

Professional Engineers and Geoscientists of
Newfoundland and Labrador



**Geoscientist Salary Survey
2009**

Prepared by:



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1.0 Study Background and Methodology

During the Spring of 2009, MarketQuest Research conducted the 2009 Geoscientist Salary Survey on behalf of the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL). For this study, a census was conducted of resident members, including Professional Geoscientists (P.Geo) and Geoscientists-in-Training (GIT)¹. To ensure the sample is representative of the population, data was weighted by discipline, designation and gender for analysis at the overall level. The last salary survey was conducted in 2006 via a telephone survey. Comparisons between data for 2006 and 2009 are made for salary by membership status, gender and sector of employment.

To identify differences between 2006 and 2009 data, statistical tests of significance have been completed at the 95% confidence level. Essentially, when comparing two values obtained from different populations, a statistical test will guide us to be confident that any apparent difference between the values is statistically *real* or *significant*.² Throughout this report, significant differences between 2006 and 2009 are shaded within the tables. Where this occurs, we can say that we are 95% confident that the difference between the values in question exists in the population and is not simply due to uncontrollable sampling error. It is important to note that the term 'significant' is used to denote *statistically significant* differences, and it is not synonymous with 'important'.

A telephone survey was completed with a total of 105 members who are employed full-time, or at least 30 hours per week. However, 10 completed surveys were removed from analysis because the respondent did not report salary. To minimize the effect of outliers on salary statistics, a formula was used to determine an upper cut-off for base salary.³ The upper cut-off salary was \$245,000. This process resulted in the exclusion of 1 completed survey.

The margin of error for this study is $\pm\$4,857$, 19 times out of 20 or at the 95% confidence level⁴. Margin of error, or the level of precision, refers to the range, above or below the sample-based value, in which the true population value is estimated to fall.

¹ The census resulted in a response rate of 56%.

² What may seem to be a difference between percentages may simply be the result of sampling error or the margin of error associated with the sample size, and not a real or significant difference in the population.

³ Upper cut off = Upper quartile + (3 x Inter-quartile range). Lower cut off = Lower quartile – (3 x Inter-quartile range). Inter-quartile range = Upper quartile – Lower Quartile. The lower cut off was negative in magnitude and thus did not apply.

⁴ Margin of error was determined based on the formula: $n = (Z^2 s^2) / (C^2 + Z^2 s^2 / N - 1)$, where: n=sample size; s=standard deviation; C = confidence interval or margin of error; Z=1.96 or 95% confidence level; and N=population size.

Explanatory Notes:

1. **Salary** refers to base salary excluding bonuses and overtime for full-time employees who work 30 or more hours per week.
2. The **mean** refers to the numerical average.
3. The **median** refers to the midpoint of the distribution – 50% of salaries fell above the median and 50% fell below it.
4. **Upper Quartile** – 25% of salaries fell above this point and 75% were below it. **Lower Quartile** – 75% of salaries fell above this point and 25% were below it.
5. Greater consideration should be given to the median than to the mean when sample sizes are small. Medians are less likely to be influenced by a few very low or very high salaries.

It is important to note that while the overall sample size provides an acceptable margin of error, the format of the survey resulted in low sample sizes throughout specific sections of the study. Findings should be interpreted with caution for instances where sample sizes are less than 30.

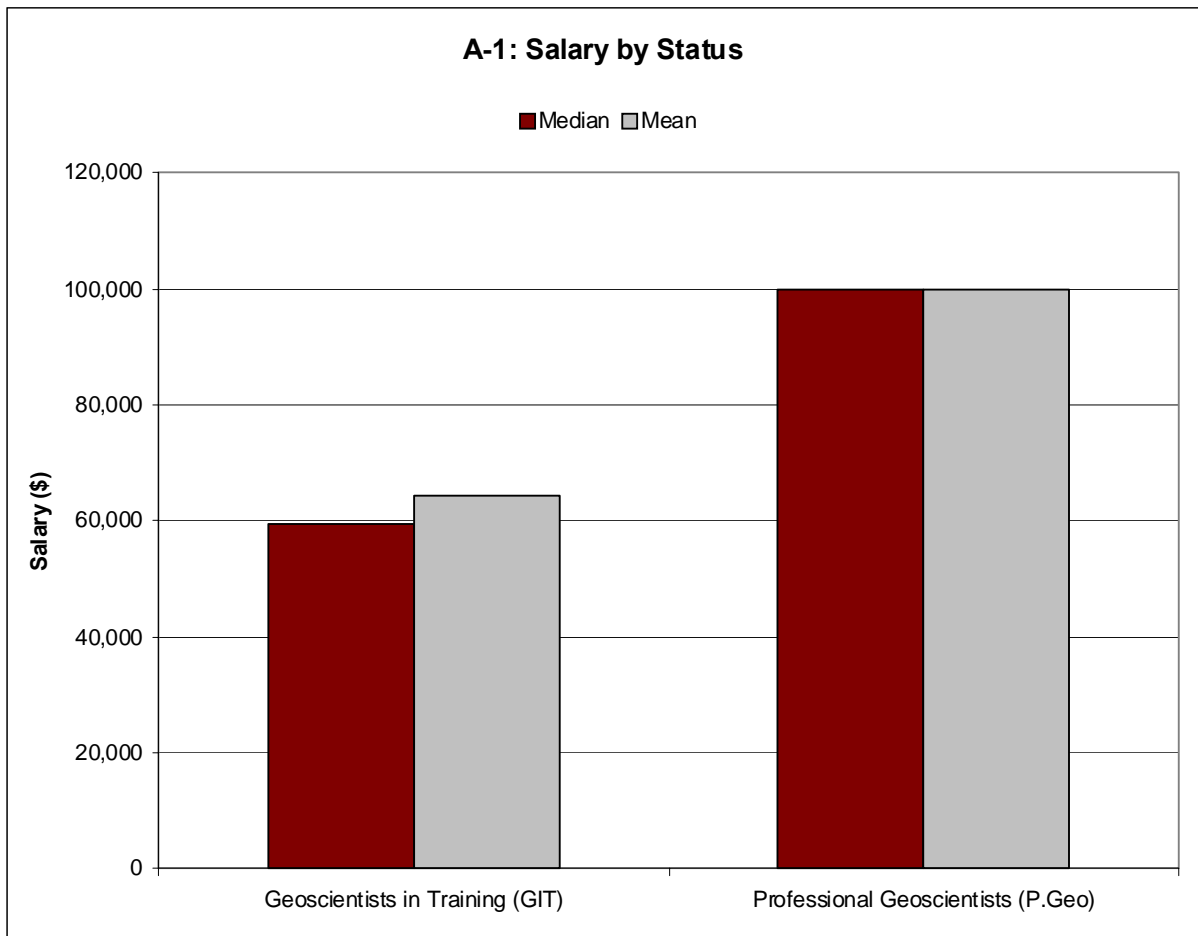
2.0 Survey Results

2.1. BASE SALARY

Salary⁵

	Mean	Median	Lower Quartile	Upper Quartile
PEGNL	\$92,873	\$88,000	\$65,000	\$110,000

Salary by Membership Status



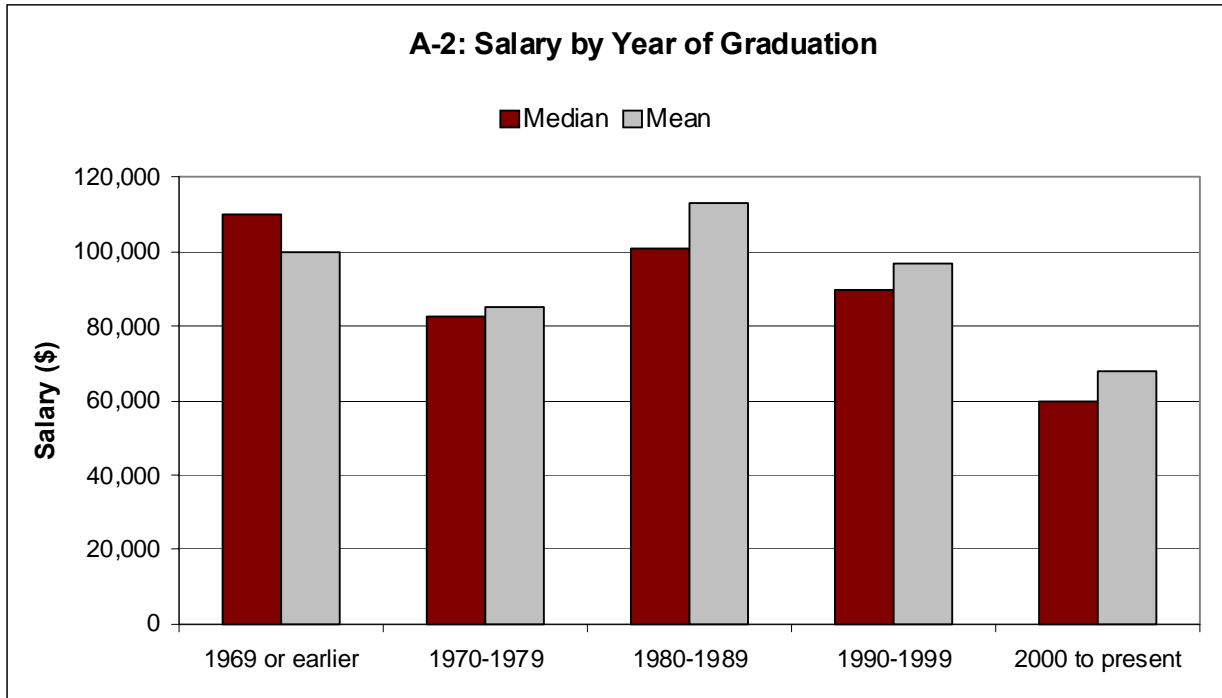
⁵ Includes both Professional Geoscientists and Geoscientists-in-Training.

Salary by Membership Status: Comparison Between 2006 and 2009⁶

Year	Status	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
2009	Geoscientist-in-Training (GIT)	19	\$64,403	\$59,300	\$57,109	\$69,907
	Professional Geoscientist (P. Geo)	75	\$99,773	\$100,000	\$77,906	\$120,000
2006	Geoscientist-in-Training (GIT)	10	\$45,139	\$49,000	\$29,398	\$57,498
	Professional Geoscientist (P. Geo)	71	\$84,231	\$80,000	\$60,072	\$100,000

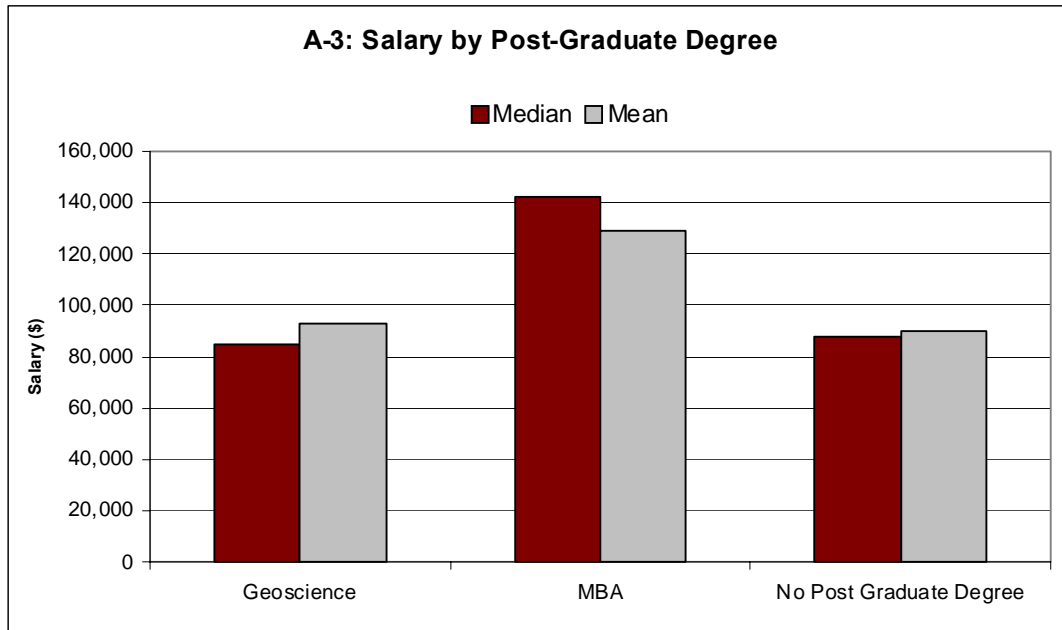
⁶ Shading indicates significant differences between 2006 and 2009 for the mean and/or median salaries.

Salary by Year of Graduation



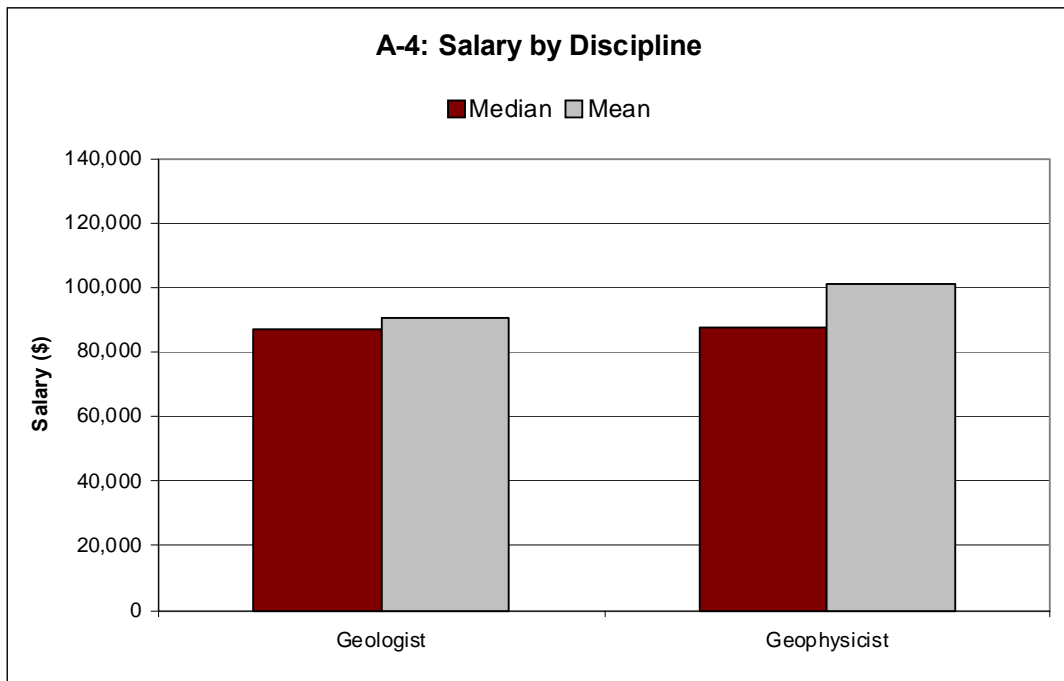
Graduation Year	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
1969 or earlier	3	\$100,000	\$110,000	\$70,000	\$120,000
1970-1979	22	\$84,943	\$82,642	\$65,000	\$108,000
1980-1989	28	\$113,063	\$101,067	\$93,653	\$129,527
1990-1999	21	\$97,087	\$89,695	\$68,605	\$124,122
2000 to present	20	\$67,858	\$60,000	\$58,537	\$80,000

Salary by Post-Graduate Studies



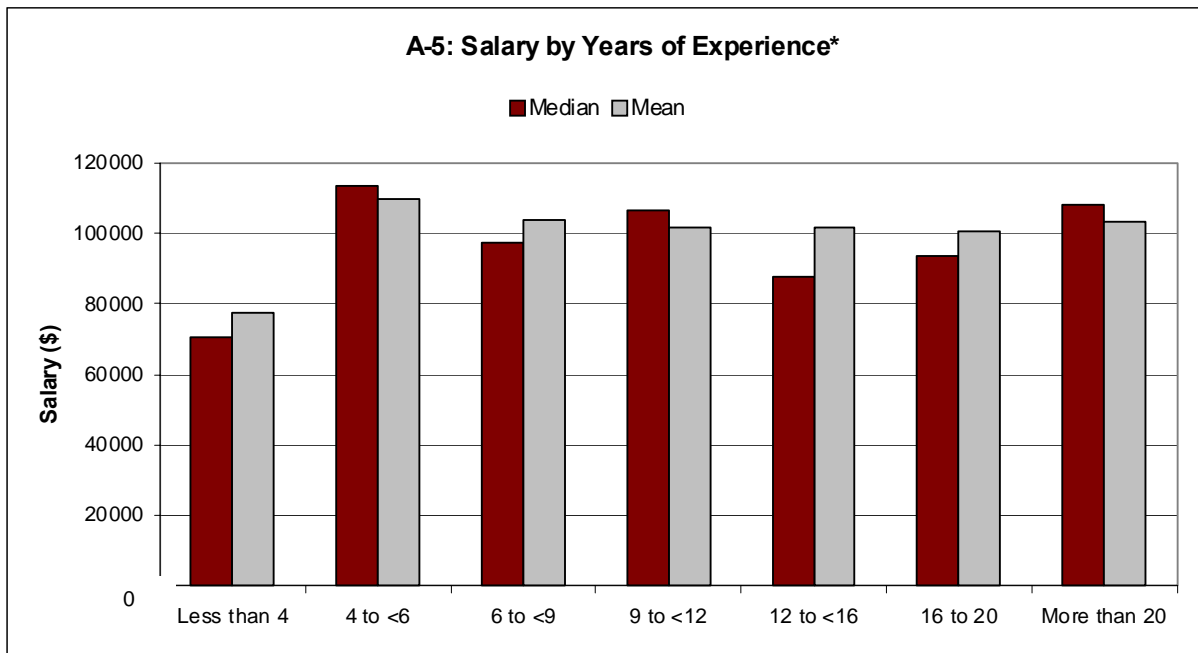
	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
Post-Graduate Degree	39	\$96,477	\$85,164	\$65,516	\$120,000
No Post Graduate Degree	55	\$90,320	\$88,213	\$63,579	\$110,000
Post Graduate Degree					
Geoscience	29	\$92,836	\$85,000	\$63,637	\$115,574
MBA	4	\$129,000	\$142,500	\$87,000	\$157,500
Other	6	\$90,868	\$82,846	\$67,271	\$117,270

Salary by Discipline



Discipline	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
Geologist	77	\$90,933	\$87,132	\$65,000	\$110,000
Geophysicist	11	\$101,021	\$87,806	\$60,633	\$130,000
Other	6	\$107,928	\$109,845	\$62,740	\$152,211

Salary by Years of Experience⁷



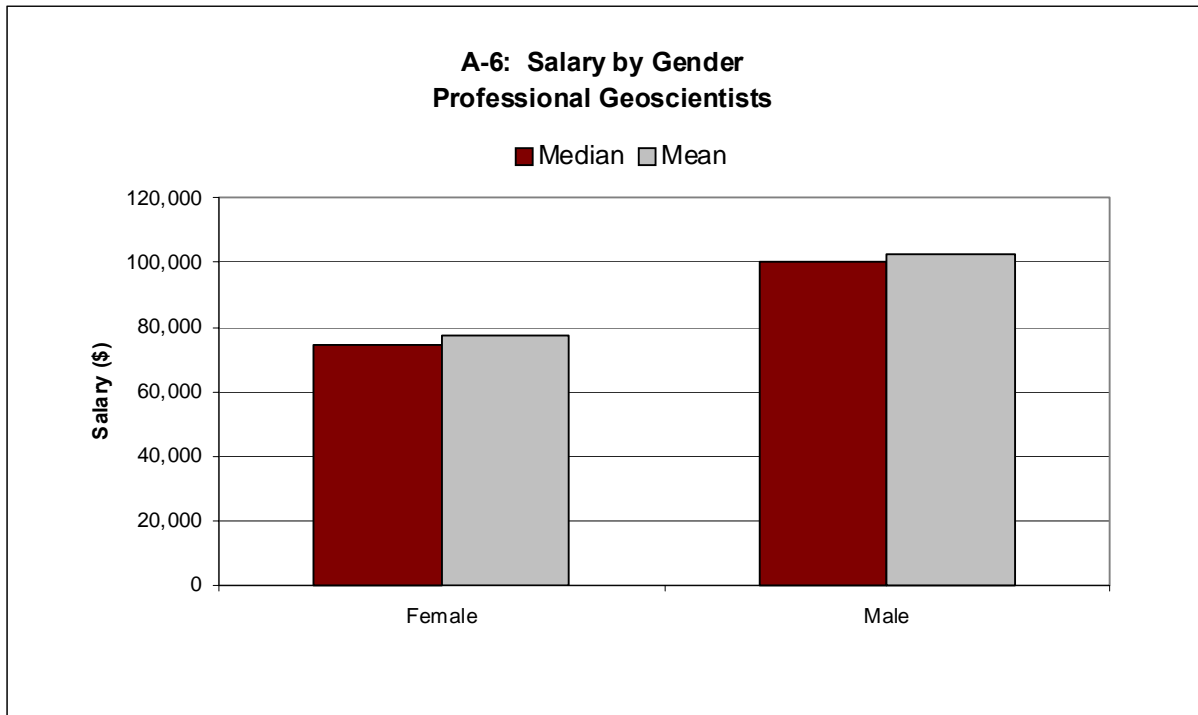
* Years of full time work experience since receiving professional designation.

Professional Geoscientists (P. Geo)

Years of Experience	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
Less than 4 years	9	\$77,703	\$70,572	\$60,443	\$93,275
4 to <6 years	6	\$109,925	\$113,483	\$83,659	\$134,092
6 to <9 years	8	\$104,008	\$97,551	\$87,272	\$120,000
9 to <12 years	9	\$101,647	\$106,411	\$78,564	\$123,192
12 to <16 years	13	\$101,789	\$87,881	\$67,401	\$122,718
16 to 20 years	10	\$100,708	\$93,531	\$75,908	\$111,438
More than 20 years	20	\$103,359	\$108,079	\$82,594	\$120,000

⁷ Analysis of salary by years of experience was not conducted for GITs due to the small sample size.

Salary by Gender^{8,9}



Professional Geoscientists (P. Geo)¹⁰

Year	Gender	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
2009	Male	65	\$102,553	\$100,000	\$80,000	\$120,000
	Female	10	\$77,223	\$74,455	\$59,575	\$93,468
2006	Male	62	\$86,271	\$80,000	\$62,000	\$100,000
	Female	9	\$68,223	\$61,758	\$50,000	\$86,282

⁸ Analysis of salary by gender was not conducted for GITs due to the small sample size.

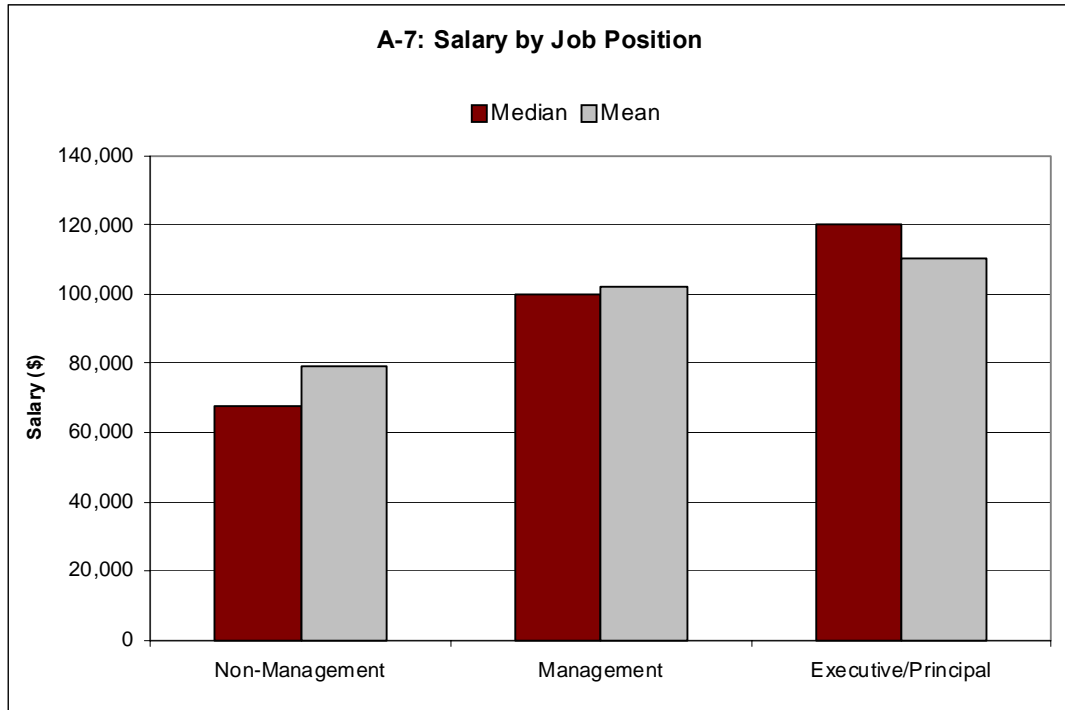
⁹ Gender differences in salary may be attributable to differences in years of experience.

¹⁰ Shading indicates significant differences between 2006 and 2009 for the mean and/or median salaries.

Professional Geoscientists (P. Geo): Gender by Years of Experience

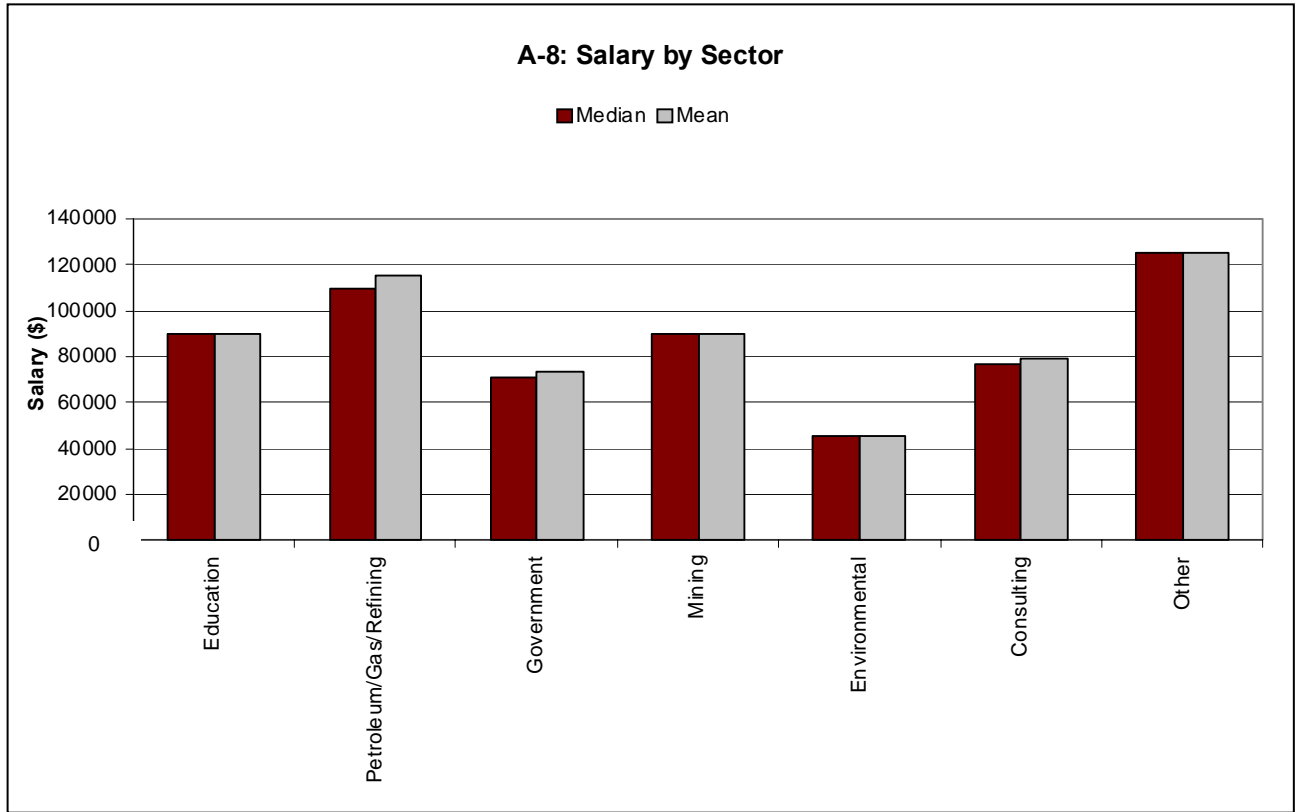
Gender	# of Respondents	Years of Experience									
		< 1	1 -< 2	2 -<4	4 -< 6	6 -< 9	9 - < 12	12 -<16	16 - <20	<20	Don't Know
Male	65	2%	-	6%	9%	11%	12%	17%	15%	28%	-
Female	10	30%	10%	10%	-	10%	10%	20%	-	10%	-

Salary by Job Position



Discipline	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
Non-Management	44	\$79,218	\$67,894	\$59,300	\$93,187
Management	40	\$101,965	\$100,000	\$80,914	\$110,000
Executive/Principal	10	\$110,522	\$120,000	\$94,293	\$120,826
Other	1	\$186,000	\$186,000	\$186,000	\$186,000

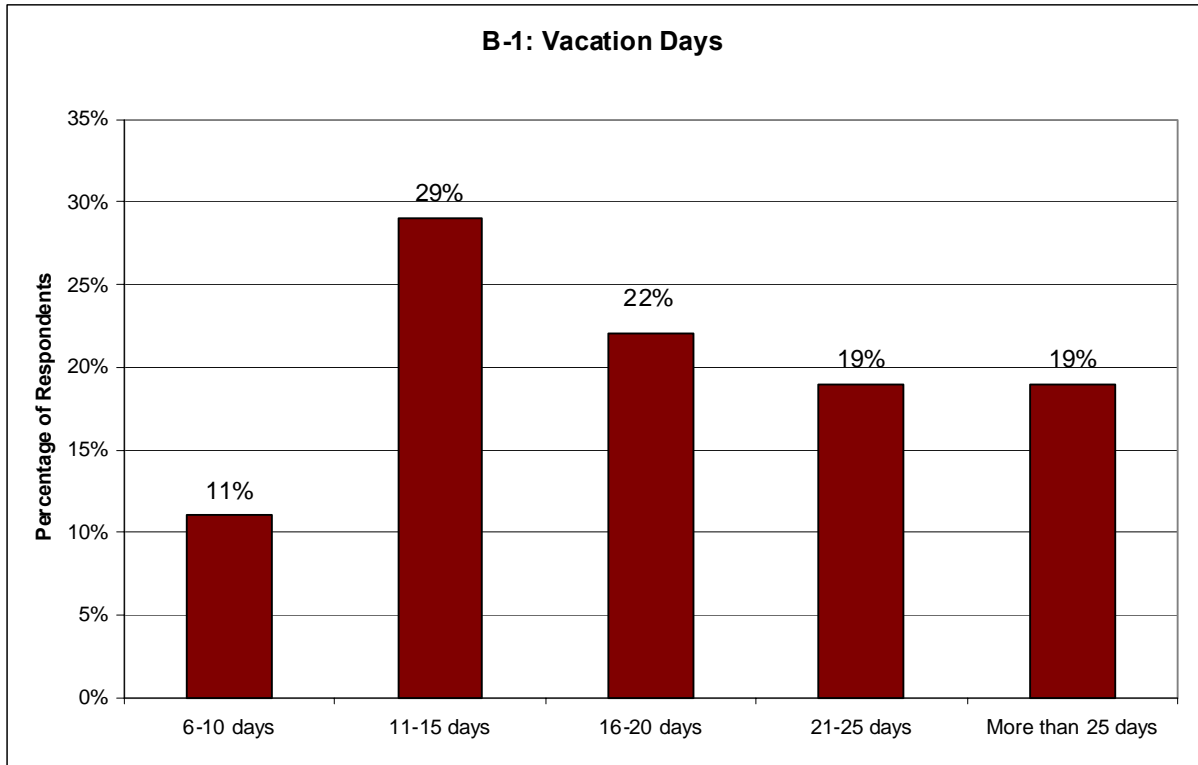
Salary by Sector of Employment



Sector	2009					2006				
	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile	# of Respondents	Mean	Median	Lower Quartile	Upper Quartile
Education	2	\$89,500	\$89,500	\$71,000	-	6	\$78,713	\$90,375	\$30,000	\$113,750
Petroleum/ Gas/Refining	25	\$115,470	\$110,036	\$76,922	\$149,488	25	\$94,541	\$95,000	\$68,203	\$120,825
Government	15	\$73,233	\$70,780	\$63,000	\$82,506	12	\$62,185	\$60,085	\$56,844	\$73,427
Mining	39	\$90,038	\$90,000	\$66,417	\$103,720	27	\$74,228	\$71,250	\$57,938	\$89,000
Environmental	1	\$45,000	\$45,000	\$45,000	\$45,000	3	\$58,382	\$50,000	\$41,750	\$85,208
Consulting	11	\$79,018	\$76,447	\$58,364	\$102,244	6	\$74,000	\$70,000	\$58,010	\$90,938
Other	1	\$125,000	\$125,000	\$125,000	\$125,000	2	\$72,500	\$73,438	\$50,000	\$95,000

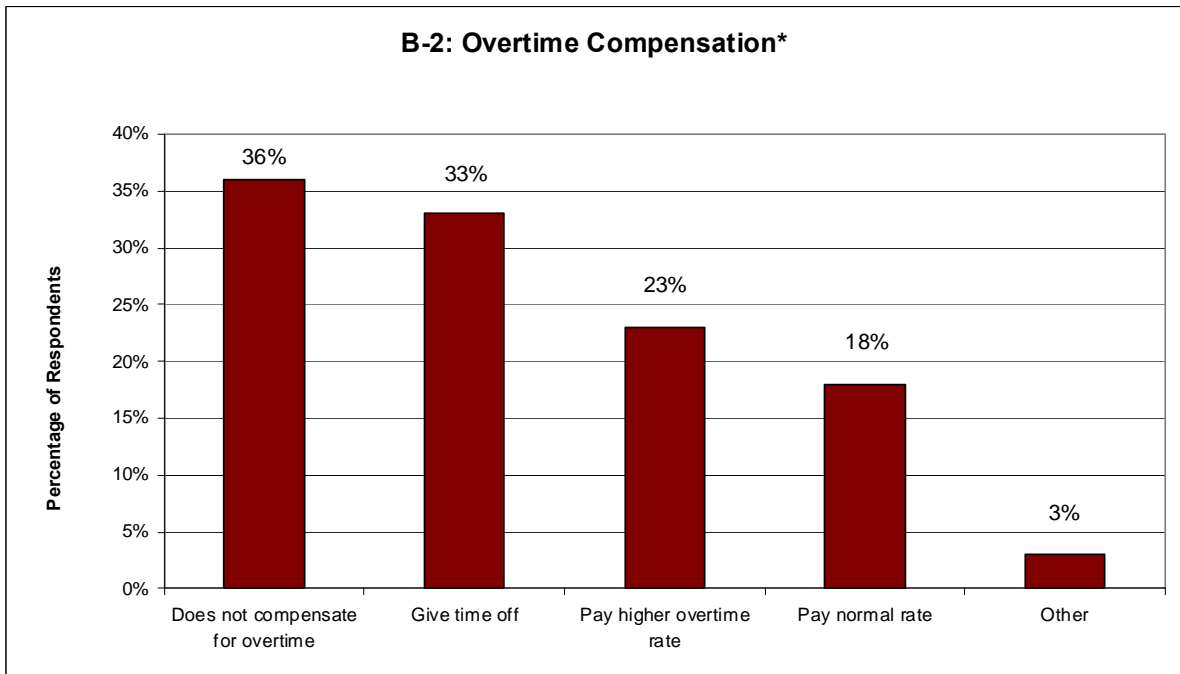
2.2 BENEFITS AND OTHER REMUNERATION

Vacation Days¹¹



¹¹ Respondents reporting “Don’t Know” were excluded from analysis.

Overtime Compensation



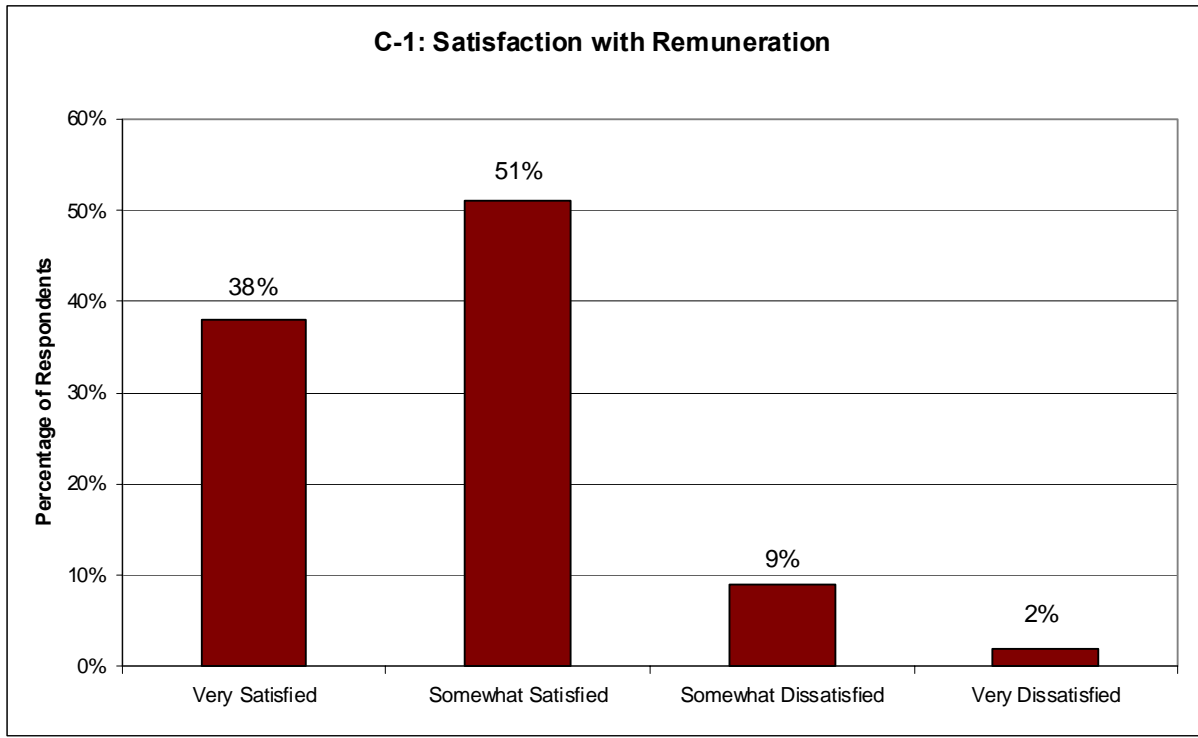
*Multiple responses allowed.

Benefits¹²

Benefit	Provided/ Cost Shared	Provided/ Not Cost Shared	Not Provided
Pension Plan or RRSP Contribution	64%	10%	26%
Health Plan	56%	27%	18%
Dental Plan	52%	26%	21%
Life Insurance	52%	28%	19%
Disability Insurance	46%	28%	26%
Continuing Education or Training	26%	62%	12%
Stock Purchase Plan	8%	22%	70%
Profit Sharing	9%	15%	76%
Payment of Professional Fees	15%	51%	34%

¹² Respondents reporting "Don't Know" were excluded from analysis.

2.3 OVERALL SATISFACTION WITH REMUNERATION



Appendix: Questionnaire



**Professional Engineers and Geoscientists of NL
Geoscientist Salary Survey 2009**

Hello, may I please speak with _____?

My name is _____ and I am calling from MarketQuest Research, a professional marketing research firm. We are currently conducting a salary survey on behalf of the Professional Engineers and Geoscientists of Newfoundland and Labrador. All survey responses are kept strictly confidential. Your response to this survey would be very valuable... Do you have time to answer a few questions....it will take less than 5 minutes?

- | | | |
|-----|---|--|
| Yes | 1 | - CONTINUE |
| No | 2 | - ASK FOR CALL BACK TIME, THANK & TERMINATE |

Before we begin, I would like to assure you that your answers are strictly confidential, and will only be used in aggregate with all other responses.

1. In what year did you graduate with your first Geoscience degree or equivalent?

2. What is the discipline of your first Geoscience degree or equivalent? [**Read only if necessary**]

01	Geologist
02	Geophysicist
08	Other _____

3. Do you have a post-graduate degree?

01	Yes
02	No

Skip to Q.5

4. In what field of study is your post-graduate degree? [**Do not read**]

01	Geoscience
02	MBA (Master of Business Administration)
03	Law
04	Other _____

5. What is your status...Geoscientist in training (GIT) or Professional Geoscientist (P.Geo)?

01	Geoscientist in training (GIT)
02	Professional Geoscientist (P.Geo)

Skip to Q.7

6. How many years and months of full-time work experience do you have as a Geoscientist in training?

Number of Years _____
 Number of Months _____

Skip to Q.8

7. How many years of full-time work experience do you have since receiving your P.Geo or professional designation?

- 01 Less than 1 year
- 02 1 year to less than 2 years
- 03 2-3 years
- 04 4-5 years
- 05 6-8 years
- 06 9-11 years
- 07 12-15 years
- 08 16-20 years
- 09 More than 20 years

8. Are you currently [read list]:

- 01 Employed
- 02 Self-employed
- 03 Unemployed
- 04 Retired

Thank & Terminate
Thank & Terminate

9. Are you employed full-time, that is 30 or more hours per week, or part-time, less than 30 hours per week?

- 01 Full-time
- 02 Part-time

Thank & Terminate

10. **Excluding overtime**, how many hours do you work in a regular week? [Record number]

11. Which of the following best describes the level of your current job position:

- 01 Non-Management
- 02 Management (supervises others)
- 03 Executive/Principal (e.g., director, vice-president, president, owner, etc.)
- Vol.
- 04 Other _____

12. In what industry sector are you employed?

- 01 Mining
- 02 Petroleum/Gas/Refining
- 03 Manufacturing
- 04 Government
- 05 Education
- 06 Consulting
- 07 Utilities
- 08 Construction
- 09 Other _____

13. What is your current annual **base** salary, **excluding** overtime and bonuses? [**Probe for approximation**]

14. How does your employer compensate for overtime? [**Read. Record all that apply**]

- 01 Pay normal rate
- 02 Pay higher overtime rate
- 03 Give time off

- Vol.
- 04 Other _____
- 05 Does not compensate for overtime

15. How many vacation days are you entitled to annually? [**Probe for approximation. If weeks are given, ask for number of days**]

16. Does your employer provide the following benefits?

	Q.16 Provided?			Q.17 Cost-Shared?		
	Yes	No	DK	Yes	No	DK
Pension Plan or RRSP contribution	1	2	98	1	2	98
Life Insurance	1	2	98	1	2	98
Disability Insurance	1	2	98	1	2	98
Health Plan	1	2	98	1	2	98
Dental Plan	1	2	98	1	2	98
Profit Sharing	1	2	98	1	2	98
Stock Purchase Plan	1	2	98	1	2	98
Payment of Professional Fees	1	2	98	1	2	98
Continuing Education or training	1	2	98	1	2	98

17. *If benefit is provided, ask:* Is the cost of your [Insert benefit] shared between you and your employer?

18. Are you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the level of remuneration for your job?

- 01 Very satisfied
- 02 Somewhat satisfied
- 03 Somewhat dissatisfied
- 04 Very dissatisfied

- Vol.
- 05 Neither
- 98 Don't know

Record Gender of Respondent: Male Female

Thank you. Have a great day/evening!