

# Mineral Exploration Activity in Canada

---

**Ginette Bouchard**

*The author is with the Minerals and Metals Sector,  
Natural Resources Canada.  
Telephone: (613) 992-4665  
E-mail: gbouchar@nrcan.gc.ca*

## OVERVIEW OF EXPLORATION EXPENDITURES IN RECENT YEARS

In 1996, 629 companies (excluding prospectors) operated Canadian non-petroleum mineral exploration projects, down from 663 companies in 1995. Overall, exploration expenditures in 1996, which include both general and mine-site expenditures, totalled \$895 million, up from \$718 million in 1995. General exploration (off-property) is defined as the search for and delineation of mineral deposits on properties where no production is taking place or where there has been no commitment to production. Mine-site exploration (on-property) represents the search for new mineral deposits (not the search for additional ore) at mines that are either in production or committed to production. General exploration expenditures totalled \$795 million in 1996, an increase of 26% from \$631 million in 1995. The amount spent on mine-site exploration in 1996 was \$100 million, up by 15% from \$86 million in 1995. Mine-site exploration expenditures normally represent between 12 and 15% of overall exploration expenditures (the total of general and mine-site exploration).

Exploration expenditures had reached a low of \$413 million in 1992 (the lowest level in constant 1997 dollars for at least the last two decades), but activity revived in the 1993-96 period. The 1996 exploration level is the highest since 1988. As a result, the level of exploration expenditures increased by 118% over the 1992-96 period. Although data from the 1997 preliminary estimate and the 1998 forecast survey indicated lower expenditure levels of \$804 million and \$767 million respectively, they still represent a vigorous level of exploration activity.

This upward surge in expenditures since 1992 has been driven in part by important discoveries of diamond deposits, leading some companies to invest in advanced exploration or deposit appraisal projects

and, recently, in 1997 and 1998, in mine development activities. The first diamond mine in Canada at Lac de Gras, the Ekati mine, is scheduled to start production late in 1998. Expenditures dedicated to diamond exploration for each of the years from 1993 to 1998 accounted generally for between 15 and 20% of total Canadian exploration expenditures. By the end of this six-year period, a total of \$744 million will have been spent on diamond exploration, including \$154 million in 1996 and estimated totals of \$93 million for 1997 and \$125 million for 1998.

Increased metal prices have also helped boost exploration activity from 1994. However, in the second half of 1997, metal prices dropped dramatically with a significant impact on exploration activity.

In late 1994, the nickel-copper-cobalt discovery at Voisey's Bay, Labrador, which is a result of diamond exploration in that area, attracted the attention of many mining companies. This deposit is possibly the richest find in Canada in decades. The resulting flurry of exploration activity in the area had a strong impact on expenditures, particularly in 1995 and 1996.

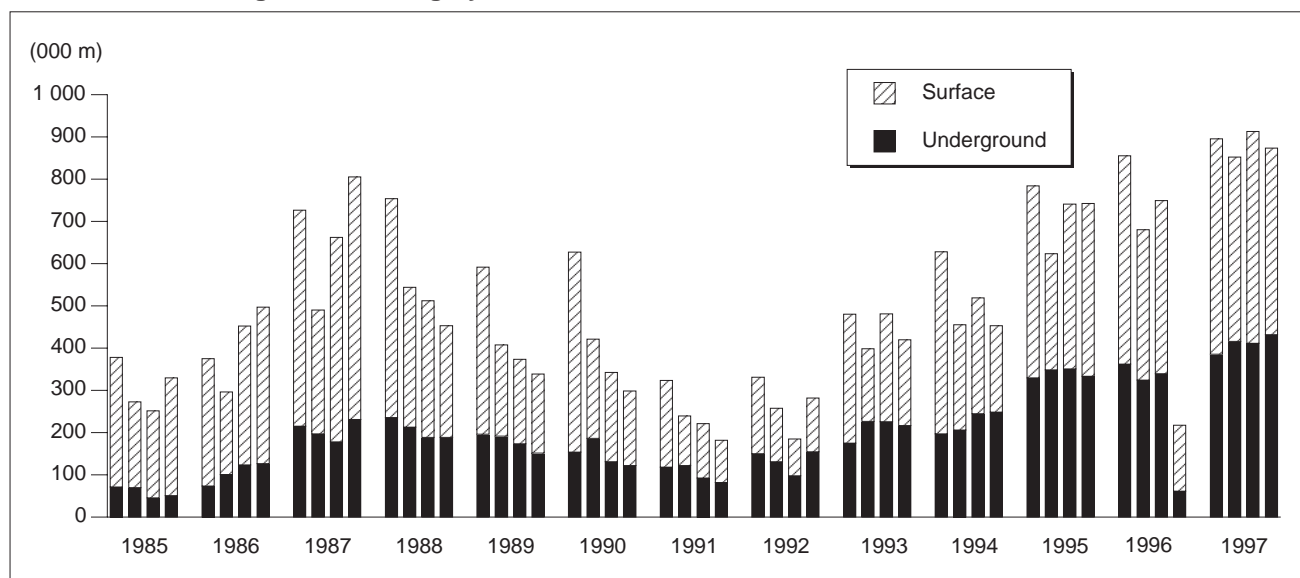
In 1997, Canada remained second, only to Australia, in terms of mineral exploration expenditures and has been one of the top two countries for the past 18 years (for additional information, refer to the chapter entitled *Canadian Mineral Exploration and Discovery Analysis*).

In 1996, 166 senior company project operators had exploration expenditures totalling \$580 million, while in 1995, 163 senior operators spent \$504 million. Junior company project operators (463 plus some prospectors) spent \$315 million (including \$6 million for prospectors) in 1996, compared to expenditures of \$213 million (including \$5 million for prospectors) by 500 junior operators plus some prospectors in the previous year.

Indications for 1997 are that about \$506 million was spent by senior companies and \$298 million was spent by junior companies. In 1998, it is expected that \$455 million will have been spent by senior companies and \$312 million by junior companies.

In 1996, expenditures by 143 companies (72 juniors, 71 seniors), each reporting \$1 million or more in expenditures, represented 88% of all Canadian

**Figure 1**  
Surface and Underground Drilling by Quarter, 1985-97



Source: Canadian Drilling Association (CDA).

Notes: CDA data are incomplete because not all member companies report their drilling. The left bar in each group represents the first quarter of the year; the right bar represents the fourth quarter.

exploration expenditures. Twenty-six percent of this 88% was spent by junior companies and 62% was spent by senior companies. In 1995, 117 companies (56 juniors, 61 seniors) each spent \$1 million or more, accounting for 85% of the Canadian exploration total. For each of 1995 and 1996, 17% and 22%, respectively, of the total number of project operators (together with any joint-venture partners) contributed more than 85% of the total exploration expenditures.

Diamond drilling statistics are gathered monthly and annually by the Canadian Drilling Association (CDA) and are then assembled on a quarterly basis. Although CDA drilling data are incomplete, they (Figure 1) provide useful information on recent levels of exploration and mine development activity in Canada. In 1997, the total surface and underground metres drilled increased by 41% over the number of metres drilled during 1996.

## HISTORICAL PERSPECTIVE

Figure 2 depicts Canada's annual exploration expenditure levels over the 30 years from 1969 to 1998. Higher-than-normal exploration expenditures in the 1980-82 period were the result of high prices for gold, silver and copper over that period. Exploration expenditures declined somewhat in 1983, but generally rose from 1984 to 1988 as a result of the introduction, in 1983, of the Mining Exploration Depletion Allowance (MEDA). MEDA was replaced in 1989 and 1990 by the Canadian Exploration Incentive Program (CEIP). By 1987 and 1988, exploration expenditures

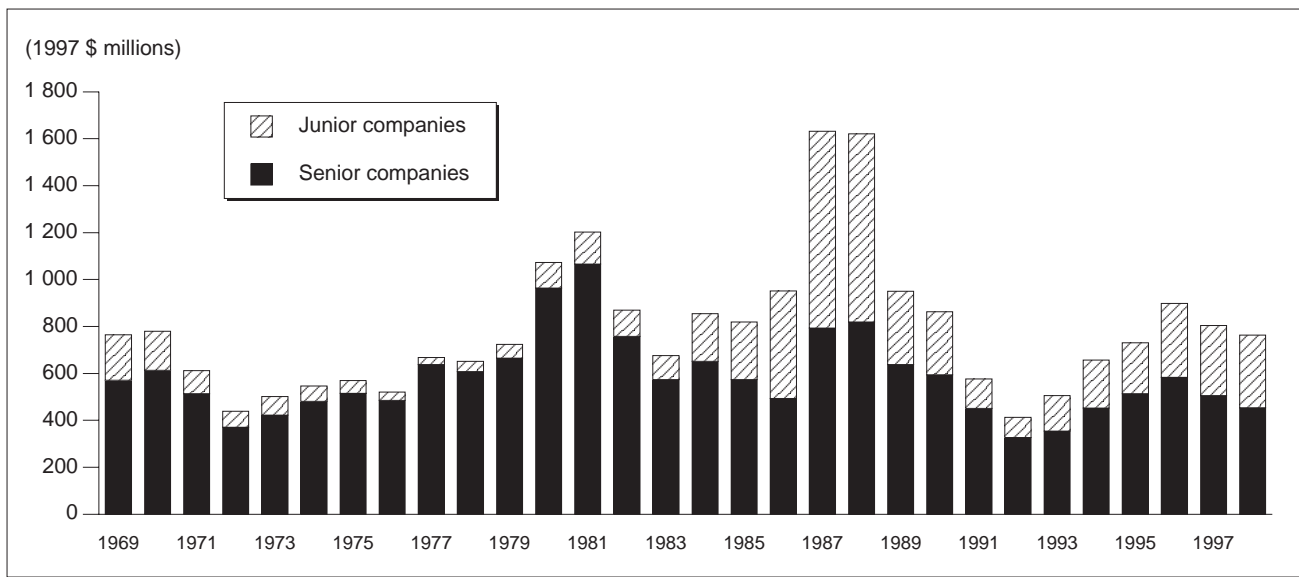
had reached unprecedented high levels because of MEDA and because of the high gold prices that existed until the end of 1987. However, exploration declined dramatically after 1988.

After the introduction of MEDA, exploration expenditures by junior companies increased each year from 1984 to 1988 to reach a peak of about \$802 million (1997 dollars) in 1988, and subsequently declined in 1989 to reach a low of \$86 million in 1992. Junior company expenditures have risen constantly since 1992, reaching \$316 million in 1996 (a 45% increase over the \$218 million recorded in 1995) and an expected \$298 million in 1997 and \$312 million in 1998. The change in exploration trends by junior companies is attributable to a variety of factors. The exploration rush for diamonds that began in 1993, and which has been sustained since that time, contributed about one third of total junior exploration expenditures in 1993 and 1994, 20% in 1995 and 1996, and about 10% in 1997 and 1998. Roughly 5% of all junior exploration expenditures for each of the years 1995, 1996, 1997, and likely 1998, were as a result of the Voisey's Bay nickel-copper-cobalt discovery in late 1994.

## EXPLORATION AND OTHER MINING INVESTMENT IN CANADA DURING 1996

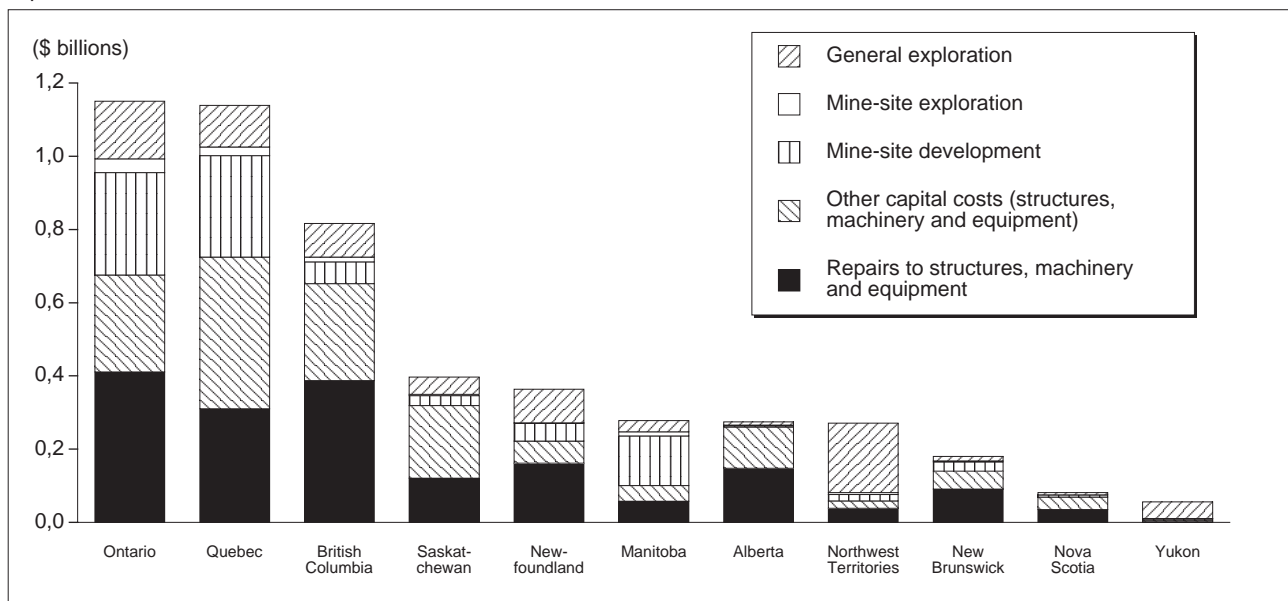
The combined mining investment total of exploration and other capital costs, including mine-site development, structures, machinery and equipment, and costs for associated repairs, was \$5.0 billion in 1996

**Figure 2**  
**Exploration Expenditures in Canada by Junior and Senior Companies, 1969-98**



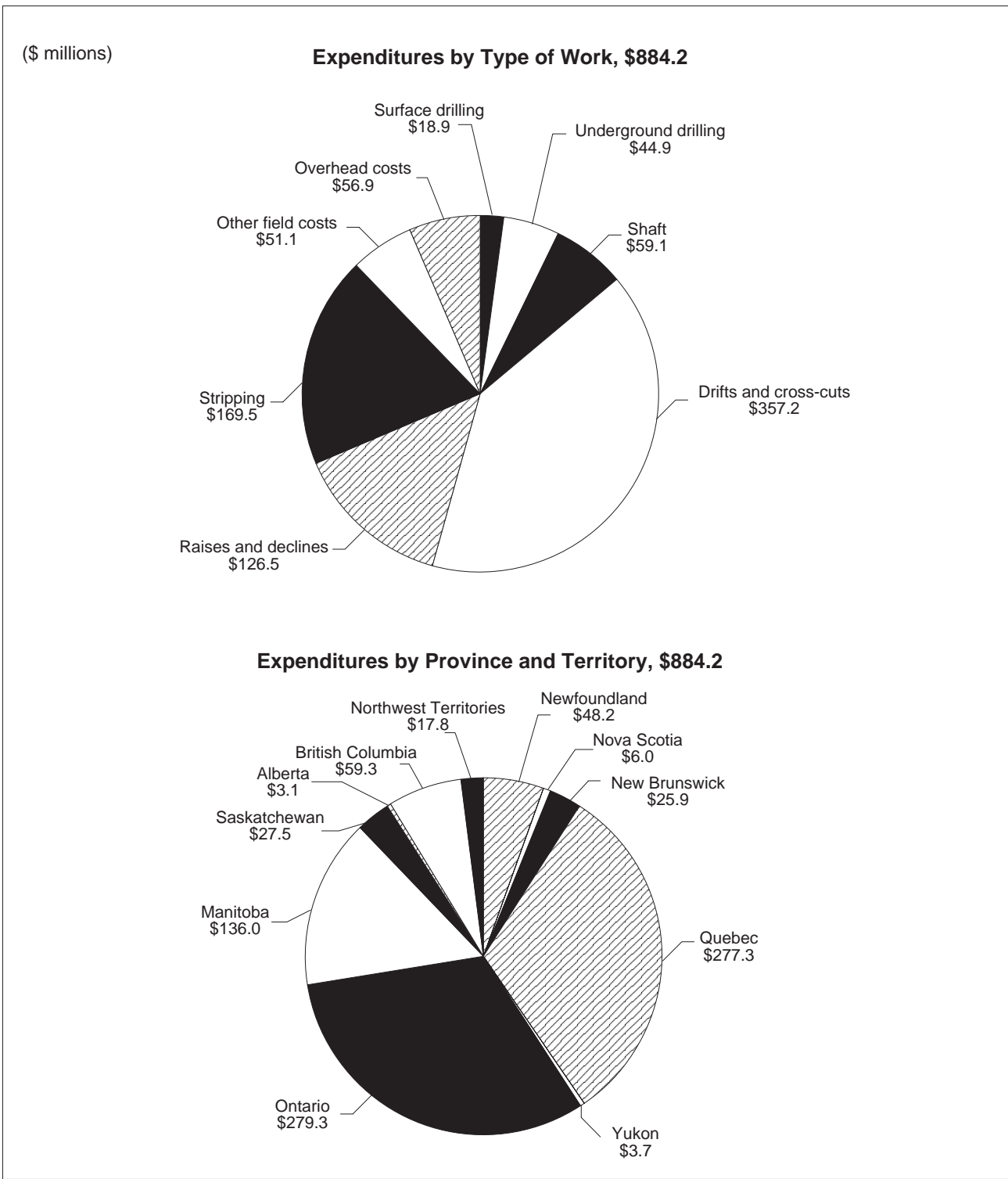
Sources: Natural Resources Canada; Federal-Provincial Survey of Mining and Exploration Companies.  
 Notes: Total exploration expenditures for 1975-81 are overstated by an average of about 17% relative to earlier and later years because of changes to the methodology used by Statistics Canada over the years. Overhead expenditures are included. Data for 1997 are preliminary; data for 1998 are forecast.

**Figure 3**  
**Exploration and Other Mining Investment in Canada, by Province and Territory, 1996**  
**\$5.0 Billion**



Sources: Natural Resources Canada; Statistics Canada.

**Figure 4**  
**Mine-Site Development Expenditures for 1996**



Source: Federal-Provincial Survey of Mining and Exploration Companies.

compared to \$4.7 billion in 1995. In 1996, general exploration represented 16% (compared with 13% in 1995) of this total; mine-site exploration, 2% (2% in 1995); and mine-site development, 18% (18% in 1995). A provincial and territorial breakdown of exploration and other mining investment is provided in Figure 3.

Compared to 1995, total exploration and mining investment increased in 1996 in most provinces and territories except Ontario, British Columbia and the Yukon. The increases ranged between 7% in New Brunswick and 37% in Alberta.

Mine-site development expenditures (activities carried out to outline, block out and gain access to ore at mines already in production or committed to production) by type of work and by province and territory are depicted in Figure 4. Mine-site development expenditures were up by 6% in 1996 compared to 1995. Overall expenditures reached \$884 million in 1996 (\$836 million in 1995). This represents a change of 23% from the peak years of 1990 and 1991 when those expenditures reached \$1.1 billion. Development expenditures increased by 57% in Manitoba, by 45% in Alberta, by 37% in Saskatchewan, by 15% in Ontario, by 8% in New Brunswick, by 4% in Nova Scotia, and by 3% in Quebec. However, development expenditures decreased by 90% in the Yukon, by 24% in the Northwest Territories, by 17% in British Columbia, and by 8% in Newfoundland. Ontario (\$279 million), Quebec (\$277 million) and Manitoba (\$136 million) together represented close to 80% of Canada's total 1996 development expenditures.

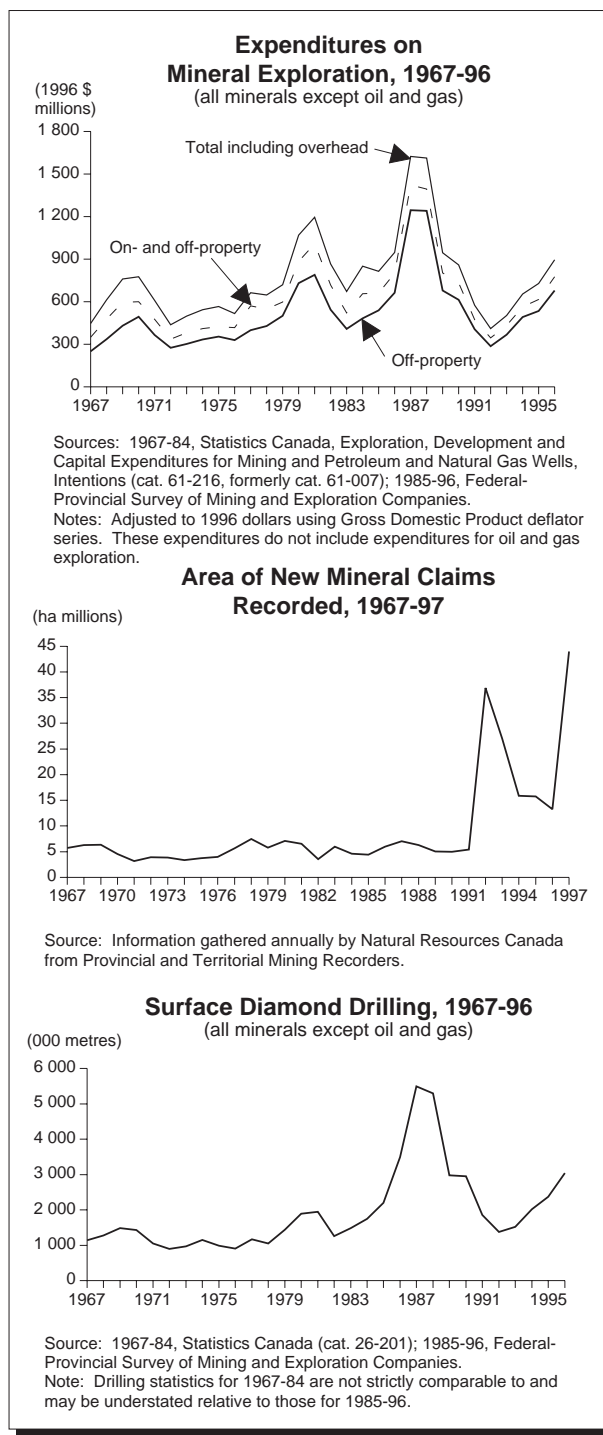
A detailed analysis of development expenditures by commodity group reveals that 39% was spent in the search for precious metals and 35% for base metals. Most development expenditures for precious metals were incurred in Ontario and Quebec (jointly 74%) and most expenditures for base metals were incurred in Manitoba and Ontario (jointly 70%). The remaining development expenditures are broken down as follows: 14% for iron ore (in Quebec and Newfoundland), 5% for nonmetals (mainly for asbestos in Quebec), 4% for coal (mainly in British Columbia), 1% for uranium (mainly in Ontario), and 2% for other metals (e.g., titanium in Quebec).

## NEW MINERAL CLAIMS, 1997

The area of new mineral claims staked or acquired in Canada in 1997 (Figure 5, Table 1) was 44 million hectares (ha), 232% more than the area recorded in 1996. This constitutes the biggest area ever, surpassing the 33 million ha and the 27 million ha recorded during 1992 and 1993, respectively, following major diamond discoveries.

Compared to 1996, the area of new mineral claims in 1997 increased in Alberta by a factor of 6, in Saskatchewan by a factor of 1, and to a lesser extent in

**Figure 5**  
Selected Measures of Exploration Activity



Quebec. Mining recorders have advised that, in Alberta and Saskatchewan, there has been strong interest in staking for diamonds. Furthermore, for Saskatchewan, there has also been renewed interest in staking for uranium. The area of new claims acquired in Alberta represents 37 million ha, or 85% of the total area of new mineral claims in Canada in 1997.

Areas staked in 1997 were down by 51% in Nova Scotia, by 43% in New Brunswick, by 34% in the Northwest Territories, by 23% in British Columbia and by 20% in Newfoundland. Smaller decreases occurred in the Yukon, Ontario and Manitoba. In general, the effect of low commodity prices combined with the post-Voisey's Bay staking rush had an impact on the overall level of staking activity. Bad weather conditions prevented a stronger level of staking activity in the Northwest Territories. An increase in areas restricted from mining activities, among other factors, was responsible for the smaller area staked in British Columbia.

## EXPLORATION ACTIVITY BY TYPE OF WORK, 1996

Canadian field exploration expenditures in 1996 can be broken down by type of activity as follows: for drilling, 40%; for rock work, including trenches, pits and underground workings, 18%; for geology, 15%; for airborne plus ground geophysics, 13%; for geochemistry, 9%; and for unspecified field work, 5%. These percentages (for field work only) do not take into account overhead costs (land costs, field administration and exploration-related head office costs). When adjusted to include such costs, which represent 15% of total 1996 exploration expenditures, the above percentages become: drilling, 34%; rock work, 16%; geology, 13%; airborne plus ground geophysics, 11%; geochemistry, 7%; and unspecified field work, 4%. Figure 6 provides the breakdown of these activities for general exploration and for mine-site exploration.

In 1996, for the fourth year in a row, exploration expenditures for airborne geophysics (\$29 million) were more than three times the \$8 million spent in 1992. During 1996, about 55% of this amount was spent in the Northwest Territories (\$11 million) and Newfoundland (\$5 million). This reflects the increased use of airborne magnetic and electromagnetic surveys to localize other targets for exploration in the Voisey's Bay area and the search for other diamondiferous kimberlite intrusions in the Northwest Territories.

Geochemical and rock work exploration expenditures (Table 7) in the Northwest Territories, \$24 million and \$41 million respectively, are the highest of all provinces and territories. Much of the rock work activity was carried out in the Lac de Gras area of the Northwest Territories as the result of bulk sampling programs on diamond properties.

## EXPLORATION DRILLING, 1996

In 1996, 3 193 617 m of surface exploration drilling were carried out in Canada (Table 2), which is up by 21% from the 2 641 649 m drilled in 1995. Diamond drilling (3 040 573 m) constituted 95% of the total metres of surface drilling (Figure 5). Ontario,

Quebec, British Columbia and the Northwest Territories, in decreasing order of importance, were the busiest provinces and territories jointly accounting for 70% of total surface drilling activity. Underground exploration drilling (both diamond drilling and other types of underground exploration drilling) totalled 872 968 m, up by 38% from the 631 648 m drilled in 1995. Ontario (326 331 m), Quebec (265 908 m), British Columbia (92 224 m) and Manitoba (86 217 m) together accounted for 88% of total underground exploration drilling.

In the case of surface diamond drilling, 62% of the total metres were drilled by senior companies and 38% by junior companies. Underground diamond drilling was principally undertaken by senior companies who reported 95% of this activity. Of the total surface metres drilled (diamond drilling), 50% was undertaken in the search for precious metals, 33% for base metals, 8% for nonmetals and 3% for uranium. Most of the underground drilling was carried out in the search for precious metals (69%) and base metals (27%).

## EXPLORATION EXPENDITURES BY PROVINCE AND TERRITORY, 1996 AND 1997

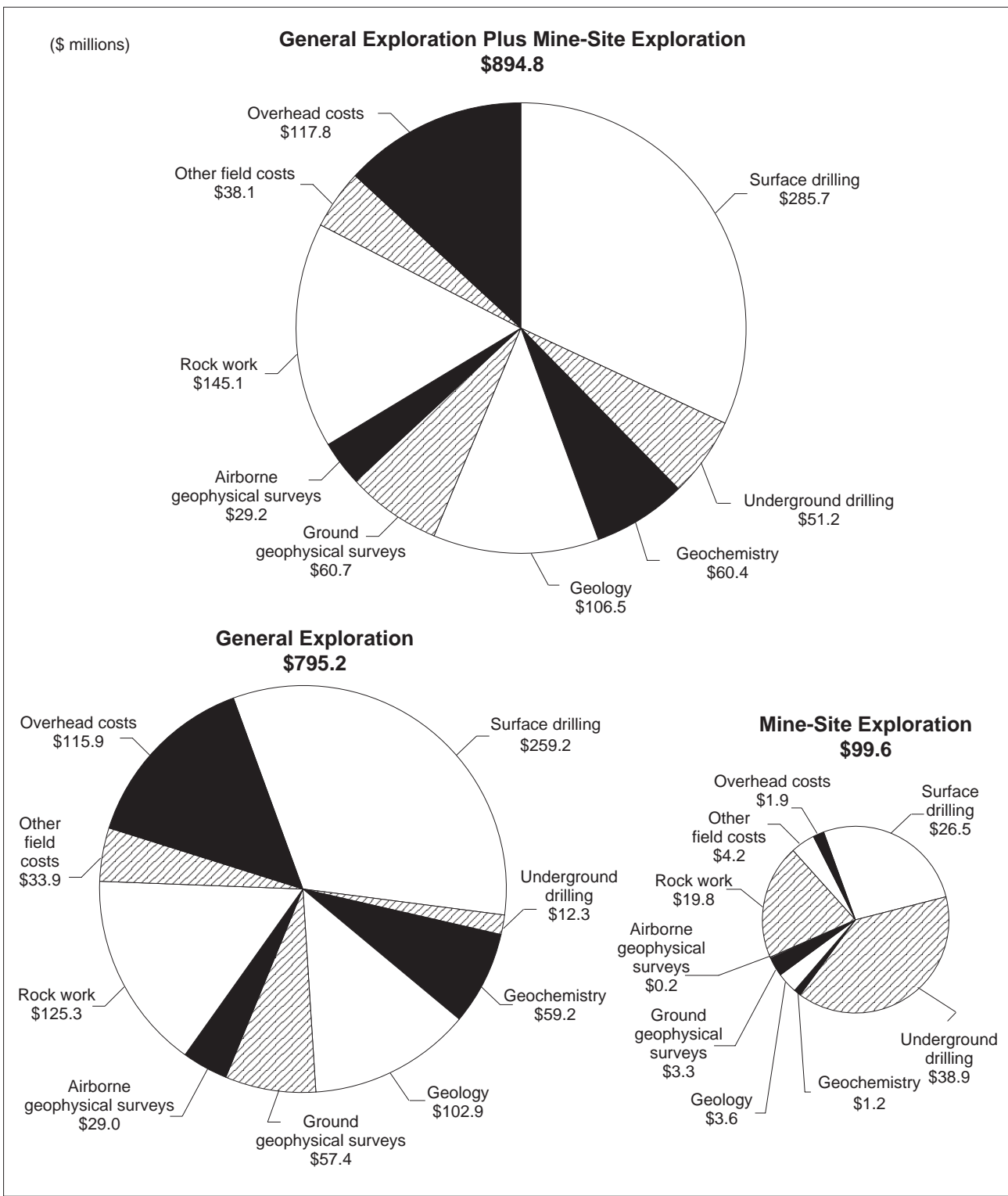
The most active exploration provinces or territories in 1996 (Tables 2 and 6, Figure 7) were Ontario (\$195 million), the Northwest Territories (\$195 million), Quebec (\$137 million) and British Columbia (\$105 million). These regions jointly accounted for 71% of total Canadian mineral exploration expenditures in 1996 (70% in 1995).

Exploration expenditures increased in all provinces and territories from 1995 to 1996. Major increases were recorded in Nova Scotia (146%) and Ontario (50%). In Newfoundland, exploration expenditures increased from \$12 million in 1994 to a new all-time record of \$93 million in 1996, ranking the province fifth in the country, close behind British Columbia. Of this record amount, \$76 million, or 82%, occurred in Labrador. In 1996, for the third time in history, the level of exploration expenditures in the Northwest Territories rose to a record level as a result of continued diamond exploration.

General exploration accounted for more than 73% of exploration expenditures in all provinces and territories. Ontario ranked first in terms of mine-site exploration expenditures with \$38 million spent, followed by Quebec with \$24 million spent.

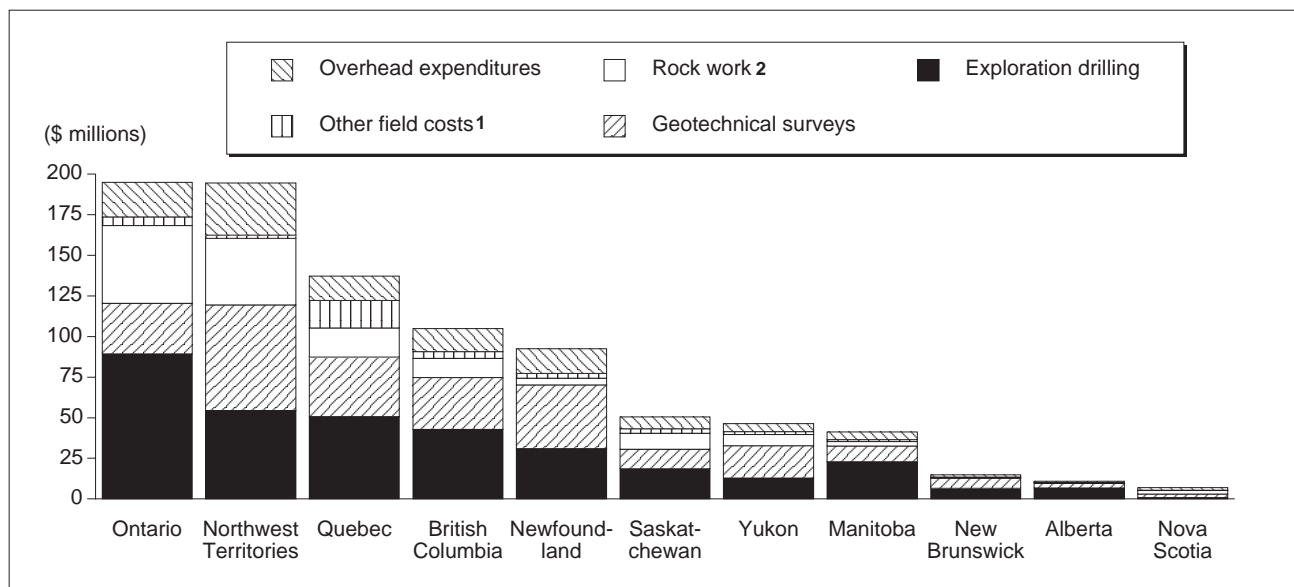
Preliminary results indicate that, between 1996 and 1997, the level of exploration expenditures in Canada decreased by about 10%. During that period, most provinces and territories experienced a decline in exploration expenditures ranging from 8% for British Columbia to 25% for Newfoundland. Increases occurred in Alberta (up 76%), Nova Scotia (up 30%), Saskatchewan (up 10%) and Quebec (up 2%).

**Figure 6**  
**Canadian Mineral Exploration Expenditures for 1996, By Type of Work**



Source: Federal-Provincial Survey of Mining and Exploration Companies.  
 Note: Numbers may not add to totals due to rounding.

**Figure 7**  
**Exploration Expenditures by Province and Territory, 1996**  
 Physical Work and Surveys



Source: Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Such as field supervision and line cutting. <sup>2</sup> Such as stripping, trenching, shaft-sinking and underground work.

## EXPENDITURES BY COMMODITY SOUGHT, 1996

Precious metals and base metals remained the principal targets of Canadian exploration in 1996 (Tables 3 and 4, Figures 8 and 9). Expenditures for base-metal exploration increased by 35% during 1996 to reach \$295 million, continuing the upward trend that was evident in 1994. From 1990 to 1993, base-metal exploration expenditures had dropped from \$240 million to \$150 million. Exploration for precious metals increased by 27% to \$351 million in 1996 from \$277 million in 1995. In 1992, exploration expenditures for base metals had exceeded those for precious metals for the first time since 1983. However, this trend was reversed in 1993 when exploration expenditures for precious metals again exceeded those for base metals. As noted earlier in this review, the prices of the leading mineral commodities, combined with recent major discoveries, had a profound impact on base-metal and precious-metal exploration activity during 1994, 1995 and 1996.

Base-metal exploration accounted for 33% of total Canadian exploration expenditures in 1996 compared to 30% in 1995, while precious-metal exploration accounted for 39% in 1996, as it did in 1995. About 85% of the total expenditures for base metals and precious metals was spent on general exploration, with the remainder being spent on mine-site exploration.

In 1996, mineral commodities other than base metals and precious metals accounted for \$249 million in exploration expenditures in Canada (28% of total expenditures), up from \$222 million (31%) in 1995. For example, expenditures for uranium increased by 11%, for coal by 15%, for iron ore by 33%, and for other metals by 98%. The major increase recorded in the other metals category is mainly attributable to the Voisey's Bay discovery. In 1996, exploration for nonmetals accounted for \$167 million (with diamonds accounting for \$154 million of this amount), up from \$159 million in 1995 (when diamonds accounted for \$147 million). Exploration expenditures for nonmetals ranked third in 1996 after expenditures for precious metals and base metals.

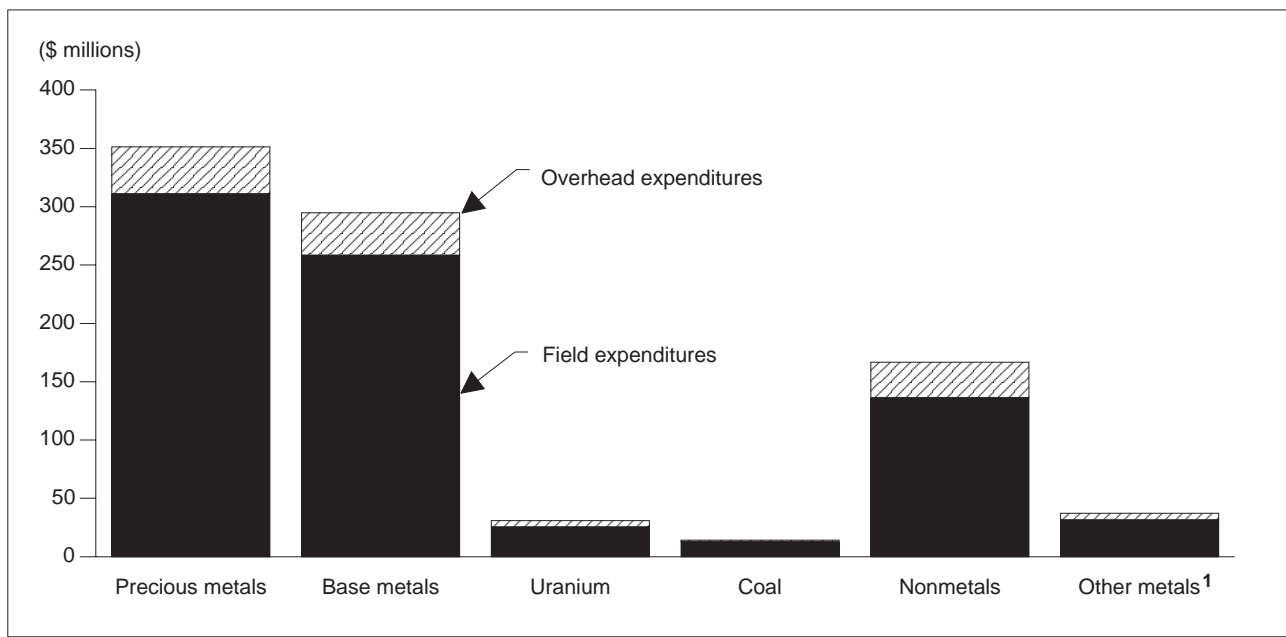
Between \$1 million and \$4 million was spent on the search for each of the following commodities: platinum group metals, potash, stone (granite, gabbro, marble, etc.), feldspar, apatite, kaolin, molybdenum and silica.

## PROVINCIAL AND TERRITORIAL EXPENDITURES BY COMMODITY SOUGHT, 1996

Diamonds remained the most important exploration target in the Northwest Territories accounting for 71% of total exploration expenditures there in 1996 (77% in 1995). (For more information, refer to the section of this review on exploration for diamonds



**Figure 8**  
**Exploration Expenditures by Commodity Sought, 1996<sup>a</sup>**

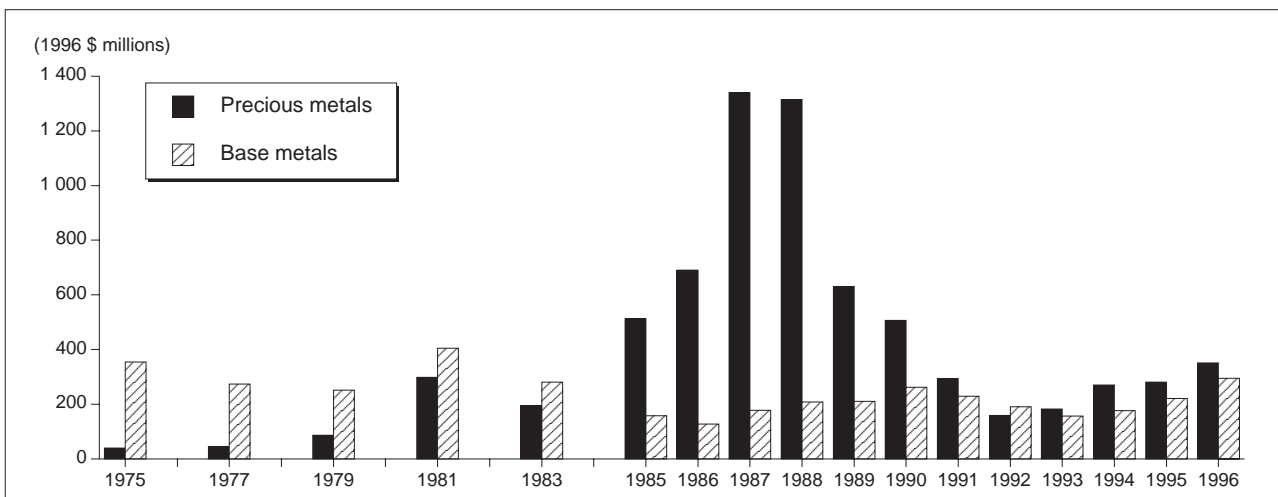


Source: Federal-Provincial Survey of Mining and Exploration Companies.

<sup>a</sup> Some \$0.9 million of expenditures were for unspecified commodities. This amount has been pro-rated among the six commodity groups shown here.

<sup>1</sup> Includes ferrous metals.

**Figure 9**  
**Exploration Expenditures in Canada for Base Metals and Precious Metals (Including Overhead), 1975-96**



Source: Natural Resources Canada.

Note: Data have not been compiled for the years 1976, 1978, 1980, 1982 and 1984.

that follows later.) Prior to 1993, precious metals had been the dominant commodity group of interest in the Northwest Territories.

In Saskatchewan, uranium was the main exploration target accounting for 54% of total provincial exploration expenditures, followed by base metals (18%) and precious metals (16%). Exploration for diamonds in Saskatchewan (9% of the provincial total) in 1996 dropped to fourth place from third and second position, respectively, in 1995 and 1994. In 1994, diamond exploration expenditures accounted for 19% of total Saskatchewan exploration expenditures. The high level of uranium expenditures was maintained in 1996 partly as the result of an important underground exploration program at the McArthur River uranium deposit and general exploration programs conducted in other areas. Exploration expenditures for potash remained low.

In Alberta, coal remained the principal exploration target in 1996, followed by precious metals and then diamonds. The Cheviot coal mine project was the most significant in terms of exploration expenditures. Exploration for diamonds held second place in Alberta during the 1990-94 period; prior to 1990, uranium had been the second most sought commodity behind coal. It is expected that, in 1998, diamonds will be the main target of the non-fuel exploration activity in Alberta. The discovery of several diamondiferous kimberlite intrusions in 1997 and 1998 has generated a growing level of interest in Alberta for diamonds.

Precious metals (principally gold) were the main exploration targets in Ontario, Quebec, British Columbia, the Yukon and Nova Scotia. In these provinces and territory, exploration for precious metals accounted for 33%, 23%, 19%, 7% and 1%, respectively, of total exploration expenditures in Canada for precious metals (Table 9b, Figure 10). Ontario, Quebec and British Columbia together accounted for 76% of total precious metal exploration expenditures. The principal commodities sought in Newfoundland, Manitoba and New Brunswick were base metals. Collectively, in decreasing order of expenditures, Ontario, Newfoundland, Quebec, Manitoba and British Columbia accounted for 81% of total expenditures for base-metal exploration.

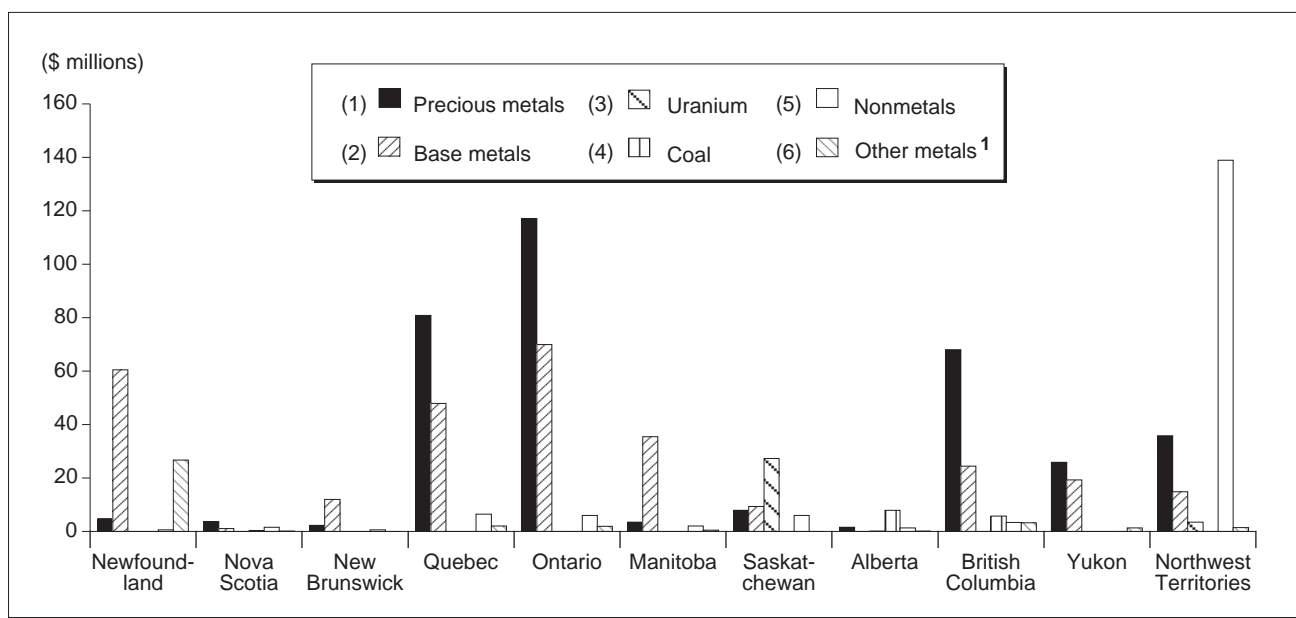
## PROVINCIAL AND TERRITORIAL EXPENDITURES BY TYPE OF COMPANY, 1996

Companies exploring in Canada are classified into six groups, as follows:

- 1) Producers: Companies owning a producing mine or holding part ownership in a producing mine in Canada, and companies that own more than 50% of the shares of a producing mining company. Producers can also include oil companies and foreign companies with a producing Canadian mine.

Figure 10

### Provincial and Territorial Exploration Expenditures by Commodity Sought, 1996<sup>a</sup>



Source: Federal-Provincial Survey of Mining and Exploration Companies.

<sup>a</sup> Some \$0.9 million of exploration expenditures were for unspecified commodities. This amount has been pro-rated among the six commodity groups shown here.

<sup>1</sup> Includes ferrous metals.

- 2) Affiliates of producing mining companies: Wholly owned or majority-owned incorporated subsidiaries of producers.
- 3) Oil companies: Oil companies, both domestic and foreign, with non-petroleum exploration projects in Canada. Any oil companies with producing mines are included with producers.
- 4) Foreign companies: Foreign-owned companies, excluding foreign-owned oil companies and foreign-owned companies with a producing mine in Canada.
- 5) Junior companies and prospectors: This group excludes all of the other categories.
- 6) Other companies: Canadian-owned companies engaged in mineral exploration, including forestry, construction and consulting firms, and government-owned mining companies that do not own a producing mine. This category also includes Canadian-owned companies with operating mines only in countries other than Canada.

A company is classified into the first of these groups into which it fits. For example, exploration statistics reported by an oil or foreign company with a producing Canadian mine would be included in Category 1 (producers), rather than in Category 3 (oil companies) or Category 4 (foreign companies). Exploration by a foreign-owned oil company would appear in Category 3

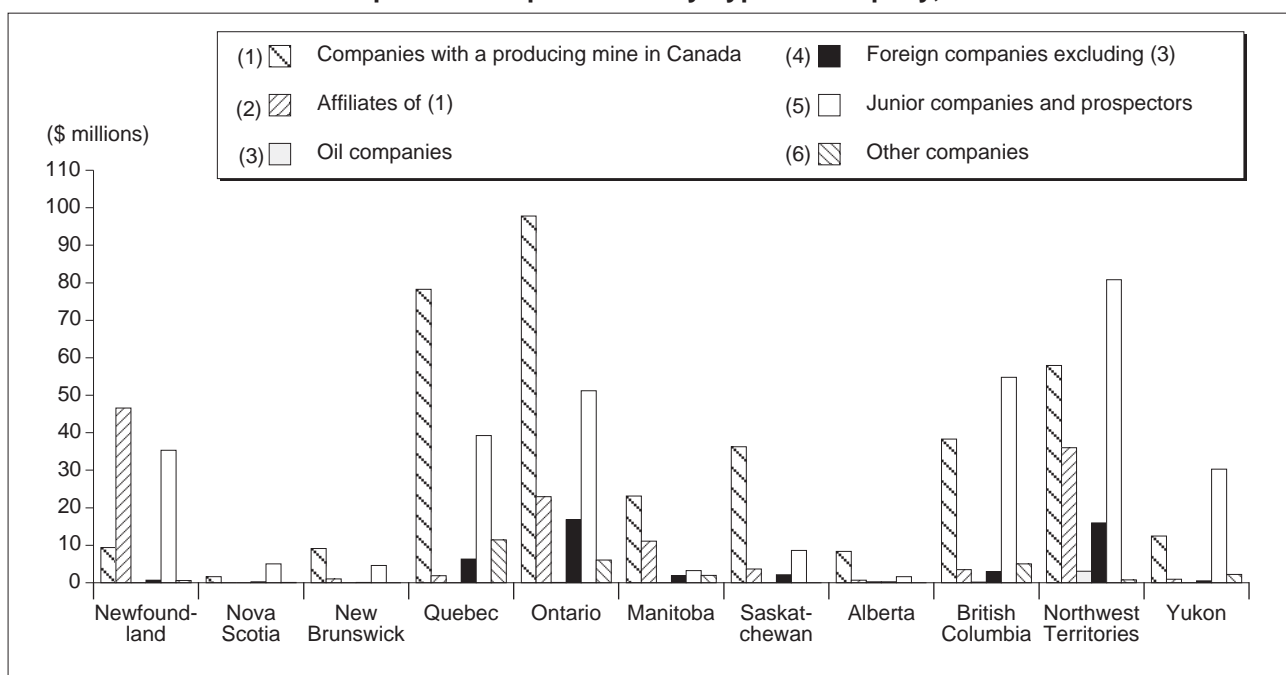
(oil companies), and not in Category 4 (foreign companies).

In 1996, producing companies and their affiliated companies were the principal exploration spenders in most provinces and territories, except in British Columbia, Nova Scotia and the Yukon where junior companies accounted for 52%, 73% and 65%, respectively, of 1996 exploration expenditures (Table 13b, Figure 11). Junior companies increased their expenditures in all provinces and territories except Alberta where the decline was 51%. The increases in junior exploration expenditures varied between 8% for Newfoundland and 111% for Ontario. Together, expenditures (in decreasing order) reported by junior companies in the Northwest Territories, British Columbia, Ontario, Quebec and Newfoundland accounted for 83% of total junior expenditures. The level of junior expenditures in British Columbia ranked first in the country during the period from 1989 to 1993 when the diamond exploration rush in the Northwest Territories attracted more junior expenditures.

Foreign companies spent \$48 million in Canada in 1996 (\$45 million in 1995). They were most active in Ontario and the Northwest Territories, where foreign companies spent about \$16 million in each region in 1996.

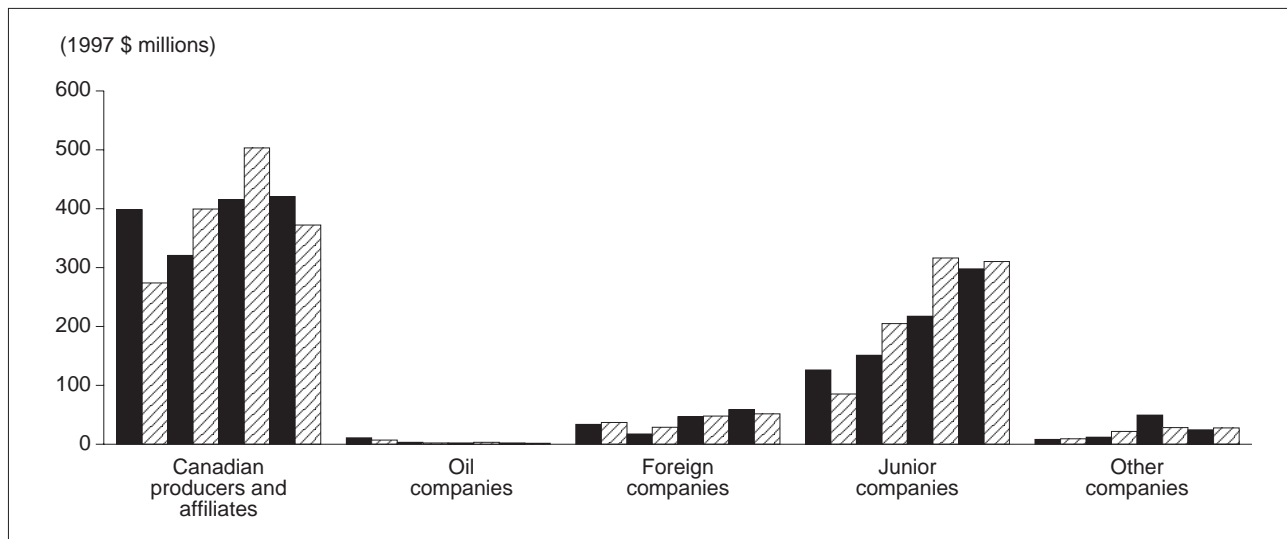
Figure 12 portrays trends in exploration expenditures by type of company over the period 1990-97. The

**Figure 11**  
**Provincial and Territorial Exploration Expenditures by Type of Company, 1996**



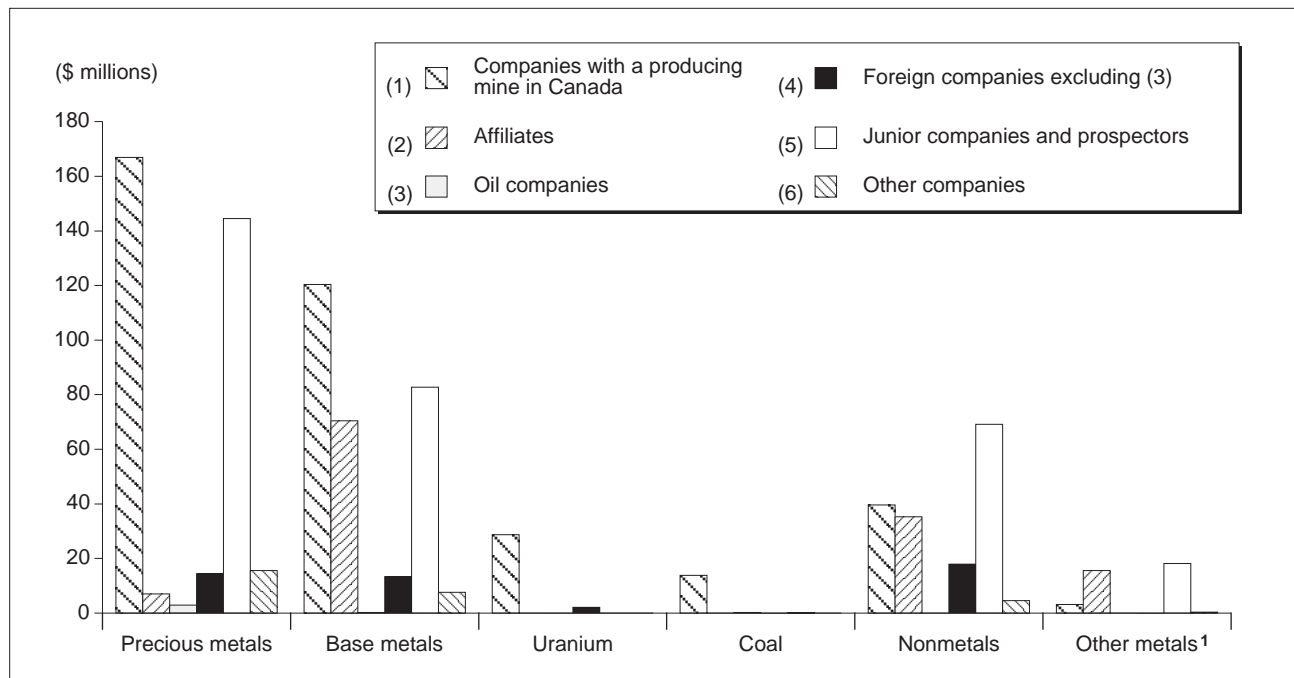
Source: Federal-Provincial Survey of Mining and Exploration Companies.

**Figure 12**  
**Exploration Expenditures in Canada by Type of Company, 1991-98**



Source: Federal-Provincial Survey of Mining and Exploration Companies.  
 Notes: The left bar for each group represents 1991; the right bar represents 1998. Data for 1997 are preliminary; data for 1998 are forecast.

**Figure 13**  
**Exploration Expenditures by Type of Company and Commodity, 1996<sup>a</sup>**



Source: Federal-Provincial Survey of Mining and Exploration Companies.  
<sup>a</sup>Some \$0.9 million of exploration expenditures were for unspecified commodities. This amount has been pro-rated among the six commodity groups shown here.

<sup>1</sup> Includes ferrous metals.

downward trend in exploration expenditures by oil companies is a continuation of the general downward trend that began in the 1970s. In 1977, oil companies accounted for 24% of all non-petroleum mineral exploration expenditures in Canada. This has declined to less than 1% in each year from 1993 to 1996. Similarly, in 1977, foreign companies accounted for 19% of exploration expenditures in Canada; in 1996 they accounted for only 5%.

## EXPENDITURES BY TYPE OF COMPANY AND COMMODITY, 1996

Junior companies directed 46% (\$145 million) of their exploration expenditures at precious metals, 26% (\$83 million) at base metals, and 22% (\$69 million) at nonmetals (mainly diamonds) in 1996. In comparison, junior companies directed 44% (\$95 million) at precious metals, 29% (\$62 million) at base metals, and 21% (\$45 million) at nonmetals in 1995 (Table 10b, Figure 13). Producing companies and their affiliates together directed 35% (\$174 million) of their exploration expenditures at precious metals, 38% (\$191 million) at base metals, 15% (\$75 million) at nonmetals (mainly diamonds), and 6% (\$29 million) at uranium in 1996, compared to 36% (\$148 million) at precious metals, 31% (\$126 million) at base metals, 23% (\$94 million) at nonmetals, and 8% (\$26 million) at uranium in 1995.

In 1996, foreign companies directed 38% (\$18 million) of their exploration expenditures at the search for nonmetallic minerals (chiefly diamonds), 30% (\$14 million) at precious metals, 28% (\$13 million) at base metals, and 4% (\$2 million) at uranium. Relative to 1995, foreign companies spent about the same amount, but the allocation of expenditures by commodity group varied. Their share in exploration expenditures for precious metals decreased by 22% while their share in exploration for base metals increased by 103%. Oil companies directed 84% of their exploration expenditures at precious metals.

## EXPLORATION FOR DIAMONDS

In 1996, 49 companies (39 juniors and 10 seniors) were operators of diamond exploration projects, down from the 61 operators (51 juniors and 10 seniors) reported in 1995. Even though the number was lower, project operators spent a total of \$154 million in 1996, up slightly from the \$147 million spent in the previous year (Figure 14). In 1996, companies spent \$139 million on diamond exploration in the Northwest Territories, which amounts to 90% of the total \$154 million spent on this mineral in all of Canada. Some \$5 million (3%) of this total was spent in each of Ontario and Saskatchewan and \$3 million (2%) was spent in Quebec. The remaining \$2 million was spent in Manitoba, Alberta, British Columbia and Newfoundland (Labrador). Junior companies accounted for 42% of total Canadian diamond explo-

ration expenditures in 1996 (up from 24% in 1995), while producers accounted for 22% (44% in 1995), their affiliates for 23% (16% in 1995), foreign-based companies for 12% (13% in 1995), and oil and other companies for 1%.

During 1996, three major project operators, each spending more than \$30 million and active principally in the Northwest Territories, contributed about 64% of total diamond exploration expenditures in Canada. Advanced exploration work, managed by BHP Minerals Canada Ltd., took place in the Lac de Gras area of the Northwest Territories. Five pipes (Koala, Panda, Fox, Misery and Sable) were committed to production in 1997 with Koala expected to start producing diamonds in 1998. Intense work was also performed on the pipes of the Diavik project operated by Diavik Diamond Mines Inc. and production is anticipated for the year 2001. Lytton Minerals Limited also did important exploration work on the Jericho project. Most of the diamond exploration expenditures were spent in the Slave geological province.

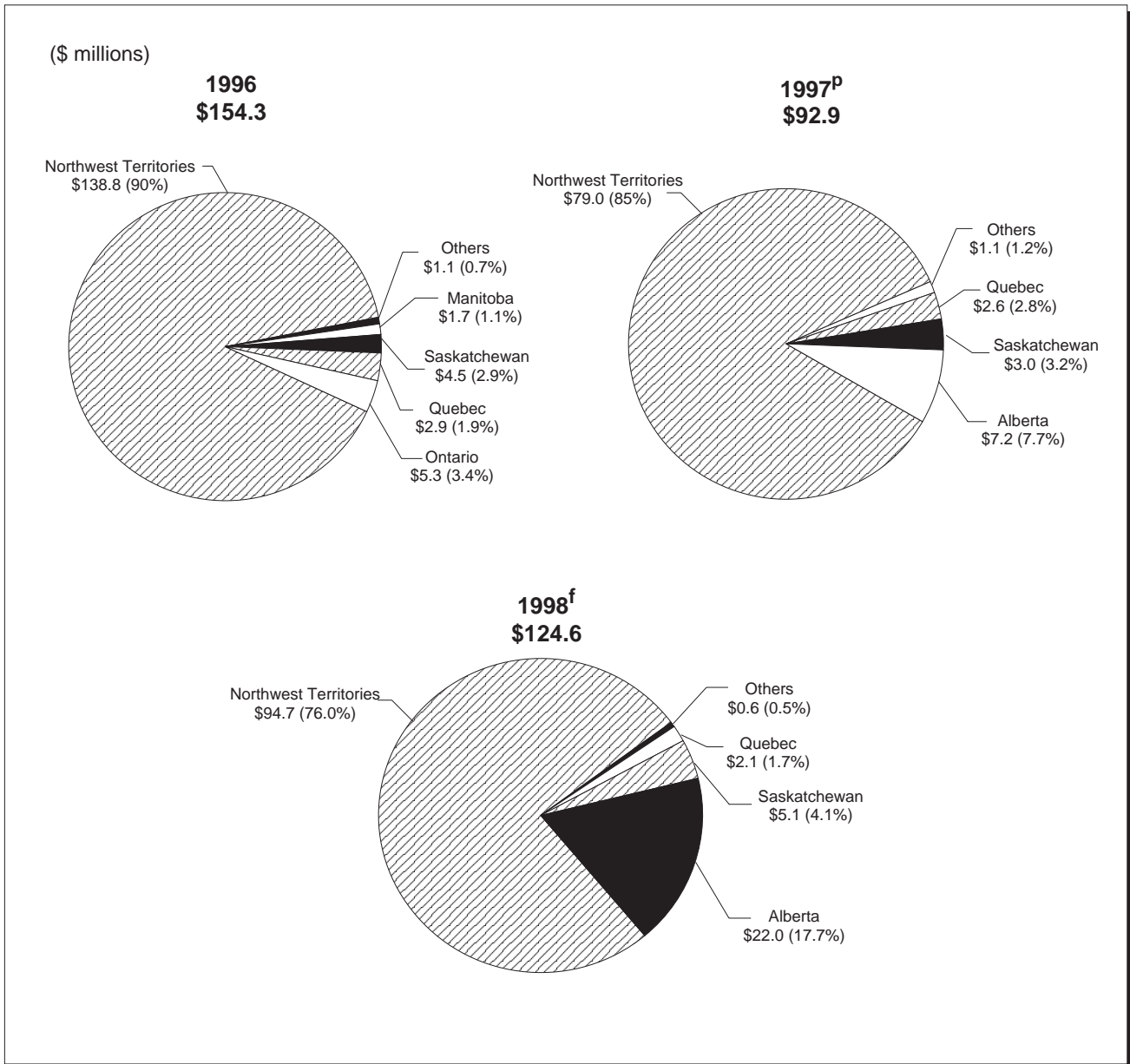
A preliminary estimate of \$93 million in 1997 and a forecast of \$125 million in 1998 show that interest in diamond exploration will continue to be strong in the near future. About 45 companies are project operators in each of those years; on average, 80% are juniors. For 1997, about 60% of the expenditures were reported by senior project operators, which is comparable to their 58% contribution in 1996; for 1998, about 70% were reported. For 1997, close to 50% of all mine-site development expenditures in the Northwest Territories has been dedicated to develop the first diamond mine in Canada, while in 1998 about 70% has been dedicated. This percentage is higher in 1998 due mainly to the shut-down of operations at the Lupin gold mine.

Exploration expenditures for diamonds were lower in 1997 in part because money spent by BHP Minerals Canada Ltd. was, to a larger extent, directed toward mine development at the Ekati project. In 1998, Diavik Diamond Mines is expected to spend a significant amount on the advanced Diavik project. Also in 1998, the Buffalo Hills and Lethbridge properties in Alberta are expected to be intensely explored by the project operators, Ashton Mining of Canada Inc. and Pure Gold Resources Inc., thus contributing to the expected \$22 million to be spent on diamond exploration in that province. Both of these companies have made interesting discoveries.

## BACKGROUND INFORMATION ON AVAILABLE STATISTICS

Natural Resources Canada (NRCan) coordinates the collection of all statistics for expenditures on general exploration (off-property), while Statistics Canada coordinates the collection of statistics for mine-site exploration (on-property). These federal agencies cooperate with the provinces and territories to assemble

**Figure 14**  
**Diamond Exploration Expenditures by Region, 1996-98**



Source: Federal-Provincial Survey of Mining and Exploration Companies.

<sup>f</sup> Forecast; <sup>P</sup> Preliminary estimate.

and publish the comprehensive national exploration statistics presented in this review. To protect the confidential data provided by respondents, only aggregate statistics are released. However, this review contains specific project information when such information has already entered the public domain.

To improve the quality of the survey, a review of the definitions used to collect information on Canadian exploration activity was recently completed by the organizations conducting the surveys. New definitions were used starting with the 1997 preliminary

estimates and 1998 forecast survey. New statistics are now available and include detailed information on feasibility studies and other more technically related costs that were previously excluded. A clearer distinction between primary exploration and deposit appraisal phases and additional information on associated environmental costs are geared to improve the monitoring of the mineral development cycle.

*Note: Information in this review was current as of March 31, 1998.*

**TABLE 1. AREA<sup>1</sup> OF NEW MINERAL CLAIMS STAKED IN CANADA, 1991-97**

	1991		1992		1993		1994		1995		1996		1997	
	(hectares)	(%)	(hectares)	(%)	(hectares)	(%)	(hectares)	(%)	(hectares)	(%)	(hectares)	(%)	(hectares)	(%)
Newfoundland	127 748	2.4	96 423	0.3	127 282	0.5	513 903	3.2	6 106 617	38.7	417 575	3.1	334 075	0.8
Nova Scotia	126 833	2.4	205 941	0.6	87 350	0.3	154 123	1.0	183 893	1.2	424 815	3.2	208 191	0.5
New Brunswick	73 136	1.4	55 104	0.2	37 616	0.1	63 680	0.4	60 464	0.4	93 760	0.7	53 760	0.1
Quebec	456 810	8.5	555 323	1.5	691 915	2.3	840 922	5.3	1 474 196	9.3	954 967	7.2	1 050 629	2.4
Ontario	317 568	5.9	497 800	1.4	426 416	1.6	734 400	4.6	668 832	4.2	903 488	6.8	855 584	1.9
Manitoba	127 935	2.4	140 379	3.8	486 148	1.8	998 435	6.3	210 460	1.3	196 900	1.5	191 330	0.4
Saskatchewan	274 242	5.1	897 315	2.4	2 257 219	8.4	1 815 997	11.5	340 881	2.2	469 040	3.5	950 253	2.2
Alberta	4 400	0.1	22 300 000	71.1	10 260 000	38.1	6 750 000	42.6	1 665 000	10.6	5 328 000	40.2	37 200 000	84.5
British Columbia	1 510 850 <sup>a</sup>	28.2	824 200 <sup>a</sup>	2.2	702 250 <sup>a</sup>	2.6	774 340	4.9	845 550	5.4	997 740	7.5	765 257	1.7
Yukon	128 081	2.4	135 854	0.4	114 817	0.4	280 171	1.8	376 844	2.4	514 483	3.9	459 507	1.0
Northwest Territories	2 213 337	41.3	7 178 000	19.6	11 812 417	43.9	2 929 482	18.5	3 839 299	24.3	2 956 017	22.3	1 953 191	4.4
Total	5 360 940	100.0	32 886 339	100.0	27 003 430	100.0	15 855 453	100.0	15 772 036	100.0	13 256 785	100.0	44 021 777	100.0

Source: Provincial and territorial mining recorders.

<sup>a</sup> Not strictly comparable to 1990 and earlier years because the total is the area of claims recorded and not the area of claims staked.<sup>1</sup> Excludes coal.

Note: Numbers may not add to totals due to rounding.

**TABLE 2. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, 1995 AND 1996, AND DRILLING ACTIVITIES BY PROVINCE AND TERRITORY, 1996**

Province/Territory	1996			1995 Total Expenditures	1996 as % of 1995 Total Expenditures	1996 Surface Drilling		
	Field Expenditures	Overhead <sup>2</sup> Expenditures	Total Expenditures			Diamond Drilling	Other Drilling	Total
	(\$ millions)				(%)	(metres)		
Newfoundland	77.4	15.2	92.5	71.1	130.1	258 591	335	258 926
Nova Scotia	5.4	1.4	6.9	2.8	242.4	13 895	1 865	15 760
New Brunswick	13.5	1.3	14.9	12.7	116.3	90 854	—	90 854
Quebec	122.3	14.9	137.2	123.4	111.2	582 622	—	582 622
Ontario	173.8	21.2	194.9	129.7	150.3	872 886	5 871	878 757
Manitoba	36.6	4.6	41.2	32.6	126.5	156 330	—	156 330
Saskatchewan	43.1	7.5	50.6	43.8	115.4	178 060	2 700	180 760
Alberta	10.2	0.7	10.8	10.6	102.4	113 151	40 724	153 875
British Columbia	90.7	14.1	104.9	79.4	132.1	354 717	72 603	427 320
Northwest Territories	162.5	32.0	194.5	172.2	113.0	327 549	16 727	344 276
Yukon Territory	41.1	4.9	46.4	39.3	118.0	91 918	12 219	104 137
Total	776.9	117.8	894.8	717.6	124.7	3 040 573	153 044	3 193 617

Source: Federal-Provincial Survey of Mining and Exploration Companies.

— Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 3. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD,<sup>2</sup> BY COMMODITY SOUGHT, 1996**

Commodity Groups	Expenditures	Percentage of Canadian Total	1996 as % of 1995 Expenditures
	(\$ millions)	(%)	(%)
Base metals <sup>3</sup>	294.5	32.9	134.8
Precious metals <sup>4</sup>	350.9	39.2	126.6
Iron ore	1.4	0.2	133.6
Uranium	30.8	3.4	110.6
Other metals	35.7	4.0	197.6
Nonmetals	166.5	18.6	104.4
Coal	14.0	1.6	115.0
Unspecified commodities	0.9	0.1	0.2
<b>Total</b>	<b>894.8</b>	<b>100.0</b>	

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses. <sup>3</sup> Includes copper, nickel, lead and zinc.

<sup>4</sup> Includes silver, gold and platinum group metals.

Note: Numbers may not add to totals due to rounding.

**TABLE 4. PERCENTAGE OF GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES DIRECTED AT THE SEARCH FOR BASE METALS AND PRECIOUS METALS, 1975-96<sup>a</sup>**

Year	Base Metals <sup>2</sup>	Precious Metals <sup>3</sup>	Total
	(%) <sup>4</sup>		
1975	63	7	70
1977	42	7	49
1979	35	12	47
1981	34	25	59
1983	42	29	71
1985	20	65	85
1986	14	76	90
1987	11	83	94
1988	13	82	95
1989	23	68	91
1990	31	60	91
1991	40	52	92
1992	47	39	86
1993	32	37	69
1994	27	41	68
1995	31	39	70
1996	33	39	72

Sources: 1975-83 compiled by Natural Resources Canada (NRCan) from individual company responses to Statistics Canada exploration questionnaires; 1985-94 compiled by NRCan from the Survey of Federal-Provincial Mining and Exploration Companies.

<sup>a</sup> Data for the years 1976, 1978, 1980, 1982 and 1984 are not available.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

<sup>2</sup> Includes nickel, copper, zinc and lead. <sup>3</sup> Includes gold, silver and platinum group metals. In recent years, gold exploration has accounted for 95% of exploration expenditures on precious metals. <sup>4</sup> Includes a pro-rated portion of expenditures for unspecified commodities.



**TABLE 5. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION EXPENDITURES, 1 INCLUDING OVERHEAD, 2 BY TYPE OF COMPANY, 1994-96**

Type of Company	1994		1995		1996	
	(\$ millions)	(% of Canadian total)	(\$ millions)	(% of Canadian total)	(\$ millions)	(% of Canadian total)
1. Producing companies (those with a producing mine in Canada and their affiliates)	381.9	60.8	407.8	56.8	500.9	56.0
2. Oil companies (excluding group 1 above)	2.0	0.3	2.3	0.3	3.3	0.4
3. Foreign companies (excluding groups 1 and 2 above)	27.6	4.4	45.7	6.4	47.7	5.3
4. Junior companies and prospectors	195.8	31.2	213.4	29.7	314.7	35.2
5. Other companies	20.9	3.3	48.4	6.8	28.0	3.1
Total	628.1	100.0	717.6	100.0	894.8	100.0

Sources: Natural Resources Canada and Statistics Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 6. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD,<sup>2</sup> BY PROVINCE AND TERRITORY, 1994-98**

Province/Territory	1994		1995		1996		1997 <sup>p</sup>		1998 <sup>f</sup>	
	(\$ millions)	(%)	(\$ millions)	(%)	(\$ millions)	(%)	(\$ millions)	(%)	(\$ millions)	(%)
Newfoundland	12.4	2.0	71.1	9.9	92.5	10.3	69.0	8.6	46.0	6.0
Nova Scotia	1.7	0.3	3.0	0.4	6.9	0.8	9.0	1.1	9.1	1.2
New Brunswick	10.0	1.6	12.7	1.8	14.8	1.7	12.2	1.5	8.4	1.1
Quebec	130.3	20.7	123.3	17.2	137.2	15.3	140.3	17.4	153.6	20.0
Ontario	113.0	18.0	129.7	18.1	194.9	21.8	173.9	21.6	132.7	17.3
Manitoba	40.5	6.5	32.6	4.5	41.2	4.6	39.3	4.9	42.1	5.5
Saskatchewan	50.6	8.1	43.8	6.1	50.6	5.7	55.5	6.9	46.2	6.0
Alberta	9.4	1.5	10.6	1.5	10.8	1.2	19.1	2.4	33.0	4.3
British Columbia	85.0	13.5	79.4	11.1	104.9	11.7	96.8	12.0	103.1	13.4
Northwest Territories	149.5	23.8	172.1	24.0	194.5	21.7	151.9	19.0	156.4	20.4
Yukon Territory	25.7	4.1	39.3	5.5	46.4	5.2	37.2	4.6	36.8	4.8
Total	628.1	100.0	717.6	100.0	894.8	100.0	804.2	100.0	767.4	100.0
General exploration	555.8	88.5	631.2	88.0	795.2	88.9	651.6	81.0	645.8	84.2
Mine-site exploration	72.3	11.5	86.4	12.0	99.6	11.1	152.6	19.0	121.5	15.8

Sources: Natural Resources Canada and Statistics Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

<sup>f</sup> Forecast; <sup>p</sup> Preliminary.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions of deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses. Statistics Canada totals for mine-site exploration have been revised to take into account additional or revised data obtained by Natural Resources Canada.

Note: Numbers may not add to totals due to rounding.

**TABLE 7. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> ACTIVITIES BY PROVINCE AND TERRITORY, BY TYPE OF WORK, 1996**

Province/Territory	Drilling (Surface and Underground)				Surveys - Other Exploration Work					Total Field Expenditures	Total, Including Overhead <sup>2</sup>	
	Diamond		Other		Geochemical	Geology	Geophysical		Rock Work			Other Field Costs
	Metres	Cost	Metres	Cost			Ground	Airborne				
	(000)	(\$000)	(000)	(\$000)			(\$000)					
Newfoundland	259	30 873	–	100	9 186	13 479	11 257	5 355	4 096	3 046	77 392	92 547
Nova Scotia	14	793	2	58	433	1 248	446	30	2 176	262	5 445	6 892
New Brunswick	93	6 582	–	–	853	2 644	2 712	9	335	318	13 455	14 791
Quebec	849	50 797	–	–	3 961	21 075	9 125	2 478	17 815	17 048	122 300	137 188
Ontario	1 199	88 596	6	705	3 703	15 555	9 251	2 574	47 891	5 474	173 750	194 926
Manitoba	243	22 814	–	–	1 529	2 546	3 250	2 350	2 924	1 196	36 609	41 249
Saskatchewan	185	18 303	14	184	1 179	4 900	4 478	1 489	9 911	2 679	43 123	50 576
Alberta	113	4 474	41	2 271	928	675	1 267	176	200	183	10 175	10 841
British Columbia	443	38 777	77	4 134	8 231	17 357	4 718	1 572	11 758	4 160	90 706	104 852
Northwest Territories	397	50 767	17	3 733	24 400	17 928	12 038	10 621	40 998	2 027	162 512	194 535
Yukon Territory	104	12 049	12	861	5 973	9 079	2 188	2 589	6 965	1 741	41 445	46 354
<b>Total Canada</b>	<b>3 898</b>	<b>324 824</b>	<b>169</b>	<b>12 047</b>	<b>60 377</b>	<b>106 485</b>	<b>60 731</b>	<b>29 244</b>	<b>145 070</b>	<b>38 134</b>	<b>776 911</b>	<b>894 751</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions of deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 8. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> ACTIVITIES BY TYPE OF COMPANY, 1996**

Type of Company	Drilling (Surface and Underground)				Surveys - Other Exploration Work					Total Field Expenditures	Total, Including Overhead <sup>2</sup>	
	Diamond		Other		Geochemical	Geology	Geophysical		Rock Work			Other Field Costs
	Metres	Cost	Metres	Cost			Ground	Airborne				
	(000)	(\$000)	(000)	(\$000)			(\$000)					
1. Companies with a producing mine in Canada	2 114	155 158	131	8 058	12 956	39 698	19 468	5 055	59 896	17 179	317 469	372 575
2. Affiliates of group 1	335	38 693	2	320	14 441	11 798	10 855	6 348	26 187	2 234	110 875	128 344
3. Oil companies	8	740	–	–	217	532	977	309	–	226	3 002	3 331
4. Foreign companies (excluding group 3)	95	10 083	4	1 088	5 303	7 612	2 126	2 171	7 457	3 312	39 153	47 742
5. Junior companies and prospectors	1 243	111 519	22	1 748	26 237	42 552	25 100	13 813	49 754	12 702	283 426	314 719
6. Other companies	103	8 630	9	832	1 224	4 292	2 205	1 547	1 776	2 481	22 985	28 040
<b>Total all classes</b>	<b>3 898</b>	<b>324 824</b>	<b>169</b>	<b>12 047</b>	<b>60 377</b>	<b>106 485</b>	<b>60 731</b>	<b>29 244</b>	<b>145 070</b>	<b>38 134</b>	<b>776 911</b>	<b>894 751</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions of deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 9a. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, NOT INCLUDING OVERHEAD,<sup>2</sup> BY PROVINCE AND TERRITORY, BY COMMODITY SOUGHT, 1996**

Province/Territory	Metals					Nonmetals	Coal	Commodity Not Specified	Total Field Expenditures
	Base	Precious	Iron	Uranium	Other				
	(\$000)								
Newfoundland	50 764	3 861	933	–	21 405	428	–	–	77 392
Nova Scotia	773	3 173	–	–	110	1 130	253	6	5 445
New Brunswick	10 977	1 900	–	–	12	532	34	–	13 455
Quebec	42 079	73 087	170	–	1 459	5 506	–	–	122 300
Ontario	62 619	104 173	–	–	1 733	5 211	–	15	173 750
Manitoba	31 847	3 008	–	–	377	1 376	–	–	36 609
Saskatchewan	8 275	6 275	–	23 168	1	5 292	30	83	43 123
Alberta	4	1 425	55	–	–	1 169	7 521	–	10 175
British Columbia	20 852	58 600	25	–	3 113	2 647	5 157	313	90 706
Northwest Territories	13 227	32 082	–	2 491	1 304	113 183	–	223	162 512
Yukon Territory	16 950	23 335	–	–	1 120	–	–	40	41 445
<b>Total Canada</b>	<b>258 368</b>	<b>310 919</b>	<b>1 183</b>	<b>25 659</b>	<b>30 634</b>	<b>136 474</b>	<b>12 994</b>	<b>679</b>	<b>776 911</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 9b. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD,<sup>2</sup> BY PROVINCE AND TERRITORY, BY COMMODITY SOUGHT, 1996**

Province/Territory	Metals					Nonmetals	Coal	Commodity Not Specified	Total, Including Overhead
	Base	Precious	Iron	Uranium	Other				
	(\$000)								
Newfoundland	60 521	4 758	967	–	25 751	549	–	–	92 547
Nova Scotia	1 052	3 730	–	–	146	1 576	382	7	6 892
New Brunswick	11 973	2 231	–	–	16	537	34	–	14 791
Quebec	47 884	80 820	284	–	1 701	6 497	–	–	137 188
Ontario	69 949	117 145	71	–	1 789	5 929	13	31	194 926
Manitoba	35 419	3 416	–	–	410	2 003	–	–	41 249
Saskatchewan	9 313	7 858	–	27 282	14	5 984	30	95	50 576
Alberta	4	1 562	55	61	–	1 309	7 849	–	10 841
British Columbia	24 364	67 779	25	–	3 205	3 328	5 729	422	104 852
Northwest Territories	14 852	35 707	7	3 441	1 443	138 816	–	269	194 535
Yukon Territory	19 204	25 849	–	–	1 261	–	–	40	46 354
<b>Total Canada</b>	<b>294 536</b>	<b>350 854</b>	<b>1 409</b>	<b>30 784</b>	<b>35 738</b>	<b>166 528</b>	<b>14 036</b>	<b>865</b>	<b>894 751</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 10a. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, NOT INCLUDING OVERHEAD,<sup>2</sup> BY TYPE OF COMPANY AND BY COMMODITY SOUGHT, 1996**

Type of Company	Metals					Nonmetals	Coal	Commodity Not Specified	Total Field Expenditures
	Base	Precious	Iron	Uranium	Other				
(\$000)									
1. Companies with a producing mine in Canada	107 571	150 778	933	23 970	1 862	19 039	12 918	396	317 469
2. Affiliates of group 1	59 639	4 577	–	–	12 534	34 126	–	–	110 875
3. Oil companies	233	2 546	–	–	–	–	–	223	3 002
4. Foreign companies (excluding group 3)	11 295	11 687	–	1 689	–	14 476	–	6	39 153
5. Junior companies and prospectors	73 335	128 652	250	–	16 020	65 039	76	54	283 426
6. Other companies	6 295	12 680	–	–	217	3 793	–	–	22 985
<b>Total all classes</b>	<b>258 369</b>	<b>310 919</b>	<b>1 183</b>	<b>25 659</b>	<b>30 634</b>	<b>136 474</b>	<b>12 994</b>	<b>679</b>	<b>776 911</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

<sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 10b. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD,<sup>2</sup> BY TYPE OF COMPANY AND BY COMMODITY SOUGHT, 1996**

Type of Company	Metals					Nonmetals	Coal	Commodity Not Specified	Total, Including Overhead
	Base	Precious	Iron	Uranium	Other				
(\$000)									
1. Companies with a producing mine in Canada	120 182	166 737	1 038	28 654	2 133	39 571	13 744	518	372 575
2. Affiliates of group 1	70 399	7 055	–	–	15 572	35 317	–	–	128 344
3. Oil companies	233	2 650	–	–	–	–	179	269	3 331
4. Foreign companies (excluding group 3)	13 297	14 353	–	2 130	–	17 954	–	7	47 742
5. Junior companies and prospectors	82 782	144 502	372	–	17 749	69 130	113	72	314 719
6. Other companies	7 642	15 558	–	–	284	4 557	–	–	28 040
<b>Total all classes</b>	<b>294 536</b>	<b>350 854</b>	<b>1 409</b>	<b>30 784</b>	<b>35 738</b>	<b>166 528</b>	<b>14 036</b>	<b>865</b>	<b>894 751</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

<sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 11. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION,<sup>1</sup> SURFACE AND UNDERGROUND DRILLING, BY PROVINCE AND TERRITORY, BY COMMODITY SOUGHT, 1996**

Province/Territory	Metals					Nonmetals	Coal	Total
	Base	Precious	Iron	Uranium	Other			
	(000 metres)							
Newfoundland	166	12	5	–	75	1	–	259
Nova Scotia	1	4	–	–	–	9	–	16
New Brunswick	76	16	–	–	–	1	–	93
Quebec	270	537	–	–	10	31	–	849
Ontario	273	909	–	–	10	13	–	1 205
Manitoba	214	28	–	–	–	–	–	243
Saskatchewan	46	48	–	89	–	13	3	199
Alberta	–	2	–	–	–	2	149	154
British Columbia	105	331	–	–	21	4	58	520
Northwest Territories	32	168	–	6	5	203	–	414
Yukon Territory	42	71	–	–	3	–	–	116
<b>Total Canada</b>	<b>1 225</b>	<b>2 127</b>	<b>6</b>	<b>95</b>	<b>125</b>	<b>278</b>	<b>210</b>	<b>4 067</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

Note: Numbers may not add to totals due to rounding.

**TABLE 12. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION,<sup>1</sup> SURFACE AND UNDERGROUND DRILLING, BY TYPE OF COMPANY AND BY COMMODITY SOUGHT, 1996**

Type of Company	Metals					Nonmetals	Coal	Total
	Base	Precious	Iron	Uranium	Other			
	(000 metres)							
1. Companies with a producing mine in Canada	672	1 215	5	87	4	53	210	2 245
2. Affiliates of group 1	182	33	–	–	42	80	–	337
3. Oil companies	–	8	–	–	–	–	–	8
4. Foreign companies (excluding group 3)	14	68	–	8	–	9	–	99
5. Junior companies and prospectors	325	733	1	–	79	128	–	1 265
6. Other companies	32	71	–	–	–	9	–	112
<b>Total all classes</b>	<b>1 225</b>	<b>2 127</b>	<b>6</b>	<b>95</b>	<b>125</b>	<b>278</b>	<b>210</b>	<b>4 067</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

– Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production.

Note: Numbers may not add to totals due to rounding.

**TABLE 13a. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, NOT INCLUDING OVERHEAD,<sup>2</sup> BY PROVINCE AND TERRITORY, BY TYPE OF COMPANY, 1996**

Province/Territory	(1) Companies With a Producing Mine in Canada	(2) Affiliates of (1)	(3) Oil Companies	(4) Foreign Companies Excluding (3)	(5) Junior Companies and Prospectors	(6) Other Companies	Total Field Expenditures
(\$000)							
Newfoundland	8 351	37 516	—	519	30 532	474	77 392
Nova Scotia	1 115	—	—	146	4 155	28	5 445
New Brunswick	8 694	782	—	31	3 936	13	13 455
Quebec	71 051	1 511	—	5 409	35 163	9 166	122 300
Ontario	88 119	19 312	60	13 892	46 673	5 695	173 750
Manitoba	20 405	10 131	—	1 431	2 998	1 643	36 609
Saskatchewan	30 273	3 268	—	1 694	7 889	—	43 123
Alberta	7 814	675	—	200	1 486	—	10 175
British Columbia	34 454	2 512	1	2 128	48 064	3 547	90 706
Northwest Territories	36 504	34 446	2 941	13 351	74 675	594	162 512
Yukon Territory	10 688	723	—	355	27 854	1 825	41 445
<b>Total Canada</b>	<b>317 469</b>	<b>110 875</b>	<b>3 002</b>	<b>39 153</b>	<b>283 426</b>	<b>22 985</b>	<b>776 911</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

— Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.

**TABLE 13b. GENERAL EXPLORATION PLUS MINE-SITE EXPLORATION<sup>1</sup> EXPENDITURES, INCLUDING OVERHEAD,<sup>2</sup> BY PROVINCE AND TERRITORY, BY TYPE OF COMPANY, 1996**

Province/Territory	(1) Companies With a Producing Mine in Canada	(2) Affiliates of (1)	(3) Oil Companies	(4) Foreign Companies Excluding (3)	(5) Junior Companies and Prospectors	(6) Other Companies	Total, Including Overhead
(\$000)							
Newfoundland	9 382	46 604	—	675	35 297	589	92 547
Nova Scotia	1 614	—	—	220	5 006	52	6 892
New Brunswick	9 101	1 037	—	39	4 589	24	14 791
Quebec	78 294	1 828	—	6 333	39 285	11 448	137 188
Ontario	97 841	22 952	74	16 804	51 199	6 057	194 926
Manitoba	23 123	11 118	—	1 891	3 196	1 920	41 249
Saskatchewan	36 228	3 646	—	2 136	8 567	—	50 576
Alberta	8 307	691	—	200	1 642	—	10 841
British Columbia	38 272	3 526	186	3 011	54 822	5 035	104 852
Northwest Territories	57 938	36 026	3 071	15 962	80 792	745	194 535
Yukon Territory	12 474	915	—	472	30 324	2 169	46 354
<b>Total Canada</b>	<b>372 575</b>	<b>128 344</b>	<b>3 331</b>	<b>47 742</b>	<b>314 719</b>	<b>28 040</b>	<b>894 751</b>

Source: Natural Resources Canada, based on the Federal-Provincial Survey of Mining and Exploration Companies.

— Nil.

<sup>1</sup> Exploration activity includes only the search for new mines; it does not include exploration for extensions to deposits already being mined or committed to production. <sup>2</sup> Overhead expenditures include land costs, field administration costs and exploration-related head office expenses.

Note: Numbers may not add to totals due to rounding.