| Description | Cost | |
|--|---------------|---------------|
| | 1963 | 1964 |
| | \$'000 | |
| Ore or other semi-processed materials purchased and used in mine/mill operations | 445 | 567 |
| Containers, shipping materials and supplies used | 5,006 | 6,182 |
| Operating, maintenance and repair supplies used (excluding fuel) | 16,751 | 15,821 |
| Amount paid out to others for work done on materials owned by establishments | 134 | 113 |
| Totals | 22,337 | 22,683 |

¹ Refer to Explanatory Notes for explanation of differences in Tables 7 and 8 with data published in earlier years.

TABLE 8. Value of Production, Asbestos Mines, 1963 and 1964
 Basis: Revised Standard Industrial Classification and New Establishment Concept

| Description | Value | |
|--|----------------|----------------|
| | 1963 | 1964 |
| | \$'000 | |
| 1. Products: | | |
| Crude and milled asbestos fibres, gravel, stone, etc. | 142,134 | 151,414 |
| 2. Amount received in payment for work done on materials and products owned by others | -- | -- |
| Less adjustment for value of sales taxes, excise duties and outward transportation charges which could not be deducted from individual commodity items described above | -- | -- |
| Total value of production and work done | 142,134 | 151,414 |

See footnote Table 7.

TABLE 9. Drilling Completed on Asbestos Deposits of Producing Mines.¹ 1964

| | Footage drilled |
|---|------------------|
| Diamond drilling for exploration and testing: | |
| By mining companies with their own personnel and equipment | -- |
| By diamond drilling contractors | 61,939 |
| Other diamond drilling: | |
| Blast hole diamond drilling: | |
| By mining companies with their own personnel and equipment | -- |
| By diamond drill contractors | -- |
| Drilling by percussion or other machines² | 6,498,654 |

¹ Data are not comparable to those published in earlier years when non-producing mines were included.

² Not complete as records are unobtainable at certain mines.

TABLE 10. Specified Taxes Paid by Companies Engaged in Asbestos Mines Operations.¹ 1964

| Nature of tax | Thousands of dollars |
|---|----------------------|
| Dominion income tax, including tax on non-operating revenue | 12,562 |
| Provincial taxes | 5,731 |
| Municipal taxes | 2,008 |
| Total taxes paid | 20,301 |

¹ (a) Data are not comparable to those published in earlier years when non-producing mines were included.

(b) Includes related corporate activities associated with operations of asbestos mines.

TABLE 11. Miscellaneous Expenditures Made by Companies Engaged in Asbestos Mines Operations,¹ 1964

| | Thousands of dollars |
|--|----------------------|
| (a) Workmen's compensation | 655 |
| (b) Silicosis assessment | — |
| (c) Unemployment insurance | 275 |
| (d) Aggregate cost of structures, roads, machinery, equipment, etc., built by or purchased from outside contractors or suppliers and chargeable to Fixed Assets Account | 12,526 |
| (e) Book value of fixed assets (new structures, roads, machinery, equipment, etc., including major repairs and alterations) produced by own employees and chargeable to Fixed Assets Account | 1,741 |
| (f) Other capital expenditures not reported in (d) and (e) | 675 |
| (g) Cost of materials and supplies used in the production of machinery and equipment and in the construction of roads and new structures (including major repairs and alterations by own employees and chargeable to Fixed Assets Account) | 889 |
| (h) Cost of office supplies used during the year, not chargeable to Fixed Assets Account. Excludes cost of stamps and meter expenses | 189 |

¹ Includes related corporate activities associated with Canadian operations of asbestos mines not allocable separately elsewhere.

TABLE 12. Production and Shipments of Asbestos by Canadian Mines, 1963 and 1964

| Grade | 1963 | | | 1964 | | |
|--|------------------|------------------|--|------------------|------------------|--|
| | Production | Shipments | | Production | Shipments | |
| | | Quantity | Selling value less containers ¹ | | Quantity | Selling value less containers ¹ |
| | tons | | \$'000 | tons | | \$'000 |
| Crude—No. 1, No. 2, and other | 206 | 217 | 177 | 145 | 236 | 200 |
| Milled—Group 3 (spinning) | 27,848 | 28,987 | 11,491 | 30,429 | 37,145 | 12,364 |
| Group 4 (shingle) | 381,790 | 380,900 | 68,197 | 404,823 | 416,145 | 69,432 |
| Group 5 (paper) | 163,689 | 169,198 | 20,530 | 189,296 | 210,994 | 25,680 |
| Group 6 (stucco) | 236,609 | 234,371 | 18,254 | 232,444 | 241,039 | 17,790 |
| Group 7 (refuse) | 450,306 | 453,821 | 18,089 | 502,763 | 508,686 | 19,617 |
| Group 8 (sand) | 8,161 | 8,036 | 218 | 5,432 | 5,606 | 111 |
| Totals, all grades | 1,268,609 | 1,275,530 | 130,956 | 1,365,332 | 1,419,851 | 145,193 |
| Gravel and stone (waste rock only ²) | 49,530 | 49,530 | 34 | 34,264 | 34,264 | 29 |

¹ The value of containers amounted to \$5,008,381 in 1963 and \$5,056,871 in 1964.

² This production is included in the Sand and Gravel Pits report.

Note: The above and subsequent tables contain data on commodities produced by operators which are classified to other industries. As an example, asbestos is produced by a firm classified to other Non-metal Mines.

TABLE 13. Tonnage of Asbestos Rock Mined and Milled, 1960-64

| | 1960 | 1961 | 1962 | 1963 | 1964 |
|-------------------|------------|------------|------------|------------|------------|
| Rock mined | 33,228,170 | 38,444,213 | 42,212,705 | 45,738,901 | 50,032,245 |
| Rock milled | 15,298,282 | 17,055,480 | 18,007,575 | 17,710,527 | 19,585,242 |

TABLE 14. Shipments of Asbestos by Canadian Mines, 1955-64

| Year | Tons | Selling value less containers ¹ | Year | Tons | Selling value less containers ¹ |
|------------|-----------|--|------------|-----------|--|
| | | \$'000 | | | \$'000 |
| 1955 | 1,063,802 | 96,191 | 1960 | 1,118,456 | 121,400 |
| 1956 | 1,014,249 | 99,860 | 1961 | 1,173,695 | 128,956 |
| 1957 | 1,046,086 | 104,489 | 1962 | 1,215,814 | 130,282 |
| 1958 | 925,331 | 92,277 | 1963 | 1,275,530 | 136,956 |
| 1959 | 1,050,429 | 107,433 | 1964 | 1,419,851 | 145,193 |

¹ Value of containers excluded.

See Note Table 12.

TABLE 15. Shipments of Asbestos by Canadian Mines by Months, 1963 and 1964

| Month | 1963 | 1964 | Month | 1963 | 1964 |
|----------------|---------|---------|---------------------|------------------|------------------|
| | tons | | | tons | |
| January | 64,016 | 77,887 | August | 129,906 | 120,797 |
| February | 64,537 | 70,554 | September | 110,769 | 136,064 |
| March | 74,984 | 82,153 | October | 125,255 | 123,765 |
| April | 110,684 | 121,247 | November | 148,395 | 173,342 |
| May | 116,612 | 124,656 | December | 105,119 | 149,180 |
| June | 112,029 | 121,191 | Totals | 1,275,530 | 1,419,851 |
| July | 113,224 | 119,020 | | | |

See Note Table 12.

TABLE 16. Imports and Exports of Asbestos and Specified Asbestos Products, 1963 and 1964

| Item | 1963 | | 1964 | |
|--|---------|-----------------|---------|-----------------|
| | Tons | Value \$'000 | Tons | Value \$'000 |
| Imports | | | | |
| Asbestos clutch facings for automobiles, motor vehicles and chassis | ... | 217 | ... | 265 |
| Asbestos brake linings for automobiles, motor vehicles and chassis | ... | 1,070 | ... | 1,204 |
| Asbestos brake linings and clutch facings, n.o.p. | ... | 334 | ... | 407 |
| Asbestos in any other form than crude, and all manufacture of, n.o.p. | ... | 3,182 | ... | .. |
| Asbestos packing | 267 | 483 | 364 | 597 |
| Asbestos cloth, dryer felts, and sheets | .. | .. | ... | 592 |
| Asbestos - Cement shingles and siding | .. | .. | ... | 220 |
| Asbestos - Cement board and sheets | .. | .. | ... | 748 |
| Asbestos building materials, n.e.s. | .. | .. | ... | 686 |
| Asbestos basic products, n.e.s. | .. | .. | ... | 1,374 |
| Total accounted for | ... | 5,287 | ... | 6,035 |
| Exports | | | | |
| Asbestos (crude) | 195 | 165 | 214 | 184 |
| Asbestos milled fibres - Group 3. | 28,184 | 11,626 | 34,407 | 13,861 |
| Group 4, 5 | 527,235 | 90,081 | 596,108 | 100,664 |
| Group 6, 7, 8, 9. | 650,811 | 37,575 | 702,747 | 40,997 |
| Asbestos brake lining facings | ... | 362 | ... | 374 |
| Asbestos - Cement building materials | ... | 751 | ... | 1,268 |
| Cement products, n.e.s. | ... | 375 | ... | 330 |
| Asbestos, manufactures, n.o.p. | — | — | — | — |
| Total accounted for | ... | 140,935 | ... | 157,678 |

Source: Trade of Canada, "Imports by Commodities", Catalogue No. 65-007 and "Exports by commodities", Catalogue No. 65-004.

TABLE 17. World Production of Asbestos by Countries¹

Source: Minerals Year Book published by the United States Bureau of Mines

| Country ¹ | 1960 | 1961 | 1962 | 1963 | 1964 |
|--|--------------------|----------------------|----------------------|--------------------|--------------------|
| short tons | | | | | |
| North America: | | | | | |
| Canada (sales) | 1,118,456 | 1,173,695 | 1,215,814 | 1,275,530 | 1,420,769 |
| United States (sold or used) | 45,223 | 52,814 | 53,190 | 66,396 | 101,092 |
| South America: | | | | | |
| Argentina | — | — | 203 | 365 | 542 |
| Bolivia (exports) | 66 | 57 | 56 | 10 | 7 |
| Brazil | 3,900 ² | 3,400 ^{2,3} | 4,900 ^{3,4} | 1,440 ⁴ | .. |
| Venezuela | 4,333 | 650 | — | — | — |
| Europe: | | | | | |
| Austria | 215 | 564 | 503 | 638 | — |
| Bulgaria | 1,200 | 1,213 | 1,100 ¹ | 1,100 ¹ | 1,100 ¹ |
| Finland ⁵ | 10,534 | 10,340 | 10,869 | 10,108 | 11,611 |
| France | 28,662 | 30,746 | 28,364 | 26,645 | 24,250 |
| Italy | 60,532 | 62,804 | 60,860 | 63,016 | 75,573 |
| Portugal | 144 | 21 | — | 29 | — |
| Spain | 4 | 11 | — | — | — |
| U.S.S.R. ¹ | 660,000 | 880,000 | 1,100,000 | 1,200,000 | 1,300,000 |
| Yugoslavia | 5,970 | 6,709 | 7,401 | 9,074 | 9,280 |
| Africa: | | | | | |
| Bechuanaland | 1,282 | 1,924 | 2,375 | 2,368 | 2,161 |
| Kenya | 117 | 151 | 212 | 78 | 204 |
| Mozambique | 22 | 162 | 370 | — | — |
| Rhodesia Southern | 133,963 | 161,610 | 142,196 | 142,255 | 153,450 |
| South Africa, Republic of | 175,867 | 194,834 | 221,302 | 205,744 | 215,592 |
| Swaziland | 32,027 | 30,792 | 32,830 | 33,350 | 39,862 |
| United Arab Republic (Egypt) | 496 | 254 | 606 | 192 | 1,739 |
| Asia: | | | | | |
| China ¹ | 90,000 | 100,000 | 100,000 | 110,000 | 130,000 |
| Cyprus | 23,316 | 16,207 | 22,391 | 19,962 | 13,755 |
| India | 1,886 | 1,624 | 1,865 | 2,989 | 3,271 |
| Japan | 17,042 | 18,799 | 15,407 | 18,210 | 17,979 |
| Korea, South | 740 | 341 | 1,333 | 2,120 | 1,402 |
| Philippines | 36 | 83 | 1,037 | 421 | 586 |
| Taiwan (Formosa) | 485 | 44 | 525 | 604 | 526 |
| Turkey | 238 | 496 | 709 | 408 | 1,291 |
| Oceania: | | | | | |
| Australia | 15,613 | 16,746 | 18,146 | 13,374 | 13,545 |
| New Zealand | 319 | 373 | 457 | 439 | — |
| World totals (estimate)¹ | 2,440,000 | 2,770,000 | 3,050,000 | 3,210,000 | 3,540,000 |

¹ In addition to countries listed, asbestos is produced in Czechoslovakia, Eritrea, Greece, North Korea, and Rumania. No estimates are included in the total production is believed to be negligible.

² Revised data represents fiber.

³ Estimate.

⁴ Bahia only.

⁵ Includes asbestos flour.

Canadian Chrysotile Asbestos Classification —

List of Standard Grades set up by the Committee on Uniform Classification and Grading of Asbestos Mines Products. This committee was formed in 1931 at the instigation of the Minister of Mines of the Province of Quebec, and the list of grades has been revised from time to time. Revised January, 1961.

The asbestos mines products are divided into two classes: "Crude Asbestos" and "Milled Asbestos", respectively, defined as follows:

"Crude Asbestos" consists of the hand-selected cross-vein material essentially in its native or unfiberized form.

"Milled Asbestos" consists of all grades produced by mechanical treatment of asbestos ore.

"Crude Asbestos" and "Milled Asbestos" are sub-divided into groups designated and defined below.

Classification of the "Milled Asbestos" grades, in groups Nos. 3 to 7, inclusive, unless otherwise specified, is based on the Quebec Standard Testing Machine.

"Shipping Test" is the average for each carload or smaller shipment of tests representative samples taken at the time of shipping.

"Guaranteed Minimum Shipping Test" is that below which the actual shipping test shall not fall.

Crudes:

- Group No. 1, Crude No. 1. Consists basically of crude $\frac{3}{4}$ inch staple and longer.
 Group No. 2, Crude No. 2. Consists basically of crude $\frac{1}{2}$ inch staple up to $\frac{3}{4}$ inch.
 Crude run-of-mine Consists basically of unsorted crudes.
 Crudes, sundry Consists of crudes other than above specified.

Fibres:

| | Standard designation of grades | Guaranteed Minimum shipping test | | | |
|--------------------|--------------------------------|---|------------------------------------|----------------|-----|
| | | $\frac{1}{2}$ -inch screen | No. of ounces on: 4-mesh screen | 10-mesh screen | Pan |
| Group No. 3 | 3F ^a | 10.5 | 3.9 | 1.3 | 0.3 |
| | 3K | 7 | 7 | 1.5 | 0.5 |
| | 3R | 4 | 7 | 4 | 1 |
| | 3T | 2 | 8 | 4 | 2 |
| | 3Z | 1 | 9 | 4 | 2 |
| Group No. 4 | 4A | 0 | 8 | 6 | 2 |
| | 4H | 0 | 5 | 8 | 3 |
| | 4K | 0 | 4 | 9 | 3 |
| | 4M | 0 | 4 | 8 | 4 |
| | 4R | 0 | 3 | 9 | 4 |
| | 4T | 0 | 2 | 10 | 4 |
| | 4Z | 0 | 1.5 | 9.5 | 5 |
| Group No. 5 | 5D | 0 | 0.5 | 10.5 | 5 |
| | 5F | 0 | 0 | 13 | 3 |
| | 5K | 0 | 0 | 12 | 4 |
| | 5M | 0 | 0 | 11 | 5 |
| | 5R | 0 | 0 | 10 | 6 |
| Group No. 6 | 6D | 0 | 0 | 7 | 9 |
| Group No. 7* | 7D | 0 | 0 | 5 | 11 |
| | 7F | 0 | 0 | 4 | 12 |
| | 7H | 0 | 0 | 3 | 13 |
| | 7K | 0 | 0 | 2 | 14 |
| | 7M | 0 | 0 | 1 | 15 |
| | 7R | 0 | 0 | 0 | 16 |
| | 7T | 0 | 0 | 0 | 16 |
| | 7W | 0 | 0 | 0 | 16 |
| Group No. 8 | 8S | Under 50 pounds per cubic foot loose measure. | | | |
| | 8T | Under 75 pounds per cubic foot loose measure. | | | |
| Group No. 9 | 9T | Over 75 pounds per cubic foot loose measure. | | | |

*The affix "F" designates "Floats" in all subsections of Group No. 7.

List of Establishments classified to this Industry, 1964

(Does not include establishments classified to other industries which recovered asbestos as a secondary activity)

| Name | Head office or general office | Location |
|---------------------------------------|---|--|
| Newfoundland: | | |
| Advocate Mines Ltd. | 55 Yonge St., Toronto, Ontario | Baie Verte |
| Quebec: | | |
| Asbestos Corporation Ltd. | Thetford Mines | Thetford Mines, Black Lake, Coleraine |
| Bell Asbestos Mines Ltd. | Thetford Mines | Thetford Township |
| Canadian Johns-Manville Co. Ltd. | 310 Victoria St., Montreal | Asbestos |
| Carey Canadian Mines Ltd. | Lennoxville | East Broughton Station |
| Flintkote Mines Ltd. | Thetford Mines | Thetford Mines |
| Lake Asbestos of Quebec Ltd. | Box 88, Black Lake | Black Lake |
| National Asbestos Ltd. | 325 Delaware Ave., Buffalo, New York, U.S.A. | Thetford |
| Nicolet Asbestos Mines Ltd. | 2195 Crescent St., Montreal 25 | Norbestos |
| Ontario: | | |
| Canadian Johns-Manville Co. Ltd. | Asbestos, Quebec | Munro Township |
| British Columbia: | | |
| Cassiar Asbestos Corp. Ltd. | 85 Richmond St. W., Toronto, Ontario | Cassiar |

EXPLANATORY NOTES

(Including Concepts and Definitions)

INTRODUCTION

The Census of Mines, Quarries and Oil Wells is an annual mail survey covering Canada's Mineral Industries based on the Standard Classification of Industries. While principal statistics are collected and compiled for all mineral industries not all can be published separately by province because of the confidential nature of the data in certain provinces.

The reporting unit for the Census is designated as the establishment (see definition of Establishment in following section) and a return is requested from every establishment classified to a mineral industry. When an establishment is operated for only part of a year a report is required covering the period of operation.

There are four different questionnaires used in this Census: (a) short form (introduced in 1963) (b) long form (c) head office questionnaire and (d) commodity questionnaire. The short and long forms are used to obtain principal statistics and commodities shipped from establishments classified to mineral industries and differ only in the amount of detail requested.

The head office questionnaire is generally used for company head offices and/or auxiliary units separately located from the mineral establishment(s), (see following notes on Head offices and auxiliary units). The Commodity questionnaire is used to survey certain establishments to collect information on the quantity and value of goods of own production shipped or used by such establishments in order to achieve full coverage of domestically produced commodities. (See the following note under Value of production).

General

This report is one in a series of 18 publications which relate to the operations of industries comprising Major Groups 1, 3, and 4 of Division 4, Mines (including Milling) Quarries and Oil Wells of the revised Standard Industrial Classification (S.I.C.). These groups are respectively Metal Mines, Non-metal Mines and Quarries and Sand Pits. Industries comprising Major Group 2 (Mineral Fuels) are covered in a separate series of reports. The industries included in Major Group 5, Services Incidental to Mining are not covered by separate reports. However, certain relevant statistics are published in various publications, for example, "Contract Drilling for the Mining Industry" (Catalogue No. 26-207), "Construction in Canada" (Catalogue No. 64-201) and a special report "Private and Public Investment in Canada" (available on request from the Bureau or the Queen's Printer). The Bureau has also developed a new survey "Annual Survey of Mining and Exploration Companies". This survey is being introduced for the 1967 reporting period and will attempt to bring together details on exploration, development and capital and repair expenditures for the mining universe (excluding oil and gas).

The publication of this series of 18 reports constitutes the final phase of the implementation of the revised Standard Classification for these three Major Groups (see above). Because of its size and complexity, this project has to be carried out in several stages and over a period of years. These stages were as follows: (a) reclassification of establishments according to the revised S.I.C. (b) implementation of a new establishment definition (c) an extension of the establishment definition to cover the non-mining activities of mining establishments. The first stage was completed with the 1960 Census of Mines, etc. and the results were published in the 1960 and 1961 reports on the basis of the revised Standard Industrial Classification. This part of the project was confined entirely to a re-coding of existing reporting units. Under the revised Standard Industrial Classification reporting establishments are classified or allotted to specific industries in the classification system on the basis of the value of principal products made or shipped. Full details concerning the revised classification system are contained in the "Standard Industrial Classification Manual", Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics.

The second stage in the project consisted of the implementation of the new definition of the reporting unit i.e. "establishment" as it applied to **mining activities** of mining establishments (see following note on Establishment). Results of the 1962 Census of Mining reflected this change in concept and, in order to provide comparability of data for previous years, the 1962 reports contained principal statistics on the basis of the new establishment definition for years back to 1957. This naturally included the projection of stage one.

The third stage in the project which was the extension of the definition of the establishment to cover **total activities** of mining establishment, is reflected in the 1964 data presented in the present report. By definition "total activity" relates to all operational data and excludes such non-operational items as rent, interest and dividends. Statistics on man-hours included in the earlier publications for the mining industry will continue to be included as part of the regular series but will be confined to production and related workers as in the reports for the Census of Manufactures. Adjustments and revisions made in the statistics for mining activities covering the period 1961-63 and carried in the mining series of publications for this period were further revised in the course of the final stage of the programme to bring them in line with reporting procedures followed in the 1964 Census of Mining which reflect the final application of the new concept. The 1961-63 statistics on mining statistics on the new basis are thus not comparable with those published in earlier issues in this series. However, the 1961-63 statistics are shown in this publication in both their previously published and revised forms in order to provide a link with the immediate past.

Reference has already been made to changes implemented and in the course of implementation in the mining industries in reports published in this series prior to the 1964 issues; however a more complete account of the changes and additions and brief descriptions of the principal industry statistics are given in the following sections of those notes. This latter includes as well a special section dealing specifically with the impact of a new concept in the treatment of the Smelting and Refining industry on the metal mines industries. A description of conceptual and definitional changes appropriate to the statistics for Major Group 4, Mineral Fuels will be included in the relevant industry reports for this group.

Metal Mines

The effect of the application of a special concept to the reporting procedures followed by plants carrying on integrated mining/smelting/refining operations will be evident in the comparison of the 1961-64 data particularly for the items Materials and supplies and Value of production shown in the publications on Metal Mines and the data published in reports prior to 1964. The industries in which the application of this concept had a major effect are those included in S.I.C. Major Group 1 - Metal Mines of the Annual Census of Mining (Mines (including Milling) Quarries and Oil Wells) but more particularly the following:

Copper-Gold-Silver Mines
Nickel-Copper Mines
Silver-Lead-Zinc Mines

These industries which are dominated by a sector of vertically integrated companies involved in mining and manufacturing (smelting and refining) operations have historically created significant distortions in the statistics for these industries. These were caused, for the most part, as a result of applying a value to the ores, concentrates, etc. which were part of the materials (inputs) of the Smelting and Refining industry. The method of valuation used was based on the recoverable metal content of these materials, that is, ores, concentrates, etc. A similar procedure was followed in valuing the output portion of these mines. Since the major output of the mines served as an input to the Smelting and

Refining industry and in turn became a part of the output of the Smelting and Refining industry there was, in effect, a duplication of values for recoverable metal content in the mining and manufacturing sector (smelting and refining). The procedure followed also tended to understate the total output value of the mines sector because the recoverable metal content was valued at a lower level in the processing operations that is, as ores, concentrates, etc. before smelting and/or refining.

Prior to the full implementation of the establishment concept to include total activities, the "Materials and supplies" section included primarily a limited number of consumable materials such as explosives, drill steel, lubricants, etc. Many kinds of supplies, for example, maintenance and repair supplies were not reported. The extension of the Materials and supplies section in accordance with the total activities concept to provide for a more complete coverage of materials and supplies accounts for a major part of the increase in the total cost of Materials and supplies used. In the case of the vertically integrated companies the procedure followed omitted treatment charges such as milling, smelting refining, etc. from the input side of the mines sector involving these companies as well as from the output side of the Smelting and Refining industry. As a result the cost of materials (inputs) reported, particularly for the industries in the mines sector mentioned above was considerably understated.

As a result of the foregoing it was necessary to find some statistical device which would eliminate the above practices and permit the derivation of more meaningful principal statistics—for both the metal mines and for the smelting and refining industry.

While it has been suggested that smelting and refining should be treated as part of the metal mines, and that the statistics should be compiled on this basis, this would be difficult to justify from the statistical viewpoint. Smelting and refining by the nature of its operations constitutes a

manufacturing activity and is considered such, not only in the Canadian and International classification systems but also in the systems of most foreign countries. To include it as part of the mining universe would not only make international comparisons virtually impossible but would affect the importance of Canada's manufacturing industries even more drastically than the changes which resulted from the approach adopted.

After a thorough study of these problems and consultations with the firms involved, it was found that the only satisfactory solution was to continue to consider smelting and refining as a manufacturing industry and to treat such operations of vertically integrated companies as "custom" operations regardless of whether or not the smelting and refining plants (establishments) of such companies were concerned solely with the smelting and refining of ore, concentrates, etc. of their own company. This procedure eliminated the need to arbitrarily value the ores, concentrates, etc. transferred to the smelter and to value the output of the smelter and refinery in terms of commodities produced. Although, for the purpose of commodity statistics, these are still valued on the basis of recoverable metal content, the revenue from integrated operations accrues to the mines concerned and is not duplicated, as in the past, in both the mining and the smelting and refining industries. Thus the revenue from smelting and refining in such integrated operations now consists primarily of treatment costs of own ores, etc. plus any revenue from toll charges of non-company ores, by-products, etc.

The effects of allocating the final revenues of the vertically integrated companies included in this industry to the metal mining industries and the broadening of coverage for materials used, as well as any changes resulting from the implementation of the revised Standard Industrial Classification and the New Establishment Concept, are reflected in the tables of principal statistics for the years 1961 to 1964. Additionally, these tables reflect the inclusion of the non-mining activities, i.e. the total activity concept.

CONCEPTS AND DEFINITIONS

Establishment

A mining establishment is typically a mine, mine/mill (concentrator), quarry, pit, bog, or plant principally engaged in commercial production activities. In many cases a mining company consists of a single establishment but it is not uncommon for a company to consist of a number of establishments some of which may be in mining i.e. mine/mill and others in manufacturing i.e. smelter, cement plant, etc. In addition a number of locations may be involved. Such firms are requested to submit a separate Census of Mining report for each mineral establishment which can meet the reporting requirements embodied in the following definition of the "establishment".

"The smallest unit which is a separate operating entity capable of reporting the following principal statistics:

- Materials and supplies used
- Goods purchased for resale as such
- Fuel and power consumed
- Number of employees and salaries and wages
- Man-hours worked and paid
- Inventories
- Shipments or sales."

Each establishment is required to report on all the activities carried out within its accounting boundaries (except non-operating revenues such as rent, interest and dividends) and data on the different activities (mining etc., trading in goods not of own manufacture, construction by own labour force, revenue from services, etc.) are requested to be reported separately. It should be noted that the statistics for separate activities are not completed consistent since some respondents cannot distinguish, in their records, materials, shipments and inventories relating solely to their own mining activities. For example, inventory of commodities purchased

for re-sale may not be distinguishable from inventory of own mineral commodities. Complete consistency, therefore, can be obtained only at the "all operations" (total activity) level and for studies or statistical measures requiring accurate co-ordinated data, the "total activity" statistics should be used.

The number of establishments represents the number of operating units that are principally engaged in the activities of the mineral industries to which they have been classified. These units do not necessarily represent the total number engaged in the production of a commodity mainly produced in a certain industry. Some commodities are produced as secondary products in other mineral and non-mineral industries. It should be noted that head offices and auxiliary units which are surveyed separately are not included in the establishment count, (see following notes on Head offices and auxiliary units).

Head Offices and Auxiliary Units

Head offices and auxiliary units of companies classified to the mineral industries such as sales offices, administrative offices, warehouses, laboratories, etc. are now surveyed as part of the Census of Mining.

These head offices and auxiliary units are either included in an establishment report or are surveyed by means of the head office questionnaire. The former is the most common case where a single establishment firm has its executive personnel, sales office, etc. located at the site of the mine (establishment). The special head office questionnaire is generally used where a firm, regardless of the number of establishments, has separately located offices or auxiliary units. Such offices or units do not constitute establishments within the Census of Mining as they do not normally generate operational revenues, but give rise only to cost of operations

(mainly salaries and wages) which are automatically included in the value of shipments or sales. Although not considered as establishments, and hence, not included in the "establishment" count for an industry, the operational costs are reflected in either the "Industry" statistics (3 or 4 digit level) or the "Major group" statistics (2 digit level) according to the following rules:

- (a) In the case of single establishment firms, statistics of offices and units located in a different municipality to the mining establishment are classified to the same industry (3 or 4 digit) as the mining establishment;
- (b) In the case of multi-establishment firms, the statistics for such offices and units are coded to the same industry as the establishments of the firm, when all establishments are in the same industry (3 or 4 digits). When establishments of such firms are coded (1) to different industries within a major group, (2) to industries in different major groups or (3) to industries in different divisions of the Standard Industrial Classification, then the statistics are included in the major group totals (2 digit level) in which the major part of the company's operations are classified. Although this may result in some distortion of major group statistics in the case of (2) and (3) the statistics at the industry (3 or 4 digit) level in all cases will be left free of these company-wide data.

Employees

(a) Production and related workers — Mining activities

In addition to those engaged directly in mining production activities, they include those employed in storing, inspecting handling, packing, warehousing, etc. They also include employees engaged in maintenance, repair, janitorial and watchman services and line supervisors (working foremen) engaged in similar work to that of the employees they supervise. For those establishments reporting on the "long" form, production and related workers engaged in mining activity are reported as those receiving pay during the last pay period of each month, an average for the year being obtained by summing the monthly figures and dividing by 12. This procedure is followed even though the establishment did not operate in all months in order to arrive at equivalent annual full-time employment. The numbers are somewhat affected by turnover, in that employment is overstated when an employee changes employment during a pay period. The man-hours of production and related workers in mining activity represent total man-hours paid (total hours at work during the calendar year plus hours not worked but nevertheless paid for, such as paid vacations, sick leave, statutory holidays, etc.). In reporting overtime hours, respondents are requested to report only hours actually at work. It should be noted that the division of hours paid into production and related workers payrolls results in average hourly earnings and does not represent hourly wage rates which are collected and published by the Department of Labour and which are based on selected occupations.

(b) Production and related workers — Non-mining activities

Such employees include those on mining establishments' payrolls engaged in activities such as construction undertaken for the use of these establishments and any other production workers who are not engaged directly in the production of ore and/or concentrates.

(c) Administrative and office employees

This category includes all executive and supervisory officials such as presidents, vice-presidents, comptrollers, secretaries, treasurers, etc., together with managers, professional, technical and research employees, superintendents and plant supervisors above the line supervisor or working foreman level, and clerical staff. Also included are employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical, etc. It should be noted that prior to 1961 this category also included working owners and partners. Also included in this category are employees located at head offices or auxiliary units separately located from the establishment; in accordance to the rules outlined under "Head offices and auxiliary units" above.

(d) Sales and distribution workers

This category includes office personnel whose salaries are charged to selling expense, e.g. travelling salesmen. It may also include some sales employees who are reported as part of a mining establishment but are not working at the establishment. These are generally broken down by location in cases where more than 15 employees are involved in any one location. The figures exclude persons working on a commission basis who are not considered regular employees of the establishment.

(e) Total employees

This total comprises the foregoing categories including employees located at separately located head offices and auxiliary units. The numbers of employees included under categories (b), (c) and (d) are reported in the form of annual averages and represent as closely as possible full time employment; adjustments are made when reported figures indicate the existence of part-time or seasonal employment.

Working Owners or Partners

These are not now included in the statistics of employees and salaries and wages. There is some duplication in numbers when a person owns more than one establishment and is reported as a working owner on each Census return. Withdrawals of working owners are defined as amounts withdrawn by owners or partners for normal living expenses excluding withdrawals for payment of income tax.

Salaries and Wages

Salaries and wages refer to gross earnings of employees before deductions for income tax and employees contributions to social services such as sickness, accident and unemployment insurance, pensions, etc. They include all salaries, wages, bonuses, profits shared with employees, the value of room and board where provided, commissions (paid to regular employees only) as well as any other allowance forming part of the worker's earnings. ~~Payments for overtime are included.~~

Fuel and Electricity

Figures for fuel refer to amounts actually used (including fuel used in cars, trucks, locomotives, etc.), not to purchases unless the quantities are substantially the same. Any fuel and electricity produced by establishments for internal consumption are not included in the total cost. Values represent laid down cost at the establishment including freight, duty, etc. Although fuel and electricity used is considered part of mining activity it should be noted that it also includes relatively small amounts used in non-mining activities since these cannot be reported separately.

Materials and Supplies

(a) Mining activities

Figures represent quantities and laid down cost values, at the establishment, of materials, supplies and purchased components owned and used during the year in mining activities and related processes. These statistics represent only commodity items or physical goods (cost of services or overhead charges such as advertising, insurance, depreciation, etc. are not included) whether purchased from others or received as transfers (in the form of materials, components or semi-processed goods) from other establishments of the reporting company. Included are maintenance and repair supplies not chargeable to fixed assets accounts and any amounts charged by other establishments for work done on materials owned by the reporting establishment. Cost of repairs or maintenance done by outside contractors and cost of returnable containers are not included.

(b) Non-mining activities

1. Purchases for re-sale as such

Figures represent cost of materials or products purchased from others by the reporting establishment (or received as transfers from other establishments of the reporting company) for re-sale as such in the same condition as purchased. Included are any finished products received as consignment from other countries.

2. Other materials and supplies used

Figures represent the cost of materials and supplies, if any, used in new construction and in the production of machinery and equipment (for the use of the reporting establishment) by the establishment's own employees. Included are materials used for any capital repairs and alterations carried out by the establishment's employees. Amounts paid to outside contractors for construction and repair work are not included nor is the cost of purchased machinery and equipment. Also included is the cost of office supplies not chargeable to fixed assets accounts and the cost of such other items of materials and supplies used as food, beverages and supplies for establishment-operated cafeterias and lunch counters, first aid and medical supplies, laboratory supplies, etc.

Value of Production

(a) Value of production of goods produced in the establishment

These figures represent the values in Canadian dollars of products shipped by the reporting establishments adjusted by changes in value between closing and opening inventory values of goods-in-process and finished products on hand. Included are revenues from repairs and custom work performed for other establishments and the cost (book value) of any goods produced by the mining establishment and shipped on a rental basis.

All products and by-products of own production shipped from the establishment are covered, including transfer shipments to sales outlets, distributing warehouses or to other processing plants of the reporting firm, when such units are treated as separate establishments. Production values are net of returned goods, discounts, returns, allowances, sales tax, excise taxes and duties, returnable containers and charges for outward transportation by common or contract carriers. Transportation or delivery expense incurred by the reporting establishment's own carriers are included.

Shipments of goods of own production of establishments which are coded to some other division of the Standard Industrial Classification (on the basis of principal activity) but which are engaged in mining as a subsidiary activity are collected by means of the Commodity questionnaire referred to earlier. Such shipments together with shipments of goods of own production of establishments forming the universe of mineral industries are compiled and recorded under appropriate headings in the various mineral industry publications; however, operational details relating to the production of such commodities are **not** included in the **principal** statistics shown in the reports for individual mineral industries.

(b) Shipments of goods not of own manufacture

These figures represent the net selling value at establishment (net of discounts, returns, allowances, sales

taxes and excise duties and taxes and transportation charges by common or contract carriers) of all products or materials (including products transferred from other establishments of the reporting firm) sold as such in the same condition as purchased or received as transfers. All sales of consignment goods from other countries are included.

(c) Other revenue

Figures represent the book value of fixed assets, if any, (new construction and machinery and equipment including major repairs, alterations, additions, modifications, installation and assembly work) produced during the year for the use of reporting establishments by the establishment's own employees and for which depreciation accounts are maintained. Included also are any revenues from the sale of electricity, servicing revenues, commissions on sales (when not included in value of sales), revenue for company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishment's own products, sale of used materials (excluding sale of used fixed assets) research and development work, etc. As mentioned previously the figures do not include non-operating revenue such as rent, dividends, interest, etc.

Value Added

(a) By mining activities

Figures are compiled by deducting the cost of operating materials, supplies, etc. and fuel and electricity consumed from the value of production.

(b) By non-mining activities

The figures are compiled by deducting the cost of goods purchased for re-sale (adjusted for changes in the value of inventories of goods purchased for re-sale) and the cost of non-mining materials and supplies used from the value of shipments of goods not of own manufacture, plus other revenue.

(c) By total activities

The figures consist of value added by mining activities plus value added by non-mining activities. "Value added" is sometimes referred to as net output or net production. However, to arrive at the National Accounts concept of net production, or Gross Domestic Product at "Factor cost" it would be necessary to subtract also the cost of advertising, insurance and other business expenses which are not collected as part of the annual Census of mining. "Value added" figures for the primary industries, manufacturing and construction are published in DBS publication Catalogue No. 61-202, "Survey of Production".

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