Appendix 1

Mining Industry Activity in Nova Scotia, 1999

Mining Industry Expenditures for Exploration, Development, Capital and Repair

Investment by the mining industry in Nova Scotia is monitored by means of annual surveys of all mining companies having operations or activity in the province. Aggregate producers are not included in this survey. The surveys are carried out by the Nova Scotia Department of Natural Resources (DNR) jointly with Natural Resources Canada (Minerals and Metals Sector - Mineral and Mining Statistics Division), and Statistics Canada (Investment and Capital Stock Division). The Mineral Management Division of DNR actively participates in the Annual Survey of Canadian Mineral Exploration Expenditures and the Annual Survey on Exploration Development, Capital and Repair Expenditures.

Preliminary figures indicate exploration expenditures in 1999 were down moderately from 1998 (Table 1.1), as was diamond-drilling. Capital expenditures at existing mines were up significantly in 1999 from 1998, while repair and maintenance expenditures were down significantly. Mine complex development expenditures in 1999 were up from the year before.

Mining Leases

There were three Mining Leases issued in Nova Scotia during 1999. In April, Michael P. Cullen was issued a Special Mining Lease for his coal property at Cottam Settlement, Colchester County. In July, Thorburn Mining Company was issued a Special Mining Lease for its coal property at Coalburn, Pictou County. In December, Brogan Mining Company was issued a Special Mining Lease for its Little Pond coal property in Cape Breton County.

A Mining Lease renewal was also issued to E-Z-EM Canada Inc. for barite at Brookfield, Colchester County.

Mining Permits

The department issued four Mining Permits during the year. Lynx Minerals Inc. was issued a Mining Permit for the extraction of barite at Scottsville, Inverness County, Michael P. Cullen was issued a Mining Permit for his coal project at Cottam Settlement, Colchester County, Thorburn Mining was issued a Mining Permit for its coal property at Coalburn, Pictou County, and Brogan Mining Company was issued a Mining Permit for its surface coal mine at Little Pond, Cape Breton County.

Table 1.1. Mining industry expenditures in 1998 and 1999.

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>19991</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral Exploration Expenditures (field plus overhead)²</td>
<td>$4,835,000</td>
<td>$3,632,000</td>
</tr>
<tr>
<td>Exploration diamond-drilling²</td>
<td>20,964 m</td>
<td>14,000 m</td>
</tr>
<tr>
<td>Exploration drilling - other¹</td>
<td>879 m</td>
<td>3,000 m</td>
</tr>
<tr>
<td>Mine Complex Development Expenditures (field plus overhead)</td>
<td>$2,713,000</td>
<td>$4,881,000</td>
</tr>
<tr>
<td>Capital and Repair Expenditures at Mining Establishments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>$27,604,870</td>
<td>$51,455,000</td>
</tr>
<tr>
<td>Repair and Maintenance Expenditures</td>
<td>$35,415,668</td>
<td>$23,271,000</td>
</tr>
</tbody>
</table>

¹preliminary
²includes deposit appraisal
Production Information from Mines, Quarries and Other Operations

In 1999, the estimated value of Nova Scotia's mineral production, including secondary mineral processing and crude petroleum, totalled $406 million (Fig. 1.1), a decrease of 14% from the year before. Excluding petroleum, the value of Nova Scotia's mineral production totalled $342 million, down 3% from 1998's figure of $352 million. This decrease was due largely to lower outputs of coal. Approximately 2900 persons were employed in Nova Scotia's mineral industry in 1999 (Fig. 1.2), a 21% decrease from the year before (Table 1.2).

Coal sales dropped by approximately 24% in 1999 to 1.6 million tonnes from 1998's figure of 2.1 million tonnes. Production problems plagued the province's largest coal mine, the Cape Breton Development Corporation's Phalen Colliery. On September 13, 1999, the federal Crown Corporation announced it was closing Phalen. The colliery produced almost seventeen million tonnes of coal over its fifteen-year life. The province's only gold mine, Tangier Limited Partnership's Blueberry Hill Mine in Tangier, Halifax County, closed after only a few months of operation, citing poor recoveries.

On a positive note, 1999 was a record year for Nova Scotia gypsum production with 7.9 million tonnes shipped, mainly to wallboard plants along the US Eastern Seaboard. Nova Scotia is Canada's largest gypsum producer accounting for more than 80% of the country's total production. Shipments of cement, barite, peat moss and clay products also increased in 1999 while salt production remained virtually unchanged at 842,000 tonnes. Production of construction aggregates (crushed stone, sand and gravel) in 1999 totalled 10.6 million tonnes, down slightly from the year before.

Although petroleum is included in the overall value of Nova Scotia's mineral production, this appendix focuses on the non-petroleum sectors of the industry. Table 1.2 provides a summary of the value of the province's mineral production and employment levels in 1998 and 1999. Tables 1.3 to 1.6 provide more detailed information on production of different commodities. Site locations are shown on the accompanying maps, Figures 1.4 and 1.5. Production data are for the calendar year 1 January 1999 to 31 December 1999.

**Base Metal Mines and Gold Mines**

**Base Metal Mines**

There were no base metal mines in production during 1999.

**Gold Mines**

**TANGIER LIMITED PARTNERSHIP**

Manager: Peter Atkinson, General Manager
Address: P. O. Box 8
Tangier, N. S. B0J 3H0
Production: 63 troy ozs. (1960 grams)
Employees: n/a

**Non-Metals**

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Value</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>$103</td>
<td>25%</td>
</tr>
<tr>
<td>Structural Materials</td>
<td>$94</td>
<td>23%</td>
</tr>
<tr>
<td>Non-Metals</td>
<td>$145</td>
<td>36%</td>
</tr>
<tr>
<td>Crude Petroleum</td>
<td>$64</td>
<td>16%</td>
</tr>
</tbody>
</table>

**Coal**

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Value</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>1,010</td>
<td>35%</td>
</tr>
<tr>
<td>Structural Materials</td>
<td>300</td>
<td>10%</td>
</tr>
<tr>
<td>Non-Metals</td>
<td>893</td>
<td>31%</td>
</tr>
</tbody>
</table>

**$406 Million**

Includes secondary mineral processing where applicable
Metal production too small to be expressed at this scale

**Figure 1.1.** Value of mineral production, in millions of dollars and per cent, by commodity group.

**2,900 EMPLOYED**

Includes secondary mineral processing employment where applicable
Employment in metal production too small to be expressed at this scale

**Figure 1.2.** Employment, in numbers of persons and per cent, by mineral commodity group.
Table 1.2. Summary of Nova Scotia mineral production, 1998 and 1999.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VALUE ($ thousands)</td>
<td>EMPLOYMENT*</td>
</tr>
<tr>
<td>METALS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>Total metals</td>
<td>21</td>
<td>35</td>
</tr>
<tr>
<td>INDUSTRIAL MINERALS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Non-Metals)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anhydrite</td>
<td>1,733</td>
<td>2,018</td>
</tr>
<tr>
<td>Barite</td>
<td>**751</td>
<td>**1,410</td>
</tr>
<tr>
<td>Gypsum</td>
<td>71,703</td>
<td>83,204</td>
</tr>
<tr>
<td>Limestone(^3) and Dolomite</td>
<td>2,824</td>
<td>3,619</td>
</tr>
<tr>
<td>Peat</td>
<td>**1,713</td>
<td>**2,035</td>
</tr>
<tr>
<td>Salt</td>
<td>**51,241</td>
<td>**49,891</td>
</tr>
<tr>
<td>Silica</td>
<td>**2,400</td>
<td>2,400</td>
</tr>
<tr>
<td>Total Non-Metals</td>
<td>132,365</td>
<td>872</td>
</tr>
<tr>
<td>(Structural Materials)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension Stone</td>
<td>305</td>
<td>302</td>
</tr>
<tr>
<td>Cement</td>
<td>**35,065</td>
<td>**37,306</td>
</tr>
<tr>
<td>Clay Products</td>
<td>**5,600</td>
<td>**6,000</td>
</tr>
<tr>
<td>Crushed Stone</td>
<td>40,445</td>
<td>39,544</td>
</tr>
<tr>
<td>Sand &amp; Gravel</td>
<td>11,164</td>
<td>10,615</td>
</tr>
<tr>
<td>Total Structural Materials</td>
<td>92,579</td>
<td>654</td>
</tr>
<tr>
<td>Total Industrial Minerals</td>
<td>224,944</td>
<td>1,526</td>
</tr>
<tr>
<td>FUELS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>127,142</td>
<td>1,790</td>
</tr>
<tr>
<td>Petroleum - Crude</td>
<td>120,836</td>
<td>340</td>
</tr>
<tr>
<td>Total Fuels</td>
<td>247,970</td>
<td>2,130</td>
</tr>
<tr>
<td>TOTAL MINERAL PRODUCTION</td>
<td>472,935</td>
<td>3,690</td>
</tr>
<tr>
<td>CHANGE FROM PREVIOUS YEAR</td>
<td>-10%</td>
<td>-3%</td>
</tr>
<tr>
<td>TOTAL EXCLUDING PETROLEUM</td>
<td>352,105</td>
<td>3,350</td>
</tr>
<tr>
<td>CHANGE FROM PREVIOUS YEAR</td>
<td>-14%</td>
<td>-3%</td>
</tr>
</tbody>
</table>

1 Estimated from Department of Natural Resources sources
2 Operator ceased production in January 1999
3 Does not include the value of limestone quarried for cement production
* Average number of persons during production period
** Processed or manufactured value
Note: Production represents shipments; numbers may not add to totals due to rounding
Table 1.3. Coal production for the calendar year 1999.

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>MINE NAME</th>
<th>LOCATION</th>
<th>TONS</th>
<th>TONNES</th>
<th>TOTAL NUMBER EMPLOYED</th>
<th>APPROX. VALUE($)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNDERGROUND MINING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cape Breton Development Corp. (CBDC)</td>
<td>Prince Mine</td>
<td>Point Aconi, Cape Breton County</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phalen Mine</td>
<td>Lingan, Cape Breton County</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (underground)</td>
<td></td>
<td></td>
<td>1,320,133</td>
<td>1,197,617</td>
<td>860</td>
<td></td>
</tr>
<tr>
<td><strong>SURFACE MINING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brogan Mining Company Limited</td>
<td>Little Pond Mines</td>
<td>Alder Point, Cape Breton County</td>
<td>39,819</td>
<td>36,124</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Cape Cushing Company Limited</td>
<td>Merritt Point Mine</td>
<td>Alder Point, Cape Breton County</td>
<td>23,649</td>
<td>21,454</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Beriehan Resources Ltd. (Michael P. Cullen)</td>
<td></td>
<td>Cottam Settlement, Colechester County</td>
<td>19,163</td>
<td>17,385</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Evans Coal Mines Limited</td>
<td>St. Rose Mine</td>
<td>St. Rose, Inverness County</td>
<td>55,039</td>
<td>49,931</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Hill Reclamation Limited</td>
<td></td>
<td>Springhill, Cumberland County</td>
<td>14,794</td>
<td>13,421</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Pioneer Coal Limited</td>
<td>Stellarton Mine</td>
<td>Stellarton, Pictou County</td>
<td>252,262</td>
<td>228,851</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Thorburn Mining Limited</td>
<td>Thorburn and Coalburn Mines</td>
<td>Thorburn and Coalburn, Pictou County</td>
<td>37,263</td>
<td>33,805</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Total (surface)</td>
<td></td>
<td></td>
<td>442,004</td>
<td>400,983</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL FOR ALL COAL PRODUCERS</strong></td>
<td></td>
<td></td>
<td>1,762,137</td>
<td>1,598,600</td>
<td>1010</td>
<td>103,430,000</td>
</tr>
</tbody>
</table>

1 personnel employed in clerical, supervisory, etc. positions as well as mining personnel.
2 estimated from Nova Scotia Department of Natural Resources sources

NOTE: Production represents shipments; numbers may not add to totals due to rounding.
Tangier Limited Partnership was forced to suspend production at its Blueberry Hill Mine in Tangier, Halifax County, in early 1999 due to low gold prices and shortfalls in production. The mine subsequently closed and receivers were appointed. During the early part of the year, approximately 900 tonnes of ore were mined from the Whin and Marker veins.

**Coal Mining Operations**

During 1999, there were two underground coal mines, seven surface coal mines, and one coal recovery project operating in the province. Table 1.3 provides production information for the coal mines. The summaries below give brief details of the underground and surface coal mines operating in Nova Scotia.

**Underground Coal Mines**

CAPE BRETON DEVELOPMENT CORPORATION

Manager(s): R. MacDonald, General Manager, Phalen Colliery
T. MacNeil, Mine Manager, Prince Colliery

Address: P. O. Box 2500
Sydney, N. S. B1P 6K9

Raw Coal
Production: 1,263,253 tons (1,146,016 tonnes)

Shipment: 1,320,133 (1,197,617 tonnes)
Employees: 860

The Cape Breton Development Corporation is a federal Crown Corporation that operated two underground coal mines in Cape Breton County during 1999. The Corporation's coal production is supplied to Nova Scotia Power Inc.

**Phalen Colliery**

Raw Coal
Production: 514,851 tons (467,070 tonnes)

The Phalen Colliery, near New Waterford, Cape Breton County, produced coal intermittently during 1999 and was forced to close in December 1999. Mine development had been curtailed for some time and the mine had been scheduled to close at the end of 2000. The mine used a retreat longwall mining method. During 1999, the mine produced from only one longwall, the No. 8 East longwall panel. Production on this wall was adversely impacted by severe roof falls and resulted in long periods of production downtime. In September 1999, the final roof fall occurred, and the Corporation made the decision to cease production from the mine. Following a three month period to salvage equipment, the main fan was shut down and the portals blocked in December 1999.
Table 1.4. Industrial minerals production for the calendar year 1999.

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>LOCATION</th>
<th>PRODUCTION</th>
<th>TOTAL NUMBER</th>
<th>APPROXIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TONS</td>
<td>TONNES</td>
<td>VALUE ($)</td>
</tr>
<tr>
<td><strong>GYPSUM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fundy Gypsum Company</td>
<td>Miller Creek and Wentworth Road, Hants County</td>
<td>1,857,632</td>
<td>1,685,233</td>
<td>166</td>
</tr>
<tr>
<td>Georgia-Pacific Canada, Inc.</td>
<td>Sugar Camp, Inverness County</td>
<td>1,844,017</td>
<td>1,672,881</td>
<td>124</td>
</tr>
<tr>
<td>Little Narrows Gypsum Company</td>
<td>Little Narrows, Victoria County</td>
<td>1,279,595</td>
<td>1,160,841</td>
<td>101</td>
</tr>
<tr>
<td>National Gypsum (Canada) Limited</td>
<td>East Milford, Halifax County</td>
<td>3,753,638</td>
<td>3,405,278</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total (gypsum)</strong></td>
<td></td>
<td>8,734,846</td>
<td>7,924,200</td>
<td>491</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>83,204,000</td>
</tr>
<tr>
<td><strong>ANHYDRITE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fundy Gypsum Company</td>
<td>Wentworth Road, Hants County</td>
<td>76,989</td>
<td>69,844</td>
<td>see gypsum</td>
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<tr>
<td>Little Narrows Gypsum Company</td>
<td>Little Narrows, Victoria County</td>
<td>103,044</td>
<td>93,481</td>
<td>see gypsum</td>
</tr>
<tr>
<td><strong>Total (anhydrite)</strong></td>
<td></td>
<td>180,000</td>
<td>163,300</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,018,000</td>
</tr>
<tr>
<td><strong>SALT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Canadian Salt Company Limited</td>
<td>Pugwash, Cumberland County</td>
<td>843,375</td>
<td>756,105</td>
<td>210</td>
</tr>
<tr>
<td>Sifto Canada Inc.</td>
<td>Napi, Cumberland County</td>
<td>84,616</td>
<td>76,763</td>
<td>73</td>
</tr>
<tr>
<td><strong>Total (salt)</strong></td>
<td></td>
<td>927,993</td>
<td>831,868</td>
<td>283</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>49,891,000</td>
</tr>
<tr>
<td><strong>LIMESTONE AND DOLOMITE</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lafarge Canada Inc.</td>
<td>Brookfield, Colchester County</td>
<td>543,434</td>
<td>493,000</td>
<td>11</td>
</tr>
<tr>
<td>Mosher Limestone Company Limited</td>
<td>Upper Masquodoboit, Halifax County</td>
<td>48555</td>
<td>44,049</td>
<td>17</td>
</tr>
<tr>
<td>Nova Scotia Power Incorporated</td>
<td>Glen Morrison, Cape Breton County</td>
<td>83,444</td>
<td>75,700</td>
<td>10</td>
</tr>
<tr>
<td>Ridge Brookers Limited</td>
<td>Southside Harbour, Antigonish County</td>
<td>5,989</td>
<td>5,433</td>
<td>1</td>
</tr>
<tr>
<td>Scotia Limestone Limited</td>
<td>Kellys Cove, Victoria County</td>
<td>4,669</td>
<td>4,236</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total (limestone and dolomite)</strong></td>
<td></td>
<td>686,090</td>
<td>622,418</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,019,000²</td>
</tr>
<tr>
<td><strong>BARITE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Z-EM Canada Inc.</td>
<td>Brookfield, Colchester County</td>
<td>659</td>
<td>598</td>
<td>16</td>
</tr>
<tr>
<td>Lynx Minerals Inc.</td>
<td>Scottville, Inverness County</td>
<td>4,840</td>
<td>4,391</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total (barite)</strong></td>
<td></td>
<td>5,499</td>
<td>4,989</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,410,000³</td>
</tr>
<tr>
<td><strong>CLAY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaw Brick (a member of the Shaw Group Limited)</td>
<td>Lunz and Milford, Hants County</td>
<td>18,199</td>
<td>16,510</td>
<td>See clay products Table 1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n/a¹</td>
</tr>
<tr>
<td>COMPANY</td>
<td>LOCATION</td>
<td>PRODUCTION</td>
<td>TOTAL NUMBER</td>
<td>APPROXIMATE VALUE ($)</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>------------</td>
<td>--------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TONS</td>
<td>TONNES</td>
<td>EMPLOYED</td>
</tr>
<tr>
<td>SHALE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaw Brick (a member of the Shaw Group Limited)</td>
<td>Milford, Hants County New Glasgow, Pictou County</td>
<td>7,800</td>
<td>7,076</td>
<td>See clay products Table 1.5</td>
</tr>
<tr>
<td>Total (clay and shale)</td>
<td></td>
<td>25,999</td>
<td>23,586</td>
<td>See clay products</td>
</tr>
<tr>
<td>SILICA SAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaw Resources (a member of the Shaw Group Limited)</td>
<td>Nine Mile River, Hants County</td>
<td>53,929</td>
<td>48,924</td>
<td>6</td>
</tr>
<tr>
<td>Total (silica sand)</td>
<td></td>
<td>53,929</td>
<td>48,924</td>
<td>6</td>
</tr>
<tr>
<td>DIMENSION STONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heritage Memorials Ltd.²</td>
<td>Quarry: Nictaux, Annapolis County (granite) Plant: Windsor, Hants County</td>
<td>1,685</td>
<td>1,529</td>
<td>20</td>
</tr>
<tr>
<td>Wallace Quarries Ltd.</td>
<td>Quarry: Wallace, (Sandstone) Cumberland County</td>
<td>262</td>
<td>238</td>
<td>5</td>
</tr>
<tr>
<td>Total (dimension stone)</td>
<td></td>
<td>1,947</td>
<td>1,767</td>
<td>2</td>
</tr>
<tr>
<td>PEAT MOSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annapolis Valley Peat Moss Company²</td>
<td>Berwick, Kings County</td>
<td>6,021</td>
<td>5,462</td>
<td>24</td>
</tr>
<tr>
<td>Clare Organic Products Ltd.²</td>
<td>Meteghan Station, Digby County</td>
<td>2,924</td>
<td>2,653</td>
<td>20</td>
</tr>
<tr>
<td>McDonald Peat Moss Limited²</td>
<td>Kennetcook, Hants County</td>
<td>4,754</td>
<td>4,295</td>
<td>18</td>
</tr>
<tr>
<td>Total (peat moss)</td>
<td></td>
<td>13,609</td>
<td>12,410</td>
<td>44</td>
</tr>
<tr>
<td>AGGREGATES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crushed Stone</td>
<td>Various</td>
<td>8,717,900</td>
<td>7,908,806</td>
<td>391</td>
</tr>
<tr>
<td>Sand and Gravel</td>
<td>Various</td>
<td>2,925,200</td>
<td>2,563,800</td>
<td>153</td>
</tr>
<tr>
<td>Total (aggregates)</td>
<td></td>
<td>11,643,600</td>
<td>10,472,600</td>
<td>544</td>
</tr>
<tr>
<td>TOTAL FOR INDUSTRIAL MINERALS⁸</td>
<td></td>
<td>22,200,100</td>
<td>20,221,600</td>
<td>1,470</td>
</tr>
</tbody>
</table>

¹total employees: mining, production, clerical, supervisory, etc.
²estimate from Nova Scotia Department of Natural Resources sources
³processed or manufactured value
⁴does not include the value of Lafarge Canada Inc. production, which value is included in the higher manufactured value (cement)
⁵value included in the higher manufactured valuation (bricks)
⁶excluding secondary mineral manufacturing (Table 1.5)
⁷Note: production represents shipments; numbers may not add to totals due to rounding
1. Cape Breton Development Corp. (Phalen Colliery)  
2. Cape Breton Development Corp. (Prince Colliery)  
3. Brogan Mining Company Limited  
4. Cape Crushing Company Limited  
5. Evans Coal Mines Limited  
6. Hill Reclamation Limited  
7. Pioneer Coal Limited  
8. 9. Thorburn Mining Limited (Thorburn & Coalburn)  
10 Berichan Resources Ltd. (M.P. Cullen)

Figure 1.4. Location of coal mines in Nova Scotia.

**Prince Mine**

Raw Coal  
Production: 748,402 tons (678,946 tonnes)

The Prince Mine is located in Point Aconi, Cape Breton County. The mine began underground production from the Hub Seam in 1975, initially using room and pillar methods. Mechanized retreat longwall operations began in 1980.

During 1999, coal was mined from the No. 9 East longwall panel and development work was completed on the No. 1 North longwall panel. There was a production lag for the last four months of the year after the completion of the No. 9 East longwall before the No. 1 North longwall was ready for production.

**Surface Coal Mines**

**EVANS COAL MINES LIMITED**

Manager: E. Fraser

Address: R. R. #1  
Inverness, N. S. B0E 1N0  
Production: 55,039 tons (49,931 tonnes) of coal  
Employees: 23

Evans Coal Mines Limited began surface coal mining operations at St. Rose, Inverness County, in 1993, following the closure of the underground mine in 1992. Coal is extracted from the No. 5 Seam crown pillar and from the pillars left by the underground operation. During the year, mining advanced to the southwest as far as the re-located Duggan Mountain road. Mining was also started in a block of coal to the north of the previously backfilled pit. Overburden and waste rock are removed by blasting and ripping by bulldozers. Material is loaded and hauled using hydraulic excavators and off-road haul trucks.

Production from the Evans mine is trucked to Nova Scotia Power Inc. (NSPI) generating stations, and to Stellarton for blending with other coals, and subsequently supplied to NSPI.
Table 1.5. Secondary mineral manufacturing for the calendar year 1999.

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>LOCATION</th>
<th>PRODUCTION</th>
<th>TOTAL NUMBER EMPLOYED</th>
<th>APPROX. VALUE($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAY PRODUCTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaw Brick (a member of the</td>
<td>Lantz, Hants County</td>
<td>28,000</td>
<td>43</td>
<td>6,000,000</td>
</tr>
<tr>
<td>Shaw Group Limited)</td>
<td></td>
<td>25,401</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PORTLAND CEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lafarge Canada Inc.</td>
<td>Brookfield, Colchester County</td>
<td>342,683</td>
<td>79</td>
<td>37,306,000</td>
</tr>
<tr>
<td>TOTAL FOR SECONDARY MINERAL MANUFACTURING</td>
<td></td>
<td>122</td>
<td>43</td>
<td>43,306,000</td>
</tr>
</tbody>
</table>

1Total number of employees including office, clerical, supervisory, mining and production
2Estimated from Nova Scotia Department of Natural Resources sources
NOTE: Production represents shipments; numbers may not add to totals due to rounding

Table 1.6. Metallic mineral production for the calendar year 1999.

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>LOCATION</th>
<th>PRODUCTION</th>
<th>TOTAL NUMBER EMPLOYED</th>
<th>APPROX. VALUE($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOLD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tangier Limited Partnership1</td>
<td>Tangier, Halifax County</td>
<td>63</td>
<td>1960</td>
<td>24,000</td>
</tr>
<tr>
<td>TOTAL FOR METALLIC MINERAL PRODUCTION</td>
<td></td>
<td>n/a</td>
<td>24,000</td>
<td></td>
</tr>
</tbody>
</table>

1Operated for part of year only
2Value based on average annual metal price
Note: Production represents shipment

PIioneer COAL LIMITED

Manager: C. Chisholm
Address: P. O. Box 929
Westville, N. S. B0K 2A0
Production: 252,262 tons (228 851 tonnes) of coal
Employees: 36

Pioneer Coal began mining coal from the Foord Seam at the Stellarton mine site, Pictou County, in March 1996. The Foord Seam is approximately 40 feet thick. Mechanical equipment is used to break the coal and overlying rock and the material is excavated using hydraulic excavators, conveyors and off-road haul trucks. Mining in the western end of the pit was completed during the year and mining is proceeding in the eastern side of the pit. The company conducted mining operations at the site from January through June and September through December.

The coal mined from the Stellarton operation is blended on-site with coal trucked from the Evans Coal Mine, the Thorburn Mine and the Coalburn Mine before being shipped to Nova Scotia Power generating stations.

THORBURN MINING LIMITED

Manager: C. Chisholm
Address: P. O. Box 929
Westville, N. S. B0K 2A0

Thorburn Mine

Production: 19,981 tons (18 127 tonnes) of coal
Employees: 26
Anhydrite
1. Fundy Gypsum Co.
2. Little Narrows Gypsum Co.

Barite
3. E-Z-EM Canada Inc.
4. Lynx Minerals Inc.

Clay and Shale
5-8. Shaw Brick, a member of the Shaw Group Limited

Gypsum
9-10. Fundy Gypsum Co.
11. National Gypsum (Canada) Ltd.
12. Georgia-Pacific Corp.
13-14. Little Narrows Gypsum Co.
15. Tusket Mining Incorporated

Limestone & Dolomite
16. Lafarge Canada Inc.
17. Nova Scotia Power Incorporated
18. Mosher Limestone Co. Ltd.
19. Ridge Brokers Ltd.
20. Scotia Limestone Ltd.
21. Shaw Resources, a member of the Shaw Group Limited

Salt
22. Sifto Canada Inc.
23. The Canadian Salt Company Limited

Silica Sand
24. Shaw Resources, a member of the Shaw Group Limited

Dimension Stone
25. Heritage Memorials Ltd.
26. Lange Natural Rock and Stone Supplies
27. Scotia Slate Products Ltd.
28. Wallace Quarries Ltd.

Peat Moss
29. Annapolis Valley Peat Moss Co.
30. Clare Organic Products Limited
31. MacDonald Peat Moss Limited

Gold
32. Tangier Limited Partnership

**Figure 1.5.** Location of industrial mineral and gold operations in Nova Scotia, 1999.
Mining at the Thorburn site, Pictou County, began in June 1995. In 1999, the mine operated during the January through April period.

Coal was extracted from the McBean Seam crown pillar and from pillars remaining from the former underground mining operations. The pit was expanded to the north during 1999. Overburden and waste rock were removed by ripping with bulldozers. Material was loaded and hauled using hydraulic excavators and dump trucks. The seam varies in thickness from 4 to 7 feet.

**Coalburn Mine**

Production: 17,282 tons (15,678 tonnes) of coal  
Employees: 12

The Coalburn Surface Coal Mine is located in Coalburn, Pictou County. The mine began operations in June 1999, and coal was mined from July through September. The initial mining is being carried out in the Upper MacKey seam, a seam approximately 0.9 m in thickness. Overburden and waste rock were broken by ripping with bulldozers and the material was loaded and hauled using hydraulic excavators and dump trucks.

The overlying waste rock was difficult to break mechanically, and the operator suspended operation in September in order to amend the operating permits to allow blasting.

**CAPE CRUSHING COMPANY LIMITED**

Manager: E. Brogan  
Address: P. O. Box 265  
North Sydney, N. S. B2A 3M3  
Production: 23,649 tons (21,454 tonnes) of coal  
Employees: 2

The company operates a small surface coal mine at Alder Point, Cape Breton County, to supply the local domestic market. Coal was mined during the year from the Bonar Seam. Mining is carried out using mechanical equipment to break the coal and overlying rock.

**BROGAN MINING COMPANY LIMITED**

Manager: R. Brogan  
Address: P. O. Box 190  
Florence, N. S. B0C 1X0  
Production: 39,819 tons (36,124 tonnes) of coal  
Employees: 18

During the year, Brogan Mining Limited began full scale operation of its surface coal mine at Little Pond, Cape Breton County. Coal is recovered from the Lloyd Cove (Bonar) seam. The overlying waste rock and coal are broken mechanically and mining is carried out using bulldozers, a dragline, hydraulic excavators and dump trucks. The coal production is marketed to Nova Scotia Power Inc.

The company also carried out reclamation work at its mine sites at Toronto Road and Sullivan Creek, Cape Breton County, during 1999.

**BERICHAN RESOURCES LIMITED**

Manager: Michael P. Cullen  
Address: 2071 Poplar Street  
Halifax, N. S. B3L 2Y6  
Production: 19,163 tons (17,385 tonnes) of coal  
Employees: 18

Berichan Resources Limited operated its surface coal mine at Cottam Settlement, Colchester County, for four months during the year. Following pre-stripping operations, coal mining began in May. However, the operation was closed in September due to groundwater inflow problems and displacements in the coal seams. The company reclaimed almost all of the site in the fall of 1999.

Coal was recovered from three coal seams with thicknesses of 0.7 m to 1.5 m. The overlying waste rock and coal were broken mechanically and mining was carried out using bulldozers, hydraulic excavators and dump trucks. The coal production was marketed to Nova Scotia Power Inc.

**HILL RECLAMATION LIMITED**

Manager: M. McCormick  
Address: R. R. #1  
Springhill, N. S. B0M 1X0  
Production: 14,794 tons (13,421 tonnes)  
Employees: 19

Hill Reclamation resumed operation of the rail bed coal recovery project in 1999. The operation is located near Springhill, Cumberland County. The company recovers coal from an abandoned railway bed and markets the coal to Nova Scotia Power Inc. The site had previously been operated by Black Gold Enterprises Limited.
Industrial Minerals Mining

Gypsum and Anhydrite

FUNDY GYPSUM COMPANY

Manager: K. Hillman
Address: P. O. Box 400
Windsor, N. S. B0N 2T0
Production: 76,989 tons (69 844 tonnes) of anhydrite
1,857,632 tons (1 685 233 tonnes) of gypsum
Employees: 166

The Fundy Gypsum Company operates quarries and crushing plants in the Wentworth Road and Miller’s Creek areas near Windsor, Hants County. In 1999, the company produced gypsum from its Bailey Quarry at Miller’s Creek and both gypsum and anhydrite from three of the Wentworth quarries. The Wentworth ore is processed in the company’s heavy media plant to separate the anhydrite and the gypsum.

The gypsum and anhydrite are transported by unit train to ship-loading facilities at Hantsport, a distance of 19 km. These products are shipped to wallboard and cement plants in the United States and Canada.

GEORGIA-PACIFIC CANADA INC.

Manager: R. L. Fraser
Address: P. O. Box 400
Port Hawkesbury, N. S. B0E 2V0
Production: 1,844,017 tons (1 672 881 tonnes) of gypsum
Employees: 124

Georgia-Pacific Corporation operates a gypsum quarry at Sugar Camp, Inverness County. Overburden at the site is removed using a dragline, trucks and shovels. The gypsum is drilled, blasted and transported to the crusher by trucks. Most of the quarry’s production is transported by highway trucks to ship loading facilities at Point Tupper, Richmond County, a distance of 19 km. Georgia-Pacific also supplies gypsum to the wallboard plant at Point Tupper.

LITTLE NARROWS GYPSUM COMPANY

Manager: B. H. Allan
Address: R. R. #1
Little Narrows, N. S. B0E 1T0
Production: 103,044 tons (93 481 tonnes) of anhydrite

1,279,595 tons (1 160 841 tonnes) of gypsum
Employees: 101

Little Narrows Gypsum Company operates two gypsum quarries and an anhydrite quarry near Little Narrows, Victoria County. All the gypsum and anhydrite produced is shipped from the company’s dock on the Bras d’Or Lakes to destinations in Canada and the United States.

NATIONAL GYPSUM (CANADA) LTD.

Manager: P. C. Mills
Address: P. O. Box 57
Milford, N. S. B0N 1Y0
Production: 3,753,638 tons (3 405 278 tonnes)
Employees: 100

National Gypsum (Canada) Ltd. operates the largest gypsum quarry in the province at East Milford, Halifax County. The gypsum is drilled, blasted and loaded onto trucks with loaders and hydraulic excavators. The gypsum is crushed, screened, and transported by unit train from Milford to Wright’s Cove, Dartmouth, a distance of 45 km, where it is loaded onto ships for points in Canada and the United States.

TUSKET MINING INCORPORATED

Manager: C. E. Bain
Address: P. O. Box 48100
Bedford, N. S. B4A 3Z2
Production: 0 tons (0 tonnes)

Activity at the Murchyville Mine, Halifax County, was limited to the excavation of a 7 500 tonne sample in 1999. Approximately 4 200 tonnes of the sample material was shipped to a wallboard plant for assessment during the year.

Salt

THE CANADIAN SALT COMPANY LIMITED

Manager: A. W. Davidson
Address: P. O. Box 160
Pugwash, N. S. B0K 1L0
Production: 843,375 tons (765 105 tonnes) of salt
Employees: 210

The Canadian Salt Company Limited operates an underground salt mine at Pugwash, Cumberland County. The salt is mined by a room and pillar system of extraction, using diesel/electric drills, undercutters,
loaders and trucks. The primary production during the year was from the 1000 level with secondary production from the 730 and 830 levels. The company completed a major program to install a steel shaft liner in the upper section of the No. 2 Shaft during the year.

The processing plant at the site produces a wide range of salt products, including industrial grades of salt, salt blocks for farm use, and fine salt for domestic consumption. Transportation is by road, rail or from the company owned ship-loading facility at Pugwash.

SIFTO CANADA INCORPORATED

Manager: D. E. Dickie
Address: P. O. Box 550
Amherst, N. S. B4H 4A1
Production: 84,616 tons (76,763 tonnes) of salt
Employees: 73

Salt has been produced from the solution salt mine at Nappan, Cumberland County, since 1947. Salt is mined by pumping water into underground wells where salt is dissolved and the resulting brine solution is then returned to the surface. The salt is recovered from the brine in a processing plant, using a 'mechanical vapour recompression evaporating process' system. The plant produces a wide range of refined salt products.

During the year, salt was produced from the No. 7 and No. 8 brine wells.

Barite

E-Z-EM CANADA INCORPORATED, NYSTONE DIVISION

Manager: V. J. Prostak
Address: P. O. Box 69
Debert, N. S. B0M 1G0
Production: 659 tons (598 tonnes) of pharmaceutical grade barite
Employees: 16

E-Z-EM Canada's barite deposit is located 1.6 km northeast of Brookfield, Colchester County. During 1999, approximately 1,686 tons of ore was produced from the surface mine. The ore was trucked to the company's plant at Debert where it was upgraded to a pharmaceutical quality product. The refined product is shipped to the parent company, E-Z-EM Corporation, New York, USA, for further processing and packaging.

LYNX MINERALS INC.

Manager: G. W. Felderhof

Lynx Minerals' barite deposit is located near Scotiville, Inverness County. The company began development of the surface mining operation in June 1999. The barite product was shipped by truck to Upper Musquodoboit for grinding and is then used in drilling fluids for the offshore drilling industry. Site operations were closed down for the season in September 1999.

Limestone and Dolomite

LAFARGE CANADA INC.

Manager: J. Cross
Address: P. O. Box 5
Brookfield, N. S. B0N 1C0
Production: 543,434 tons (493,000 tonnes) of limestone
Employees: 11 (quarry) 79 (cement plant)

Lafarge Canada Inc. operates a limestone quarry near their Brookfield cement plant, 5 km west of Brookfield, Colchester County. The total production from the quarry is used at the plant.

MOSHER LIMESTONE COMPANY LIMITED

Manager: D. M. Mosher
Address: P. O. Box 28
Upper Musquodoboit, N. S. B0N 2M0
Production: 48,555 tons (44,049 tonnes) of dolomite/limestone
Employees: 17

Mosher Limestone operates a number of quarries near Upper Musquodoboit, Halifax County. The company produces agricultural grade dolomite/limestone in its grinding plant at Upper Musquodoboit. The product is bagged or supplied in bulk for distribution throughout the Atlantic Provinces. The company also produces a pelletized limestone product for the domestic garden market.

SHAW RESOURCES, A MEMBER OF THE SHAW GROUP LIMITED

Manager: K. Hardie
Address: P. O. Box 60
Shubenacadie, N. S. B0N 2H0
Production: 0 tons (0 tonnes) of marble
Shaw Resources produces marble intermittently from a quarry at Marble Mountain, Inverness County. This marble is used for brick manufacture and in landscaping. There was no production reported in 1999.

RIDGE BROKERS LIMITED

Manager: E. Alward
Address: P. O. Box 175
Havelock, N. B. E0A 1W0
Production: 5,989 tons (5 433 tonnes) of limestone
Employees: 1

The company operates a small quarry at Southside Antigonish Harbour, Antigonish County, producing limestone for the agricultural market.

SCOTIA LIMESTONE LIMITED

Manager: D. M. Mosher
Address: P. O. Box 28
Upper Musquodoboit, N. S. B0N 2M0
Production: 4,669 tons (4 236 tonnes) of dolomite
Employees: 1

The Kelly's Cove dolomite quarry and plant are located near New Campbellton, Victoria County. The plant produces an agricultural grade dolomite for domestic sale, a ground dolomite product for coal mine stone dust, and dolomite products for the offshore steel industry. All 1999 production came from the existing ore inventory and no mining took place at the site during 1999.

NOVA SCOTIA POWER INCORPORATED (OPERATED BY KELLY ROCK LIMITED)

Manager: D. W. MacKenna (Kelly Rock Limited)
Address: P. O. Box 1206
Sydney, N. S. B1P 6J9
Production: 83,441 tons (75 700 tonnes) of limestone
Employees: 10

The limestone quarry at Glen Morrison, Cape Breton County, began production in 1993. The operation produces several products at the on-site crushing and screening facility. During 1999, most of the production from this site was shipped to Point Aconi for use in the fluidized bed power generating station. Kelly Rock Limited operates the quarry on behalf of Nova Scotia Power Incorporated.

Clay

SHAW BRICK, A MEMBER OF THE SHAW GROUP LIMITED

Manager: B. Frizzell
Address: P. O. Box 2130
Lantz, N. S. B0N 1R0
Production: 28,000 tons (25 401 tonnes) of clay & shale
Employees: 4

Shaw Brick mines clay from pits at Lantz and Milford, Hants County, and shale from quarries located in Hardwood Lands, Hants County, and New Glasgow, Pictou County. These materials are used in the company's plant in Lantz for the manufacture of bricks and other structural clay products.

Silica Sand

SHAW RESOURCES, A MEMBER OF THE SHAW GROUP LIMITED

Manager: G. Dickie
Address: P. O. Box 60
Shubenacadie, N. S. B0N 2H0
Production: 53,929 tons (48 424 tonnes) of silica sand
Employees: 6

Shaw Resources produces silica sand from a deposit at West Indian Road, Hants County. This sand is processed into several silica sand products including glass grade sand.

Dimension Stone

HERITAGE MEMORIALS LIMITED

Manager: G. Nelson
Address: P. O. Box 308
Windsor, N. S. B0N 2T0
Production: 1,685 tons (1 529 tonnes) of granite (est.)
Employees: 20

The company periodically operates a small quarry at Nictaux West, Annapolis County. The grey granite is used as dimension stone at the company's memorial manufacturing plant at Windsor, Hants County.
WALLACE QUARRIES LIMITED

Manager: S. Flynn
Address: P. O. Box 203
Wallace, N. S. B0K 1Y0
Production: 262 tons (238 tonnes) of building stone
Employees: 5

The Wallace Quarries, located near Wallace, Cumberland County, supply building stone for building rehabilitation work in Halifax and central Canada. Blocks of stone are sent for cutting to processing facilities in Nova Scotia, New Brunswick and Quebec to supply local markets.

Other

Two other stone operations, for which production information was not available at the time of publication, were Scotia Slate Products Ltd. and Lange Natural Rock and Stone Supplies. Scotia Slate operates a small slate quarry and fabrication facility near East Gore, Hants County, producing slate for local, domestic and international markets. Lange Natural Rock and Stone Supplies operates a small granite quarry near Parkdale, Lunenburg County, producing mainly European-style cobblestones.

Peat Moss

ANnapolis Valley Peat Moss Company Limited

President: H. Endres
Address: Berwick, N. S. B0P 1E0
Production: 6,021 tons (5,462 tonnes) of peat moss (estimated)
Employees: 24 (some part time)

The company uses vacuum harvesters to recover agricultural peat from a 500 acre (200 ha) bog located near Berwick, Kings County. Baled peat products are shipped to markets in Canada, the United States and Japan.

CLARE Organic Products Limited

Owner: Gerald Thimot

Address: Box 174-A, Saulnierville
Digby County, N. S. B0W 2Z0
Production: 2,924 tons (2,653 tonnes) of peat moss (estimated)
Employees: 20 (some part time)

The company uses vacuum harvesters to recover agricultural peat from a 200 acre (81 ha) bog located near Meteghan Station, Digby County. The company has a contract to supply a major Maritime peat producer with baled peat destined for international markets.

MACDONald Peat Moss Limited

Owner: Lameque Quality Group Ltd.
Address: 86 Tourbe Street
Lameque, N. B. E8T 1A3
Production: 4,734 tons (4,295 tonnes) of peat moss (estimated)
Employees: 18

MacDonald Peat Moss Limited, a wholly-owned subsidiary of New Brunswick's Lameque Quality Group Ltd., has lease rights to a 1,700 acre (688 ha) peat bog located on Crown land, approximately 12 km west of Kennebecook, Hants County. 1999 was the second year of production for the company, which exports baled peat to international markets.

Aggregate Resources

Approximately 11 million tonnes of construction aggregates were produced in Nova Scotia in 1999. Twenty-seven companies reported crushed stone production totalling 7.9 million tonnes while 44 producers reported sand and gravel production totalling 2.6 million tonnes. The majority of aggregate was consumed within the province, with approximately 2 million tonnes exported.

Two companies eclipsed the 1 million tonne mark for crushed stone production in 1999. Rocky Lake Quarry Limited of Bedford, Nova Scotia, reported shipments of 1.4 million tonnes while Martin Marietta Materials Canada Ltd. reported just over 2.2 million tonnes shipped. Martin Marietta's Porcupine Mountain operation was the country's seventh largest in 1999.