

## PEAT INDUSTRY <br> $\wedge$ <br> 1964



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## PEAT INDUSTRY

## 1964

The Peat Industry is part of Other Non-metal Mines - Industry 079 of the Standard Industrial Classification Manual, Catalogue No. 12-501.

During 1964 the Canadian producers of peat moss shipped 255,475 short tons valued at $\$ 8,399,648$. Comparable data for the preceding year was 248,311 tons valued at $\$ 8,715,228$. These valuations do not include the cost of containers. There were no shipments of peat fuel during recent years.

Peat moss, the dead fibrous moss produced from peat bogs, is valuable because of its high absorbent capacity for liquids and gases, high resistance to decomposition. and low heat conducbyity. Because of these properties it makes an excellent stable litter for horses and cattle, and it is especially valuable for poultry litter. Although nos a fertilizer in itself, it is a good soil conditioner as it loosens up a clay soil, helps to maintain the moisture in a light sandy soil, and adds valuable organic matter to depleted soils. The main use of peat moss is horticultural, for better lawns, more luxuriant flowers, and stronger plants and shrubs are obtainable through its addition to the soil. It makes excellent packing material for the shipment of perishable fruits, vegetables and cut flowers. It is useful for making compost and as a diluent and carrier in the application of artificial fertilizers.

Technical information on peat moss appears in the Mines Branch Information Circular IC 104 and Technical Bulletin TB 22 published by the Department of Energy, Mines and Resources, Ottawa.

Data presented in this report under the heading of The Peat Industry (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. However, in the case of the industry under review in this report, the changes were relatively minor as evidenced in the comparative series of statistics presented in Tables 1 and 2 . The reduction in the number of establishments which is indicated is the result of the exclusion of non-producers. These latter are no longer being included as establishments under the new definition.

## SYMBOL.S

The following standard symbols are used in Dominion Bureau of Statistics publications:
.. figures not avaliable.
... figures not appropriate or not applicable.

- nil or zero.
- amount too small to be expressed.
p preliminary figures.
${ }^{r}$ revised figures.
$x$ confidential te metet secrecy requirements of the Statistios Act.

TABI.E 1. Principal Statistics of the Peat Industry, 195\% $\mathbf{- 6 3}$
Basis: Revised Standard Industrial Classification

${ }^{2}$ Value of production less cost of fuel, electricity and process suppiies.
Sce footnote Table 2.

T MBLE: \%. Principal statistics. Peat Industry. ${ }^{1}$ 1961-6t
Basis: Revised Standard Industrial Classifimtion and New Estathisherteni Conusp

| Year | Estab* lishments | Mining activil: |  |  |  |  |  |  | Total activity |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Production and related workers |  |  | Cost of fuel and electricjty | Cost of materlals and supplies | ```Value of produc- tion``` | Value <br> added | Working ownrrs and partners |  | Employees |  | Value <br> added |
|  |  | Number | Manhours paid | Wages |  |  |  |  | Number | Withdrawals | Number | Salaries and wages |  |
|  | No. |  | '000 |  |  | \$'000 |  |  |  | \$ ${ }^{\prime} 000$ |  | \$' |  |
| 1961 | 37 | 1,112 | 2. 360 | 2,989 | 305 | 2. 420 | 8,671 | 5.946 | 6 | 27 | 1,207 | 3,498 | 5.944 |
| 1962 | 42 | 1, 118 | 2, 344 | 3.037 | 362 | 2,586 | 9,618 | 6,669 | 7 | 30 | 1,220 | 3,576 | 6. 655 |
| 1963 | 45 | 1.198 | 2.517 | 3.343 | 398 | 2. 699 | 9,938 | 6.841 | 7 | 29 | 1.303 | 3.915 | 7.046 |
| 1904. | 51 | 1. 173 | 2. 429 | 3.279 | 387 | 2.868 | 9,965 | 6,711 | 7 | 31 | 1.290 | 3,965 | 6. 765 |



TABIA. 3. Fmployment and Payroll. Peat industry. 1961-63
Basls: Revised Standard Industrial Classification

| Year | Employees |  |  |  |  |  |  |  |  |  | Salaries and tiakts |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Production and related workers |  |  |  | Adminjs trative and offlce |  | Salesanddistribution |  | Total |  | Production and related workers |  | Admin-istratlve and office | Sales and distribution | Total |
|  | At bogs and plants |  | Other |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Male | Female | Male | Female | Male | Female | Male | Female | Male | Fermale | At bogs and plants | Other |  |  |  |
|  | number |  |  |  |  |  |  |  |  |  | \$000 |  |  |  |  |
|  | $\begin{array}{\|l\|l\|} 1,222 & 40 \\ 1,267 & 28 \\ 1,387 & 16 \\ \hline \end{array}$ |  | - | $\begin{aligned} & - \\ & - \end{aligned}$ | $\begin{aligned} & 48 \\ & 53 \\ & 56 \end{aligned}$ | $\begin{aligned} & 22 \\ & 22 \\ & 23 \end{aligned}$ | - | - $=$ $=$ | $\left\{\begin{array}{l} 1,270 \\ 1,320 \\ 1,443 \end{array}\right.$ | $\begin{aligned} & 62 \\ & 50 \\ & 39 \end{aligned}$ | $\begin{aligned} & 3,194 \\ & 3,068 \\ & 3,580 \end{aligned}$ | - | 334 330 373 | - | $\begin{aligned} & 3,528 \\ & 3,398 \\ & 3,952 \end{aligned}$ |

See footnote Table 2 .

TABLE. Employment and Payroll, Peat Industry, 19fi-64
Basis: Revised Standard Industrial Classification and New Establlshment Concept


[^0]TABLE 5. Production and Related Workers, Peat Industry, 1963 and 1464
Basis: Revisui Standard Industral Classification and siow Fstablishment Conesp

| Month | 1963 |  |  |  | 196i\% |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | At bogs |  | At dressing plants |  | At bogs |  | At dressing plants |  |
|  | Male | Female | Male | Female | Male | Female | Male | Female |
|  | number |  |  |  |  |  |  |  |
| Establishments reporting monthly detail (large establishments only): |  |  |  |  |  |  |  |  |
| January .................................................................................... | 153 | - | 248 | 9 | 118 | - | 286 | 7 |
| February | 213 | - | 342 | 9 | 203 | - | 370 | 6 |
| March | 267 | - | 430 | 11 | 235 | - | 501 | 10 |
| Apris... | 351 | - | 423 | 10 | 301 | - | 480 | 5 |
| May | 868 | 13 | 422 | 10 | 767 | 10 | 506 | 12 |
| June | 1.476 | 16 | 475 | 12 | 3. 370 | 4 | 434 | 10 |
| July | 1,361 | 7 | 422 | 12 | 1.458 | 6 | 395 | 9 |
| August | 1. 399 | 14 | 380 | 12 | 1.380 | 7 | 410 | 10 |
| September | 1,136 | 6 | 377 | 14 | 1.044 | 7 | 102 | 1 |
| Octaber | 939 | 3 | 314 | 11 | 813 | 6 | 333 | 7 |
| November | 421 | 2 | 279 | 10 | 353 | 2 | 271 | 5 |
| December | 100 | - | 221 | 4 | 88 | - | 217 | 1 |
| Averages | 724 | 5 | 361 | 10 | 677 | 4 | 384 | 7 |
| Establishments reporting annua) averages (small establishments only) | 68 | - | 30 | - | 76 | - | 25 | - |
| Average for all establishments | 792 | 5 | 391 | 10 | 753 | 4 | 409 | 7 |




| Description |
| :--- |

TABLE: T. Waterials and Supplies. Peat Industry. ${ }^{1} 1963$ and 1964


| Descriptiorn | Cost |  |
| :---: | :---: | :---: |
|  | 1963 | 1964 |
|  | \$'000 |  |
| Raw or other semi-processed materlals purchased and used in bog/mill operations ${ }^{2}$ | 34 | 143 |
| Containers, shipping materials and supples used ...................................................... | 2. 274 | 2.339 |
| Operating, maintenance and relair suphles used (excluding fuel) | 389 | 386 |
| Amount paid out to others for work done on materials owned by establishments |  | - |
| Totals | 2.699 | 2. 868 |

[^1]TABLF 8. Value of Production, Peat Industry, 1963 and 1964
Basis: Pevised Stantard Industrial Clansitication and New Estahlishment Concept

| Description | Value |  |
| :---: | :---: | :---: |
|  | 1963 | 1964 |
|  | \$'000 |  |
| 1. Value of production ................................................................................................................................... | 9,938 | 9.965 |
| 2. Amount recelved in payment for work done on materials and products owned by othets .................................... | - | - |
| Total value of production and work done | 9.938 | 9,965 |

$$
\text { See fopiacier rable } 7
$$



| Nalure of tax | Dollars |
| :---: | :---: |
| Dominion income taxes, Including taxes on non-operating revenue | 90.571 |
| Provincial taxes. | \$1.141 |
| Municipal taxes | 56.111 |
| Total laxes paid | 187.823 |

${ }^{1}$ Includes related corporate activities associated with operations of peat bogs and plants.

TABIf; IC. Miscellaneous Expenditures Made by Companies Engaged in Peat Rog Operations, ${ }^{1} 1964$

|  | Dollars |
| :---: | :---: |
| (a) Workmen's compensation | 65.138 |
| (b) Silicosis assessment | - |
| (c) Unemployment insurance | 31.351 |
| (d) Aggregate cost of structures, roads, machinery, equipment, etc., buift by or purchased from outside contractors or suppiiers and chargeable to Fixed Assets Account | 167. 312 |
| (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 | 105.604 |
| (f) Other capital expenditures not reported in (d) and (e) | 23, 084 |
| (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) | 80.497 |
| (h) Cost of office supplies used durtns the year, not chargeabie to Fixed Assets Account. Fxciudes cost of stamps and meter expenses | 19,789 |

[^2]TABLE 11. Production of Peat Fuel and Peat Moss, by U'ses and by Provinces, 1963 and 1964

${ }^{1}$ Does not include cost of containers which were valued at $\$ 2,271,747$ in 1963 and $\$ 2,230,339$ in 1964 .

TABLE: 12. Production of Peat FueI, 1946-64


TABLE: 13. Production of Peat Moss, 1955-64

| Year | Short tons | Value | Yrat | Shere thats | Value |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & 117,579 \\ & 128,054 \\ & 137,747 \\ & 149,401 \\ & 184,049 \end{aligned}$ | $\$$ $3,485,287$ $4,240,714$ $4,734,504$ $4,78,860$ $6,226,688$ |  | $\begin{aligned} & 184,784 \\ & 224,031 \\ & 238,035 \\ & 248,311 \\ & 255,475 \end{aligned}$ | $\$$ $6,088,138$ $7,295,087$ $7,480,396$ $8,715,228$ $8,399,648$ |

T;MBLE 14. Exports of Peat Moss and Other Mosses, 1955-64


Note: The weight of peat moss shipped varies greatly depending on the moisture content. Weight is used as a unit of measure of production (shipmenin) owing to the fact that Canadian moss is shipped in various forms, including bales, bags, pads, etc., and at present there is no general standardization in Can: as to the size of these units.

Source: Trade of Canada, '"Exports by Commodities'", Catalogue No, 64-004,

TABLE 15. World Production of Peat, by Countries
source: Minerals Year Book published lif the Lnitell States Bureau of Mines

${ }^{1}$ Data do not add exactly to totals shown because of rouding where estimated figures are included in the details.
${ }^{2}$ Estimates.
in addition, Canada produces a negligible amount of peat fuel.

- Less than 500 tors.
${ }^{3}$ In addition Icelund, Italy and Spain produced a negliglble amount of peat fuel.

List of Establishments classified to this Industry, 1964
(Does not include establishments classified to other industries which recover peat as a secondary activity)

| Name | Head office address | 1,0estima |
| :---: | :---: | :---: |
| Nova Scotia: <br> Annapolis Valley Peat Moss Co. Ldd. | Berwick | Berwick |
| A․us Brunswick: <br> Allantic Peat Moss Co, Ltd. <br> 2.ushland Products Ltd. <br> Fafard Peat Moss Co. Ltd. <br> Girand Anse Peat Moss Co. Ltd, <br> ifeveca, Ltd. | 4460, boul. Pie IX, Montréal, Québec <br> Lower Caraquet $\qquad$ <br> Shippegan $\qquad$ <br> Grand Anse $\qquad$ <br> Tabusintac $\qquad$ | Shippegan, Lameque <br> Pokesudie <br> Shippeean <br> Grand Anse <br> Covedell |

List of Establishments classified to this Industry, 1964 - Concluded

| Name | Head office address | Locantas |
| :---: | :---: | :---: |
| Québec: |  |  |
| Belange, G, | Rimouski | Rimouski |
| Boulanger, Andeé-Albert | St-Fabjen | Rimouski |
| Bourque \& Fils Enr'g. | St-Marc-des-Carilères | St-Alban |
| Fortin, Jean J. Mme | 582, boul. Lamarche, Chicoutimi | La Batcine |
| Gagnon \& Théberge | St-Fabien | St-Simon |
| Leclerc Peat Moss | La Baleine | Charlevoix |
| Michaud, A. | Isle Verte | Isle Verte |
| Ouellet, E. | Isle Verte | Isle Verte |
| Premier Peat Moss Producers Ltd. | Rivjère-du-Loup | Cacouan, Isle Verte, Rlvière-duLoup |
| Querbec Peat Moss Reg'd. | St-Guillaume D'Upton | St-Bonaventure |
| R. \& B. Moss \& Peat Products | Box 243, Waterville | Waterville |
| Roy, Benoit. | Rivière Blanche | Matane Co. |
| Roy, Ernest | St-Fabjen | St-Fabien |
| Roy, Roméo | St-Ulric | St-Ulric |
| Saguenay Peat Moss Co. Ltd. | 582, boul. Lamarche, Chlcoutimi | Bagot Twp. |
| Smith Caradian Peat Inc. | Box 215, Magnolia, Ohio, U.S.A. | St-Charles de Bellechasse |
| Théherge, Henri | St-Fabien | St-Fabien |
| Tourbe du St. Laurent Ltée | C.P. I75, Rivière-du-Loup | Riviêre-du-Loup |
| Tourbière Clair Inc. | C.P. 667. Baie Comeau | St-Charles de Bellechasse |
| Tourbierres Lambert Inca | Rivière-Ouelle | Rivjêre-Ouelle |
| Tourbière de Pointe-au-Père | Mont-Joli | Pointe-au-Père |
| Tourbière St-Alexandre | SI-Alexandre | St-Alexandre |
| Tourbiẻre de St-Fabien | St-Fabien | St-Fabien |
| Tourbiẻres du Saguenay Ltee, Les | C.P. 11 St-Fabien | Les Essocmi ${ }^{\text {a }}$ ? |
| Tourbière Theberge Inc. | St-Fabjen | St Fabisa |
| Tourbière-Thibault | St-Fabien | S-ibuseme |
| Ontario: |  |  |
| Atkins \& Durbrow (Erie) Ltd. | Port Colborne | Wambieet 1 \% |
| Amaranth Peat Products | Shel burne | Amaranth Twp. |
| Manitoba: |  |  |
| Westem Peat Co. Lid. | New Westminster, British Columbia | Moss Spur |
| Alberta: |  |  |
| Banff Mining Quarrying Lid. | Evansburg | Evansburg |
| L. M. Consumers Supply Ltd. | 1063t-92nd St., Edmonton | Edmonton |
| Noralta Peat Moss Products Ltd. | Alpen | Alpen |
| British Columbia: |  |  |
| Acme Peat Products Led. | 687 No. 7 Road, R.R. 2, Richmond | Lulu Island |
| Alkins \& Durbrow Lid. | 401-1033 Davie St., Vancouver | Ladner |
| Blundell Peat Co. Ltd. | 820 No. 6 Road, Richmond | No. 6 Road |
| Byrne Road Peat Farms | 6350 McKay Ave., South Burnaby | Burnaty South |
| Coast Peat Co. Ltd. ....... | 736 Granville St., Vancouver | Pitt Meadows |
| Lulu Island Peat Co. Ltd. | 261 No. 7 Road, R.R. 2, Richmond | Lulu Island |
| Meadowland Peat Ltd. | 575 W. 22nd. Ave., Vancouver | South Burnaby |
| North American Peat Ltd. | 5280 Byrne Road, Burnaby | Burnaby |
| Northern Industries Ltd. | 245 No. 8 Road, Richmond | Richmond |
| Richmond Peat Products Lid. | 245 No. 8 Road, Richmond | Lulu Istand |
| Western Peat Moss Ltd. | Box 399, New Westminster | Della Municlpality |

# EXPLANATORY NOTES 

Including Concepts and Definitions)

## INTRODUCTION

 watio survey covering Candats Muerai Industries batied on (3) 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 natu. : 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 retum 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 1965) (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 estahlishments classified to mineral industries and differ only in the amount of detail requested.

The head office guestionnaire 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 setate to the operations of industries comprising Major Groups 1. . and $\ddagger$ of Division 4. Mines (including Milling) Quarries und Oil Wells of the revised Stanlard Industrial Classifteation (S.I.C.). These groups are respectively Metal Mines, Nonmecal Mines and Quarries and Sand Pits. Industries comprising Sajor Group 2 (Mineral Fucls) 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 Na.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 severalstages 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 tevised 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 profoct comsisted of the implementation of the new definition of the reporting untit i.e. ' 'establishment'" as it applied to mining activities of mining establishments (see following note on Fstablishment). 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 itenus 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 activilies 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 thein 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 bricf 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 particulatly 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 distntions 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 mires. 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 Smeleing and Refining industry there was, in effect, a duplication of values for recoverable metal content in the mining and manufacturing sector (smelting and refinmg). 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. hefore smelting and/or refining.

Priot 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 patt of the increase in the total cost of Materials and supnlies used. In the case of the vertically integrated companies the procedure followed omitted treatment charges such as milling, smelting refining, etc. front the input side of the mines sector involving these companies as well as from the outpue 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 shonld 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
mantacturing activity and is considered such, not only in the Canadian and International classification systems but also in the systems of most toreign countries. To include it as part of the minine universe would not only make internations comparisons virtually impossible but wouli affect the imposance of Canada's manufacturing industries even more drastically than the changes which resulted from the approas adopted.

After a thorough study of these problems and consulta tions with the firms involved, it was found that the onis 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 piants (establishments) of such companies were concerned solely with the smelling 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. Al though, 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, byproducts, etc.

The effects of allacating 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 norimining activities, i.e. the sotal 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 proluction 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.t. 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 outwithin 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 repnsted 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

 mineral commodtics. Complew consistency, inertore, va be obtained only at the 'all operations' (total activity) level and for studies or statistical measures requiring accurate coordinated data, the "total activity" statistics should be used.

The number of establishments represents the number of oprrating 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 unies).

## 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 of are surveyed by means of the head office questionnaite. The former is the most common case where a single establishmen! 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 â firm, regardless of the number of establishments, has separately located offices or auxiliary units. Such offices or units do not constitute establishmen:within the Census of Mining as they do not normally generaid

(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 "establishat: at" count for an industry, the operational costs are re"octed in either the "Industry" statistics (3 of 4 digit level) o: 'he "Major group" statistics (2 digit level) according to ihe following rules:
(b) 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 cooded 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 of (3) to industries in different divisions of the Standard Industrial Classification, then the statistics are included in the majur grosp 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 of 4 digit) level in all cases will he 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 similat 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 sumoted as those receiving pay during the last pay period of bach month, an average for the year being obtained by summing the monthly figures and dividing by 12. This procedure is fullound even though the estahlishment did not operate in all me:ths in order to arrive at equivalent annual full-time employnent. The numbers are somewhat affected by turnover, in that employment is overstated when an employee changes employundut 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 repritt only hours actually at work. It should be noted that the division of hours pald into production and related workers payrolls tesults 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) Tdministrative and office employees

This category includes all executive and supervisory officials such as presidents, vice-presidents, comptrollers, secretaries, treasurers, ete., together with managers, professtonal, technical and research employees, superintendents and plant supervisors above the line supervisor or working foreman level, and clerical staff. Also included ate employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical, etc. It should be noted that priot to 1961 this category also included wotking owners had partners. Also included in this category are employees tocated at head offices or auxiliary units separately located fic:n the establishment; in accordance to the rules outlined unler "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 teported 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 regulat employens 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 statistles of employees and salaries and wages. There is some duplication in numhers when a person owns more than one establishment and is reported as a working owner on each Census return. Withdrawals of working ownefs aredefined 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 seryices such as sickness, accident and unemployment insurance, penstons, etc. They include all salaries. wages, bonuses. profits shared with employees, the value of room and board where provided, conmissions (paid to regular employees only) as well as any other allowance forming part of the worker's earnimgs. Payments for overtime are included.

## Fuel and Flectricity

Figures for fuel refer to amounts actually used (inciuding fuel used in cars, trucks, locomotives, etc.), not to putchases unless the quantities are substantially the same. Any fuel and electricity mroduced by establishments for internal consumption are not included in the total cost. Valnes represent laid down cost at the establishment inciuding 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 chargeabie 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 estahlishments of the reporting company) for re-sale as such in the same condition as purchased. Included are any finished products received on 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 estabment) 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 not is the cost of purchased machinery and equipment. Also included is the cost of office supplles not chargeaiole 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 estalblishment

These figures represent the values In Camadian 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 land. 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 establis! ments which are coded to some other division of the Standard Industrial Classification (on the basis of principal activis) but which are engaged in mining as a subsidiary activity si:e collected by means of the Commodity questionnaire referredio earlier. Such shipments together with shipments of goods af own production of establishments forming the universe of mineral industries are compiled and recorded underappropriate headings in the various mineral industry publications; how ever, operational details relatine to the production of such commadities 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 uf the reporting firm) sold as such in the same condition ins
 goods from other coundess act laciucion

## c) Other revenut

 any. (new construction and machinery and equipnent 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 on 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, ete.

## 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 sunplies used from the value
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(c) Lis to4 at activitios

The licurts comsisi of raiue aded by mining acedef ties plus value added by non-mining aciluttias *. theses mond is sometimes referred to as net output or net production. How ever, to arrive at ihe 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"


[^0]:    See foatnote Table 2.

[^1]:    ${ }^{1}$ Refer to Explanatory Notes for explanation of differences in Tables 7 and 8 with dara published in earlier years.
    : No detafted information on materials used was collected from small establishments, the estimaled costs for which are includedinere. These estimated costs were $\$ 137,012$ in 1963 and $\$ 127.517$ in 1964.

[^2]:    ${ }^{1}$ Includes reiated corporate activities associated with Canadian operations of peat bogs and piants not allocable separately elsewhele.

