



**Results of a survey to determine employment
generated by the mineral exploration industry in
Newfoundland and Labrador in 2007.**

**Mineral Development Division
Mines Branch
Department of Natural Resources
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Introduction

For the past several years the Mineral Development Division has used a figure of 120 to 170 person years to approximate the amount of employment generated by the mineral exploration industry in Newfoundland and Labrador. Mineral exploration expenditures in this province have demonstrated a considerable increase in recent years. In 2004, these expenditures stood at \$CDN 33 Million. Each subsequent year has seen increases in money spent on mineral exploration with the 2007 total estimated at \$CDN148 Million.

A decision was taken at a meeting of the Mineral Industry Analysis section during December, 2007 to canvass mineral exploration companies operating in Newfoundland and Labrador in an effort to establish employment levels generated by the sector.

The survey did not include exploration work performed by mineral producing entities. Operating mineral projects generally have an exploration component to aid company management in mining and production planning. This *mining* employment is captured in the figures reported by these operating companies on an ongoing basis. This survey focused on *pure exploration* employment; companies involved solely in exploration were the target of the survey.

Companies Database

The Mineral Claims Recorder's office of the Mineral Lands Division maintains a database of active exploration companies in Newfoundland and Labrador. This list was used as the starting point for the survey. Companies appearing on this list are those that have claims in good standing in the province. Having claims in good standing however does not necessarily mean that employment has been generated in any given year on these claims.

Jim Hinchey, Manager of Mineral Rights and Phil Saunders, Mineral Rights Geologist both of the Mineral Lands Division participated in culling the database to exclude companies that did not perform work on their claims in 2007.

Jim Hinchey and Phil Saunders were able to do this confidently given their daily association with the companies and prospectors that operate exploration programs in NL. This was a time-saving exercise as it removed the need to contact companies that Jim and Phil were able to identify in this manner. The companies so identified were not removed from the list altogether but were indicated with a strikethrough (~~strikethrough~~) and assigned values of zero for the purpose of the survey.

Method

A one page survey was designed in which respondents were asked to indicate the number of employees or contractors that had worked for them during 2007 and to estimate the average number of weeks that these employees/contractors worked during the year. The survey separated employees/contractors into eight separate categories and respondents were asked to provide information for each category. (Copies of the survey and cover letter are included in Appendix A.)

It was made clear that when answering the questions, respondents should consider only the properties on which their company was the operator. This would eliminate any double counting in a case where a program might have been operated as a joint venture between two or more companies.

The person years of employment generated by each employee category was calculated by multiplying the number of employees in that category by the average number of weeks worked per employee for that category and dividing the result by 52. The total person years for each company were calculated by adding the person years for each employee category. The survey was delivered to all companies in the database that had not been culled as explained in the “Companies Database” section of this report. A cover letter was included to explain the rationale for the survey.

Individual companies were contacted by fax, e-mail, and/or telephone. In 4 cases contact proved unsuccessful as phone numbers were disconnected or companies had become defunct or simply did not respond; multiple attempts were made to contact such companies.

There were 116 companies in the database. Thirty eight companies were assigned a value of zero based on discussions with the Mineral Claims Recorders office as explained in the “Companies Database” section of this report. Responses were received from all but 15 of the remaining 78 companies (including the 4 mentioned above that were unable to be contacted). Data was successfully obtained for all of the larger programs. The five largest programs respectively created 54, 25, 31, 20, and 20 person years of employment in 2007. The remaining companies that responded to the survey created employment ranging from 0.15 to 18 person years.

The question arose of how to deal with the companies from which no responses were elicited. It was decided to remove the obviously large programs (greater than 10 person years) and calculate an average figure for those that remained. This average number was then assigned to the 15 companies from which no response was received. This exercise resulted in the companies that did not respond being assigned a value of 0.99 person years. The total employment estimated for these 15 companies was $0.99 \times 15 = 14.85$ person years. This figure has been rounded to 15 person years in the table on page 3.

Results and Discussion

A considerable increase in mineral exploration expenditures in this province since 2004 prompted the Mineral Industry Analysis section to investigate the effects of these increased expenditures on employment levels in the sector. The estimates used since 2004 was 120 - 170 person years. The recently completed survey finds that employment generated by mineral exploration during 2007 was 341 person years. This is an increase of 100% over the 170 person years that had been estimated for 2006.

Caution should be exercised in comparing the results of this survey with previous years as data had not been gathered with systematic effort since the early 1990's. The table below provides a breakdown of exploration employment across the eight categories used in the 2007 survey. The estimated employment for the 15 companies that did not respond is listed separately in the table.

Employee or Contractor Category	Person Years of Employment in 2007
Administrative	56
Field Crews	116
Line Cutting and Surveying Contractors	9
Drilling and Trenching Contractors	73
Air Support Contractors	16
Geophysical Contractors	19
Catering Contractors	3
Other Employees or Contractors	34
<i>Subtotal</i>	326
Employment estimated for non-respondents	15
<i>Total</i>	341

Conclusion

The result of this survey indicates that employment generated in the exploration sector in 2007 amounted to about 10% of (forecasted) employment generated by producing properties in NL for the same period. For comparison purposes, this figure (341 person years) is approaching the annual employment generated by two operations on the scale of the Duck Pond Mine.

Employment generated by the Field Crew category is of particular interest as it represents about 34% of the total employment presented in the table above. Many provincial prospectors could be expected to form a substantial component of employees in this category. This result emphasizes the importance of the prospectors training program to the mineral exploration industry in NL.

Reliable results have been generated for 87% of companies in the database. Data for the remaining 13% of companies was estimated as explained in the "Method" section of this report. The Mineral Development Division is satisfied that this figure of 341 person years is an acceptable estimate of employment generated by the mineral exploration industry in Newfoundland and Labrador during 2007.

The Multiplier Effect

Indirect and induced employment brought about by mineral exploration activity could also be significant. Information supplied to the Mineral Development Division by the Economic and Statistics Branch of the Department of Finance provides employment multipliers for five sub-sectors of the mining industry. The average employment multiplier for these five sub-sectors is 2.22. This indicates that for each direct job created in mining related activities a further 1.22 jobs could be created through indirect and induced employment. In addition to the 341 direct person years created by the provincial mineral exploration industry a further 416 ($341 * 1.22$) indirect person years are likely created. Appendix B contains a table of employment multipliers for the mining industry.

Appendix A

Sample Survey and Cover Letter

April 28th , 2008

Dear Sir / Madam;

Your company appears on our list of exploration companies that were active in NL during 2007. The Mineral Development Division, Department of Natural Resources is currently undertaking a new initiative to obtain improved employment data on the mineral exploration industry in NL. This effort will help determine the total contribution of the industry to this province and also provide valuable statistics in support of the Mineral Incentive Program. Please note that we are looking for **best estimates** on this form; it is not intended to be a time consuming task. A response by May 2nd , 2008 would be appreciated.

Please fill out the attached form and return it to Brad Way by fax at 709-729-3493 or email; bradway@gov.nl.ca.

It is only with your ongoing cooperation that reliable employment statistics can be compiled for the mineral exploration industry in Newfoundland and Labrador. Please note that only summary totals are used in departmental publications and individual company information is considered to be confidential.

Please call Brad Way (709-729-1582) or Gord Button (709-729-5830) should any questions arise regarding this survey.

Regards;

Brad Way / Gord Button
Mineral Industry Analysts
Mineral Development Division
Department of Natural Resources

Department of Natural Resources, Mineral Development Division
 Employment survey of the mineral exploration industry in Newfoundland and Labrador

Company Name

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* This survey asks you to estimate the average number of weeks that employees in each category **worked for your company on properties in NL for which your company is the operator**. If you have contracted workers out to other companies please do not include that portion of their total employment here. This number is central to the survey so the following example is included as an explanation:

* **Example:** Your company employed a **field crew** of 7 people working on **your properties** in NL during 2007. You estimate that two of these employees worked for 15 weeks, three of these employees worked for 5 weeks and the other two employees worked for 2 weeks.

So: Total weeks worked is:

2 employees @ 15 weeks = 30 weeks

3 employees @ 5 weeks = 15 weeks

2 employees @ 2 weeks = 4 weeks

Since there was 7 employees in this category (field crew) the average number of weeks worked is:

30 weeks + 15 weeks + 4 weeks divided by 7 employees = $49 / 7 = 7$ **weeks on average**.

Administrative Employees	Number
Enter the number of administrative employees that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Field Crews	Number
Enter the number of field crew employees that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Line Cutting / Surveying Contractors	Number
Enter the number of line cutting/surveying employees that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Drilling and Trenching Contractors	Number
Enter the no. of drill and trenching contractor employees that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Air Support Contractors	Number
Enter the number of air support contractor employees that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Geophysical Contractors	Number
Enter the number of geophysical contractor employees that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Catering Contractors	Number
Enter the number of catering contractor employees that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Other Employees or Contractors	Number
Enter the no. of employees/contractors in other categories that worked for your company in NL during 2007	
Estimate the average number of weeks that these employees worked for you in NL during 2007	

Please fax or e-mail this page to Brad Way: Fax: 709-729-3493 e-mail: bradway@gov.nl.ca

Appendix B

Statistics Canada Mining Employment Multipliers

Employment Multipliers for Selected Mining Industries*

	<u>Direct Employment</u>	<u>Indirect Employment</u>	<u>Induced Employment</u>	<u>Total Employment</u>
Iron Ore Mining	1	0.678	0.803	2.481
Gold and Silver Ore Mining	1	0.345	0.704	2.049
Stone Mining and Quarrying	1	0.597	0.779	2.376
Sand, Gravel, Clay, and Ceramic and Refractory Minerals Mining and Quarrying	1	0.611	0.783	2.395
Miscellaneous Non-Metallic Mineral Mining and Quarrying	1	0.144	0.643	1.787

**Based on average of 1997-2001 multipliers from Statistics Canada's Input Output Tables*

Employment multipliers in this table are from Statistics Canada's input output tables. The information is current to 2001. These tables have been updated to 2004 but the information remains confidential.