



# APEGGA 2009 Salary Survey

## INSTRUCTION MANUAL



May 2009

# TABLE OF CONTENTS

	Page
<b>PART I INTRODUCTION.....</b>	<b>1</b>
<b>PART II PROCEDURES FOR COMPLETING SURVEY DATA SHEET .....</b>	<b>2</b>
A. Organization Classification .....	2
B. Job Classification (Responsibility Level) .....	2
C. Company Profile.....	3
D. Salary Data .....	3
1. Individual Classification .....	3
2. Year of Graduation .....	3
3. Annual Base Salary .....	3
4. Additional Cash Compensation .....	3
5. Overtime Compensation.....	4
6. Other Compensation .....	4
7. Gender .....	4
8. Location.....	4
E. Mailing.....	6
F. Questions .....	6
 <b><u>APPENDICES</u></b>	
<b>APPENDIX A Organization Classification System.....</b>	<b>7</b>
<b>APPENDIX B Job Classification System .....</b>	<b>9</b>
<b>APPENDIX C Determining Level of Responsibility .....</b>	<b>15</b>
<b>APPENDIX D Survey Data Sheets .....</b>	<b>34</b>

# INTRODUCTION

Are you paying too much or too little to your professional staff? Are you earning what you're worth? Whether employer or employee, it is important to know what other companies are paying in compensation for a similar position in your area. Learn how your company compares in the area of compensation.

The Employer Salary Survey is conducted annually to provide employers of professional engineers, geologists and geophysicists an opportunity to share compensation information through their professional association in an anonymous and confidential manner.

This information will be of benefit to both employers and employees in basing compensation policies and expectations on current local data, pertinent to a number of specific industry sectors.

***CONFIDENTIALITY OF DATA WILL BE RESPECTED BY APEGGA TO ENSURE ANONYMITY OF ORGANIZATIONS AND INDIVIDUALS.***

The survey also includes data collection of additional cash compensation that does not form part of the regular salary paid to professionals.

A copy of the statistical report will be provided to all organizations participating in the survey. The results will be published in The 2009 Value of Professional Services and sent to participants by the early fall of 2009. A condensed summary will also be included in The PEGG.

Your co-operation is necessary for this survey to be useful. Thank you for your support.

**Submission deadline is June 15, 2009.**

# PART II

## PROCEDURES FOR COMPLETING SURVEY DATA SHEETS

Survey data sheets are found in Appendix D of this booklet and include the following:

1. Company Profile Sheet
2. Survey Data Sheet - Level A-
3. Survey Data Sheet - Level A
4. Survey Data Sheet - Level B
5. Survey Data Sheet - Level C
6. Survey Data Sheet - Level D
7. Survey Data Sheet - Level E
8. Survey Data Sheet - Level F
9. Survey Data Sheet - Level F+

Electronic versions of these sheets, in Microsoft Excel format, are available for downloading from our website at <http://www.apegga.org/SalarySurvey/index.html>

The definitions and procedures to complete each sheet are as follows:

### **A. ORGANIZATION CLASSIFICATION**

At the top right of each data sheet is a space to record your company name and organization classification. The organization classification is used to subdivide the data received into specific areas of work. This will permit survey users to compare their company salaries to other organizations in similar industry sectors.

Using the nine organization classifications listed in Appendix A, (page 7) select the classification that best describes the nature of your organization's work and enter this number on the line opposite the Organization Classification.

### **B. JOB CLASSIFICATION (Responsibility Level)**

APEGGA classifies all engineering, geological and geophysical positions by level of responsibility. These levels vary from Level A- (Co-op/Intern Student) – the most junior classification in 2009 - to Level F+ (most senior position). Each position in the organization must be classified into one of these levels using the classification guides provided in Appendix B (pages 9-114) or the more detailed point-count evaluation guide Appendix C (pages 15-33).

These job classifications are directly compatible with systems used by other associations of engineers and geoscientists across Canada and will provide a sound basis for salary administration and salary surveys of the professions.

## C. COMPANY PROFILE

The first of the survey data sheets is the Company Profile. This collects information pertaining to the general compensation benefits available to employees through the company according to responsibility levels. Check off whether each of the types of compensation is offered at each Responsibility Level. If not offered at that level, leave the space blank.

## D. SALARY DATA

Data sheets are provided for each Level of Responsibility. **Use a separate line for each person in each level of responsibility.** Report all information on an annual basis. Record the actual salary and other compensation paid in the twelve month period ending May 31, 2009.

### 1. Individual Classification

Refer to the Job Classification Guide (Appendix B, page 9) and the Sample Bench Mark Job Descriptions and Ratings (Appendix C, page 15).

You will notice that positions held by APEGGA practitioners range from purely technical to purely management responsibilities. Often the position title may not include the word engineer, or geologist or geophysicist although the job requires the regular application of expertise and judgment based on the individual's professional experience and education. All such positions should be included in your response. The seventeen Bench Mark Job Descriptions will assist you in identifying the Level of Responsibility. Simply match the position to the appropriate bench mark job description in order to estimate a point count. Use the table at the top of page 24 to obtain the Classification level.

### 2. Year of Graduation

Report the year of Bachelor's degree, Master's degree and Doctorate degree. For Co-op/Intern Students report the anticipated year of graduation. You are strongly urged to supply this information if available. The data will provide an indication of the experience distribution and corresponding compensation levels.

### 3. Annual Base Salary

The base salary includes cost-of-living allowances and bonuses having a continuing relationship to salary (retention bonus, Christmas bonus (if fixed and predictable, etc.)). It does not include bonuses based on unusual performance or which do not become, for the next year or the next pay period, part of the base salary. Include pay for holiday days (statutory and declared) and vacation days.

Co-op, Intern, and Summer students salaries are generally quoted as hourly wages. In order to be consistent, however, please report these salaries as an annual equivalent. For example, if the standard work week at your organization is 40 hours, the annualized salary would be reported as:

**52 weeks X 40 Hours per Week X (Hourly Wage) = Annual Equivalent.**

### 4. Additional Cash Compensation

Additional cash compensation is all lump sum or re-earnable payments to an individual within the last 12 months to May 31, 2009. Do not confuse lump sum payments for merit, which is re-earnable each year, with salary increase for merit, which is considered in the Annual Base Salary. Additional cash compensation would include:

- Commissions
- Cash bonus payments

- Profit sharing payments
- Performance/Merit bonus (lump sum)
- Productivity/Gain sharing payments

**Do not include:**

- Overtime pay/Shift premiums (see below)
- Stock options/Stock purchase plans
- Car or car allowance
- Awards
- Consulting fees
- Club memberships
- Fringe benefits

**5. Overtime Compensation**

Overtime compensation is considered only when payment is made beyond the base salary. Report the total annual cash payment made to the employee. Do not report "time off in lieu" as this does not affect the individual's total annual compensation.

**6. Other Compensation**

If possible, employers are encouraged to provide any additional information regarding compensation to employees. Please specify the estimated cash value of this compensation for the individual and a brief description of what this is comprised of at the bottom of the data sheet. It is in this section that you would record stock options/purchase plans, consulting fees, and other payments that are either cash or easily converted to cash. Do not include car or car allowance, club memberships, parking, or other fringe benefits that cannot be converted to cash.

**7. Gender**

Report the gender of the individual, with F=Female and M=Male. The data will provide an indication of the experience distribution, industry of practice, and compensation, as it relates to gender. **Please note: Completion of this section is optional.**

**8. Location**

Report the primary location of work for the individual, based on the APEGGA Branch system.

There are 10 APEGGA Branches in Alberta:

- **Calgary (CA):**  
Including Acme, Airdrie, Aldersyde, Arrowwood, Balzac, Banff, Bassano, Beiseker, Black Diamond Blackie Bragg Creek, Calgary, Canmore, Carbon, Carseland, Carstairs, Cayley, Chaplin, Chestermere, Cluny, Cochrane, Cremona, Crossfield. Crowsnest.



Dalemead, DeWinton, Delacour, Didsbury, Drumheller, Elkwater, Exshaw, Harvie Heights, High River, Hussar, Irricana, Keoma, Lac Des Arcs, Langdon, Linden, Longview, Madden, Midnapore, Millarville, Nanton, Okotoks, Priddis, Redwood Meadows, Rockyford, Seebe, Standard, Stavley, Strathmore, Turner Valley, Water Valley.

- **Central Alberta (RD):** Including Alhambra, Alix, Bashaw, Bentley, Birchcliff, Blackfalds, Botha, Bowden, Brownfield, Byemoor, Caroline, Castor, Condor, Coronation, Delburne, Delia, Eckville, Elnora, Erskine, Forestburg, Halkirk, Hanna, Huxley, Innisfail, James River Bridge, Joffre, Lacombe, Leslieville, Mirror, Norglenwold, Olds, Penhold, Pine Lake, Ponoka, Red Deer, Red Deer County, Rimbey, Rocky Mountain House, Springbrook, Stettler, Sundre, Sylvan Lake, Tees, Three Hills, Torrington, Trochu, Veteran, Wimborne.
- **Edmonton (ED):** Including Alberta Beach, Alliance, Alsike, Andrew, Ardmore, Ardrossan, Armena, Athabasca, Atmore, Barrhead, Bawlf, Beaumont, Big Valley, Bittern Lake, Bluffton, Bon Accord, Boyle, Breton, Bruce, Bruderheim, Buck Lake, Busby, Calahoo, Calmar, Camrose, Cardiff, Cherhill, Clyde, Colinton, Daysland, Denwood, Devon, Duffield, Edberg, Edmonton, Fallis, Falun, Fawcett, Ferintosh, Fort Assiniboine, Fort Saskatchewan, Gibbons, Grassland, Gunn, Gwynne, Hay Lakes, Hobbema, Island Lake, Killam, Kingman, Kipp, Lake Isle, Lamont, Lancaster Park, Lavoy, Leduc, Legal, Lougheed, Ma-Me-O Beach, Millet, Morinville, Mulhurst Bay, Myrnam, Namao, Neerlandia, New Sarepta, Nisku, Ohaton, Onoway, Oyen, Parkland County, Perryvale, Pickardville, Radway, edwater, Rivercourse, Riviere Qui Barre, Rochester, Round Hill, Ryley, Seba Beach, Sherwood Park, South Cooking Lake, Spruce Grove, St Albert, St Michael, St Vincent, Star, Stony Plain, Sunnybrook, Swan Hills, Thorhild, Thorsby, Tofield, Vilna, Wabamun, Warburg, Waskatenau, Westerose, Westlock, Wetaskiwin, Winfield, Winterburn
- **Fort McMurray (FM):** Including Fort McMurray, Mildred Lake, Wandering River, and surrounding area
- **Lakeland (LL):** Including Ashmont, Bonnyville, Brosseau, Cherry Grove, Cold Lake, Elk Point, Grand Centre, Lac La Biche, Mallaig, Medley, Spedden, St Paul, Two Hills, Willingdon
- **Lethbridge (LB):** Including Aetna, Barnwell, Barons, Bellevue, Blairmore, Cardston, Carmangay, Claresholm, Coaldale, Coalhurst, Coleman, Cowley, Fort Macleod, Granum, Hill Spring, Lethbridge, Lundbreck, Magrath, Milk River, Nobleford, Picture Butte, Pincher Creek, Raymond, Shaughnessy, Skiff, Spring Coulee, Taber, Turin, Vauxhall, Vulcan, Warner, Welling
- **Medicine Hat (MH):** Including Bow Island, Burdett, Brooks, Duchess, Dunmore, Empress, Hilda, Irvine, Medicine Hat, Patricia, Ralston, Redcliff, Scandia, Seven Persons, Tilley, Walsh
- **Peace River (PR):** Including Atikameg, Beaverlodge, Bezanson, Clairmont, Crooked Creek, Deadwood, Debolt, Debolt, Donnelly, Elmworth, Fairview, Falher, Fort Vermilion, Grande Cache, Grande Prairie, Grimshaw, Guy, High Level, High Prairie, Hines Creek, Hythe, La Crete, Manning, McLennan, Nampa, Peace River, Rainbow Lake, Rycroft, Sexsmith, Silver Valley, Slave Lake, Spirit River, St Isidore, Sunset House, Valhalla Centre, Valleyview, Wanham, Wembley, Widewater, Woking, Worsley
- **Vermilion River (VR):** Including Blackfoot, Chauvin, Daysland, Denwood, Edgerton, Hairy Hill, Hardisty, Hughenden, Kitscoty, Lloydminster, Lougheed, Mannville, Marwayne, Myrnam, Paradise Valley, Provost, Rivercourse, Sedgewick, Vegreville, Vermilion, Viking, Wainwright, Willingdon
- **Yellowhead (YH):** Including Alder Flats, Carvel, Drayton Valley, Edson, Evansburg, Fox Creek, Hinton, Jasper, Mayerthorpe, Robb, Rocky Rapids, Sangudo, Whitecourt
- **Other (XX):** If the primary location of work is outside of the Province of Alberta, please enter XX in this field.

## E. MAILING

Before mailing your completed electronic data sheets, please check to ensure that:

- (1) you have entered the name of your organization in the upper-right hand corner of the survey data sheets. (This information will be removed by the APEGGA office prior to forwarding data for analysis.)
- (2) you have entered the classification code for your organization on your data sheets (page 7 & 8).

**Please forward your electronic reporting sheets by June 15, 2009** and address your envelope as follows:

"Confidential"  
Employer Salary Survey  
APEGGA  
15th Floor, Scotia Place, Tower One  
10060 Jasper Avenue  
Edmonton, AB T5J 4A2

Alternatively, you may e-mail your reporting sheets to [abartolcic@apegga.org](mailto:abartolcic@apegga.org) or copy the reporting sheet file to a CD and mail it to the above address.

## F. QUESTIONS

Assistance in completing this survey can be obtained by contacting:

Allan Bartolcic, M.A.  
Manager, Member Affairs  
APEGGA  
Ph: (780) 426-3990 ext. 2819  
Toll free: Ph. 1-800-661-7020

E-mail: [abartolcic@apegga.org](mailto:abartolcic@apegga.org)

# APPENDIX A ORGANIZATION - CLASSIFICATION SYSTEM

Select the **single** classification number that best describes the nature of your organization's work and enter this number on the line opposite the Organization Classification.

**1. Engineering, Geological, Geophysical Consulting Service**

Includes firms whose major activity is in, and the major source of income is from, providing engineering, geological or geophysical service (designs, reports, evaluations, advice, inspection, mapping, surveys, etc.). The consulting service may require data production and/or gathering as an adjunct. For example: basic research, laboratory work, photographic work, data processing, surveying, material testing, gas well testing, economic studies, financial studies, etc.

**2. Engineering, Procurement and Construction**

Includes firms whose major business activities focus on services in the EPC section, such as designing, procuring for, managing, and constructing major structures. This would include firms which build residential, commercial and/or industrial facilities, works or processes including gas plants, pipelines, roads, treatment plants, sewage systems, etc. Engineering may range from a minor to significant activity in this classification.

**3. Resource Exploitation (except oil & gas)**

May include some or all of the following: exploration, production, basic upgrading, marketing of coal, ore of all kinds, cement, raw lumber, etc. Employees of the firm will carry out engineering, geology, geophysics as "support" for the exploring, producing, upgrading and/or marketing.

**4. Resource Exploitation (oil & gas only)**

Includes exploration and/or production and/or refining and/or marketing. The engineering, geology and geophysics is a "support" service to the main activity.

**5. Manufacturing (durables)**

Includes the manufacture of machinery, equipment, tools, furniture, wood products, concrete products, steel products, plastic products, etc.

**6. Manufacturing (non-durables)**

Includes the processing of food products, beverages, rubber, leather, textiles, pharmaceutical, chemicals, paints, pulp & paper, etc.

**7. Service and Control (not for profit)**

Includes federal, provincial, municipal governments, regulatory agencies, educational and health care organizations, etc., as well as crown corporations, government established and controlled research and development organizations.

**8. Service (for profit)**

Includes transportation companies (pipeline, truck, rail, ship, plane, etc.), storage, financial services, general sales and supply - wholesale or retail - manufacturers' associations. In addition to the major service, which will be of a non-engineering, -geological, or -geophysical service nature, the firm will supply, as a support to its major activity or to customers using its major service, some engineering, geological or geophysical service.

**9. Utility (rate controlled)**

These include firms whose rate of return is controlled by "public" policy. Otherwise, as far as their activity is concerned, they will closely resemble service-type organization

**10. Advanced Technologies**

This category includes employers offering information technology services and consulting, computer hardware and software development and consulting, systems and network analysis, robotics, and other advanced and emerging areas such as microelectronics, biotechnology and advanced manufacturing technologies. It is recognized that most if, not all, APEGGA members are involved to some extent in advanced technology - this category is intended for employers whose work is primarily in this sector as opposed to the other categories.

# APPENDIX B

## JOB CLASSIFICATION SYSTEM

For this survey, responsibility levels A- and A to F+ are used. A detailed description of duties for these levels is provided (pages 10-13). A flow chart describing the hierarchy for all levels is presented in Figure 1 (page 14).

Alternately, firms may wish to use the more detailed point-count system described in Appendix C (pages 15-33).

Many organizations may have levels of responsibility which extend beyond the first seven APEGGA levels. These jobs should be lumped into the F+ category. Usually, the F+ category is reserved for executive-level positions in major corporations.

***Do not start from the top position in your organization and attempt to divide into seven categories. Report on the first seven levels and report any others in the F+ category.***

Generally, levels A-, A, B and C are technical positions and the knowledge required is almost exclusively related to engineering, geological or geophysical matters.

Levels D, E and F can follow a technical or managerial route. This is indicated in Figure 1 (page 14).

The descriptions provided may not exactly describe all positions in your organization. It will be necessary to rate each position as it "best fits" into the format provided.

## JOB CLASSIFICATION GUIDE

LEVEL OF RESPONSIBILITY	LEVEL A -	LEVEL A
<b>DUTIES</b>	<p>Receives training in the various phases of office, plant, field or laboratory engineering or geoscience work as classroom instruction or as supervised "on-the-job" assignments, often accompanied by a pre-assigned "A" or higher level "buddy". Tasks assigned and well supervised include: preparation of simple plans, designs, calculations, costs and bills of material in accordance with established codes, standards, drawings or other specifications. Under supervision, may carry out routine technical surveys or inspections and prepare reports. Recognizing short duration of Co-op/Intern Student placements, assignments are usually non-complex projects with deadlines that finish within the Co-op/Intern term.</p>	<p>Receives training in the various phases of office, plant, field or laboratory engineering / geoscience work as classroom instruction or "on-the-job" assignments. Tasks assigned include: preparation of simple plans, designs, calculations, costs and bills of material in accordance with established codes, standards, drawings or other specifications. May carry out routine technical surveys or inspections and prepare reports.</p>
<b>RECOMMENDATIONS, DECISIONS AND COMMITMENTS</b>	<p>Few if any technical decisions called for and these will be of routine nature with ample precedent or clearly defined procedures as guidance. All such responsibilities usually cleared through "buddy" and supervisor before being accepted.</p>	<p>Few technical decisions called for and these will be of routine nature with ample precedent or clearly defined procedures as guidance.</p>
<b>SUPERVISION RECEIVED</b>	<p>Works under close supervision, often side-by-side with a pre-assigned "A" or higher "buddy". Work is reviewed for accuracy and adequacy and conformance with prescribed procedures.</p>	<p>Works under close supervision. Work is reviewed for accuracy and adequacy and conformance with prescribed procedures.</p>
<b>LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED</b>	<p>None</p>	<p>May assign and check work of one to five technicians or helpers.</p>
<b>GUIDE TO ENTRANCE QUALIFICATIONS</b>	<p>Enrolled in an accredited University Engineering /Geosciences or Applied Sciences Bachelor degree program and on a structured Co-Op/Intern Student assignment. May have no practical experience except previous co-op assignments.</p>	<p>Bachelor's degree in Engineering /Geosciences or Applied Sciences, or its equivalent, with little or no practical experience.</p>

**LEVEL OF RESPONSIBILITY**

	<b>LEVEL B</b>	<b>LEVEL C</b>
<b>DUTIES</b>	<p>Normally regarded as a continuing portion of an engineer's / geoscientist's training and development.</p> <p>Receives assignment of limited scope and complexity, usually minor phases of broader assignments. Uses a variety of standard engineering methods and techniques in solving problems. Assists in carrying out technical tasks requiring accuracy in calculations, completeness of data and adherence to prescribed testing analysis, design or computation methods.</p>	<p>This is typically regarded as a fully qualified professional engineering level. Carries out responsible and varied engineering /geoscience assignments, requiring general familiarity with a broad field of engineering and knowledge of reciprocal effects of the work upon other fields. Problems usually solved by use of combination of standard procedures, or methods developed in previous assignments. Participates in planning to achieve prescribed objectives.</p>
<b>RECOMMENDATIONS, DECISIONS AND COMMITMENTS</b>	<p>Recommendations limited to solution of the problem rather than end results. Decisions made are normally within established guidelines.</p>	<p>Makes independent studies, analyses, interpretations and conclusions. Difficult, complex or unusual matters of decisions are usually referred to more senior authority.</p>
<b>SUPERVISION RECEIVED</b>	<p>Duties are assigned with detailed oral and occasionally written instructions, as to methods and procedures to be followed. Results are usually reviewed in detail and technical guidance is usually available.</p>	<p>Work is not generally supervised in detail and amount of supervision varies depending upon the assignment. Usually technical guidance is available to review work programs and advise on unusual features of assignment.</p>
<b>LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED</b>	<p>May give technical guidance to one or two junior engineers, or technicians, assigned to work on a common project.</p>	<p>May give technical guidance to engineers /geoscientists of less standing, or technicians assigned to work on a common project. Supervision over other engineers not usually a regular or continuing responsibility.</p>
<b>GUIDE TO ENTRANCE QUALIFICATIONS</b>	<p>Bachelor's degree in Engineering /Geosciences or Applied Sciences, or its equivalent, normally with two to three years working experience from the graduation level.</p>	<p>Bachelor's degree in Engineering /Geosciences, or Applied Sciences, or its equivalent, normally with a minimum of five to six years related working experience from the graduation level.</p>

<b>LEVEL OF RESPONSIBILITY</b>	<b>LEVEL D</b>	<b>LEVEL E</b>
<b>DUTIES</b>	This is typically the level of direct and sustained supervision of other professional engineers / geoscientists or the first level of full specialization. Requires application of mature engineering / geoscience knowledge in planning and conducting projects having scope for independent accomplishment and coordination of the difficult and responsible assignments. Assigned problems make it necessary to modify established guides, devise new approaches, apply existing criteria in new manners, and draw conclusions for comparative situations.	Usually requires knowledge of more than one field of engineering / geoscience or performance by an engineering /geoscience specialist in a particular field of engineering. Participates in short and long range planning; makes independent decisions on work methods and procedures within an overall program. Originality and ingenuity are required for devising practical and economical solutions to problems. May supervise large groups containing both professional and non-professional staff; or may exercise authority over a small group of highly qualified professional personnel engaged in complex technical applications.
<b>RECOMMENDATIONS, DECISIONS AND COMMITMENTS</b>	Recommendations reviewed for soundness of judgment but usually accepted as technically accurate and feasible.	Makes responsible decisions not usually subject to technical review, on all matters assigned except those involving large sums of money or long range objectives. Takes courses of action necessary to expedite the successful accomplishment of assigned projects.
<b>SUPERVISION RECEIVED</b>	Work is assigned in terms of objectives, relative priorities and critical areas that impinge on work of other units. Work is carried out within broad guidelines, but informed guidance is available.	Work is assigned only in terms of broad objectives to be accomplished, and is reviewed for policy, soundness of approach and general effectiveness.
<b>LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED</b>	Assigns and outlines work; advises on technical problems; reviews work for technical accuracy, and adequacy. Supervision may call for recommendations concerning selection, training, rating and discipline of staff.	Outlines more difficult problems and methods of approach. Co-ordinates work programs and directs the use of equipment and material. Generally makes recommendations as to the selection training, discipline, and remuneration of staff.
<b>GUIDE TO ENTRANCE QUALIFICATIONS</b>	Bachelor's degree in Engineering / Geosciences or Applied Sciences, or its equivalent, normally with a minimum of seven to eight years of experience in the field of specialization from the graduation level.	Bachelor's degree in Engineering / Geosciences, or Applied Sciences, or its equivalent, normally with a minimum of ten to twelve years of engineering / geosciences, and/or administrative experience from the graduation level.

<b>LEVEL OF RESPONSIBILITY</b>	<b>LEVEL F</b>	<b>LEVEL F+</b>
<b>DUTIES</b>	Usually responsible for an engineering /geoscience administrative function, directing several professional and other groups engaged in interrelated engineering / geoscience responsibilities; or as an engineering / geoscience consultant, achieving recognition as an authority in an engineering field of major importance to the organization. Independently conceives programs and problems to be investigated. Participates in discussion determining basic operating policies, devising ways of reaching program objectives in the most economical manner and of meeting any unusual conditions affecting work progress.	Within the framework of general policy, conceives independent programs and problems to be investigated. Plans or approves projects requiring the expenditure of a considerable amount of manpower and financial investment. Determines basic operating policies, and solves primary problems or programs to accomplish objectives in the most economical manner to meet any unusual condition.
<b>RECOMMENDATIONS, DECISIONS AND COMMITMENTS</b>	Makes responsible decisions on all matters including the establishment of policies and expenditures of large sums of money and/or implementation of major programs, subject only to overall company policy and financial controls.	Responsible for long range planning, co-ordination, making specific and far-reaching management decisions. Keeps management associates informed of all matters of significant importance.
<b>SUPERVISION RECEIVED</b>	Receives administrative direction based on organization policies and objectives. Work is reviewed to ensure conformity with policy and co-ordination with other functions.	Operates with broad management authority, receiving virtually no technical guidance and control; limited only by general objectives and policies of the organization.
<b>LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED</b>	Reviews and evaluates technical work; selects, schedules, and co-ordinates to attain program objectives; and/or as an administrator, makes decisions concerning selection, training, rating, discipline and remuneration of staff.	Gives administrative direction to subordinate managers and contact with the work force is normally through such levels rather than direct.
<b>GUIDE TO ENTRANCE QUALIFICATIONS</b>	Bachelor's degree in Engineering / Geosciences or Applied Sciences, or its equivalent, with broad engineering experience, including responsible administrative duties Bachelor's degree in Engineering / Geosciences or Applied Sciences, or its equivalent, with broad engineering experience, including responsible administrative duties	Bachelor's degree in Engineering / Geosciences, or Applied Sciences, or its equivalent with many years' authoritative engineering / geosciences and administrative experience. The incumbent is expected to possess a high degree of originality, skill and proficiency in the various broad phases of engineering / geosciences application.



# APPENDIX C

## DETERMINING LEVEL OF RESPONSIBILITY

Two methods of determining the level of responsibility of a job are outlined in this section.

The Job Evaluation Guide, which uses point scores to assess a job, is more precise and accurate. The Job Classification Guide is used by many companies but is less precise.

It is recommended the Job Classification Guide be used to verify the results obtained through job evaluation.

### METHOD 1: JOB EVALUATION GUIDE

#### Introduction

This point score guide has been developed as a technique for providing members and employers of members with an accurate, yet easy to use, system for evaluating the level of responsibility of engineering, geological and geophysical jobs. Usage will undoubtedly reveal useful improvements. Used objectively, this guide provides a base whereby any particular engineering, geological and geophysical job can be classified and ranked relative to other engineering, geological and geophysical positions. This same job evaluation system can be used to evaluate other professional and near professional jobs, thus making comparisons with these occupational groups more systematic and credible.

#### Job Rating Summary

To provide the most objective rating for the job, the following procedure is recommended:

- rate the job in accordance with the points allocated for each factor: duties, education, experience, etc. on pages 16 to 23 and record points in the left hand column of the chart on the following page.
- compare the results with ratings assigned to the benchmark jobs in the tables on pages 25 to 33.
- make any necessary adjustments and record the final points in the right hand column of the chart.
- determine your classification (A,B,C, etc.) using the chart on page 24.
- Figure 2 is provided as additional information to be used for comparison.
- **Method 2:** Job Classification Guide can be used to verify self-evaluation.

#### Caution in Self-Evaluation

In self-evaluation there will be a tendency toward overrating on some factors, particularly **duties**, as well as **recommendations**, **decisions** and **commitments**. Where doubt exists, the next grade or half-grade lower in line will usually prove to be the more accurate choice.

Factor	Preliminary Rating Points	Final Rating Points
A. Duties		
B. Education		
C. Experience		
D. Recommendations, Decisions and		
E. Supervision Received		
F. Leadership Authority and/or Supervision		
G. Supervision Scope		
H. Physical Demands		
I. Job Environment		
J. Absence from Base of Operations		
K. Accident and Health Hazards		
Total Points		

### Benchmark Job Description

A job evaluation guide is difficult to use without guidance from an experienced job analyst on how to apply the guide. To assist you in determining your level of responsibility, sample benchmark job descriptions have been provided on pages 25 to 33. The jobs range from the most junior, to that of a fairly senior manager.

As your job will not match exactly, the points you give your job will vary from the sample jobs evaluated (both on the various factors and in total points).

## Job Rating Factors

### A. DUTIES

This factor is concerned with the general nature of tasks assigned. The range includes duties performed in an entry-level job to those carried out at an advanced level of administration. Select the description that fits your job most appropriately. Carefully consider the relationship that your duties have to those of others in your organization. If you cannot decide between two adjoining descriptions, use the midpoint value. Note that Co-op/Intern Students are classified as Level A- regardless of any of the following job rating factors and how they may apply in your organization to a Co-op/Intern Student.

DESCRIPTION	POINTS
1.0 Receives training in the various phases of office, plant, field, or laboratory engineering, geological or geophysical work as on-the-job assignments. Tasks assigned include: preparation of simple plans, designs, plots, calculations, costs, and bills of material in accordance with established codes, standards, drawings, or other specifications. May carry out routine technical surveys or inspections and prepare reports.	10
1.5 .....	15
2.0 Normally regarded as a continuing portion of an engineer's, geologist's or geophysicist's training and development. Receives assignments of limited scope and complexity, usually minor phases of broader assignments. Uses a variety of standard engineering, geological or geophysical methods and techniques in solving problems. Assists more senior engineers, geologists or geophysicists in carrying out technical tasks requiring accuracy in calculations, completeness of data, and adherence to prescribed testing, analysis, design or combination of methods.	20
2.5 .....	30
3.0 This is typically regarded as a fully qualified professional engineering, geological or geophysical level. Carries out responsible and varied assignments requiring general familiarity with a broad field of engineering, geology or geophysics and knowledge or reciprocal effects of the work upon other fields. Problems usually solved by use of combinations of standard procedures, modifications of standard procedures, or methods developed in previous assignments. Participates in planning to achieve prescribed objectives.	40
3.5 .....	55
4.0 This is the first level of direct and sustained supervision of other professional engineers, geologists or geophysicists or full specialization. Requires application of mature engineering, geological or geophysical knowledge in planning and conducting projects having scope for independent accomplishment, and coordination of difficult and responsible assignments. Assigned problems make it necessary to modify established guides, devise new approaches, apply existing criteria in new manners and draw conclusions from comparative situations.	70
4.5 .....	90

DESCRIPTION		POINTS
5.0	Usually requires knowledge of more than one field of engineering, geology or geophysics or performance by a specialist in a particular field. Participates in short- and long-range planning. Makes independent decisions for devising practical and economical solutions to problems.  May supervise large groups containing both professional and non-professional staff, or may exercise authority over a small group of highly qualified professional personnel engaged in complex technical applications.	110
5.5	.....	130
6.0	Usually responsible for an engineering, geological or geophysical administrative function; directing several professional and other groups engaged in interrelated engineering, geological or geophysical responsibilities; or as consultant, has achieved recognition as an authority in an engineering, geological or geophysical field of major importance to the organization.  Independently conceives programs and problems to be investigated. Participates in discussions determining basic operating policies, devising ways of reaching program objectives in the most economical manner and of meeting unusual conditions affecting work progress.	150
6.5	.....	175
7.0	Within the framework of general policy, conceives independent programs and problems to be investigated. Plans or approves projects requiring the expenditure of a considerable amount of manpower and financial investment. Determines basic operating policies, and solves primary problems or programs to accomplish objectives in the most economical manner to meet any unusual condition.	200

## B. EDUCATION

Rate the minimum university qualifications in an engineering, geological or geophysical discipline required in order to begin your job.

Note: A rather special situation develops with the factors of **education** and **experience**. Do not rate your position on the basis of level of education and years of experience you have attained. You may have a Master's degree and thirty years of experience. However, if the job requires neither an advanced degree nor extensive experience, rating the job according to your own qualifications will result in a point score that is unreasonably high. Members should estimate the education and experience combination required by the job.

LEVEL OF EDUCATION	POINTS
No degree but with standing as Engineer-, Geologist-, or Geophysicist-in-Training or registration in APEGGA	65
Bachelor's Degree	65
Master's Degree	90
Doctorate Degree	125

### C. EXPERIENCE (See "Note" in Education on previous page)

Rate the minimum number of years in full-time, permanent engineering, geological or geophysical work and/or work where an engineering, geological or geophysical background was a distinct asset which would normally be required by a person starting the job. Take your count to the nearest whole or half year.

EXP.	POINTS	EXP.	POINTS	EXP.	POINTS	EXP.	POINTS
<1 year	25	3 years	45	7-8 years	70	15-17 years	113
1 year	30	4 years	50	9-10 years	80	18-20 years	125
1½ years	35	5 years	55	11-12 years	90	21-24 years	138
2 years	40	6 years	60	13-14 years	100	25 years	150

### D. RECOMMENDATIONS, DECISIONS AND COMMITMENTS

Select the category that fits your job most appropriately. If you cannot decide between two categories, use the midpoint value.

DESCRIPTION	POINTS
1.0 Few technical decisions called for and these will be of routine nature with ample precedent or clearly defined procedures.	35
1.5 .....	40
2.0 Recommendations limited to solution of the problem rather than end results. Decisions made are normally within established guidelines.	45
2.5 .....	50
3.0 Makes independent studies, analyses, interpretations and conclusions. Difficult, complex, or unusual matters or decisions are usually referred to more senior authority.	55
3.5 .....	60
4.0 Recommendations reviewed for soundness of judgement, but usually accepted as technically accurate and feasible.	70
4.5 .....	80
5.0 Makes responsible decisions not usually subject to technical review, on all matters assigned, except those involving large sums of money or long-range objectives. Takes courses of action necessary to expedite the successful accomplishment of assigned projects.	90
5.5 .....	105
6.0 Makes responsible decisions on all matters, including the establishment of policies and expenditures of large sums of money and/or implementation of major programs, subject only to overall policy and financial controls.	120
6.5 .....	135
7.0 Responsible for long-range planning, coordination and making specific and far-reaching management decisions. Keeps management associates informed of all matters of significant importance.	150

## E. SUPERVISION RECEIVED

This factor is concerned with the degree to which independent action is required or permitted. It will be limited by the amount of direction received from supervisors or provided through standard practice instructions, precedents or practice. Select the category that fits your job most appropriately. If you cannot decide between two categories, use the midpoint value.

DESCRIPTION		POINTS
1.0	Works under close supervision. Work is reviewed for accuracy, adequacy and conformance with prescribed procedures.	20
1.5	Midpoint.....	25
2.0	Duties are assigned with detailed oral and occasionally written instructions, as to methods and procedures to be followed. Results are usually reviewed in detail and technical guidance is usually available.	30
2.5	Midpoint.....	35
3.0	Work is not generally supervised in detail and amount of supervision varies depending upon the assignment. Usually technical guidance is available to review work programs and advise on unusual features of assignment.	40
3.5	Midpoint.....	45
4.0	Work is assigned in terms of objectives, relative priorities, and critical areas that impinge on work of other units. Work is carried out within broad guidelines, but informed guidance is available.	50
4.5	Midpoint.....	55
5.0	Work is assigned only in terms of broad objectives to be accomplished, and is reviewed for policy, soundness of approach and general effectiveness.	60
5.5	Midpoint.....	70
6.0	Receives administrative direction based on organization policies and objectives. Work is reviewed to ensure conformity with policy and coordination with other functions.	80
6.5	Midpoint.....	90
7.0	Operates with broad management authority, receiving virtually no technical guidance and control; limited only by general objectives and policies of the organization.	105

## F. LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED

This factor is concerned with the character of the supervisory responsibility. This may be direct (line) or indirect (staff). Select the category that fits your job most appropriately.

DESCRIPTION		POINTS
1	Has no supervisory role.	0
2	May assign and check work of one to five technicians or helpers.	5
3	May give technical guidance to one or two junior engineers, geologists or geophysicists or technicians assigned to work on a common project.	10
4	May give technical guidance to engineers, geologists or geophysicists of less standing or technicians assigned to work on a common project. Supervision over other engineers, geologists or geophysicists not usually a regular or continuing responsibility.	15
5	Assigns and outlines work; advises on technical problems; reviews work for technical accuracy and adequacy. Supervision may call for recommendations concerning selection, training, rating and discipline of staff.	20
6	Outlines more difficult problems and methods of approach. Coordinates work programs and directs use of equipment and material. Generally makes recommendations as to the selection, training, discipline and remuneration of staff.	40
7	Reviews and evaluates technical work; selects schedules, and coordinates to attain program objectives; and/or as an administrator, makes decisions concerning selection, training, rating, discipline and remuneration of staff.	60
8	Gives administrative direction to subordinate supervision, and contact with the work force is normally through such levels rather than direct.	80

## G. SUPERVISION SCOPE

This factor is concerned with the size of the direct (line) responsibility and is rated in terms of the total number of persons falling into that category. Count your immediate subordinates together with all employees reporting to them, either directly or through other levels of supervision. If numbers vary seasonally or for other reasons, compute an average for the year. Exclude persons, such as students, for whose work you have no continuing responsibility. As well, do not count persons to whom you give occasional technical direction or functional guidance. In short, count persons only for whose work you are fully accountable.

Employees Supervised	0	1	2-3	4-7	8-13	14-20
Points	1	3	5	8	10	15

Employees Supervised	21-30	31-40	41-50	51-75	76-100	101-200
Points	20	25	30	35	40	45

Employees Supervised	201-400	401-750	751-1200	1201-2000	Over 2000
Points	50	55	60	65	70

## H. PHYSICAL DEMANDS

This factor is concerned with the intensity and severity of the physical effort required of the job and with the continuity and frequency of that effort. Of those listed below, choose the level of exposure that most closely describes your situation and select the **one** value that carries the **highest** point score.

DEMAND	LEVEL OF EXPOSURE				
	Not Applicable	Limited	Occasional	Frequent	Continuing
Standing or Moving About (Inside Position)	0	5	8	10	15
Walking over Rough Ground, Climbing, etc. (Outside Position)	0	8	10	15	20
Heavy Physical Exertion	0	10	15	25	40
Uninterrupted Visual Concentration (as in drafting work)	0	5	10	20	30
Uninterrupted and Intense Mental Concentration	0	5	8	15	20

## I. JOB ENVIRONMENT

Under this factor, select the category that describes most clearly the conditions under which your work is normally carried out.

DESCRIPTION	POINTS
1 Office and comparable conditions.	0
2 Best shop, plant or laboratory conditions. Little exposure to dirt, heat, noise, fumes or other disagreeable factors.	3
3 Average shop, plant or laboratory conditions. Would cover positions that are generally conducted under clean and pleasant conditions, but with some exposure to noise, severe weather, dust, wet, fumes or other disagreeable factors.	5
4 Conditions that are especially dirty, oily, noisy or otherwise disagreeable. Would cover positions involving continuous outside work in all weather.	10
5 Conditions involving continuous exposure to heat and fumes, cold and wet, or to combinations of other disagreeable factors, but where continuous attention to work is possible.	20

## J. ABSENCE FROM BASE OF OPERATIONS

Under this factor, select the category that most closely describes the demands of your job for travelling and being absent from your base of operations.

DESCRIPTION	POINTS
1 Seldom absent.	0
2 Occasionally absent. Perhaps a day a week on average.	5
3 Frequently absent. Commonly for a couple of days a week, sometimes longer, with considerable travel.	10
4 Absent more than 50 percent of the time, sometimes including weekends, with much travel.	15
5 Absent for long periods from base of operations and/or travel on an almost continuous basis.	20

## K. ACCIDENT AND HEALTH HAZARDS

Under this factor, rate your job in terms of conditions that might result in accident or occupational disease. Consider the most prevalent hazard to which you are exposed, not some remote possibility. Select one value only.

HAZARD LEVEL	LEVEL OF EXPOSURE			
	Limited	Occasional	Frequent	Continuing
Low	0	3	5	10
Moderate	3	5	10	15
High	5	10	15	20
Extreme	10	15	20	25

## Use of Point Count Results

After completing the Job Rating Summary, refer to the chart below in order to determine the **classification** of the job. As it is not practical to have a pay range for each point count, jobs are classed together in one level or classification.

Point Count	Classification
If Co-op/Intern student	A-
0 to 250	A
251 to 300	B
301 to 375	C
376 to 480	D
481 to 595	E
596 to 700	F
over 700	F+

The following table correlates responsibility level with years of experience. This table is provided for use as a general check of classification evaluation.

<b>APEGGA 2008 Employer Salary Survey</b>							
<b>Years of Experience by Level of Responsibility</b>							
<b>All Professions - All Organizations</b>							
		<b>2008 Results - Years of Experience</b>					
Level	Total E, G & G's	Mean	D <sub>1</sub>	Q <sub>1</sub>	Median	Q <sub>3</sub>	D <sub>9</sub>
A	664	3	0	1	2	3	6
B	869	5	2	3	4	5	10
C	962	16	4	5	8	12	19
D	1,043	17	8	10	14	22	29
E	1,082	23	13	17	23	30	34
F	603	26	15	20	27	32	37
F+	287	28	19	24	29	33	37

**Mean:** Numerical average.

**Low Decile (D1):** 90% of the responses were above this point and 10% were below.

**Low Quartile (Q1):** 75% of the responses were above this point and 25% were below.

**Median:** 50% of the responses were above this point and 50% were below.

**High Quartile (Q3):** 25% of the responses were above this point and 75% were below.

**High Decile (D9):** 10% of the responses were above this point and 90% were below.

SAMPLE BENCHMARK JOB DESCRIPTIONS AND CORRESPONDING RATINGS

	Engineer-In-Training	Jr. Design Engineer
Summary	For training and development in various phases of engineering work in office, sales, plant, field or laboratory, performs various assigned tasks of comparatively low complexity, normally assisting other engineers.	Assists in the design of new or revised products, equipment, installations or processes, based on established engineering principles to meet functional requirements or performance specifications. Using a variety of standard engineering methods and techniques, will usually handle design problems of moderate complexity or assist more senior engineers to solve difficult problems.
Duties	Performs a variety of tasks such as the preparation of simple plans, designs, calculations, costs and bills of material, catalogues, in accordance with established codes, standards, drawings or other specifications.	Receives assignments of limited scope and complexity, usually minor phases of broader assignments which may include one or more of: <ul style="list-style-type: none"> <li>- The design of components within the particular branch of engineering (civil, mechanical, electrical, etc.) of a larger design project;</li> <li>- The modification of tooling, plant equipment, imported designs or prototypes of new development, to permit economical manufacturing or to meet performance specifications and requirements or serviceability;</li> <li>- The design of ancillary parts, not within the particular branch of engineering, or equipment pertaining to the branch e.g. foundations and supports for heavy machinery, transports for heavy machinery, transformer housings, etc.;</li> <li>- Confers with shop and departmental personnel while gathering information, seldom outside the company;</li> <li>- May prepare reports such as equipment surveys, cost estimates, process investigations, within the scope of assigned work.</li> </ul>
Recommendations, Decisions and Commitments	Normally, decisions made will be of a routine nature invariably having ample precedent or in line with clearly defined procedures.	Recommendations are limited to the solution of the problems rather than the end results. Work requires accuracy in calculations, completeness of data and adherence to prescribed testing, analysis, design or computation methods. Refers unusual problems to more senior engineers. Errors in work would usually be detected before results become serious.
Supervision Received	Works under supervision where the work is reviewed for accuracy, adequacy and conformance with prescribed procedures.	Tasks and duties are assigned in detail and work is under close review by more senior engineers.
Leadership Authority	May give work assignments and check work of 1-5 technicians or helpers.	May give technical guidance to one or two junior engineers or draftspersons.
Guide to Entrance Qualifications	Bachelor's degree in Engineering or Applied Science or its equivalent; little or no practical experience.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with two to three years working experience from the graduation level.
Job Rating Factor		
A. Duties	A — 20	A — 40
B. Education	B — 65	B — 65
C. Experience	C — 25	C — 45
D. Recommendations	D — 45	D — 50
E. Supervision Received	E — 25	E — 30
F. Supervision Exercised	F — 5	F — 10
G. Supervision Scope	G — 0	G — 0
H. Physical Demands	H — 10	H — 10
I. Job Environment	I — 5	I — 0
J. Absence from Base	J — 0	J — 0
K. Accident and Health Hazards	K — 5	K — 0
Total Points	205	250

	Jr. Geologist	Electrical Design Engineer
Summary	Assists in the accumulation and analysis of geological data, conducts geological surveys and keeps up-to-date on current activities in the industry.	Performs assigned duties associated with electrical layout design of projects. These projects include complete substation and diesel station layouts, proposals for the same and modifications to those stations. Will use a variety of standard engineering methods and techniques and will assume responsibility for moderately complex layouts.
Duties	<ul style="list-style-type: none"> <li>- Maintains subsurface information on a current basis and suggests lease purchases and geophysical programs to the immediate supervisor;</li> <li>- Makes field studies as assigned and prepares both surface and subsurface maps;</li> <li>- Performs microscopic examinations of samples and cores of wells for stratigraphic and reservoir studies;</li> <li>- Assists with the accumulation and the analysis of geological data for an exploratory and/or development drilling program;</li> <li>- Assists the immediate supervisor to keep informed of current activities in industry that might affect company performance.</li> </ul>	<p>The electrical engineering work includes:</p> <ul style="list-style-type: none"> <li>- preparing preliminary, and detailed electrical layout, other than that performed by Protection and Control, based on Assignment Sheets and one line diagrams supplied by client;</li> <li>- liaising with Civil Engineering Section to achieve compatibility of respective proposals;</li> <li>- writing specifications, usually for installation work;</li> <li>- checking information provided by contractors who are bidding on contracts to ensure adequacy of proposals and recommending contract awards based on that information, past experience with the contractor, capability (equipment, etc.) and price;</li> <li>- investigating complaints regarding design received from the field during construction and from operating staff following construction, and making design changes if justified;</li> <li>- making design calculations as required, applying standardized details and devising non-standard details as necessary;</li> <li>- reviewing manufacturers' drawings on</li> </ul>
Recommendations, Decisions and Commitments	Recommendations limited to the solution of immediate problems relating to a phase of a project. Decisions relate to the selection of data and the application of techniques. Such judgments are normally made by following established guidelines and practice. Refers unusual problems to a more senior geologist.	Recommendations will include complete solutions within the scope of the job. Unusual problems and techniques of a novel nature will normally be referred to a senior engineer.
Supervision Received	Work is assigned in detail and the incumbent works under close supervision. Work is normally checked for accuracy and completeness.	Projects are assigned and work will be reviewed in detail by more senior engineers.
Leadership Authority	May check the work of one or two more junior geologists and assist them with the application of standard techniques and the interpretation of data.	Checks the work of one or two junior engineers and technicians.
Guide to Entrance Qualifications	Appropriate B.Sc. degree, normally with two years of relevant experience since graduation.	Bachelor's degree in Applied Science or its equivalent, normally with three years working experience since graduation.
Job Rating Factor		
A. Duties	A — 40	A — 40
B. Education	B — 65	B — 65
C. Experience	C — 40	C — 45
D. Recommendations	D — 50	D — 55
E. Supervision Received	E — 30	E — 40
F. Supervision Exercised	F — 10	F — 10
G. Supervision Scope	G — 0	G — 1
H. Physical Demands	H — 10	H — 10
I. Job Environment	I — 5	I — 0
J. Absence from Base	J — 5	J — 0
K. Accident and Health Hazards	K — 5	K — 0
Total Points	260	266

	Manufacturing Engineer	Senior (Petroleum) Geologist
Summary	Performs a variety of engineering tasks including the development of plant layouts, work methods and manufacturing processes; designing tools; selecting, procuring and installing machines, tools and material-handling equipment; and establishing standard time values for production and non-production operations.	Conducts special geological studies and prepares recommendations for lease acquisitions. Conducts geophysical investigations and exploratory well drillings in areas that have been approved for a geological program. Carries out necessary geological work for the development of proven and semi-proven leases.
Duties	<p>Under general direction, makes independent studies, analyses, interpretations and conclusions in one or a combination of the following assignments:</p> <ul style="list-style-type: none"> <li>- Process Engineering - determines tools, equipment and dies required for shaping, finishing and assembling an assigned product, thus planning the sequence of operations;</li> <li>- Machine and Tool Design - designs and develops machinery, machine tools, gauges, dies, jigs, fixtures and special tools required as most suitable to the prescribed volume of production, materials and surfaces;</li> <li>- Gauge design - develops special gauges and instruments and applies statistical methods in order to attain precision specified;</li> <li>- Plant or Layout Engineering - arranges machines, lays out plant facilities and set-ups to ensure the most efficient and productive layout. Designs material-handling methods. Develops, designs and recommends long- and short-term plans for maintenance, repair and expansion of buildings, equipment and facilities including power plant and utilities;</li> <li>- Time and Motion Studies - makes studies to determine standard rates and eliminate waste of time, labour and materials;</li> <li>- Quality Control - develops, recommends and administers quality control techniques. Utilizes industrial statistics for the presentation and analysis of quality control and other manufacturing data. Prepares cost estimates, makes studies of feasibility and provides information, advice and engineering assistance within the scope of assigned work.</li> </ul>	<ul style="list-style-type: none"> <li>- Prepares and reviews with the District Geologist, recommendations for lease acquisitions, geophysical investigations, exploratory well drillings and other special geological studies;</li> <li>- Assists in making economic analyses pertaining to exploration projects, exploratory well proposals, farm-ins and farm-outs, drilling contributions, rental payments and the purchase and sale of oil and gas leases as well as other financial interests;</li> <li>- Reviews proposals for the abandonment of wells and/or dropping of leases and makes recommendations for company action to the District Geologist;</li> <li>- Collaborates with other company exploration personnel including landmen, geophysicists and engineers in matters of mutual interest;</li> <li>- Maintains contacts with external geological personnel, associations and others.</li> </ul>
Recommendations, Decisions and Commitments	Recommendations and decisions are usually based on operational experience. Work is relied upon as sound and authoritative within the scope of an assignment. Difficult, complex or unusual decisions are usually referred to higher authority. Errors of judgement could cause serious loss of manufacturing time and material.	Recommendations are usually based on operational experience and are relied upon as sound and authoritative within the scope of an assignment. Errors of judgement could cause considerable financial loss.
Supervision Received	Work is not generally supervised in detail and the amount of supervision varies depending upon the assignment. More senior supervision is usually available to review work programs and give guidance.	Work not generally supervised in detail. More senior geological expertise is generally available for consultation.
Leadership Authority	May guide the work of several more junior engineers or technicians when they are employed on the same projects.	May guide the work of several more junior geologists and/or technologists when they are assigned to the same project.
Guide to Entrance Qualifications	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with three to five years of related working experience since graduation.	Appropriate B.Sc. degree, normally with three to five years' working experience since graduation.
Job Rating Factor		
A. Duties	A — 55	A — 55
B. Education	B — 65	B — 65
C. Experience	C — 50	C — 50
D. Recommendations	D — 60	D — 60
E. Supervision Received	E — 40	E — 40
F. Supervision Exercised	F — 15	F — 15
G. Supervision Scope	G — 5	G — 0
H. Physical Demands	H — 10	H — 10
I. Job Environment	I — 3	I — 5
J. Absence from Base	J — 0	J — 5
K. Accident and Health Hazards	K — 3	K — 3
Total Points	306	308

	Design Engineer	Sales Engineer
Summary	In a specialized field of experience within a branch of engineering (e.g. civil, mechanical, electrical, etc.) develops designs for complicated components of engineering works, structures, installations, processes. Develops plans for the modification of extension of existing facilities.	Responsible for field sales of apparatus and other delegated products to prospective and established customers. Discusses product application with a good knowledge of customers' technical problems. Determines customers' requirements and takes orders or reports to own department. Expedites deliveries and follows up to ensure satisfaction.
Duties	<ul style="list-style-type: none"> <li>- Makes independent studies, analyses, interpretations and conclusions within the scope of various assigned projects;</li> <li>- May design structural frames in steel reinforced concrete, timber; make layouts and designs of municipal services, industrial buildings, mining plants;</li> <li>- May design mechanical or electrical services of buildings; materials handling installations; power installations; industrial drives;</li> <li>- May be concerned with the design of communications circuitry or power generation and/or transmission, including repeater stations or transformer substations;</li> <li>- May be concerned with the design of chemical or metallurgical process plant installations;</li> <li>- Based on knowledge of site conditions, methods and materials available, time factors and costs, works up a design and/or alternative designs to achieve the desired end, recommending optimum solution;</li> <li>- Prepares reports, cost estimates, specifications;</li> <li>- Consults with and provides specialized instruction for Drafting Department in respect of design notes and sketches;</li> <li>- Confers with more senior design engineers and one of a design project team and with Manufacturing and Purchasing personnel, as necessary to exchange information;</li> <li>- Confers with senior members of consultant's (or client's) organization; with contractors and suppliers.</li> </ul>	<ul style="list-style-type: none"> <li>- Visits new or prospective customers to discuss products on the basis of the company's experience in similar fields and a knowledge of the technical customer's requirements;</li> <li>- Investigates product applications, recommends modifications; ensures proper servicing; proposes adjustments as required;</li> <li>- For fairly standardized products and adaptation, quotes prices, terms and deliveries;</li> <li>- May conduct correspondence on product applications and adjustments;</li> <li>- Transmits all pertinent information to Sales Department to facilitate cost estimating, proper design or modifications where necessary, and ensures that the requirements will be met;</li> <li>- Acts as technical consultant to customers on their problems to ensure best use of the company's products. May participate in the sales planning of the department;</li> <li>- May be required to travel extensively and to entertain customers' representatives.</li> </ul>
Recommendations, Decisions and Commitments	Assignments are responsible and varied. Within the scope of an assignment, work is relied upon as sound and authoritative. Recommendations and decisions are usually based on precedent. Difficult, complex or unusual decisions are usually referred to more senior authority. Errors of judgement might cause serious losses.	Within the scope of the assigned working area, work is relied upon by customers and employer superiors as accurate and sound. Recommendations and decisions are usually based on precedent. Difficult, complex or unusual decisions are usually referred to more senior authority. Errors of judgement might cause serious losses to a customer which could result in large losses to the employer.
Supervision Received	Work is not generally supervised in detail and the amount of supervision varies with the assignment. Usually more senior supervision is available to review work programs to give guidance.	Work is not generally supervised in detail and the amount of supervision varies with the assignment. Usually more senior supervision is available to review work programs to give guidance.
Leadership Authority	May guide the work of several more junior engineers or technicians when they are employed on the same projects.	May guide the work of several more junior sales engineers or technicians.
Guide to Entrance Qualifications	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with three to five years' related working experience since the graduation level.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with three to five years' related working experience since the graduation.
Job Rating Factor		
A. Duties	A — 55	A — 70
B. Education	B — 65	B — 65
C. Experience	C — 50	C — 50
D. Recommendations	D — 60	D — 60
E. Supervision Received	E — 40	E — 40
F. Supervision Exercised	F — 20	F — 15
G. Supervision Scope	G — 8	G — 5
H. Physical Demands	H — 5	H — 5
I. Job Environment	I — 3	I — 0
J. Absence from Base	J — 0	J — 10
K. Accident and Health Hazards	K — 3	K — 0
Total Points	309	320

	Specialist (Petroleum) Geologist	Production Engineer
Summary	Conducts comprehensive geological studies and prepares recommendations relative to lease acquisitions and exploratory activities in areas approved for activity.	Directs the operation of two or more production units comprising a distinct area or segment of the total process, each unit being supervised by a foreperson or a series of forepersons, one or more of who may be an engineer. Maintenance and control systems based on engineering principles, as well as the susceptibility of the process to variations from standard, require an engineering background for sustained successful direction of the operation.
Duties	In collaboration with other company personnel, including landmen, geophysicists and engineers: <ul style="list-style-type: none"> <li>- Prepares and reviews with the District Geologist, recommendations for lease acquisitions, geo-physical investigations, drilling of exploratory wells and other technical studies to further the district exploratory effort;</li> <li>- Collects and analyses, or directs, the preparation and analysis of geophysical data in order to recommend appropriate development procedures to the District Geologist;</li> <li>- Prepares and/or supervises the preparation of maps and provides interpretations to aid the Production Department in making economic analyses and reserve estimates;</li> <li>- Maintains contact with outside geological personnel, associations and others in order to keep up to date on current events in the industry;</li> <li>- Assists in making or makes economic analyses pertaining to exploration plays, exploratory well proposals, farm-ins and farm-outs, drilling contributions, rental payments,</li> </ul>	<ul style="list-style-type: none"> <li>- Instructs forepersons regarding objectives. Participates with technical control, development, design and maintenance engineers in analyzing off-standard conditions and the feasibility of new procedures;</li> <li>- Accountable for quality, quantity, cost, safety and employee relations in the area under direction.</li> </ul>
Recommendations, Decisions and Commitments	Recommends to the District Geologist and other senior personnel in the company, lease acquisitions, geological investigations, exploratory well drilling programs, and technical studies to further the district exploratory effort.	Recommends improvements in procedures and changes in policy. Participates in formulation of policy. Approves transfers and promotions. Recommends salary increases. May approve wage rate changes. Major problems normally referred to higher authority but in emergency must be decided directly and quickly.
Supervision Received	General supervision is provided; work is assigned in terms of well-defined objectives and the results desired; informed guidance is readily available.	Daily contact with next level of supervision shared with other area supervisors.
Leadership Authority	Supervision is incidental to other work performed. May train and direct junior professionals and technologists in work methods relating to assigned projects. May allocate and check work for accuracy and completeness. May assist in the training and development of geological personnel.	General supervision over area. Available for consultation by subordinates on a 24-hour basis, but normally constantly available during day shift only.
Guide to Entrance Qualifications	B.Sc. in Geology or Geophysics with normally five to ten years of related experience, or a Master's Degree in Geology or Geophysics with four to six years of related experience.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with five to eight years' experience from graduation, preferably including three to five years in a supervisory capacity.
Job Rating Factor		
A. Duties	A — 70	A — 70
B. Education	B — 65	B — 65
C. Experience	C — 70	C — 60
D. Recommendations	D — 80	D — 70
E. Supervision Received	E — 45	E — 50
F. Supervision Exercised	F — 20	F — 20
G. Supervision Scope	G — 3	G — 20
H. Physical Demands	H — 8	H — 10
I. Job Environment	I — 0	I — 5
J. Absence from Base	J — 5	J — 0
K. Accident and Health Hazards	K — 3	K — 5
Total Points	369	375

	Project Engineer	Supervising Engineer
Summary	Acts in a staff role in the design of buildings and machinery. Coordinates design work of subordinates and supervises construction in the course of duties, may supervise a group of ten other engineers, technicians and draftspersons.	Supervises an engineering group of up to about ten professional and/or non-professional technical people performing a variety of duties, normally in a single field of engineering, e.g. structural design, mechanical design, electrical design or concerned with a single product design.
Duties	<ul style="list-style-type: none"> <li>- Prepares studies and financial analyses of proposed capital expenditures. Advises management on choice of equipment and process design for these expenditures. Prepares specifications and orders for material and machinery for new installation;</li> <li>- Designs buildings and machinery, assisted by subordinates;</li> <li>- Prepares contracts, advises on choice of contractors, directs and supervises the selected contractors. Evaluates machinery;</li> <li>- Controls the project until it is completed.</li> </ul>	<ul style="list-style-type: none"> <li>- Plans detailed methods of solving assigned problems such as: the design of new structures; modifications or additions to existing structures; project concerned with product improvements, manufacturing method changes, equipment or process changes;</li> <li>- Delegates components to staff, sees the work through to meet schedules and coordinates assignments with other groups;</li> <li>- Prepares or requests preparation of design notes, drawings, specifications and occasionally prototypes or models;</li> <li>- May give technical direction to construction or installation or design projects to ensure adherence to specifications;</li> <li>- Prepares or requests preparation of cost estimates, engineering studies and reports as required;</li> <li>- Responsible for the maintenance of engineering office files, equipment and procedures;</li> <li>- Confers, as required, with senior engineers and management of the company, occasionally with contractors, consultants and suppliers.</li> </ul>
Recommendations, Decisions and Commitments	Recommendations include choice among alternatives in design, machinery and process. Will be required to devise new approaches to methods of reaching solutions. Errors could cause extra expenditures in money or time.	Recommendations will normally relate to alternatives in design or use of different materials to achieve the same purpose and are subject to review to ensure accordance with overall plans and company policies. Modifies existing engineering criteria as occasion demands by devising new approaches to the solution of problems. Errors could cause delays, possibly extending into areas where expenditures might be involved.
Supervision Received	Works under general direction and guidance in order to reach objectives. Reacts to priorities. Cooperates with peer groups.	Works under general direction and guidance following instructions relating to objectives, relative priorities and necessary cooperation with other units.
Leadership Authority	Outlines work for subordinates and review of adequacy. Responsible for personnel assigned on a permanent or temporary basis. Acts as company representative in dealing with contractors.	Makes recommendations concerning selection and termination, and is responsible for the training, rating and discipline of staff. Outlines and assigns work, and reviews it for technical adequacy.
Guide to Entrance Qualifications	Bachelor's degree in Applied Science or its equivalent, normally with seven to ten years' experience in the related field since graduation.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with nine to twelve years' experience related to the type of work since graduation.
Job Rating Factor		
A. Duties	A — 70	A — 70
B. Education	B — 65	B — 65
C. Experience	C — 70	C — 90
D. Recommendations	D — 80	D — 80
E. Supervision Received	E — 55	E — 55
F. Supervision Exercised	F — 20	F — 30
G. Supervision Scope	G — 10	G — 10
H. Physical Demands	H — 5	H — 5
I. Job Environment	I — 5	I — 0
J. Absence from Base	J — 2	J — 0
K. Accident and Health Hazards	K — 5	K — 0
Total Points	387	405

	Supervising Highway Const. Engineer	Senior Engineer - Specialist
Summary	Supervises highway construction projects. Responsible for hiring, firing, promotion, training and discipline of about 70 professional and other subordinates. Designs certain non-complex structures. Department representative in control of contractor's work.	Under administrative and/or high technical direction, works as a senior engineer-specialist or consultant in a particular field of engineering, development or research. Participates in planning, organizes work methods and procedures. Makes independent decisions within own sphere, usually exercising technical authority over a small group of engineer specialists.
Duties	<ul style="list-style-type: none"> <li>- Through subordinates, supervises field crews and control equipment. Administers the personnel aspect for group;</li> <li>- Ensures that contractors observe the terms of the contract and adhere to specifications. Authorizes changes to specifications where necessary and negotiates bids for work not covered by the contract.</li> <li>- Liaises between own crew or contractors and other agencies or group;</li> <li>- Designs certain structures such as retaining walls, culverts and super-span culverts;</li> <li>- Checks claims from contractors when these refer to extras or alterations to contract.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides specialized advice of an advanced technological nature for the solution of specific problems;</li> <li>- Participates in planning by providing original and ingenious approaches to the practical and economical solution of problems;</li> <li>- Within own specialized sphere, directs research into new resources, products, processes or methods;</li> <li>- Interprets and evaluates data obtained from various engineering and/or research investigations;</li> <li>- Keeps well informed of the latest technological developments relating to field of practice;</li> <li>- Ensures that staff morale is maintained at a high level by building a reputation for efficient planning and a high level of creative thinking</li> </ul>
Recommendations, Decisions and Commitments	Recommendations are of broad scope in achievement of objectives. Required to make decisions in the field when plans and contact require alteration. Responsible for the overall performance of crews.	Makes responsible decisions, subject only to highest technical review, on all matters assigned to jurisdiction. Decisions involving large sums of money or the selection of long-range objectives are usually referred to higher authority. Takes courses of action necessary to expedite the successful accomplishment of assigned projects.
Supervision Received	Works from generally accepted departmental policy and from established priorities. Considers relations with municipalities and other agencies affected by construction.	Work is assigned in terms of broad objectives to be accomplished, leaving wide authority within sphere, with virtually no technical guidance, but subject to general administrative control.
Leadership Authority	Responsible for all aspects of the work of assigned subordinates.	Gives technological advice & direction to a group of professional specialists. Understanding the necessity of maintaining an atmosphere of free-thinking creativity, outlines difficult problems and methods of approach. Coordinates work programs and directs use of equipment and material.
Guide to Entrance Qualifications	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with seven to ten years' related experience since graduation.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with nine to twelve years (or Master's or other advanced degree with six or more years) of diversified research-development and/or design experience from the graduation level.
Job Rating Factor		
A. Duties	A — 70	A — 90
B. Education	B — 65	B — 90
C. Experience	C — 70	C — 90
D. Recommendations	D — 70	D — 80
E. Supervision Received	E — 50	E — 60
F. Supervision Exercised	F — 30	F — 40
G. Supervision Scope	G — 35	G — 10
H. Physical Demands	H — 10	H — 5
I. Job Environment	I — 5	I — 5
J. Absence from Base	J — 12	J — 0
K. Accident and Health Hazards	K — 5	K — 5
Total Points	422	475

	Senior Production Engineer	Chief Design Engineer
Summary	Directs the operation of two or more complex continuous processes, i.e. chemical, mining, etc., producing large quantities of product with reliance upon engineering control and maintenance systems.	Directs the staff of an engineering office and coordinates the work of the design staff with that of field staff including several professional functions.
Duties	<ul style="list-style-type: none"> <li>- Plans production in coordination with other operations and customer demand;</li> <li>- Assists technical control personnel in establishing standards and field tests;</li> <li>- Coordinates, specifies and schedules production and maintenance activities. Analyzes and corrects off-standard conditions with specialized technical assistance;</li> <li>- Accountable for quality, quantity, costs, safety and employee relations.</li> </ul>	<ul style="list-style-type: none"> <li>- Plans and allocates work on broad general assignments with the limits of company policy;</li> <li>- Acts as engineering consultant and advisor to the company;</li> <li>- Assists in developing and maintaining contacts inside and outside the company;</li> <li>- Makes direct contact with clients.</li> </ul>
Recommendations, Decisions and Commitments	Recommends improvements in plant procedures and changes in policy. Participates in policy formulation. Approves salary increases. Has wide latitude for decisions affecting operations.	Makes responsible decisions within the limits of company policy. Recommends changes in company policy. Implements policies affecting company expenditure and makes decisions affecting operations.
Supervision Received	Broad direction received from Plant Manager in a small plant varying to limited supervision from Production Superintendent in a large plant.	Broad direction from President or Vice President of company. Work is reviewed for adherence to company policy. Occasional review of technical matters.
Leadership Authority	Directs activities of from 50 to over 200 people depending upon complexity of operation.	Selects, rates, disciplines and terminates staff. Reviews and evaluates technical work. Coordinates staff requirements and disposition to suit schedule of work in hand and work planned. Allocates work to various section or project heads.
Guide to Entrance Qualifications	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with nine to twelve years' experience since graduation including five to ten years in a supervisory capacity.	Bachelor's degree in Engineering and broad engineering experience of fifteen years or more, of which about three to five years should have been in responsible administrative duties.
Job Rating Factor		
A. Duties	A — 90	A — 130
B. Education	B — 65	B — 65
C. Experience	C — 90	C — 113
D. Recommendations	D — 90	D — 90
E. Supervision Received	E — 60	E — 70
F. Supervision Exercised	F — 40	F — 60
G. Supervision Scope	G — 40	G — 20
H. Physical Demands	H — 5	H — 5
I. Job Environment	I — 5	I — 0
J. Absence from Base	J — 5	J — 5
K. Accident and Health Hazards	K — 3	K — 3
Total Points	493	561

Engineering Manager	
Summary	Manages a large staff, administers and coordinates several professional, sub-professional and/or mechanical trades functions.
Duties	<ul style="list-style-type: none"> <li>- Works independently on broad general assignments with responsibility for planning associated activities, limited only by company policy;</li> <li>- Participates in establishing objectives and basic operating policies. Devises ways of reaching program objectives in the most economical manner and of meeting any unusual conditions affecting work progress;</li> <li>- Conducts the normal administrative functions related to position;</li> <li>- Acts as engineering consultant and advisor to the organization;</li> <li>- Develops and maintains top level contacts inside and outside the company.</li> </ul>
Recommendations, Decisions and Commitments	Makes responsible decisions without reference to superiors. Implements approved major programs involving expenditures of large sums of money. Errors in judgment could cause grave losses.
Supervision Received	Work is reviewed for accomplishment, adherence to company policy and coordination with other phases of company's operations.
Leadership Authority	Makes decisions regarding the selection, development, rating, discipline and termination of staff. Reviews and evaluates technical work. Selects schedules and coordinates to attain program objectives.
Guide to Entrance Qualifications	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with broad engineering experience including responsible administrative duties.
Job Rating Factor	
A. Duties	A — 130
B. Education	B — 65
C. Experience	C — 138
D. Recommendations	D — 105
E. Supervision Received	E — 80
F. Supervision Exercised	F — 60
G. Supervision Scope	G — 40
H. Physical Demands	H — 5
I. Job Environment	I — 0
J. Absence from Base	J — 0
K. Accident and Health Hazards	K — 0
Total Points	623

# APPENDIX D

## SURVEY DATA SHEETS

In order to reduce the amount of paper used in this survey, APEGGA has chosen to distribute the Survey questionnaire electronically. The sheets are available electronically by downloading the Microsoft Excel file at: <http://www.apegga.org/SalarySurvey/index.html>.

Once complete, you can return the electronic copies via CD or memory stick (will not be returned) by mail to:

"Confidential"  
Employer Salary Survey  
APEGGA  
15th Floor, Scotia Place, Tower One  
10060 Jasper Avenue  
Edmonton, AB T5J 4A2

or you can send the completed spreadsheets electronically to: [abartolcic@apegga.org](mailto:abartolcic@apegga.org).