

2011

Value of Professional Services



The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

-photo courtesy Matrix Solutions

2011 SALARY SURVEY

FOREWORD

To the APEGGA permit holders and other employers who contributed to this year's salary survey and to others who have contributed in the past, we thank you for once again making APEGGA's *Value of Professional Services* such a valuable and practical document. We also appreciate your adaptation to the changing requirements of the salary survey, enabling the survey to maintain its value as trends and needs develop. Finally, a special thanks to Matrix Solutions Inc. for supplying the picture for our cover this year.

This is the most in-depth one-of-a-kind survey of Professional Engineers and Geoscientists undertaken in Alberta. The survey resulted in information being received from **118 employers from 15 industry sectors** with over **10,635 individual salary data points** from Alberta's engineers, geologists and geophysicists; this represents slightly more than 20% of registered APEGGA members.

The goal of the *Value of Professional Services* is to provide guidelines for both Alberta employers and individual members of the three professions (Engineering, Geology, and Geophysics) in determining salary and other payroll and benefit rates and programs. APEGGA believes individual members are responsible for establishing with their employer the level of remuneration to be received in return for professional services provided. Using the information in the *Value of Professional Services* plus any other information accessible to you, you can judge if you are adequately paid given your industry sector and the economic activity within that sector, working conditions, responsibility, performance, and situation.

Members work in a wide variety of organizations and carry out tasks which vary just as greatly. It is therefore impossible for the Association to judge whether any given member should receive a salary increase. However, to stay at par in terms of purchasing power, you could expect an increase equal to the Consumer Price Index (CPI) increase in your geographic area. If you are eligible for a performance increase and/or responsibility increase, these could be in addition to the CPI.

Program effectiveness is dependent on the integrity of the data in this booklet and your ability to incorporate it with other information obtained to provide your full compensation picture. It is recognized that not all employment sectors will be readily identified within the sample job descriptions and corresponding rates. However, using these as guidelines should enable you to arrive at a reasonable relationship between your situation and industry equivalents.

With the sustained support of members and employers, the Association believes this program will continue to be a positive influence in helping to maintain a reasonable balance between professional quality services, working conditions and remuneration.



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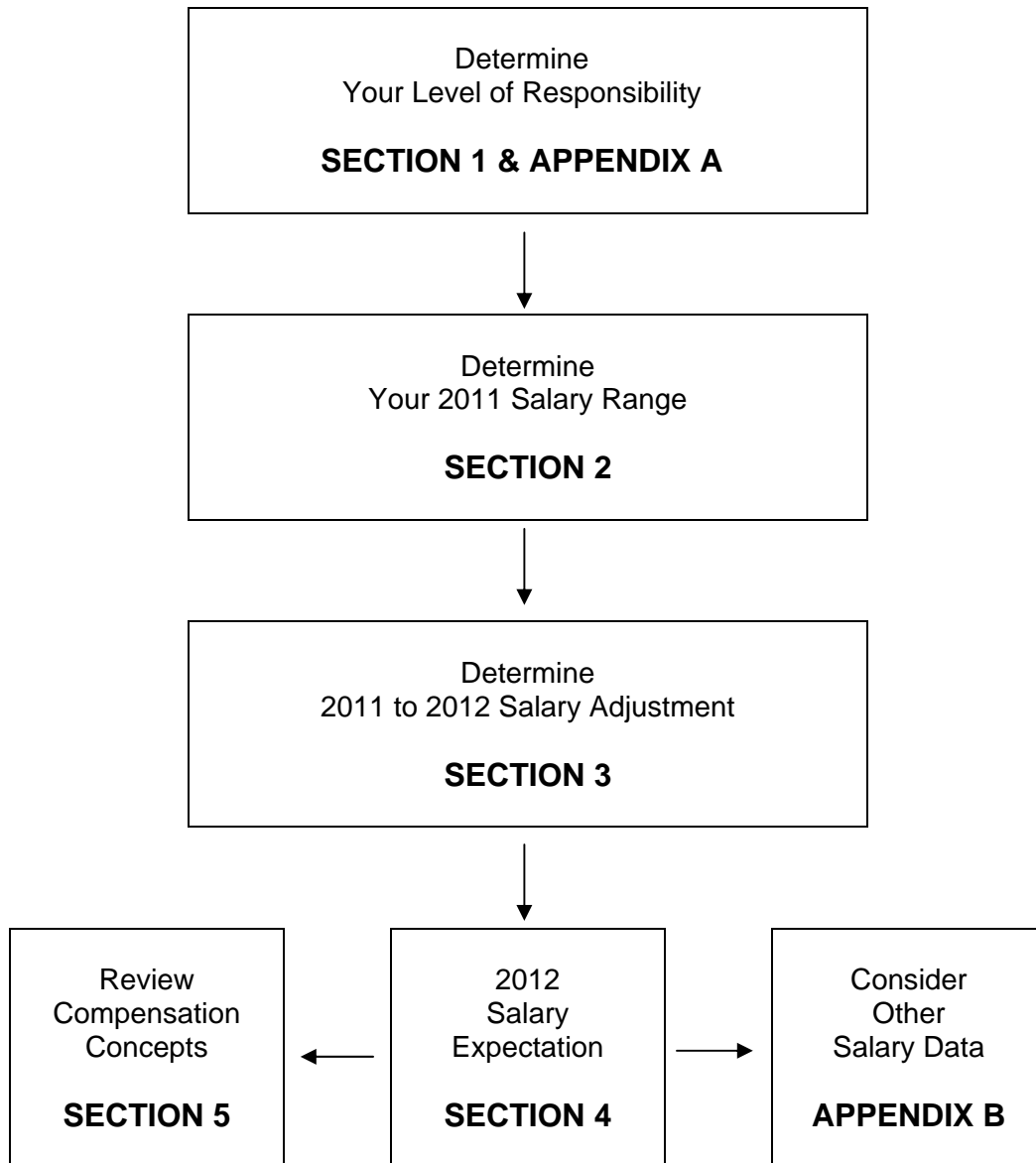
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PROCEDURE FOR USING THIS GUIDE



SECTION 1

DETERMINING YOUR 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. 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 also be used to evaluate other professional and para-professional jobs, thus making comparisons with other 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 3 to 9. Record points in the left hand column of Table 1 on the following page.
- Compare the results with ratings assigned to the benchmark jobs in the tables on pages 10 to 16.
- 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 Table 2 on page 17.
- Table 3 is provided as additional information to be used for comparison.
- Method 2: The 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 will usually prove to be the more accurate choice.

Table 1: Job Rating Summary

Factor	Preliminary Rating Points	Final Rating Points
A. Duties		
B. Education		
C. Experience		
D. Recommendations, Decisions and Commitments		
E. Supervision Received		
F. Leadership Authority and/or Supervision Exercised		
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 10 to 16. 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.

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 Midpoint value.....	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 Midpoint value.....	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, as well as knowledge of 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 Midpoint value.....	55
4.0 This is the first level of direct and sustained supervision of other professional engineers, geologists or geophysicists or of 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 Midpoint value.....	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	Midpoint value.....	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	Midpoint value.....	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 may 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
Bachelor's degree or equivalent	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 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 yrs & plus	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 Midpoint value.....	40
2.0 Recommendations limited to solution of the problem rather than end results. Decisions made are normally within established guidelines.	45
2.5 Midpoint value.....	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 Midpoint value.....	60
4.0 Recommendations reviewed for soundness of judgement, but usually accepted as technically accurate and feasible.	70
4.5 Midpoint value.....	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 Midpoint value.....	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 Midpoint value.....	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 value.....	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 value.....	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 value.....	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 value.....	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 value.....	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 value.....	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 require making 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, wetness, 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.	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

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"> - The design of components within the particular branch of engineering (civil, mechanical, electrical, etc.) of a larger design project; - 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; - 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.; - Confers with shop and departmental personnel while gathering information, seldom outside the company; - May prepare reports such as equipment surveys, cost estimates, process investigations, within the scope of assigned work.
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	Manufacturing Engineer
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.	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.
<ul style="list-style-type: none"> - Maintains subsurface information on a current basis and suggests lease purchases and geophysical programs to the immediate supervisor; - Makes field studies as assigned and prepares both surface and subsurface maps; - Performs microscopic examinations of samples and cores of wells for stratigraphic and reservoir studies; - Assists with the accumulation and the analysis of geological data for an exploratory and/or development drilling program; - Assists the immediate supervisor to keep informed of current activities in industry that might affect company performance. 	<p>The electrical engineering work includes:</p> <ul style="list-style-type: none"> - 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; - liaising with Civil Engineering Section to achieve compatibility of respective proposals; - writing specifications, usually for installation work; - 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; - investigating complaints regarding design received from the field during construction and from operating staff following construction, and making design changes if justified; - making design calculations as required, applying standardized details and devising non-standard details as necessary; - reviewing manufacturers' drawings on request by the Equipment and Materials Branch. 	<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"> - Process Engineering - determines tools, equipment and dies required for shaping, finishing and assembling an assigned product, thus planning the sequence of operations; - 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; - Gauge design - develops special gauges and instruments and applies statistical methods in order to attain precision specified; - 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; - Time and Motion Studies - makes studies to determine standard rates and eliminate waste of time, labour and materials; - 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.
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.	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.
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.	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.
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.	May guide the work of several more junior engineers or technicians when they are employed on the same projects.
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.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with three to five years of related working experience since graduation.
A — 40 B — 65 C — 40 D — 50 E — 30 F — 10 G — 0 H — 10 I — 5 J — 5 K — 5	A — 40 B — 65 C — 45 D — 55 E — 40 F — 10 G — 1 H — 10 I — 0 J — 0 K — 0	A — 55 B — 65 C — 50 D — 60 E — 40 F — 15 G — 5 H — 10 I — 3 J — 0 K — 3
260	266	306

	Senior (Petroleum) Geologist	Design Engineer
Summary	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.	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.
Duties	<ul style="list-style-type: none"> - Prepares and reviews with the District Geologist, recommendations for lease acquisitions, geophysical investigations, exploratory well drillings and other special geological studies; - 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; - Reviews proposals for the abandonment of wells and/or dropping of leases and makes recommendations for company action to the District Geologist; - Collaborates with other company exploration personnel including landmen, geophysicists and engineers in matters of mutual interest; - Maintains contacts with external geological personnel, associations and others. 	<ul style="list-style-type: none"> - Makes independent studies, analyses, interpretations and conclusions within the scope of various assigned projects; - May design structural frames in steel reinforced concrete, timber; make layouts and designs of municipal services, industrial buildings, mining plants; - May design mechanical or electrical services of buildings; materials handling installations; power installations; industrial drives; - May be concerned with the design of communications circuitry or power generation and/or transmission, including repeater stations or transformer substations; - May be concerned with the design of chemical or metallurgical process plant installations; - 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; - Prepares reports, cost estimates, specifications; - Consults with and provides specialized instruction for Drafting Department in respect of design notes and sketches; - Confers with more senior design engineers and one of a design project team and with Manufacturing and Purchasing personnel, as necessary to exchange information; - Confers with senior members of consultant's (or client's) organization; with contractors and suppliers.
Recommendations, Decisions and Commitments	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.	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.
Supervision Received	Work not generally supervised in detail. More senior geological expertise is generally available for consultation.	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 geologists and/or technologists when they are assigned to the same project.	May guide the work of several more junior engineers or technicians when they are employed on the same projects.
Guide to Entrance Qualifications	Appropriate B.Sc. degree, normally with three to five years' working experience since graduation.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with three to five years' related working experience since the graduation level.
Job Rating Factor	A — 55 B — 65 C — 50 D — 60 E — 40 F — 15 G — 0 H — 10 I — 5 J — 5 K — 3	A — 55 B — 65 C — 50 D — 60 E — 40 F — 20 G — 8 H — 5 I — 3 J — 0 K — 3
Total Points	308	309

Sales Engineer	Specialist (Petroleum) Geologist	Production Engineer
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.	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 whom 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.
<ul style="list-style-type: none"> - 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; - Investigates product applications, recommends modifications; ensures proper servicing; proposes adjustments as required; - For fairly standardized products and adaptation, quotes prices, terms and deliveries; - May conduct correspondence on product applications and adjustments; - 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; - 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; - May be required to travel extensively and to entertain customers' representatives. 	<p>In collaboration with other company personnel, including landmen, geophysicists and engineers:</p> <ul style="list-style-type: none"> - 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; - Collects and analyses, or directs, the preparation and analysis of geophysical data in order to recommend appropriate development procedures to the District Geologist; - Prepares and/or supervises the preparation of maps and provides interpretations to aid the Production Department in making economic analyses and reserve estimates; - Maintains contact with outside geological personnel, associations and others in order to keep up to date on current events in the industry; - Assists in making or makes economic analyses pertaining to exploration plays, exploratory well proposals, farm-ins and farm-outs, drilling contributions, rental payments, and purchase and sale of oil and gas leases. 	<ul style="list-style-type: none"> - Instructs forepersons regarding objectives. Participates with technical control, development, design and maintenance engineers in analyzing off- standard conditions and the feasibility of new procedures; - Accountable for quality, quantity, cost, safety and employee relations in the area under direction.
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.	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.
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.	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.
May guide the work of several more junior sales engineers or technicians.	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.
Bachelor's degree in Engineering or Applied Science or its equivalent, normally with three to five years' related working experience since the graduation.	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.
A — 70 B — 65 C — 50 D — 60 E — 40 F — 15 G — 5 H — 5 I — 0 J — 10 K — 0	A — 70 B — 65 C — 70 D — 80 E — 45 F — 20 G — 3 H — 8 I — 0 J — 5 K — 3	A — 70 B — 65 C — 60 D — 70 E — 50 F — 20 G — 20 H — 10 I — 5 J — 0 K — 5
320	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"> - 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; - Designs buildings and machinery, assisted by subordinates; - Prepares contracts, advises on choice of contractors, directs and supervises the selected contractors. Evaluates machinery; - Controls the project until it is completed. 	<ul style="list-style-type: none"> - 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; - Delegates components to staff, sees the work through to meet schedules and coordinates assignments with other groups; - Prepares or requests preparation of design notes, drawings, specifications and occasionally prototypes or models; - May give technical direction to construction or installation or design projects to ensure adherence to specifications; - Prepares or requests preparation of cost estimates, engineering studies and reports as required; - Responsible for the maintenance of engineering office files, equipment and procedures; - Confers, as required, with senior engineers and management of the company, occasionally with contractors, consultants and suppliers.
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 — 70 B — 65 C — 70 D — 80 E — 55 F — 20 G — 10 H — 5 I — 5 J — 2 K — 5	A — 70 B — 65 C — 90 D — 80 E — 55 F — 30 G — 10 H — 5 I — 0 J — 0 K — 0
Total Points	387	405

Supervising Highway Const. Engineer	Senior Engineer - Specialist	Senior Production Engineer
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.	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.
<ul style="list-style-type: none"> - Through subordinates, supervises field crews and control equipment. Administers the personnel aspect for group; - 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. - Liaises between own crew or contractors and other agencies or group; - Designs certain structures such as retaining walls, culverts and super-span culverts; - Checks claims from contractors when these refer to extras or alterations to contract. 	<ul style="list-style-type: none"> - Provides specialized advice of an advanced technological nature for the solution of specific problems; - Participates in planning by providing original and ingenious approaches to the practical and economical solution of problems; - Within own specialized sphere, directs research into new resources, products, processes or methods; - Interprets and evaluates data obtained from various engineering and/or research investigations; - Keeps well informed of the latest technological developments relating to field of practice; - Ensures that staff morale is maintained at a high level by building a reputation for efficient planning and a high level of creative thinking. 	<ul style="list-style-type: none"> - Plans production in coordination with other operations and customer demand; - Assists technical control personnel in establishing standards and field tests; - Coordinates, specifies and schedules production and maintenance activities. Analyzes and corrects off-standard conditions with specialized technical assistance; - Accountable for quality, quantity, costs, safety and employee relations.
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.	Recommends improvements in plant procedures and changes in policy. Participates in policy formulation. Approves salary increases. Has wide latitude for decisions affecting operations.
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.	Broad direction received from Plant Manager in a small plant varying to limited supervision from Production Superintendent in a large plant.
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.	Directs activities of from 50 to over 200 people depending upon complexity of operation.
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.	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.
A — 70 B — 65 C — 70 D — 70 E — 50 F — 30 G — 35 H — 10 I — 5 J — 12 K — 5	A — 90 B — 90 C — 90 D — 80 E — 60 F — 40 G — 10 H — 5 I — 5 J — 0 K — 5	A — 90 B — 65 C — 90 D — 90 E — 60 F — 40 G — 40 H — 5 I — 5 J — 5 K — 3
422	475	493

	Chief Design Engineer	Engineering Manager
Summary	Directs the staff of an engineering office and coordinates the work of the design staff with that of field staff including several professional functions.	Manages a large staff, administers and coordinates several professional, sub-professional and/or mechanical trades functions.
Duties	<ul style="list-style-type: none"> - Plans and allocates work on broad general assignments with the limits of company policy; - Establishes working programs to attain objective in the most economical manner; - Acts as engineering consultant and advisor to the company; - Assists in developing and maintaining contacts inside and outside the company; - Makes direct contact with clients. 	<ul style="list-style-type: none"> - Works independently on broad general assignments with responsibility for planning associated activities, limited only by company policy; - 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; - Conducts the normal administrative functions related to position; - Acts as engineering consultant and advisor to the organization; - Develops and maintains top level contacts inside and outside the company.
Recommendations, Decisions and Commitments	Makes responsible decisions within the limits of company policy. Recommends changes in company policy. Implements policies affecting company expenditure and makes decisions affecting operations.	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	Broad direction from President or Vice President of company. Work is reviewed for adherence to company policy. Occasional review of technical matters.	Work is reviewed for accomplishment, adherence to company policy and coordination with other phases of company's operations.
Leadership Authority	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.	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 and broad engineering experience of fifteen years or more, of which about three to five years should have been in responsible administrative duties.	Bachelor's degree in Engineering or Applied Science or its equivalent, normally with broad engineering experience including responsible administrative duties.
Job Rating Factor	A — 130 B — 65 C — 113 D — 90 E — 70 F — 60 G — 20 H — 5 I — 0 J — 5 K — 3	A — 130 B — 65 C — 138 D — 105 E — 80 F — 60 G — 40 H — 5 I — 0 J — 0 K — 0
Total Points	561	623

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.

Table 2: Job Level Classification

Point Count	Classification
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+

Table 3 correlates responsibility level with years of experience. This table is provided for use as a general check of self-evaluation. Since not all respondents provided graduation dates, this table only reflects the experience levels of those that did.

Table 3

APEGGA 2011 Employer Salary Survey Years of Experience by Level of Responsibility All Professions - All Organizations							
Level	Total EG&Gs	MEAN	D1	Q ₁	Median	Q ₃	D ₉
A-	312	1	1	1	1	1	1
A	812	Insufficient Data					
B	1,451	5.5	3	4	4	5	7
C	2,042	10	5	6	8	12	19
D	2,542	16	8	10	15	21	28
E	1,936	23	13	16	23	30	36
F	1,115	28	16	21	28	33	38
F+	425	30	19	24	30	35	40

See Section 2 for definition of survey statistical measures (D1, Q1, etc.)

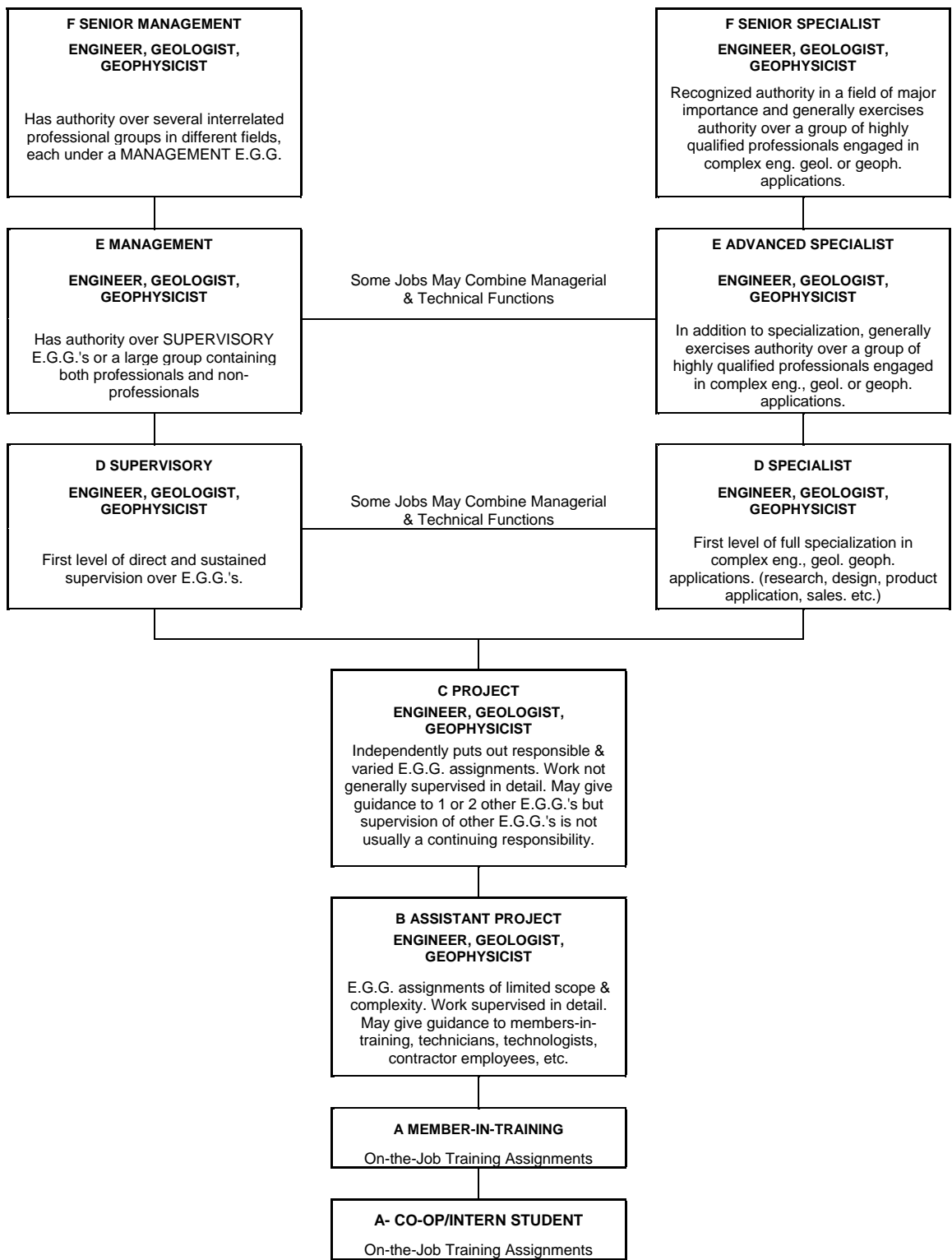
METHOD 2: JOB CLASSIFICATION GUIDE

Many companies use the generally adequate and less time consuming (but less precise) classification system commonly called the ABC system. This system broadly describes each level of responsibility according to five factors: Duties; Recommendations, decisions and commitments; Supervision received; Leadership authority and/or supervision exercised; and Guide to entrance qualifications. A copy of the description for each level of responsibility is provided in Appendix A. An abbreviated Job Classification Guide of the ABC system is shown below.

As many salary surveys are carried out using the ABC system, it is useful to be able to equate the results of the Point Count Job Evaluation system and the Job Classification system. Application of the

two systems has not been completely standardized across companies so absolute relationships cannot be set. A reasonable relationship between the two systems can be established and this is shown in Figure 1 below. Individual companies will vary to some degree.

Figure 1: Job Classification Flowchart



DETERMINING YOUR 2011 SALARY RANGE

Introduction

The most important variable operating to determine salary ranges for any given occupational group is the market, the relationship between the supply of, and the demand for, the services of a particular occupational group: a single supply/demand market.

There are many factors affecting the market and those affecting the market for one occupational group are different from those affecting the market for another occupational group. Market surveys to determine the salaries paid by similar companies to members of the occupational group being studied are therefore widely used and consulted.

APEGGA Market Survey

In May of 2011 APEGGA conducted its annual Employer Salary Survey. A total of **10,638** salary statistics for Alberta engineers, geologists and geophysicists were supplied by **118** employers who are identified in Appendix C. Outliers that were significantly beyond the standard deviation were eliminated in our calculations. The number of eliminated data points was less than .05% of the total number received, which would suggest that their omission would not affect our data set. As a result, the number of data points used for all calculations was **10,635**

Participating organizations provided salary information based on the level of responsibility of each employee's position, data on year of graduation, if available, and information on the classification of their organization. Employers were given the option of providing information on the gender and location of work for each employee as well.

Selected salary range tables from this year's survey are reported here and various demographic survey results are given in Appendix B.

Using Survey Results to Determine Your 2011 Salary Range

To use salary survey data as a guideline it is important to consider all reported results and to keep in mind the following remuneration concepts.

- Salary is basically determined by the level of responsibility of the position.
- Salary levels vary between professional groups. Survey results for Base Salaries are reported in Tables 4, 5 and 6; for Total Cash Compensation in Tables 9, 10 and 11.
- Salary levels also vary among industry sectors. Survey results for Base Salaries are reported in Tables 7 and 8; for Total Cash Compensation in Tables 12 and 13.
- Data on weekly hours of work and overtime compensation is given in Figure 4 and Table 16 in Section 5.
- Data on Additional Cash Compensation is noted in Tables 16 and 18 in Section 5.

Salaries by year of graduation should only be used as a check on career progress relative to others of an equivalent age and as a check on the more basic level-of-responsibility concept. Figure B-1 in Appendix B provides survey results on salaries by year of graduation and level of responsibility.

Survey Notes

- The salaries quoted in the tables that follow are either annual base salaries or total annual cash compensation (depending on the table) in effect as of May 1, 2011. Base salaries include cost of living allowances, bonuses which have a continuing relationship to salary, pay for holiday days (statutory and declared) and vacation days. The base salary 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. Commissions, fringe benefits, profit sharing are also not included in the base salary. Additional compensation like this is accounted for in the Total Cash Compensation results.
- The statistical measures used in compiling the tables are:
 - Mean:** Numerical average. The mean is not shown where there are fewer than three observations.
 - Low Decile (D1):** 90% of the salaries were above this point and 10% were below it. The decile rate is not shown where there are fewer than seven observations.
 - Low Quartile (Q1):** 75% of the salaries were above this point and 25% were below it. The low quartile rate is not shown where there are fewer than five observations.
 - Median:** 50% of the salaries were above this point and 50% were below it. The median rate is not shown where there are fewer than five observations.
 - High Quartile (Q3):** 25% of the salaries were above this point and 75% were below. The high quartile rate is not shown where there are fewer than five observations.
 - High Decile (D9):** 10% of the salaries were above this point and 90% were below it. The high decile rate is not shown where there are fewer than seven observations.
- Where an insufficient number of responses were received for a particular industry sector and/or profession, results were not provided. For example, no responses were received for geophysicists in the Engineering, Procurement & Construction industry sector. Persons working in unrepresented sectors should use the results for “All Industries” as a guideline.
- Negative figures (as in Change in Mean '10-'11) are indicated by negative signs.

APEGGA 2011 Employer Salary Survey Highlights

Table 4 Annual Base Salaries by Level of Responsibility

Engineers – All Industries								
Level	# of Engs.	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	303	-1.3%	48,804	40,853	45,760	50,160	53,976	56,966
A	756	1.3%	66,817	55,392	60,600	67,762	73,840	77,123
B	1,325	4.8%	78,833	66,216	73,404	79,800	84,800	88,767
C	1,851	2.8%	92,519	78,728	85,591	92,500	98,706	106,080
D	2,323	3.5%	116,802	98,989	107,837	118,200	125,400	135,000
E	1,701	3.6%	145,297	123,600	134,011	145,653	155,900	166,750
F	949	4.7%	173,160	143,520	158,400	173,000	185,400	204,000
F+	389	6.4%	215,204	172,951	185,000	202,550	232,398	280,000

Table 5 Annual Base Salaries by Level of Responsibility

Geologists – All Industries								
Level	# of Geols.	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	9	1.6%	49,339	46,800	48,000	48,588	52,800	54,480
A	42	1.0%	69,806	54,999	76,500	70,500	76,000	80,000
B	96	4.9%	80,124	66,576	77,000	82,250	85,097	88,000
C	155	4.3%	97,248	85,000	91,700	98,000	103,191	110,520
D	171	3.7%	119,357	105,225	110,691	118,800	127,600	136,900
E	177	4.2%	155,261	126,814	145,000	158,400	166,400	175,800
F	119	6.8%	190,083	163,353	175,000	184,000	195,000	235,320
F+	25	-1.8%	202,398	180,868	186,400	198,800	215,000	216,300

Table 6 Annual Base Salaries by Level of Responsibility

Geophysicists – All Industries								
Level	# of Geophs.	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient Data						
A	14	-3.5%	65,714	52,010	56,750	61,463	76,500	80,500
B	30	4.7%	79,229	63,407	73,800	82,000	85,000	88,800
C	36	-1.7%	95,797	74,800	92,000	97,500	100,000	108,000
D	48	-.07%	122,642	102,000	113,904	125,000	132,000	140,000
E	58	1.7%	163,071	147,826	157,391	165,000	173,500	179,000
F	47	2.6%	183,044	169,000	178,000	183,000	190,500	197,000
F+	10	1.5%	192,532	140,000	182,245	193,200	208,000	228,000

Table 7 Annual Base Salaries by Industry Sector

ENGINEERS BY INDUSTRY SECTOR								
CONSULTING SERVICE								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	20	-3.9%	45,235	37,440	41,600	45,988	49,809	52,752
A	155	2.0%	61,125	53,372	56,500	60,600	65,188	69,005
B	225	3.3%	70,741	61,200	65,232	69,840	76,000	79,914
C	324	3.2%	84,553	70,860	78,020	83,533	92,266	97,500
D	256	1.1%	104,063	90,000	94,640	102,863	113,152	120,016
E	186	4.5%	128,405	111,013	118,976	129,000	137,904	146,000
F	124	3.7%	150,172	130,000	142,404	150,592	162,000	172,862
F+	52	2.3%	186,702	142,000	166,546	184,404	207,001	243,000
ENGINEERING, PROCUREMENT AND CONSTRUCTION								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	36	-5.6%	37,285	37,440	37,440	42,640	47,840	55,629
A	190	2.0%	64,677	56,160	60,000	64,800	68,400	74,000
B	230	8.8%	79,080	66,500	72,000	78,000	84,739	93,600
C	478	6.3%	94,684	80,976	87,000	93,600	100,880	110,000
D	584	3.4%	119,210	100,200	109,055	117,750	128,960	139,360
E	453	-1.4%	146,467	126,000	134,400	143,727	156,000	172,000
F	311	5.4%	174,381	144,000	157,770	171,483	189,244	207,396
F+	109	15.3%	206,808	176,446	187,965	200,900	217,110	242,000
RESOURCE EXPLOITATION – EXCEPT OIL & GAS								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	36	0.1%	48,972	44,400	44,400	48,000	52,800	52,800
A	40	4.1%	75,279	69,100	72,000	74,900	77,700	80,000
B	41	4.0%	83,905	75,873	83,300	85,800	85,900	89,000
C	35	3.5%	96,094	90,654	91,700	94,300	98,500	99,500
D	32	7.0%	110,589	95,100	102,900	113,100	116,000	127,000
E	28	0.1%	128,389	111,700	115,300	120,000	141,773	151,840
F	10	0.0%	143,928	127,700	135,800	138,500	140,300	160,290
F+	Insufficient Data							

Table 7 Annual Base Salaries by Industry Sector

Engineers cont'd								
RESOURCE EXPLOITATION – OIL & GAS								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	120	3.2%	50,945	45,963	48,000	50,940	54,255	56,160
A	195	3.0%	74,212	69,605	72,000	74,998	76,500	78,214
B	536	4.3%	83,438	77,777	80,000	83,500	86,765	89,008
C	497	2.3%	97,869	88,500	93,000	96,843	101,756	108,147
D	882	2.8%	121,375	107,259	113,500	120,502	128,500	136,219
E	714	3.8%	153,653	139,210	145,500	152,100	159,691	170,200
F	369	3.2%	183,985	166,969	171,740	178,876	192,000	209,433
F+	172	2.5%	231,986	184,300	193,400	215,000	245,000	297,000
MANUFACTURING – DURABLES (Includes machinery, equipment, tools, furniture, wood, concrete, steel and plastic products.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	Insufficient Data							
B	11	-3.4%	66,721	63,000	63,050	64,610	70,980	71,502
C	8	-3.1%	77,776	70,980	75,000	77,500	82,000	86,500
D	14	0.0%	96,324	87,750	91,524	94,120	102,570	109,900
E	9	-4.9%	111,478	92,560	96,500	115,500	125,450	128,000
F	4	-7.7%	145,502	130,000	132,340	135,070	184,600	184,600
F+	Insufficient Data							
MANUFACTURING – NON-DURABLES (Includes food products, beverages, rubber, leather, textiles, pharmaceuticals, chemicals, plants, and pulp & paper.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	6	1.0%	53,027	49,920	50,400	52,760	56,160	56,160
A	15	-1.1%	66,293	60,120	63,264	65,532	72,800	73,200
B	38	4.2%	79,210	69,528	73,380	78,900	81,228	85,500
C	74	3.8%	96,427	80,904	88,105	97,200	108,588	112,833
D	96	3.2%	110,040	98,580	104,052	109,524	117,648	129,200
E	87	1.8%	129,922	116,244	126,936	126,936	134,136	154,000
F	28	2.8%	155,883	138,156	138,156	144,934	173,964	185,000
F+	14	9.5%	213,272	146,040	186,105	214,200	219,900	233,300

Table 7 Annual Base Salaries by Industry Sector

Engineers cont'd								
SERVICE – NOT FOR PROFIT (Includes governments and their controlled R & D organizations, regulatory agencies, educational and health care organizations, and Crown corporations.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	5	12.8%	75,700	73,000	74,000	75,000	75,000	81,500
B	16	9.6%	87,045	65,111	84,000	88,000	89,000	94,000
C	34	2.7%	98,507	82,549	90,300	103,000	106,500	111,000
D	23	19.3%	123,572	107,541	121,000	126,000	132,000	137,000
E	14	13.5%	133,487	105,500	119,500	138,962	140,000	145,500
F	13	13.6%	167,373	155,000	164,000	169,000	175,000	176,000
F+	Insufficient Data							
SERVICE – FOR PROFIT (Includes transportation companies [pipeline, truck, etc.], storage, computer sales / maintenance, financial services, general sales and supply-wholesale or retail-manufacturers' associations.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	14	8.7%	70,027	65,500	66,625	70,080	73,368	74,793
B	71	7.6%	80,117	75,000	77,364	79,404	81,432	87,396
C	94	3.5%	92,294	87,264	88,236	91,152	94,800	99,137
D	117	6.9%	118,114	106,332	111,417	118,140	124,056	130,000
E	92	6.1%	145,757	135,948	141,732	146,513	151,860	159,096
F	33	6.6%	172,892	155,187	161,328	174,840	183,000	189,072
F+	18	5.8%	191,874	174,732	178,416	183,924	189,444	202,320
UTILITY – RATE CONTROLLED								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	68	4.7%	52,791	44,830	50,960	53,996	57,388	57,616
A	80	-2.8%	67,872	64,000	66,000	67,703	69,489	72,696
B	83	-2.1%	75,562	67,912	72,636	75,900	78,917	84,381
C	158	-2.0%	90,049	82,225	85,100	90,000	93,434	98,823
D	187	2.2%	115,160	100,000	106,481	113,530	123,270	132,500
E	74	5.9%	139,288	121,957	128,850	137,907	152,073	168,500
F	47	5.2%	166,932	141,700	151,479	163,822	180,000	197,153
F+	14	4.8%	232,241	171,573	173,808	186,517	267,000	295,000

Table 7 Annual Base Salaries by Industry Sector

Engineers cont'd								
ADVANCED TECHNOLOGIES								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	16	-15.7%	44,688	40,000	40,200	43,550	49,400	49,400
A	60	-4.3%	56,129	48,000	54,000	55,000	60,180	63,053
B	74	1.7%	68,769	60,291	64,000	68,000	72,500	75,876
C	149	-1.5%	84,448	73,000	76,600	85,000	91,716	96,869
D	132	-1.9%	108,884	92,872	100,782	108,664	119,462	124,630
E	44	-4.2%	130,037	115,560	120,000	134,273	143,040	150,047
F	10	1.9%	147,187	130,024	141,110	146,004	157,048	167,544
F+	6	-6.3%	156,667	80,000	80,000	175,220	193,812	235,750

GEOLOGISTS BY INDUSTRY SECTOR								
CONSULTING SERVICE								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	3	5.2%	48,588	48,588	48,588	48,588	48,588	48,588
A	18	13.9%	63,086	54,000	57,600	64,800	68,000	69,819
B	22	9.5%	69,992	64,000	65,656	69,000	73,800	77,046
C	26	8.4%	82,898	72,306	78,000	83,512	86,649	91,000
D	24	4.8%	101,877	87,360	90,000	102,915	111,116	122,604
E	16	12.0%	130,784	118,482	120,000	126,814	140,000	141,379
F	8	15.4%	163,987	135,300	150,504	160,000	180,000	220,480
F+	4	n/a	174,700	135,000	155,000	192,500	216,300	216,300

Table 7 Annual Base Salaries by Industry Sector

Geologists cont'd								
RESOURCE EXPLOITATION – EXCEPT OIL & GAS								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	4	1.0%	48,900	46,800	46,800	48,000	52,800	52,800
A	3	4.3%	79,233	77,700	77,700	80,000	80,000	80,000
B	7	2.5%	84,943	83,300	83,300	83,300	86,600	89,000
C	6	0.3%	96,050	91,700	91,900	98,500	98,500	99,500
D	2	n/a	111,500	110,400	110,400	112,600	112,600	112,600
E	7	4.4%	120,671	115,000	115,400	121,200	123,600	127,400
F	Insufficient Data							
F+	Insufficient Data							
RESOURCE EXPLOITATION – OIL & GAS ONLY								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	2	-3.6%	51,615	48,750	48,750	51,615	54,480	54,480
A	21	1.0%	74,220	70,000	72,000	75,000	76,500	78,214
B	61	4.8%	82,387	77,500	80,800	83,000	85,000	86,600
C	82	4.4%	100,351	90,000	94,300	98,700	104,040	113,600
D	127	3.3%	122,734	109,600	112,500	120,800	129,660	138,840
E	148	3.6%	160,399	143,888	153,000	160,650	168,000	178,000
F	107	5.4%	193,065	172,000	178,200	185,000	195,000	235,320
F+	21	0.0%	207,674	183,800	190,632	199,700	215,000	215,200
SERVICE AND CONTROL – NOT FOR PROFIT								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	Insufficient Data							
B	6	4.8%	88,650	86,050	87,500	89,300	90,000	91,500
C	40	1.8%	100,361	90,000	95,500	99,000	109,000	109,000
D	16	3.8%	119,267	105,500	112,000	119,000	122,000	128,000
E	6	1.3%	134,150	124,500	129,000	136,000	137,500	143,900
F	4	0.0%	162,500	140,000	155,000	177,000	178,000	178,000
F+	Insufficient Data							

Table 7 Annual Base Salaries by Industry Sector

Geologists cont'd								
SERVICE - FOR PROFIT (Includes governments and their controlled R & D organizations, regulatory agencies, educational and health care organizations, and Crown corporations.)								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	Insufficient Data							
B	Insufficient Data							
C	Insufficient Data							
D	2	n/a	123,272	119,387	119,387	127,156	127,156	127,156
E	Insufficient Data							
F	Insufficient Data							
F+	Insufficient Data							

GEOPHYSICISTS BY INDUSTRY SECTOR								
CONSULTING SERVICE								
Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	2	n/a	57,991	56,750	56,750	59,232	59,232	59,232
B	2	9.5%	71,244	60,492	60,492	81,997	81,997	81,997
C	3	8.7%	76,911	74,432	74,432	74,800	81,500	81,500
D	3	1.5%	99,593	92,280	92,280	102,000	104,500	104,500
E	2	n/a	109,792	97,581	97,581	109,793	122,004	122,004
F	Insufficient Data							
F+	Insufficient Data							

Table 7 Annual Base Salaries by Industry Sector

Geophysicists cont'd								
RESOURCE EXPLOITATION – OIL & GAS ONLY								
Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	5	7.3%	78,860	76,500	76,900	78,400	80,500	82,000
B	17	4.2%	84,986	80,537	82,500	85,000	86,000	87,000
C	22	-0.1%	98,080	92,500	94,000	97,500	99,600	107,000
D	39	-0.2%	125,599	105,000	117,000	126,000	133,000	140,000
E	52	2.7%	167,218	155,000	161,617	165,000	173,555	178,003
F	42	2.9%	185,882	175,500	178,302	183,500	189,520	196,000
F+	8	3.9%	199,016	179,780	184,500	200,000	214,800	228,000

Geophysicists cont'd								
SERVICE - FOR PROFIT								
Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	5	n/a	55,783	51,000	52,010	55,968	58,472	61,463
B	8	n/a	69,752	55,915	65,100	71,599	77,568	79,832
C	6	n/a	82,387	54,000	72,768	80,827	89,523	105,435
D	3	n/a	111,695	94,410	94,410	115,784	124,892	124,892
E	2	n/a	125,675	104,350	104,350	147,000	147,000	147,000
F	4	n/a	150,704	141,050	144,200	149,266	168,300	168,300
F+	Insufficient Data							

Geophysicists cont'd								
ADVANCED TECHNOLOGIES								
Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	2	n/a	65,400	57,600	57,600	73,200	73,200	73,200
B	3	n/a	77,200	69,000	69,000	73,800	88,800	88,800
C	4	n/a	109,200	99,600	99,600	108,000	121,200	121,200
D	3	n/a	118,200	99,600	99,600	125,400	129,600	129,600
E	2	n/a	145,950	135,900	135,900	156,000	156,000	156,000
F	Insufficient Data							
F+	Insufficient Data							

Figure 2
Mean Annual Base Salary Compensation of Engineers, Geologists & Geophysicists by Industry - May 2011

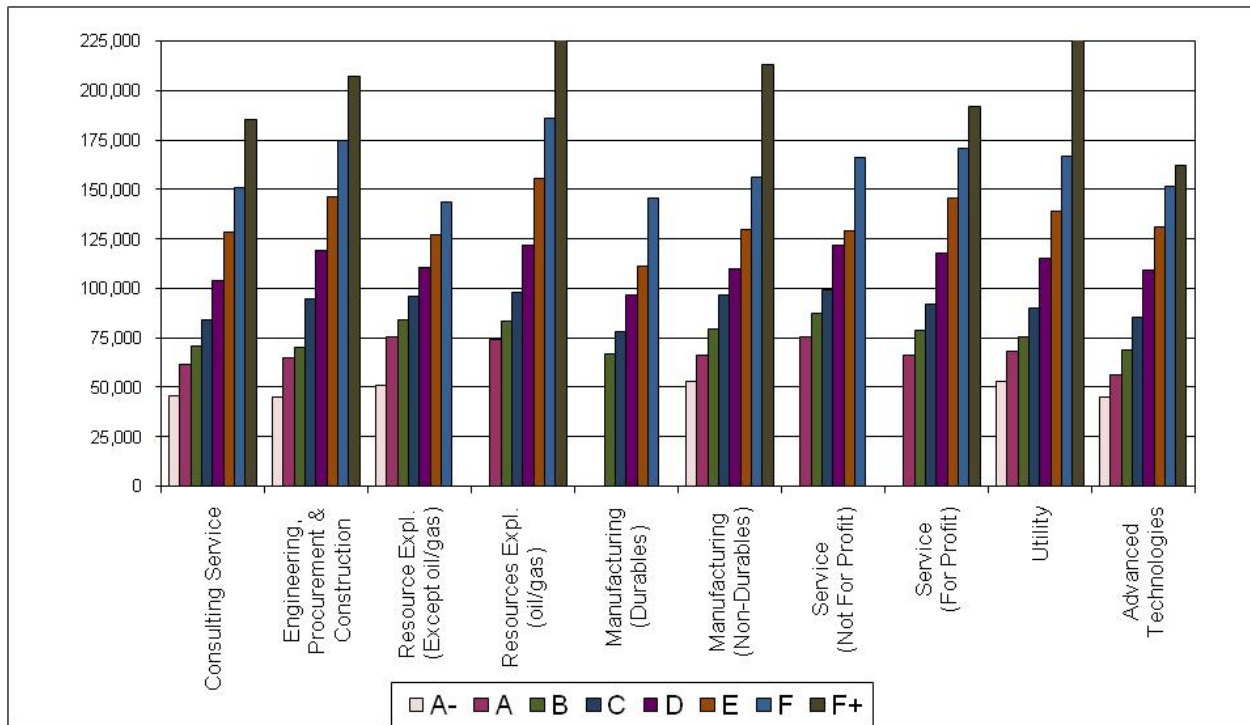


Table 8: Relative Mean Base Salary Levels by Industry

Level	All Industries (Baseline)	Consulting Service	Engineering, Procurement & Construction	Resource Exploitation. (not O&G)	Resource Exploitation (Oil & Gas)	Manufacturing (Durables)	Manufacturing (Non-Durables)	Service (Not for Profit)	Service (For Profit)	Utility (Rate-Controlled)	Advanced Technologies
A-	100.0	93.8	91.8	100.5	104.6	-	108.9	-	-	108.4	91.7
A	100.0	90.7	95.7	111.8	109.9	-	98.1	120	98.0	100.4	83.5
B	100.0	92.8	103.8	110.3	109.4	87.6	104.0	114.8	103.8	99.2	90.7
C	100.0	92.1	103.7	105.1	107.5	85.1	105.5	108.9	89.5	98.5	93.1
D	100.0	92.2	105.8	98.3	108.1	85.6	97.7	108.2	104.9	102.3	96.9
E	100.0	95.6	109.1	94.4	115.8	83.0	96.7	96.1	108.2	103.7	97.3
F	100.0	93.7	108.2	89.3	115.4	90.3	96.7	103.1	105.8	103.6	93.9
F+	100.0	93.5	104.5	-	115.3	-	107.8	-	97.0	117.4	81.8

Note: The overall average for all responses was used as the baseline, which was then given a value of 100. Each industry was then compared to the baseline. For example, an "C" level employee in the Consulting industry would make 7.9% less than the overall average for that level, while the same level employee in the Oil and Gas sector would make 7.5% more than the average.

Table 9 Annual Total Cash Compensation by Level of Responsibility

Engineers – All Industries								
Level	# of Engs.	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	303.	-1.6%	48,814	41,572	45,760	50,160	53,976	56,419
A	756	2.1%	71,225	55,634	61,984	68,894	79,000	85,815
B	1,325	7.6%	86,572	67,500	75,169	85,100	95,219	104,859
C	1,851	2.6%	98,199	80,018	88,062	96,623	107,055	119,500
D	2,323	4.5%	127,823	102,900	112,800	125,052	140,373	158,123
E	1,701	4.0%	162,432	131,040	142,000	156,954	182,468	200,000
F	949	3.2%	198,207	153,296	170,000	192,672	224,600	248,220
F+	389	7.1%	263,462	179,675	198,800	228,899	298,000	357,664

Table 10 Annual Total Cash Compensation by Level of Responsibility

Geologists – All Industries								
Level	# of Geols.	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	9	1.8%	49,400	46,800	48,000	48,589	48,750	54,480
A	42	-1.2%	74,181	57,600	71,678	74,567	80,115	84,396.
B	96	6.0%	88,222	70,000	83,300	89,520	95,721	100,900
C	155	1.4%	105,374	90,200	96,340	104,300	120,540	122,889
D	171	2.0%	135,702	109,533	120,600	132,200	149,000	170,804
E	177	3.1%	183,286	146,600	163,510	180,500	201,100	220,000
F	119	2.8%	224,837	172,000	197,000	229,100	248,896	266,178
F+	26	-8.4%	246,371	190,632	217,400	235,710	278,163	315,967

Table 11 Annual Total Cash Compensation by Level of Responsibility

Geophysicists – All Industries								
Level	# of Geophs.	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-			Insufficient Data					
A	14	-4.1%	69,402	55,605	59,232	62,660	82,300	83,855
B	30	2.3%	87,187	66,707	77,457	91,730	96,500	98,394
C	36	-3.6%	105,870	81,491	98,660	107,000	119,852	125,293
D	48	-4.3%	142,190	110,000	123,156	142,100	163,660	172,857
E	58	-0.5%	193,321	160,736	183,500	199,000	210,407	223,971
F	47	1.6%	229,329	186,000	205,115	225,000	242,712	251,295
F+	10	-2.3%	256,896	140,000	204,345	228,900	303,000	377,312

Table 12 Annual Total Cash Compensation by Industry Sector

ENGINEERS BY INDUSTRY SECTOR								
CONSULTING SERVICE								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	20	-4.0%	45,235	37,440	41,600	45,988	51,350	52,752
A	155	2.8%	63,855	53,781	68,432	61,600	67,000	76,108
B	225	5.0%	74,199	61,776	66,008	71,344	79,189	87,000
C	324	2.6%	88,040	72,321	79,357	86,988	94,935	102,607
D	256	0.8%	109,970	91,689	99,840	109,000	120,232	127,892
E	186	2.2%	139,513	119,019	128,045	138,400	150,596	161,000
F	124	6.3%	174,166	135,000	147,534	172,404	198,377	223,210
F+	52	-0.7%	225,726	159,873	180,000	205,000	254,496	352,008
ENGINEERING, PROCUREMENT AND CONSTRUCTION								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	36	-1.6%	37,285	37,440	38,480	43,680	47,840	55,629
A	190	1.4%	65,049	56,160	60,008	64,800	68,400	74,900
B	230	8.1%	79,702	67,000	72,000	78,000	85,500	98,683
C	478	5.5%	95,912	81,000	87,360	94,710	102,000	112,298
D	584	2.6%	120,963	101,920	109,964	118,794	130,396	142,680
E	453	-3.2%	148,142	128,400	135,200	144,000	157,900	174,400
F	311	2.1%	176,985	146,400	159,600	173,610	191,061	208,000
F+	109	13.7%	212,127	176,766	188,000	200,900	217,750	245,393
RESOURCE EXPLOITATION – EXCEPT OIL & GAS								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	36	-0.9%	48,972	44,400	44,400	48,000	52,800	52,800
A	40	5.3%	82,203	72,000	77,700	83,609	87,396	90,939
B	41	18.2%	96,296	81,757	88,809	99,309	102,919	106,176
C	35	0.5%	116,117	97,500	104,074	118,898	127,130	131,333
D	32	-4.3%	127,643	102,867	110,408	133,792	140,208	148,703
E	28	-2.6%	161,333	133,385	148,843	163,437	174,529	187,476
F	10	-3.3%	208,846	164,258	189,118	206,774	214,242	271,900
F+	Insufficient Data							

Table 12 Annual Total Cash Compensation by Industry Sector

Engineers cont'd								
RESOURCE EXPLOITATION – OIL & GAS								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	120	-2.5%	50,966	45,963	48,000	50,940	54,254	57,923
A	195	6.3%	85,143	72,900	77,220	80,500	85,600	99,732
B	536	7.3%	97,594	84,000	88,500	94,114	102,231	113,848
C	497	2.6%	109,304	94,200	100,211	108,500	116,936	124,080
D	882	4.3%	141,896	117,100	127,221	139,933	155,960	167,246
E	714	4.2%	182,555	153,000	166,500	182,100	196,047	212,700
F	369	2.3%	224,862	186,900	204,096	224,209	244,000	261,437
F+	172	2.7%	305,484	214,100	237,565	281,841	332,628	403,437
MANUFACTURING – DURABLES (Includes machinery, equipment, tools, furniture, wood, concrete, steel and plastic products.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	2	0.2%	58,600	57,200	57,200	60,000	60,000	60,000
B	11	-3.0%	68,919	64,500	66,511	67,673	72,150	73,502
C	8	-4.0%	79,540	73,500	75,355	77,500	86,500	90,234
D	14	-2.3%	99,708	76,500	95,410	100,245	108,000	110,000
E	9	7.1%	118,498	101,703	107,438	124,125	128,000	133,905
F	4	-8.2%	153,159	130,000	132,340	135,070	215,225	215,225
F+	Insufficient Data							
MANUFACTURING – NON-DURABLES (Includes food products, beverages, rubber, leather, textiles, pharmaceuticals, chemicals, plants, and pulp & paper.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	6	-4.9%	53,027	49,920	50,400	52,760	56,160	56,160
A	15	3.6%	72,185	63,517	66,874	69,880	82,992	83,448
B	38	8.5%	88,584	75,513	81,493	89,490	93,961	105,343
C	74	8.8%	109,145	89,584	99,109	107,830	124,832	132,324
D	96	-6.5%	127,159	105,817	114,740	130,423	133,573	154,179
E	87	8.7%	157,551	138,525	145,516	152,344	159,800	197,709
F	28	9.9%	200,212	168,850	175,614	182,614	231,388	241,569
F+	14	15.3%	280,051	202,906	204,715	274,252	305,251	382,573

Table 12 Annual Total Cash Compensation by Industry Sector

Engineers cont'd								
SERVICE – NOT FOR PROFIT (Includes governments and their controlled R & D organizations, regulatory agencies, educational and health care organizations, and Crown corporations.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	5	12.7%	75,780	73,000	74,000	75,000	75,000	81,900
B	16	9.0%	87,114	65,111	84,100	88,100	94,000	96,400
C	34	2.4%	98,581	82,549	90,300	103,400	106,500	111,000
D	23	19.0%	123,776	107,541	121,000	125,500	132,000	137,500
E	14	13.3%	133,630	105,500	124,081	138,962	143,500	152,500
F	13	13.5%	167,373	155,000	164,000	169,000	175,000	176,000
F+	Insufficient Data							
SERVICE – FOR PROFIT (Includes transportation companies [pipeline, truck, etc.], storage, computer sales / maintenance, financial services, general sales and supply-wholesale or retail-manufacturers' associations.)								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	14	10.5%	75,939	65,500	70,458	72,654	81,662	86,841
B	71	9.1%	87,458	76,482	78,114	80,562	91,188	105,969
C	94	1.3%	96,563	88,014	89,958	93,834	98,000	113,289
D	117	14.0%	126,163	108,696	113,424	120,504	132,012	152,000
E	92	3.5%	152,316	136,698	142,482	148,266	155,502	179,769
F	33	-3.8%	191,282	161,460	170,124	180,540	189,204	267,000
F+	18	-15.5%	214,315	174,732	178,416	183,924	189,444	202,320
UTILITY – RATE CONTROLLED								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	68	4.7%	52,791	44,830	51,168	53,996	57,389	57,616
A	80	-3.5%	70,581	64,500	66,425	67,912	71,149	76,204
B	83	-3.0%	77,985	67,912	73,811	77,000	81,228	88,706
C	158	-3.2%	94,642	83,200	89,362	94,226	100,553	104,645
D	187	1.7%	122,423	104,902	112,000	120,789	132,622	143,432
E	74	7.3%	155,503	127,563	140,107	152,475	167,800	188,909
F	47	14.9%	212,528	156,206	169,450	180,000	212,624	346,000
F+	14	-2.7%	312,951	186,573	206,253	221,999	331,574	435,707

Table 12 Annual Total Cash Compensation by Industry Sector

Engineers cont'd								
ADVANCED TECHNOLOGIES								
Level	# of Engineers	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	16	-15.7%	44,703	40,000	40,200	43,550	49,400	49,400
A	60	-5.6%	56,828	48,000	54,000	55,593	61,544	64,617
B	74	-0.1%	70,573	62,183	65,106	70,300	74,413	79,000
C	149	-2.8%	86,659	75,000	77,394	86,663	94,504	99,541
D	132	-2.3%	112,099	95,017	103,609	110,249	121,415	128,632
E	44	0.6%	141,220	121,358	133,850	142,579	150,308	153,634
F	10	-18.7%	170,139	130,024	144,200	156,200	168,457	283,218
F+	6	-22.6%	164,118	80,000	80,000	175,000	235,750	238,520

GEOLOGISTS BY INDUSTRY SECTOR								
CONSULTING SERVICE								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	3	5.2%	48,589	48,588	48,588	48,588	48,588	48,588
A	18	11.9%	67,686	54,000	57,600	71,678	74,207	75,779
B	22	11.0%	75,677	59,865	68,119	70,135	80,549	105,086
C	26	10.4%	90,615	72,500	83,800	91,210	96,339	101,916
D	24	7.2%	113,873	87,360	92,700	114,530	126,471	148,478
E	16	15.8%	147,961	126,684	129,482	142,952	162,032	173,126
F	8	21.0%	192,924	143,042	145,300	195,706	220,480	250,000
F+	4	n/a	202,032	145,665	167,245	235,710	259,510	259,510
RESOURCE EXPLOITATION – EXCEPT OIL & GAS								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	4	n/a	48,900	46,800	48,000	48,000	48,000	52,800
A	3	3.3%	88,741	77,700	77,700	93,420	95,103	95,103
B	7	13.2%	96,220	83,300	90,567	98,326	99,904	106,189
C	6	-8.9%	119,572	91,900	111,918	125,521	129,211	133,361
D	2	n/a	130,454	110,400	110,400	150,508	150,508	150,508
E	7	-7.0%	161,447	120,000	158,554	167,482	172,146	178,307
F	Insufficient Data							
F+	Insufficient Data							

Table 12 Annual Total Cash Compensation by Industry Sector

Geologists cont'd								
RESOURCE EXPLOITATION – OIL & GAS ONLY								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	2	-3.6%	51,615	48,750	48,750	51,615	54,480	54,480
A	21	-2.2%	77,669	72,000	74,000	77,724	80,250	84,396
B	61	5.2%	91,781	83,152	86,300	91,800	96,500	101,561
C	82	0.7%	110,952	96,800	102,800	111,167	119,622	124,552
D	127	1.6%	141,660	119,300	127,400	136,260	152,500	174,733
E	148	2.4%	190,121	159,660	170,400	190,000	207,103	224,000
F	107	0.4%	229,553	172,000	208,000	231,000	250,000	270,240
F+	21	-1.9%	266,263	206,868	217,400	237,100	293,000	342,000
SERVICE – NOT FOR PROFIT								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	Insufficient Data							
B	6	3.0%	88,717	86,050	87,500	89,300	90,000	91,750
C	40	-0.3%	100,519	90,200	95,500	99,200	107,000	109,000
D	16	-1.1%	119,623	105,500	112,000	119,200	125,200	134,000
E	6	-3.2%	134,367	124,700	129,200	136,200	138,000	143,900
F	4	0.0%	162,500	140,000	155,000	166,000	177,000	178,000
F+	Insufficient Data							
SERVICE - FOR PROFIT								
Level	# of Geologists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	Insufficient Data							
B	Insufficient Data							
C	Insufficient Data							
D	2	n/a	153,204	149,159	149,159	157,249	157,249	157,249
E	Insufficient Data							
F	Insufficient Data							
F+	Insufficient Data							

Table 12 Annual Total Cash Compensation by Industry Sector

GEOPHYSICISTS BY INDUSTRY SECTOR								
CONSULTING SERVICE								
Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	2	n/a	57,991	56,750	56,750	59,232	59,232	59,232
B	2	9.2%	71,244	60,492	60,492	81,997	81,997	81,997
C	3	-11.2%	79,506	74,432	74,432	74,800	89,286	89,286
D	3	-2.5%	99,593	92,280	92,280	102,000	104,500	104,500
E	2	n/a	118,292	99,581	99,581	118,293	137,004	137,004
F	Insufficient Data							
F+	Insufficient Data							
RESOURCE EXPLOITATION – OIL & GAS ONLY								
Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	5	83,311	80,500	82,300	82,900	83,855	87,000	83,311
B	17	95,713	89,000	91,730	95,934	98,075	103,592	95,713
C	22	110,431	98,000	105,437	108,100	119,852	125,293	110,431
D	39	147,124	117,000	124,733	149,136	164,398	177,032	147,124
E	52	198,169	161,500	184,200	202,000	213,316	226,284	198,169
F	42	233,825	198,100	210,700	232,000	243,863	259,213	233,825
F+	8	256,455	201,880	204,345	228,900	303,000	335,231	256,455
SERVICE - FOR PROFIT								
Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	5	n/a	59,568	54,072	55,605	59,611	62,660	65,893
B	8	n/a	74,956	59,447	66,707	75,503	83,440	88,290
C	6	n/a	90,524	57,326	81,491	92,439	102,051	117,399
D	3	n/a	124,532	105,979	105,979	128,849	138,769	138,769
E	2	n/a	148,641	126,591	126,591	170,691	170,691	170,691
F	4	n/a	184,050	176,062	179,422	182,183	184,944	195,770
F+	Insufficient Data							

Geophysicists cont'd**ADVANCED TECHNOLOGIES**

Level	# of Geo-physicists	Change in Mean '10-'11	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data							
A	2	n/a	70,623	62,138	62,138	79,108	79,108	79,108
B	3	n/a	82,122	74,761	74,761	76,247	95,358	95,358
C	4	n/a	117,772	108,000	114,999	117,471	119,943	128,145
D	3	n/a	138,307	107,165	107,165	149,170	158,585	158,585
E	2	n/a	187,002	163,597	163,597	210,407	210,407	210,407
F	Insufficient Data							
F+	Insufficient Data							

Figure 3
Mean Annual Total Cash Compensation of Engineers, Geologists & Geophysicists by Industry - May 2011

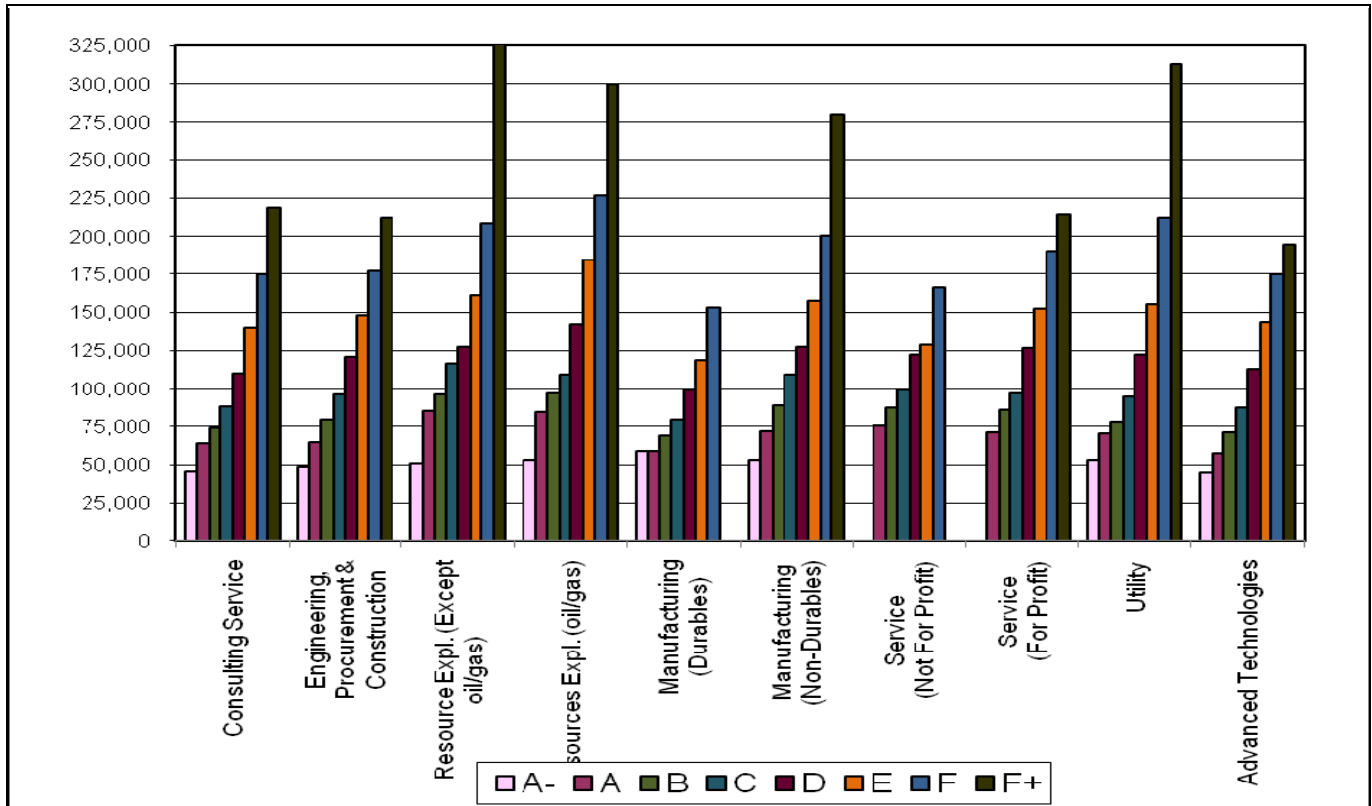


Table 13: Relative Mean Total Cash Compensation Levels by Industry

Level	All Industries (Baseline)	Consulting Service	Engineering, Procurement & Construction	Resource Exploitation. (not O&G)	Resource Exploitation (Oil & Gas)	Manufacturing (Durables)	Manufacturing (Non-Durables)	Service (Not for Profit)	Service (For Profit)	Utility (Rate-Controlled)	Advanced Technologies
A-	100.0	93.8	91.9	100.6	104.7	120.3	108.9	-	n/a	108.4	91.8
A	100.0	89.4	90.1	117.3	117.5	81.6	100.5	105.5	99.8	98.3	79.8
B	100.0	89.8	96.3	116.4	117.2	83.3	107.0	105.8	104.2	94.2	85.8
C	100.0	90.2	98.2	119.3	112.1	81.4	111.7	101.9	98.9	96.8	89.5
D	100.0	90.9	99.8	105.5	117.2	82.3	104.9	100.8	104.5	101.0	93.0
E	100.0	93.9	99.4	108.3	123.9	79.5	105.7	86.7	102.3	104.3	96.1
F	100.0	93.0	93.9	110.8	120.2	81.3	106.2	88.2	101.1	112.7	92.7
F+	100.0	88.4	85.7	137.5	121.0	-	113.2	-	86.6	126.5	78.6

Note: The overall average for all responses was used as the baseline, which was then given a value of 100. Each industry was then compared to the baseline. For example, an "C" level employee in the Consulting industry would make 9.8% less than the overall average for that level, while the same level employee in the Oil and Gas sector would make 12.1% more than the average.

SECTION 3

DETERMINING 2011 TO 2012 SALARY ADJUSTMENT

The market varies from year to year. After identifying your market salary for 2011 (Section 2), you should then examine the current market pressures on salaries.

1. Inflation Factor

The inflation factor adds an amount (usually expressed in percent) to allow for the percentage increase in the Consumer Price Index (a restoration of the value of the dollar concept). National CPI increases as well as those for Alberta, Edmonton and Calgary are supplied below in Table 14. In a balanced job market, cost of living adjustments tend to lag behind inflation by about one year, though in tight markets pay adjustments may come more frequently.

TABLE 14

Consumer Price Increase Index Year-Over-Year Percent Change				
	Canada	Alberta	Edmonton	Calgary
1994	0.2	1.5	1.6	1.4
1995	2.5	2.4	1.9	2.7
1996	2.3	2.3	2.0	2.8
1997	1.8	1.8	1.6	2.0
1998	1.0	1.5	1.2	1.9
1999	1.8	2.1	2.1	2.0
2000	3.0	4.0	3.7	4.4
2001	2.8*	2.7*	2.7*	2.7*
2002	2.3	2.9	2.0	3.6
2003	2.2	3.3	4.5	2.1
2004	2.5	2.2	1.9	2.4
2005	2.6	2.4	2.2	2.3
2006	2.8	4.5	3.9	4.9
2007	2.2	5.0	4.5	5.0
2008	2.2	3.7	4.1	4.0
2009	0.1	-0.7	-0.2	-0.7
2010	1.4	1.1	1.0	1.1
2011	3.3	3.0	2.9	2.6

*Estimated

Source: Statistics Canada (April 2011)

2. Demand Factor

The 2008 – 2009 economic down turn was deeper than first anticipated by economic forecasters in Canada and the recovery has been slower than some predicted. Alberta's economic recovery depends on improvement in world commodity prices and the pace of global economic recovery, specifically in the United States. Moderate labour supply pressures will resurface for some occupations in the medium and long term due to Alberta's aging population. Labour market researchers are predicting a return to 2008 employment levels by the year 2012. According to *Alberta's Occupational Demand and Supply Outlook 2009 – 2019*, the demand for engineers and geoscientists will remain stable for the next two years (http://employment.alberta.ca/documents/LMI/LMI-LMF_occ_demand_supply.pdf). The anomaly in this is Civil Engineers, where significant supply pressures are predicted for 2010 – 2012.

According to our survey respondents, 81% indicated that they expect to add to their professional staff over the next year, while 18% indicated that they would be maintaining current staffing levels. Only 0% indicated plans to reduce staff over the next year. Based on these factors, it is expected that the demand for APEGGA members will continue as the economic climate continues to recover and grow, particularly in the resource sector. Therefore, we are predicting a demand factor of 1.0%.

Members who are aware that their specific expertise is in short supply may want to use a higher estimate for their demand factor; members who are aware that supply in their field of practice is abundant may want to use a lower estimate.

EXAMPLE - This example is illustrative only. Individual situations may vary considerably

Using the factors outlined under our example, the May 2010 survey data in Section 2 can be adjusted to May 2011 by adding what you estimate the increase will be for two main factors for the 12-month period.

The salary adjustment estimates (as explained under each factor) are as follows:

Inflation Factor (CPI)	3.0%
Demand Factor	<u>1.0%</u>
Estimated Salary Adjustment from 2010 to 2011	4.0%

For the Human Resources Manager, these factors should be considered, but may not necessarily be incrementally assessed for your salary pool. Besides these external factors, pooled salary behaviour also depends on such factors as new hires, attrition, internal promotions, etc.

Table 15

APEGGA Employer Salary Surveys											
Percent Change in Mean <u>Base</u> Salaries											
by Level of Responsibility – 2000 To 2011											
ENGINEERS											
Level	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %	05-06 %	06-07 %	07-08 %	08-09 %	09-10 %	10-11 %
A-	-	-	6.4	0.7	-0.6	10.7	5.4	2.9	4.4%	3.4%	-1.3%
A	1.9	5.9	1.6	3.2	2.6	7.0	8.5	2.5	5.8%	1.1%	1.3%
B	6.7	4.2	1.6	2.8	4.0	4.1	9.2	3.9	3.5%	0.9%	4.8%
C	5.4	2.6	1.0	3.9	3.6	5.2	9.0	3.6	2.2%	0.7%	2.7%
D	3.3	7.9	2.6	3.4	3.7	6.9	6.6	5.2	0.7%	2.6%	3.5%
E	3.2	2.2	4.1	3.7	5.9	5.7	7.6	3.8	-1.2%	7.0%	3.6%
F	4.6	4.5	3.8	3.2	6.9	4.9	5.8	6.4	-1.0%	4.6%	4.7%
F+	5.8	4.1	6.9	1.4	11.9	2.2	6.9	8.8	0.1%	1.0%	6.4%
GEOLOGISTS											
Level	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %	05-06 %	06-07 %	07-08 %	08-09 %	09-10 %	10-11 %
A-	-	-	-	20.2	5.4	-0.1	-2.4	4.1	3.9%	-8.3%	1.6%
A	1.1	8.2	-3	-8.2	-0.1	3.3	9.3	2.5	6.9%	-0.3%	1.0%
B	1.6	8.7	1.3	7.0	4.0	6.4	7.2	5.2	0.0%	0.0%	4.9%
C	2	9.9	-1.5	3.2	7.7	1.9	8.0	4.6	-0.4%	1.3%	4.3%
D	4.6	11.6	-0.8	6.7	5.1	0.6	6.7	4.4	-3.6%	2.0%	3.7%
E	4.5	5.3	1.6	4.6	3.5	7.7	5.2	6.5	1.2%	1.3%	4.2%
F	5.5	3.6	4.1	2.9	1.2	4.7	7.7	5.8	1.6%	3.9%	6.8%
F+	-0.7	5.3	-1.7	8.7	1.8	13.1	12.3	6.6	7.5%	-6.0%	-1.8%
GEOPHYSICISTS											
Level	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %	05-06 %	06-07 %	07-08 %	08-09 %	09-10 %	10-11 %
A-	-	-	-	13.2	-	-	-7.8	16.3	-	-	-
A	1.7	10.9	-5.2	10.2	-0.3	4.1	12.3	8.5	10.7%	6.9%	-3.5%
B	3.2	7.5	-1.3	8.6	-8.1	16.5	10.8	6.6	-2.6%	1.5%	4.7%
C	5.2	6.2	-1.9	3.0	0.3	10.5	14.7	1.4	-3.7%	7.0%	-1.7%
D	4.5	8.2	2.3	6.0	0.5	6.1	8.1	3.1	-2.3%	8.2%	-0.1%
E	5.7	2.7	3.9	4.4	4.2	9.4	7.2	5.0	2.3%	3.1%	1.7%
F	4.3	5.8	3.8	2.5	3.5	5.7	6.4	6.5	2.0%	2.5%	2.6%
F+	15.5	-2.6	5.6	7.7	-0.9	9.7	11.5	5.2	3.4%	-4.4%	1.5%

SECTION 4

2011 SALARY EXPECTATION

STEP 1

Determine Your Level of Responsibility

Determine your level of responsibility (see Section 1) as you will want to make comparisons which relate to your level.

Step 2

Determine Your Level of Performance

At this step you turn from evaluating the job to evaluating yourself, and how well you are performing the job you hold.

Performance can range from:

- (a) very low - new in the job, new in the company, with a minimum of directly related experience so that considerable and fairly close supervision is required, to
- (b) very high - five or six years in the job (assuming a "C" Level of Responsibility) so that you perform quickly (you don't have to double-check because you've handled that kind of problem before), you accomplish a great deal, it's accurate and you need little supervision (people know that you will get the job done and that it will be done well).

To illustrate further, if the level "C" engineer has a few years' experience in the job, brought no or very little directly relevant experience to the job, has come to the job from outside the company and is still having trouble arriving at a decision or makes poor decisions, submits reports that still need to be checked for accuracy, the level "C" engineer could expect base pay in the range of \$78,728 to \$85,591 (Table 4, D1 to Q1) per year in 2011.

On the other hand, if after two years, the level "C" engineer makes good decisions quickly, presents reports and recommendations that are normally accepted, starts to see and suggest ways to improve the work and is generally accepted as a strong member of the team, the level "C" engineer should expect base pay in the range of \$98,706 to \$106,080 (Table 4, Q3 to D9) per year.

Step 3

Determine Your 2011 Salary Range

Consult the salary survey data reported for your professional group (engineer, geologist or geophysicist) and the salary survey data reported for your industry sector in Section 2. This data plus other salary survey data on engineers, geologists and geophysicists in Appendix B will help you to determine your 2011 salary range.

Step 4

Determine 2011 to 2012 Salary Adjustment

Using the Example in Section 3 and/or other information available to you, determine what the estimated increase may be in salary from 2011 to 2012. Use this value to adjust your 2011 salary range in order to arrive at your 2012 salary range.

For example, the 2011 base salary for a level "C" engineers (all industries) ranges as follows:

2011 Results – Engineer Level C – Base Salaries - All Industries					
Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
92,519	78,728	85,591	92,500	98,706	106,080

If the 2011 - 2012 increase in salaries is estimated to be 4.0% as shown in the example, (page 40) the salary range for the level "C" engineer would be:

2011 Projection – Engineer Level C – Base Salaries - All Industries					
Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
96,219	81,877	89,015	96,200	102,654	110,323

Salary Trends

The APEGGA survey collected additional information from employers on anticipated salary adjustments over the next 12 months:

- 81.0% of our 118** respondents estimated salaries will increase by an average of **3.3%**.
- 18.1% of our 118** respondents estimated salaries will remain stable.
- 0%** of our 118 respondents indicated that salaries would decrease.

Other Considerations

- Salary is one of two major components of remuneration received by an employee; the other being benefits. In order to determine your total compensation, it is important to consider both parts. Section 5 contains information on employee benefits and compensation concepts.
- A weakness of the single market survey is that a strong market demand for the services of a single occupational group will push salary rates for that group to unusually high levels (in relation to the level of responsibility assumed) causing dissatisfaction in related occupational groups and setting up high turnover rates later when demand declines. The opposite also happens when demand is low.

As such, salaries of an occupational group (determined by a strict application of the single market approach) are neither efficient in encouraging a steady inflow of quality persons nor in encouraging persons already practicing the occupation to continue to practice. Both of these factors are of concern.

- In order to stabilize salaries, some companies consider changes in the economy and actual salaries paid to a variety of other occupational groups, as well as the trends in these.

There are many factors to consider and only some have been referred to above. However, using these factors and/or those considered important by your supervisor or company, you should be able to arrive at a dollar figure which will equate to the value of professional services you are providing for your company.

COMPENSATION CONCEPTS

The total compensation of any employed individual or the total payroll cost of an employee is made up of two major segments — salary and benefits. Payroll costs do not include office space, secretarial help, insurance etc., which are created or added to when an employee is on or added to the payroll.

Salary is also made up of two parts - regular salary and overtime compensation (though some employers do not provide overtime compensation for professional employees). Table 16 summarizes data obtained from the 2011 Employer Salary Survey regarding overtime compensation.

The benefit segment is made up of two parts - the time-not-worked benefits and what might be called the general benefits. Details of what is included in each segment are provided in Employee Benefits which follow.

The percentage (of the total compensation) proportions given in Table 16 are averages which reflect values for 2011. No given company (or employee) will exactly match these.

Employee Benefits

There is a wide variation of practice and opinion as to what should be classed as an employee benefit. The definitions described below have been used in this publication.

1. Quoted Yearly Salary or Base Salary

Pay for time worked at normal rates plus the cost of the time-not-worked benefits. Quoted yearly salary does not include payment of overtime.

2. General Benefits

A payment by the employer to the employee directly or to a third party on behalf of the employee to secure for the employee an advantage or protection of benefit to the employee.

Provision by the employer or the making available of (at no or reduced cost) some facility, object or service of benefit to the employer.

(a) Cash Benefit Payments made by the employer on behalf of the employee for:

- i) pension or superannuation provisions.¹
- ii) a hospital, medical, dental, sickness, disability, life, income maintenance, etc., plan.
- iii) the Canada Pension Plan, Unemployment Insurance, Workers' Compensation plans (compulsory in Alberta).
- iv) termination or severance pay, the premium portion of premium pay, relocation assistance.

(b) No Cash Benefit Provision by the employer, at no or reduced cost to the employee, of: recreation facilities and/or equipment, food, lodging, loans, parking, transportation, educational opportunities, discounts on company products, etc.

¹ This category should not include amounts which the employer sets aside to fund what might be called incentive or productivity plans such as profit sharing plans and one-time bonus plans which are based on productivity measure. These plans should be considered and administered apart from the basic salary and benefit system in order to preserve the integrity of the basic system.

3. Time-Not-Worked Benefits (Payments made by the employer to the employee for time not worked)

This is included as part of the Quoted Yearly Salary.

- (a) For Monthly or Yearly Paid Employees:
Time off from work (the employee does not have to be at the place of work), or periods when the employee is at work but not working and for which there is no reduction to the quoted yearly salary.
- (b) For Hourly Paid Workers:
Payments in lieu of holiday days and vacation days.
- (c) Holiday Days
Includes the nine statutory (also called general) holidays in Alberta and declared holidays which may be declared by federal, provincial or municipal authorities (but they become a work holiday only if the employer so declares).
 - i) Statutory Holidays: New Year's Day, Family Day, Good Friday, Victoria Day, Canada Day, Labour Day, Thanksgiving Day, Remembrance Day, and Christmas Day.
 - ii) Declared Holidays: Boxing Day and Heritage Day.
- (d) Vacation Days
- (e) Other Days and/or Periods: Sick Leave not covered by 2 (a)ii, travel time, clean-up time, rest and/or coffee periods, personal leave (jury duty, voting, bereavement, maternity, paternity, etc.).

Employer Salary Survey Compensation Data

The APEGGA survey collected additional information on other compensation provided to employees. (see Tables 16 through 18). This data indicates that some of the organizations provide benefits packages which vary depending on the responsibility level of the individual; while others provide standard benefits packages to all employees (some even extend benefits programs to the A-level – co-op, summer, and intern program students).

Information from the survey pertaining to weekly hours of work is available in Figure 4. The availability of overtime and additional cash compensation, along with the availability of other benefit programs is reported in Table 15. Vacation entitlement data is reported in Table 16.

Additional cash compensation was disbursed to 52.8% of the engineers, 73.2% of the geologists and 88.1% of the geophysicists. Table 16 reports details on additional cash compensation for those who receive it. Note – since not all employees receive additional cash, the Total Cash Compensation tables are not a simple summation of the Base Salary figures with the Additional Cash compensation tables.

Figure 4
Weekly Hours of Work Based on Number of Employees (N=10,635)
May 2011

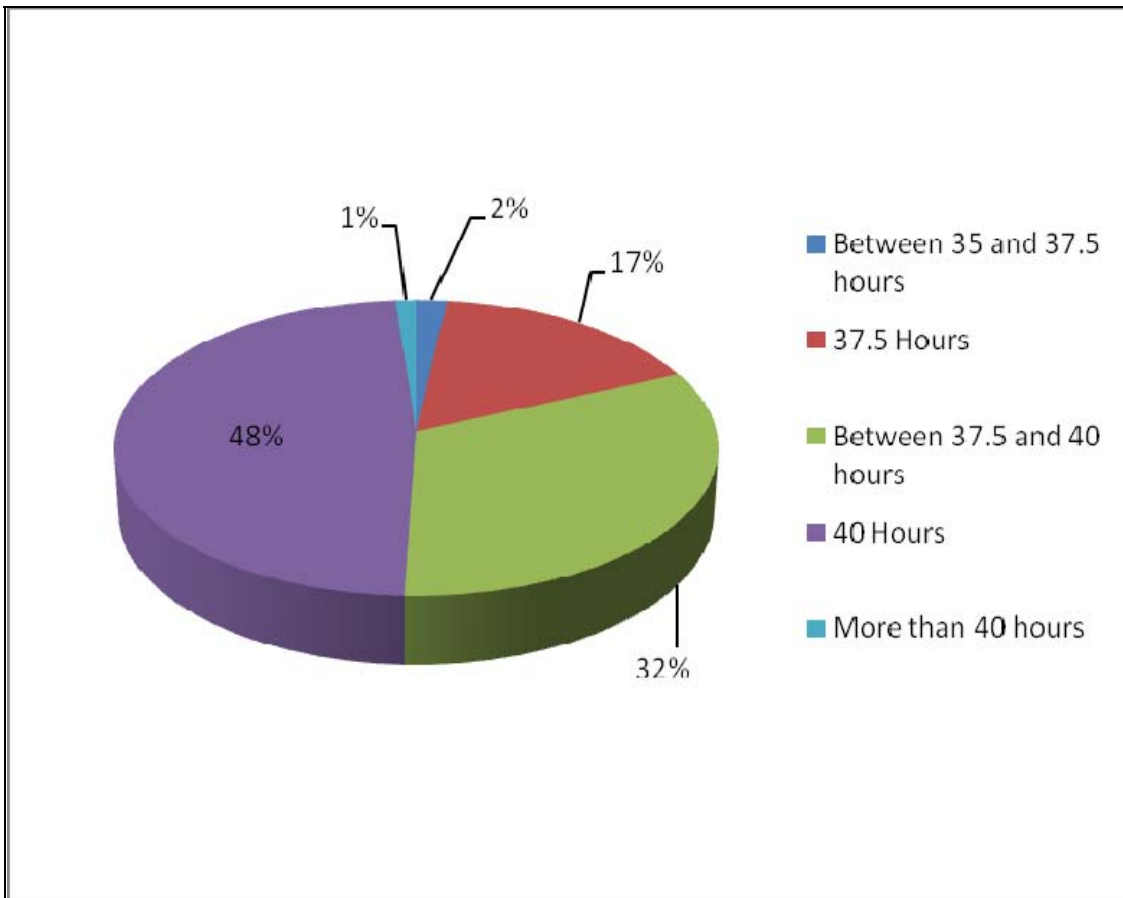


Table 16

Percentage of Employees Receiving Additional Compensation & Benefits – May 2011								
Total Number of Employees: 10,635								
Level	A-	A	B	C	D	E	F	F+
Additional Cash Compensation								
a. Cash Bonus Payments	31%	62%	63%	58%	67%	67%	62%	61%
b. Profit Sharing Payments	26%	23%	16%	16%	19%	17%	13%	17%
c. Performance/Merit Bonus	32%	59%	65%	64%	71%	68%	62%	64%
d. Productivity/Gain Sharing	28%	12%	10%	10%	15%	14%	10%	8%
e. Commissions	26%	10%	6%	8%	13%	11%	6%	5%
f. Other	38%	18%	10%	12%	18%	13%	7%	5%
Overtime Compensation								
g. Cash	47%	64%	57%	48%	42%	35%	25%	23%
h. Time Off In-Lieu	43%	57%	47%	55%	46%	43%	32%	25%
Other Compensation								
i. Stock Options/Purchases	30%	30%	26%	30%	36%	54%	53%	66%
j. Car/Car Allowance	28%	11%	7%	8%	14%	14%	10%	22%
k. Vehicle Allowance	28%	11%	7%	9%	15%	13%	11%	29%
l. Parking	32%	25%	18%	29%	37%	33%	52%	60%
m. Other	18%	29%	42%	34%	44%	41%	32%	22%
Benefits Package								
n. Pension Plan	26%	52%	64%	54%	62%	63%	58%	58%
o. Employer Contribution to RRSP	27%	62%	57%	67%	65%	72%	68%	75%
p. Medical Beyond AHC	29%	94%	96%	94%	98%	96%	95%	100%
q. Long Term Disability	28%	98%	99%	98%	99%	99%	100%	99%
r. Life/Accident Insurance	41%	98%	100%	99%	100%	99%	100%	99%
s. Drug Plan	29%	98%	100%	99%	100%	99%	100%	99%
t. Dental Plan	29%	98%	99%	98%	98%	99%	92%	99%
u. Vision Care	28%	86%	84%	80%	85%	81%	76%	69%
v. Legal Plan	26%	15%	9%	9%	13%	11%	6%	6%
w. Savings Plan	26%	52%	61%	51%	61%	64%	63%	62%
x. Other	16%	34%	43%	30%	40%	41%	36%	37%

Table 17

Vacation Entitlement – May 2011

Vacation Entitlement	Minimum Years of Service to Qualify	% of Employers Providing Entitlement
2 Weeks	On Hire	6%
	1 year	10%
3 Weeks	On Hire	10%
	1 year	22%
	2 years	5%
	3 years	9%
	4 years	5%
	5 years	3%
	More than 5 years	3%
4 Weeks	On Hire	1%
	1 year	0%
	2 years	1%
	3 years	0%
	4 years	0%
	5 years	16%
	6 years	1%
	7 years	6%
	8 years	10%
	9 years	4%
	10 years	42%
	More than 10 years	2%
5 Weeks	Less than 10 years	1%
	10 to 14 years	13%
	15 years	5%
	16 years	8%
	17 years	2%
	18 years	4%
	19 years	6%
	20 years	21%
	21 to 24 years	1%
	25 years	3%
6 Weeks	15 to 19 years	4%
	20 to 24 years	11%
	25 years	18%
	30 years	4%
7 Weeks	25 to 30 years	5%

Table 18

Additional Cash Compensation Disbursed – May 2011

ENGINEERS							
Level	# of Engs.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data						
A	268	7,024	1,275	2,295	7,142	8,957	12,048
B	769	10,085	1,547	5,181	10,086	14,874	17,200
C	884	10,820	750	3,614	9,100	16,600	22,228
D	1,308	18,581	5,181	8,800	17,500	25,915	31,982
E	1,055	27,275	5,000	14,300	26,000	37,906	48,637
F	545	43,411	13,649	23,000	40,925	55,346	70,395
F+	240	77,821	17,120	31,900	60,000	100,000	144,447

GEOLOGISTS							
Level	# of Geols.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data						
A	19	6,655	1,961	3,669	6,278	9,240	13,420
B	72	9,730	4,100	5,214	10,554	13,190	15,500
C	99	11,880	250	4,000	9,835	19,328	28,876
D	134	20,432	4,293	10,000	19,849	28,600	39,829
E	150	32,931	10,000	17,352	30,000	44,782	59,742
F	84	49,235	18,660	28,000	42,581	67,066	83,750
F+	23	58,247	12,245	30,600	43,210	78,163	100,967

GEOPHYSICISTS							
Level	# of Geophs.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	Insufficient Data						
A	11	4694	3,072	3,643	4,430	5,908	7,355
B	28	8,527	3,000	4,730	8,579	11,389	13,592
C	27	13,142	6,500	7,800	10,282	19,492	22,802
D	41	22,886	5,900	12,000	21,478	36,398	40,278
E	53	33,104	15,000	20,000	30,000	44,000	61,284
F	45	48,282	23,100	27,470	40,000	59,612	67,343
F+	9	71,514	22,100	22,100	56,650	107,231	184,112

ADDITIONAL ANALYSIS

Gender

This is the fifth year that APEGGA has included questions regarding the gender of individuals. Note that 85.6% of responses contained information about gender (9,120 of 10,635 individual salary data points).

Of the 9,120 data points that contained gender, it was determined that 1,661 (18.2%) were female and 7,459 (81.8%) were male. The percentage of female members in APEGGA's member database (Professional Members and Members-in-Training), is currently 12.9%.

The distribution of respondents by level of responsibility varies by gender for engineering, geology, and geophysics (see Figures 5 - 7)

Figure 5 – Gender Distribution by Responsibility Level for Engineering

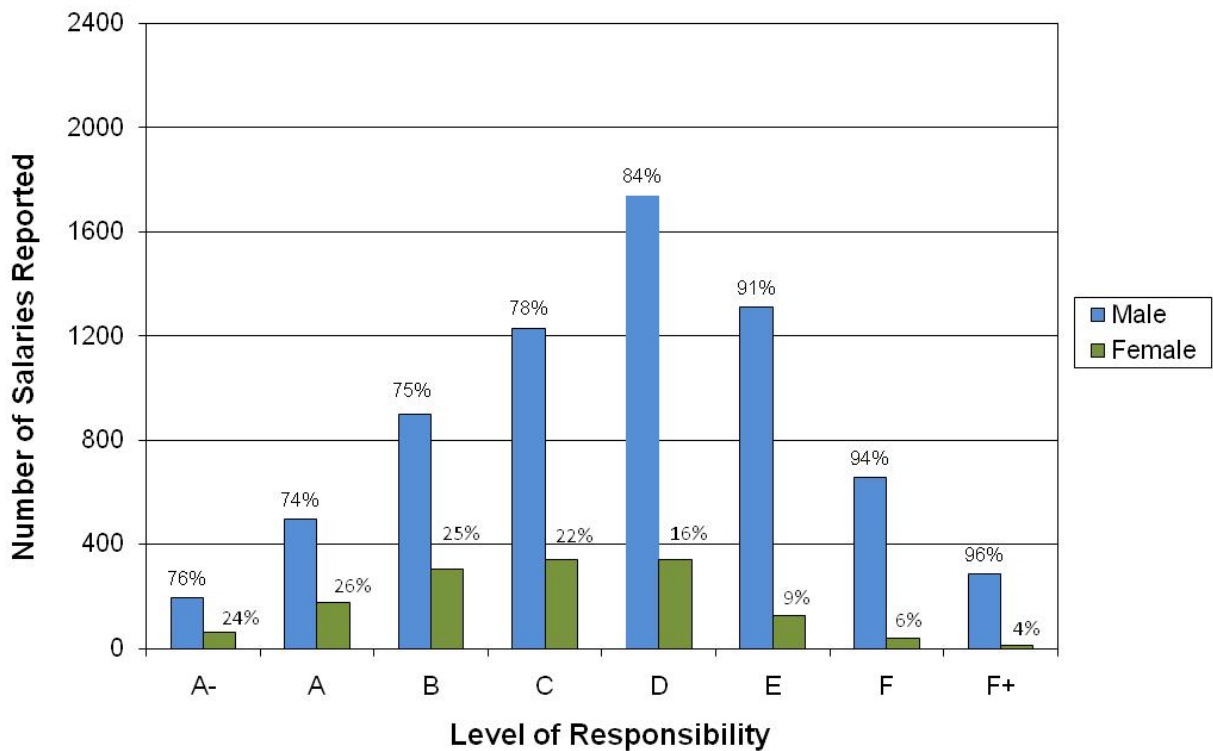


Figure 6 – Gender Distribution by Responsibility Level for Geology

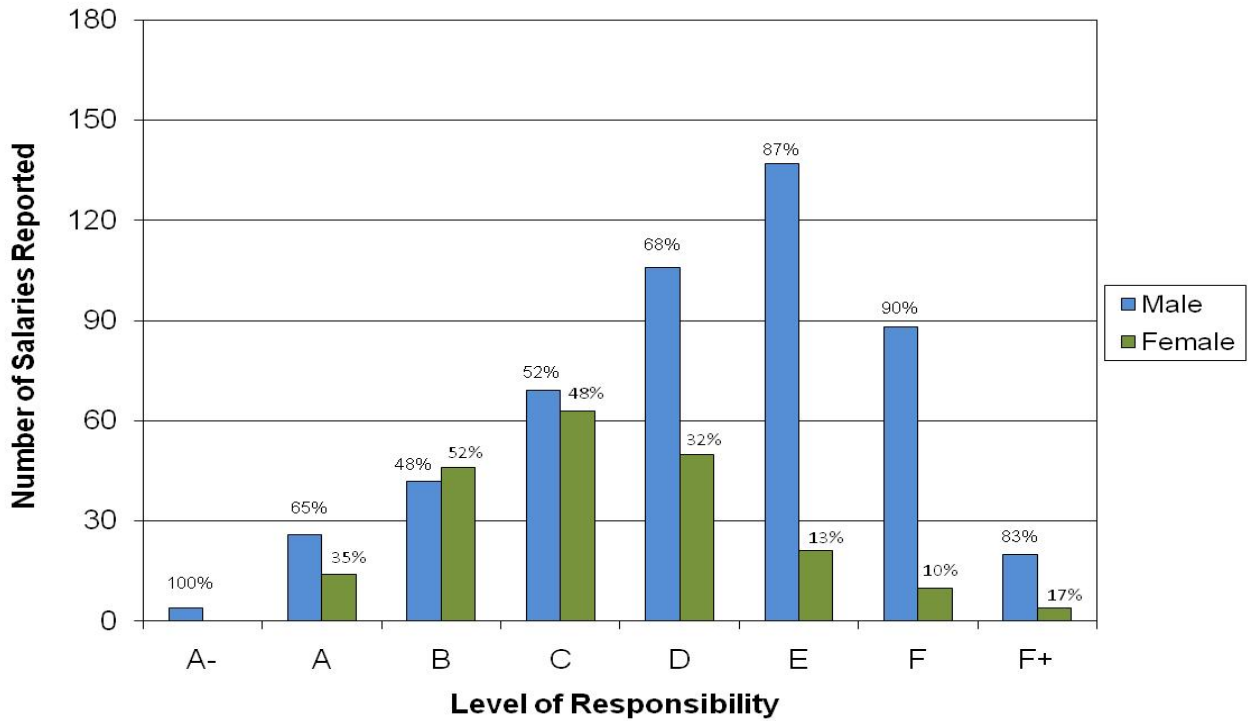


Figure 7 – Gender Distribution by Responsibility Level for Geophysics

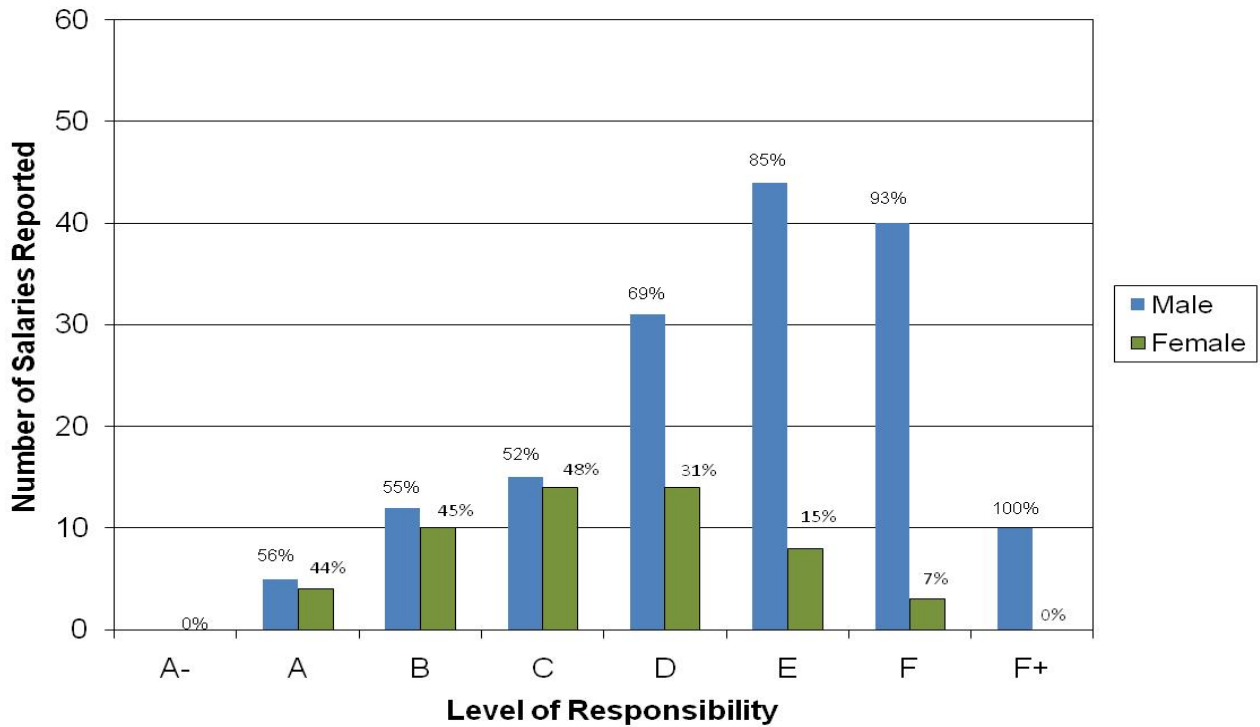


Table 19

Average Total Cash Compensation – All Designations – May 2011							
	Number	Mean \$	D1 \$	Q1 \$	Median \$	Q3 \$	D9\$
Overall	10,635	130,219	71,678	90,346	119,100	159,240	202,100
Female	1,661	108,111	64,800	81,000	100,055	126,000	163,775
<i>2011 Variance</i>		6.0%	5.9%	-0.4%	1.7%	7.4%	19.0%
<i>2010 Variance</i>		-18.3%	-0.7%	-5.1%	-11.6%	-22.4%	-29.2%
<i>2009 Variance</i>		-19.3%	-3.5%	-8.8%	-17.3%	-21.8%	-24.3%
Male	7,459	135,433	73,543	93,500	124,000	165,328	211,000
<i>2011 Variance</i>		10.2%	-7.6%	-2.9%	5.3%	13.6%	24.3%
<i>2010 Variance</i>		-1.5%	14.8%	13.3%	5.9%	-3.8%	-12.7%
<i>2009 Variance</i>		5.7%	3.5%	3.5%	4.6%	7.1%	4.5%

* Since not all responses included gender information, the total number of males and females does not add up to the total number reported in each designation and level. Further, the mean salaries reported for each gender are compared to the overall mean salaries for the entire group (including those not declaring gender), resulting in the possibility of both male and female salaries having a positive or negative variance from the overall average.

An examination of the total cash compensation reported (Table 19) indicates that, on average, women in the professions make **\$108,111** per year, compared to the average for men at **\$135,433**. The overall average for all respondents, including those who did not respond to the gender question was **\$130,219**.

Since not all responses included gender information, the total number of males and females does not add up to the total number reported in each designation and level, it is reasonable to assume that the overall figure may represent a more accurate mean salary for both genders. Further, the mean salaries reported for each gender are compared to the overall mean salaries for the entire group (including those not declaring gender), resulting in the possibility of both male and female salaries having a positive or negative variance from the overall average. However, given the data we have, we can safely state that women engineers, in general, earn 20.2% less than their male counterparts.

A more comprehensive analysis by professional designation and level of responsibility can be found in figures 8 through 10, as it reveals a general overall parity in salaries. The disparity in salaries becomes apparent at responsibility level E and there is a greater discrepancy between male and female salaries in both Engineering and Geology within the F and F+ levels. Figures 8 through 10 display(s) this information graphically, while Table 20 does so in tabular form.

Figure 8 - Total Cash Compensation by Responsibility Level for Engineering

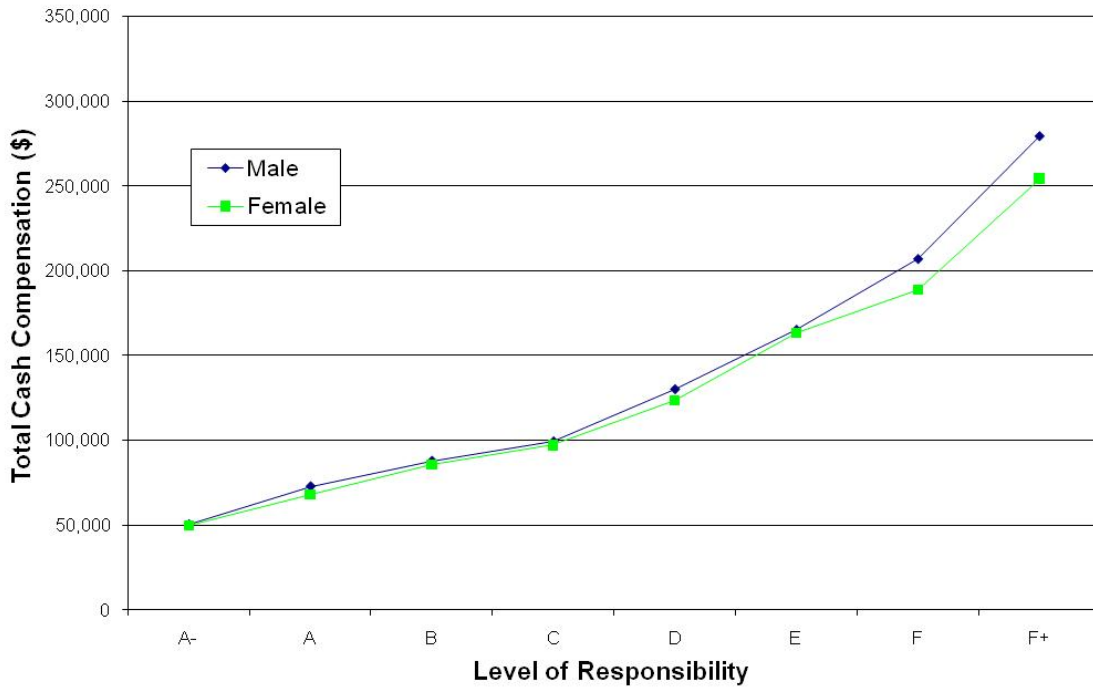


Figure 9 - Total Cash Compensation by Responsibility Level for Geology

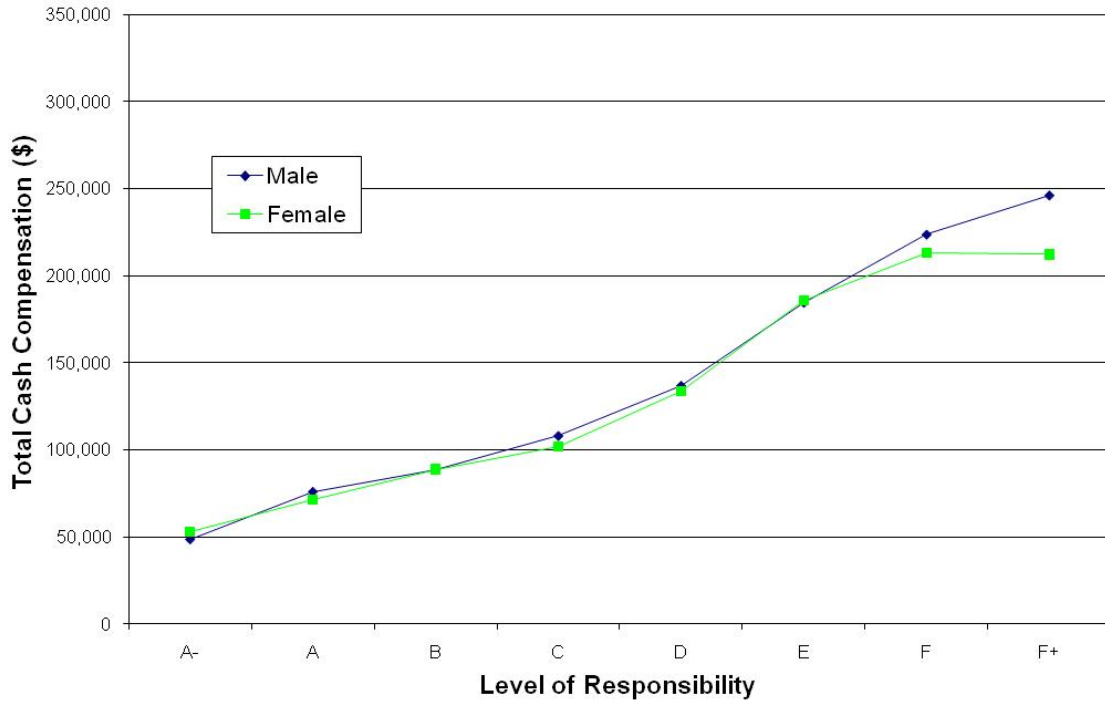


Figure 10 - Total Cash Compensation by Responsibility Level for Geophysics

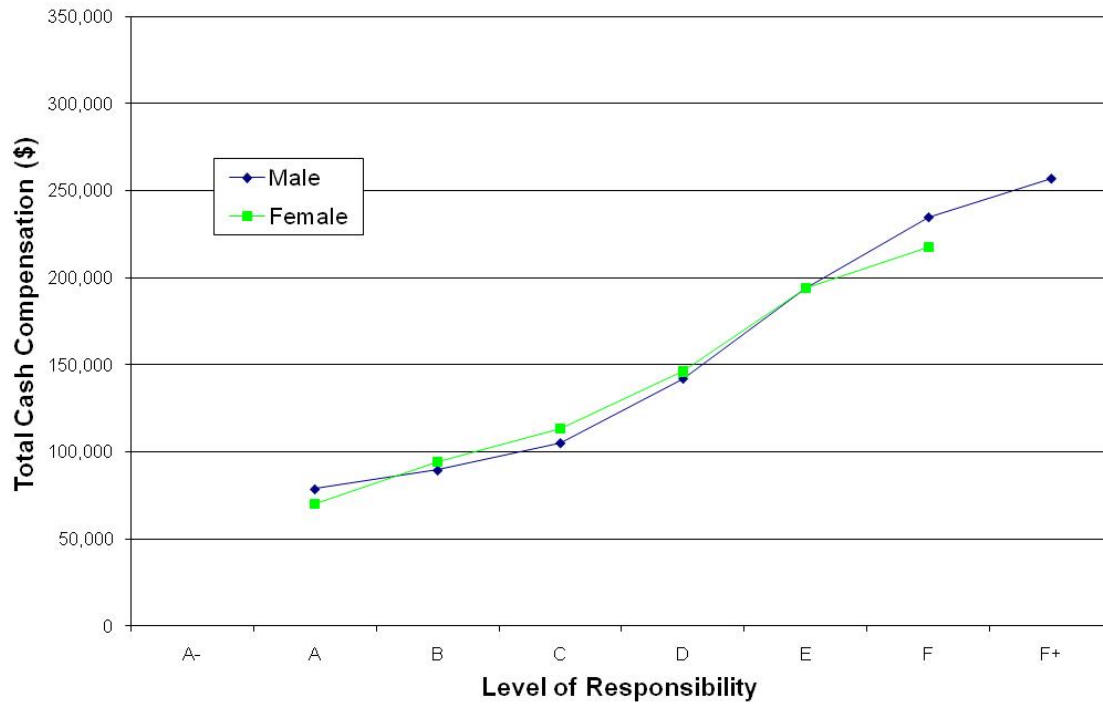


Figure 11: Numbers of Male and Female APEGGA Members by Age

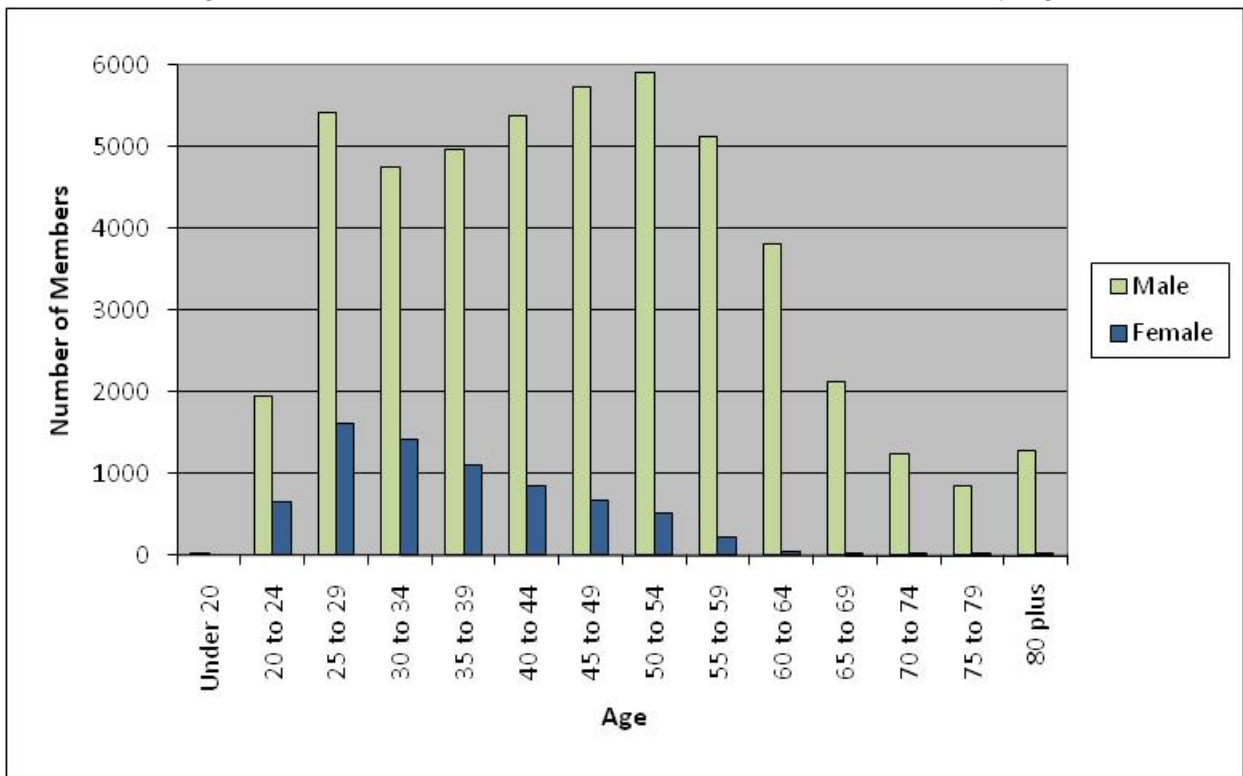


Table 20

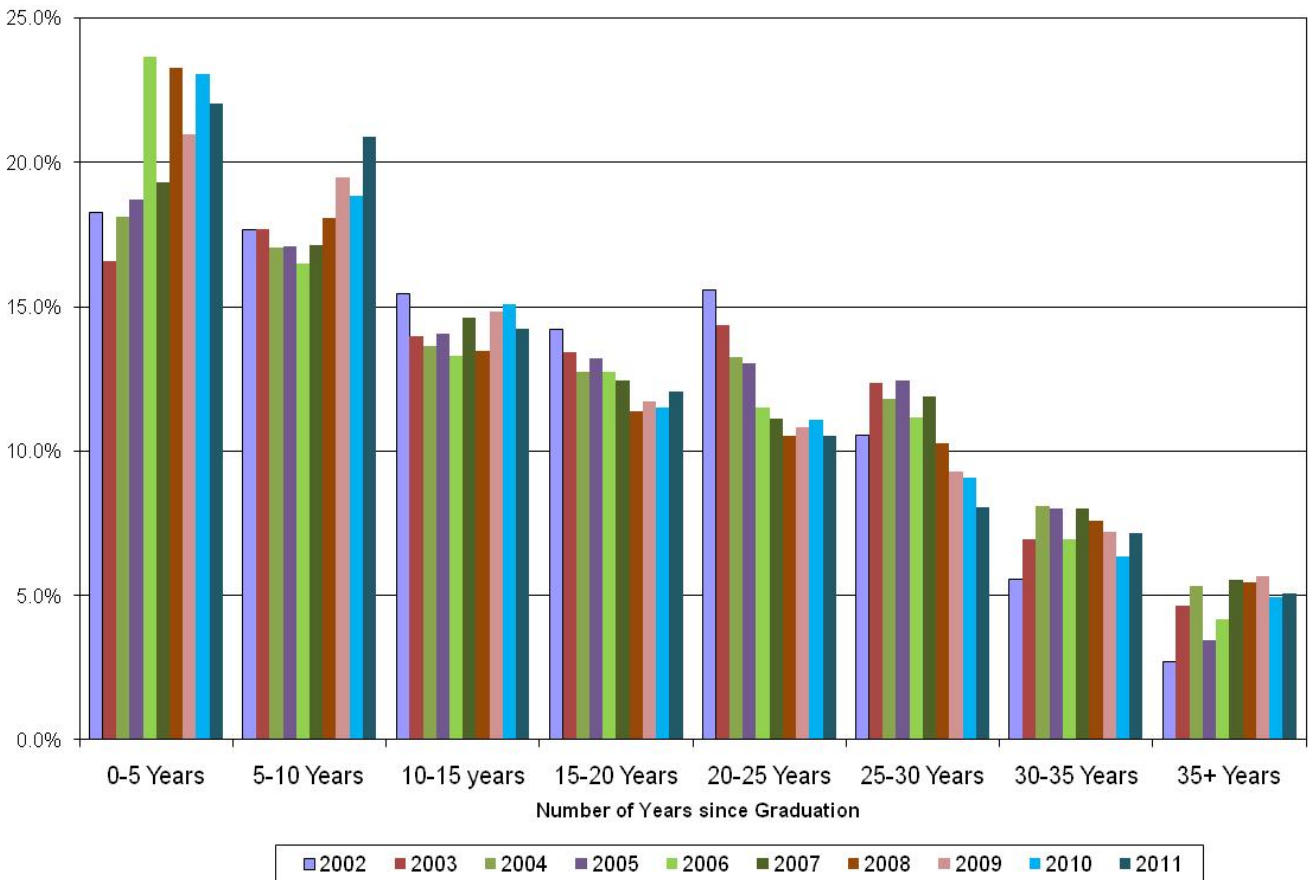
Average Total Cash Compensation by Gender, Designation and Responsibility Level All Industries – May 2011								
ENGINEERS								
Level	# of Engs.*	Overall Mean Salary - \$	# of Female Engs.	Female Mean Salary - \$	Variance from Mean	# of Male Engs.	Male Mean Salary - \$	Variance from Mean
A-	303	48,814	61	49,979	-0.4%	195	50,250	0.0%
A	756	71,225	176	68,256	-4.8%	496	72,721	1.4%
B	1325	86,572	302	85,873	-1.6%	899	87,760	0.5%
C	1851	98,199	342	97,089	-1.7%	1230	99,208	0.5%
D	2323	127,823	340	123,630	-4.1%	1740	129,995	0.8%
E	1701	162,432	127	163,234	-1.1%	1310	165,176	0.1%
F	949	198,206	39	188,908	-8.2%	655	206,899	0.5%
F+	389	263,462	12	254,345	-8.7%	285	279,456	0.4%
GEOLOGISTS								
Level	# of Geols.*	Overall Mean Salary - \$	# of Female Geols.	Female Mean Salary - \$	Variance from Mean	# of Male Geols.	Male Mean Salary - \$	Variance from Mean
A-	9	49,400	0	n/a	n/a	4	48,629	n/a
A	42	74,181	14	71,250	-4.2%	26	76,004	2.2%
B	96	88,222	46	88,708	.06%	42	88,589	-0.1%
C	155	105,374	63	101,975	-3.0%	69	108,018	2.7%
D	171	135,702	50	133,765	-1.5%	106	136,832	0.7%
E	177	183,286	21	185,973	0.7%	137	184,472	-0.1%
F	119	224,837	10	212,997	-4.3%	88	223,639	0.04%
F+	26	246,371	4	212,215	-15.3%	19	258,726	3.2%
GEOPHYSICISTS								
Level	# of Geophs.*	Overall Mean Salary - \$	# of Female Geophs.	Female Mean Salary - \$	Variance from Mean	# of Male Geophs.	Male Mean Salary - \$	Variance from Mean
A-		Insufficient Data						
A	14	69,402	4	70,074	-6.4%	5	78,697	5.1%
B	30	87,187	10	94,151	2.7%	12	89,539	-2.2%
C	36	105,870	14	113,253	3.8%	15	105,142	-3.6%
D	48	142,190	14	146,114	1.9%	31	142,127	0.9%
E	58	193,321	8	194,072	0.01%	44	194,040	0.0%
F	47	229,329	3	217,552	-6.8%	40	234,741	0.5%
F+	10	256,895	n/a	n/a	n/a	10	256,896	n/a

* The total number includes those respondents within each profession that did not declare gender.

Experience and Responsibility Level

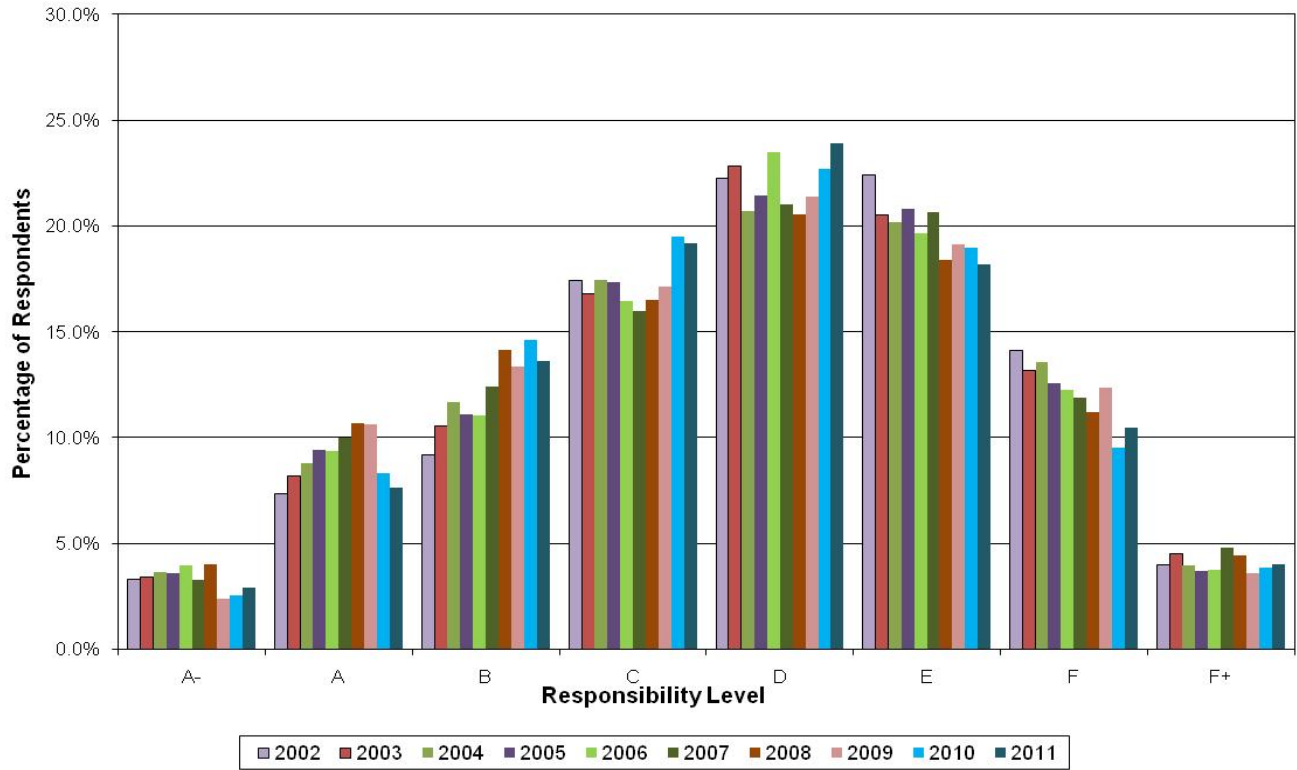
In recent years, much has been said about the “aging” of the work force, and significant efforts have been made to ensure that the next generation of professionals is properly prepared to take over. Though the APEGGA Salary Survey does not directly look at the age of our respondents, information is gathered about the graduation date and responsibility level of the employees.

FIGURE 12 – AGE DISTRIBUTION BASED ON YEARS SINCE GRADUATION (2000-2011)



Responsibility level distribution appears to be more consistent year over year, possibly because all respondents must declare the responsibility level for each salary. There appears to be an increase in numbers of professionals at levels D and F since 2010 with a slightly greater increase in level D since 2010.

Figure 13 – Distribution by Responsibility Level (2001-2011)



Organizational Size and its Effect on Compensation

The APEGGA Salary Survey, by its nature, tends to emphasize the compensation paid in larger organizations over that paid in smaller ones. Larger firms employ more APEGGA members, so when a simple mean is calculated, the salaries reported by the larger firms tend to have a greater influence on the results.

This is the sixth year that this data has been examined in detail. As in previous years, smaller organizations continue to compensate less, both in terms of base pay and in total cash compensation, though there are some notable exceptions. It is interesting to note that at the A-level (Co-op, Summer, and Intern Program Students), mean salaries in the smaller companies appear to match those in the larger firms, with the lowest salaries being offered by the mid-sized (101 to 250 employees) firms. At the lower levels, the pattern of compensation appears to be fairly consistent year over year.

It is at the mid to upper levels that the effects of the tight job market can be better observed. In each of the past four years, the job market for engineers, geologists, and geophysicists has been quite strong, leading to competition for experienced, qualified professionals. The people typically in the D and E responsibility levels, are in the highest demand by all companies, leading to situations where some smaller firms are paying higher than their larger counterparts in order to either obtain or retain key people. The one outlier to this is Level E in firms of 2 – 10 employees, however, with only three respondents in this category, there is insufficient data to draw any conclusions. Executive compensation, the F and F+ categories, continues to defy any recognizable consistency.

Table 21 - Annual Base Salaries by Size of Organization, May 2011								
Level	Size (# of Employees)	# of Eng., Geol., Geoph.	MEAN \$	D1 \$	Q1 \$	MEDIAN \$	Q3 \$	D9 \$
A-	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	3	39,200	27,600	27,600	45,000	45,000	45,000
	21-50	7	47,865	41,600	41,600	46,800	52,752	52,752
	50-100	21	46,924	37,440	43,680	47,840	52,000	56,000
	101-250	27	34,709	40,200	40,200	45,760	48,588	48,588
	251-500	37	47,350	37,440	40,584	48,000	52,650	52,650
Over 500	217	51,177	44,400	47,841	51,350	54,480	57,427	
A	2-10	2	59,080	57,408	57,408	60,753	60,753	60,753
	11-20	6	63,086	56,650	58,000	62,837	63,750	78,000
	21-50	29	63,798	49,200	56,004	63,967	72,800	74,962
	50-100	37	60,291	52,000	55,600	59,073	66,048	74,000
	101-250	78	64,321	48,000	60,000	66,529	72,252	78,000
	251-500	100	63,824	55,800	57,840	63,000	69,500	72,000
Over 500	560	68,509	56,375	63,278	69,152	75,000	77,500	
B	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	8	72,803	67,500	68,000	72,438	78,000	78,250
	21-50	25	72,320	60,000	65,000	70,500	81,400	88,800
	50-100	65	72,717	63,407	66,000	72,000	78,915	85,000
	101-250	93	82,248	63,000	73,697	81,000	93,600	104,000
	251-500	122	73,270	63,050	66,229	73,130	79,123	86,000
Over 500	1,137	79,818	68,621	75,900	80,770	85,098	88,580	
C	2-10	3	68,201	60,600	60,600	63,000	81,004	81,004
	11-20	6	102,267	81,900	85,500	95,000	121,000	135,200
	21-50	37	90,591	74,200	80,000	90,000	100,000	108,000
	50-100	64	85,682	70,568	77,219	87,252	94,000	98,823
	101-250	156	93,766	74,800	82,297	90,788	105,334	114,400
	251-500	214	94,217	79,269	85,387	93,000	100,006	112,000
Over 500	1,562	93,041	80,038	87,200	93,434	98,913	105,540	
D	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	8	142,275	100,000	109,200	140,500	156,000	208,000
	21-50	22	118,795	90,000	102,000	118,916	130,006	145,600
	50-100	66	109,546	94,410	98,952	109,300	120,000	127,404
	101-250	173	120,480	99,000	108,741	118,535	130,000	149,000
	251-500	219	117,338	92,040	104,000	117,875	130,000	140,000
Over 500	2,054	116,897	100,739	108,438	116,882	125,400	134,242	
E	2-10	3	89,346	48,000	48,000	92,576	127,462	127,462
	11-20	7	139,690	134,680	135,200	137,000	140,400	156,000
	21-50	21	135,309	115,020	118,068	133,000	150,000	159,329
	50-100	38	139,929	104,350	125,976	130,778	159,691	173,930
	101-250	104	147,698	120,000	131,505	143,100	165,000	185,000
	251-500	185	147,687	119,169	132,000	150,000	164,100	178,000
Over 500	1,578	147,023	126,516	136,000	147,929	157,500	167,300	
F	2-10	2	130,506	126,215	126,215	130,506	134,797	134,797
	11-20	2	193,875	159,750	159,750	193,875	228,000	228,000
	21-50	13	166,231	135,300	144,934	151,356	187,000	247,836
	50-100	32	157,118	131,038	146,004	160,000	178,266	192,423
	101-250	64	176,406	130,000	156,200	177,120	205,005	239,200
	251-500	127	171,804	137,280	156,000	172,000	190,000	201,760
Over 500	875	176,692	147,465	163,502	175,799	187,000	204,000	
F+	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	Insufficient Data	-	-	-	-	-	-
	21-50	11	206,889	80,000	134,873	208,000	300,000	330,000
	50-100	14	208,283	172,000	175,000	199,406	218,231	267,000
	101-250	27	233,803	159,634	202,550	219,627	260,000	312,000
	251-500	45	198,875	142,000	171,600	202,000	220,834	245,000
Over 500	327	214,820	176,600	185,342	200,000	225,000	270,000	

Table 22 - Annual Total Cash Compensation by Size of Organization, May 2011								
Level	Size (# of Employees)	# of Eng., Geol., Geoph.	MEAN \$	D1 \$	Q1 \$	MEDIAN \$	Q3 \$	D9 \$
A-	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	3	39,200	27,600	27,600	45,000	45,000	45,000
	21-50	7	47,865	41,600	41,600	46,800	52,752	52,752
	50-100	21	46,935	37,440	43,680	47,840	52,000	56,000
	101-250	27	44,748	40,200	41,600	43,875	45,760	48,750
	251-500	37	47,350	37,440	38,589	48,000	54,045	52,650
Over 500	217	51,177	44,400	47,841	51,350	54,480	57,428	
A	2-10	2	59,850	58,408	58,408	61,293	61,293	61,293
	11-20	6	63,503	56,650	58,500	62,837	63,750	80,000
	21-50	29	66,579	49,200	57,600	69,000	75,792	80,584
	50-100	37	63,636	54,183	55,605	62,000	70,808	76,204
	101-250	78	66,850	48,000	60,008	66,560	75,799	84,399
	251-500	100	68,510	56,046	57,988	65,000	72,418	86,600
Over 500	560	73,555	56,750	64,272	70,917	80,335	86,841	
B	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	8	74,678	67,500	68,000	69,875	82,000	83,000
	21-50	25	77,213	62,183	65,062	76,247	86,705	90,000
	50-100	65	76,385	64,500	67,800	75,169	85,000	88,889
	101-250	93	86,556	65,106	76,885	84,464	95,000	115,303
	251-500	122	77,708	65,119	68,497	76,764	85,280	96,617
Over 500	1,137	88,572	69,011	77,649	88,100	97,123	105,969	
C	2-10	3	68,535	61,100	61,100	63,500	81,004	81,004
	11-20	6	104,683	81,900	85,500	97,500	127,000	138,700
	21-50	37	97,787	80,000	85,024	96,386	104,933	119,943
	50-100	64	92,617	70,568	80,000	95,800	102,947	110,736
	101-250	156	102,157	71,000	87,360	99,840	111,923	125,000
	251-500	214	100,602	81,120	87,615	97,000	111,930	127,400
Over 500	1,562	98,634	81,000	89,261	97,500	107,500	118,600	
D	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	8	145,525	100,000	109,200	147,000	158,000	208,000
	21-50	22	125,411	125,411	90,216	107,165	127,833	144,690
	50-100	66	119,422	95,435	106,559	120,731	132,396	138,769
	101-250	173	134,130	102,497	118,551	126,331	142,990	167,146
	251-500	219	126,258	95,500	107,126	123,156	146,761	164,100
Over 500	2054	128,677	104,400	113,500	126,000	141,900	159,200	
E	2-10	3	99,346	58,000	58,000	92,576	147,462	147,462
	11-20	7	142,119	134,680	135,200	137,700	142,000	168,000
	21-50	21	163,690	125,000	143,690	159,699	187,200	210,407
	50-100	38	159,854	105,383	142,282	155,353	182,587	208,800
	101-250	104	168,062	130,565	143,017	160,160	185,100	218,680
	251-500	185	161,993	120,500	135,200	154,960	188,800	219,225
Over 500	1,578	165,843	133,200	144,000	163,200	185,986	204,003	
F	2-10	2	178,144	167,140	167,140	178,145	189,140	189,140
	11-20	2	208,875	159,750	159,750	208,875	258,000	258,000
	21-50	13	193,504	144,852	154,926	182,614	230,000	283,218
	50-100	32	186,253	147,000	160,000	179,422	231,266	247,323
	101-250	64	211,230	149,386	171,958	205,005	231,389	280,000
	251-500	127	189,390	137,280	156,829	177,049	215,225	252,913
Over 500	875	204,356	158,720	175,513	201,220	232,000	250,837	
F+	2-10	Insufficient Data	-	-	-	-	-	-
	11-20	Insufficient Data	-	-	-	-	-	-
	21-50	11	231,024	80,000	80,000	218,400	306,299	377,312
	50-100	14	255,479	174,360	188,000	205,000	303,000	308,000
	101-250	27	296,470	170,401	216,300	249,600	309,000	537,000
	251-500	45	225,193	151,873	180,692	215,000	270,465	303,350
Over 500	327	266,664	183,040	201,413	232,839	299,100	357,664	

Figure 14 – Annual Base Salary by Firm Size and Responsibility Level

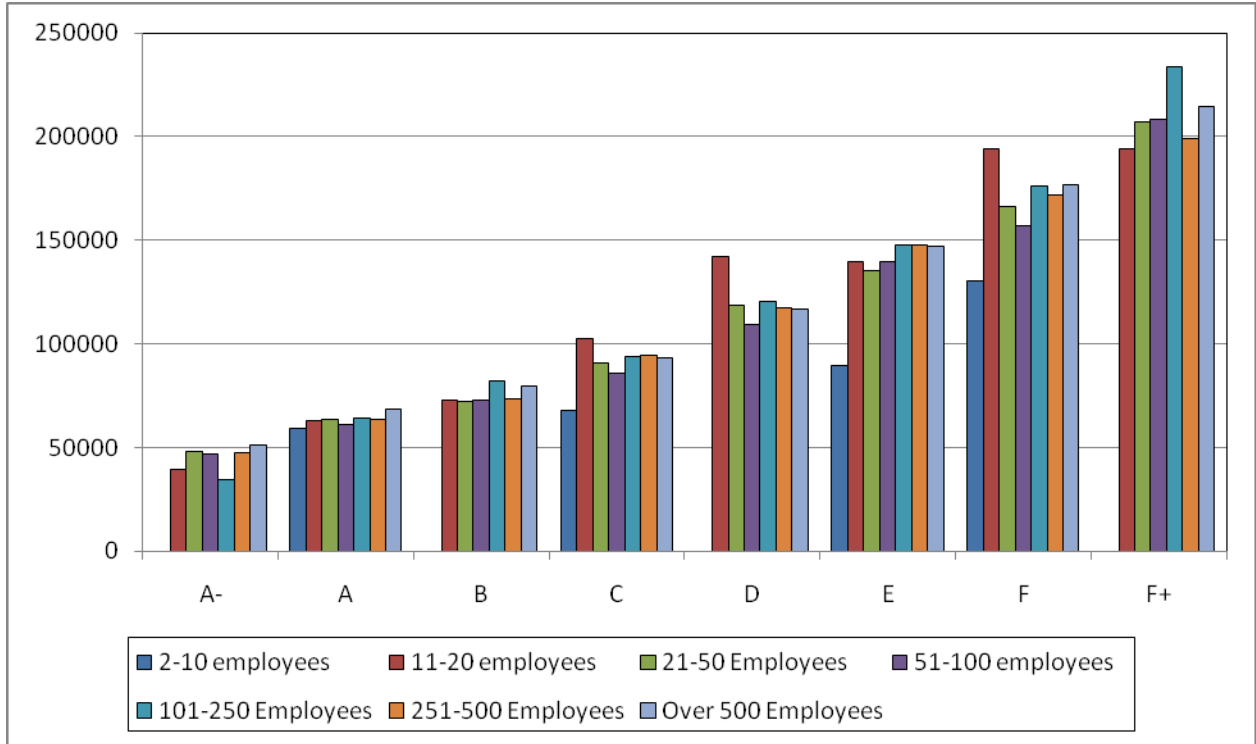
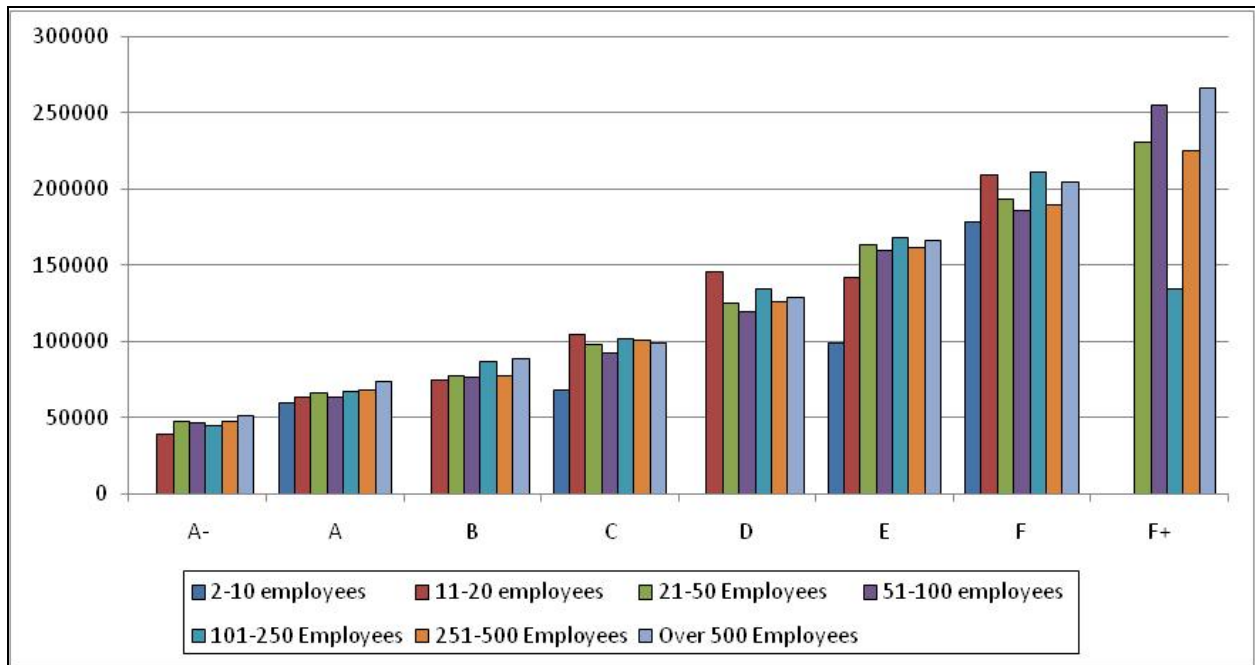


Figure 15 – Annual Total Cash by Firm Size and Responsibility Level



Co-op, Summer and Intern Program Students

Since the 2002 Salary Survey, APEGGA has been gathering data on student engineers, geologists and geophysicists for their co-op, summer, and intern program work terms.

Of the 312 A- salaries reported, only 20 (6%) indicated the anticipated year of graduation. Further, several large companies with large and active co-op, summer, and intern work programs did not report salaries for these employees. As a result, this information cannot be generalized over the entire engineering, geological, and geophysical student population.

Within these limitations, however, the analysis resulted in no unusual results. As expected, those students who are closer to graduation, and thus are able to contribute at a more sophisticated level, are compensated at an accordingly higher rate. Salaries at the highest levels, for those students anticipating graduation in 2011, overlap the A level, indicating that some firms value these senior students almost as much as actual graduates.

Table 23: Base Hourly Wages For Co-Op, Summer, And Intern Program Students – May 2011

Anticipated Year of Graduation	# of Students	Mean \$/hour	Q1 \$/hour	Median \$/hour	Q3 \$/hour
2011	5	24.00	23.07	24.62	24.62
2012	4	19.83	18.00	18.00	25.31
2013	10	25.20	24.19	25.31	27.00
2014	1	Insufficient Data			

Note: Salaries were reported as annualized salaries – i.e. how much would the person earn if they worked a full year at the reported rate. Hourly wages were calculated based on a 40 hour work week and could vary + or – depending on hours of work.

Effect of Location of Work on Salary

The APEGGA Salary Survey continues to examine the work locations of the professional to determine if location has a significant effect on compensation. Of the 10,635 salary responses we received, 10,358 or 97.4% indicated a location; of these 95.8% of them were in one of the 10 Alberta Branches.



Due to the limitations of the survey, not every profession was represented in every Branch. For example, there were no salaries for geologists reported in the Central Alberta (Red Deer), Lethbridge, Lakeland, Medicine Hat, Peace River, Vermillion River and Yellowhead Branches, reflective of the fact that the vast majority of the geologists employed in Alberta are located in Calgary, Edmonton, and Fort McMurray. Further, there were essentially no salaries reported for Geophysicists outside of Calgary, so no separate analysis was performed. Finally, even within the engineering profession (which accounts for 90.9% of our responses), not every responsibility level is represented in each Branch. As a result, analysis will be confined to those segments where there are meaningful numbers of responses.

In keeping with normal economic reporting practices for data of this type, comparative salary index system was utilized. An index system assigns a value of 100 to an arbitrarily-selected baseline set of the data (in this case, the overall averages), and the relative values of other data sets are compared to the baseline. As an example, from Table 24, a Level C engineer working in Central Alberta would rate a 90.6 compared to the provincial average of 100. That means that typically said engineer could expect a base salary 9.4% less than the survey average. A similar engineer working at the same level job in Lakeland would rate a 106, or 6% above the survey average.

Table 24: Comparative Salary Index for Engineers – Mean Base Salaries by Location – May 2011

Engineers											
	All	Calgary	Edmonton	Fort McMurray	Leth-bridge	Lake-land	Medicine Hat	Peace River	Central Alberta	Vermilion River	Yellow-head
A-	100.0	91.1	102.8	97.9	-	-	-	113.1	93.5	104.4	97.3
A	100.0	94.3	93.2	112.4	-	112.2	108.1	97.9	85.8	104.3	-
B	100.0	99.7	95.1	107.6	95.3	108.6	-	100.6	90.3	102.7	-
C	100.0	101.6	98.7	106.5	99.7	106.0	-	93.3	90.6	99.7	99.7
D	100.0	105.2	100.5	106.7	96.3	-	102.7	97.5	92.5	102.4	96.2
E	100.0	106.2	106.2	107.3	-	-	-	89.5	91.1	104.6	-
F	100.0	103.6	94.4	100.0	-	123.0	-	89.0	84.1	106.0	-
F+	100.0	102.7	92.0	90.4	-	-	-	-	76.8	138.2	-

Table 25: Comparative Salary Index for Geologists – Mean Base Salaries by Location – May 2011

Geologists				
	All	Calgary	Edmonton	Fort McMurray
A-	Insufficient Data			
A	100.0	108.8	91.2	-
B	100.0	-	-	102.2
C	100.0	104.1	95.9	-
D	100.0	103.0	95.7	101.2
E	100.0	108.7	88.3	103.0
F	Insufficient Data			
F+	Insufficient Data			

Table 26: Comparative Salary Index for Engineers – Mean Total Cash Compensation by Location May 2011

Engineers											
	All	Calgary	Edmonton	Ft. McMurray	Leth-bridge	Lake-land	Medicine Hat	Peace River	Central Alberta	Vermilion River	Yellow-head
A-	100.0	89.3	101.5	96.1	-	113.5	-	110.8	91.7	102.4	95.4
A	100.0	93.0	90.7	112.4	87.1	117.9	111.8	104.5	111.1	101.6	97.5
B	100.0	96.9	91.6	121.3	88.0	99.6	-	108.9	87.3	98.8	107.5
C	100.0	101.2	95.6	111.2	93.6	99.5	-	99.1	89.5	99.9	110.3
D	100.0	103.4	96.4	112.4	91.9	n/a	98.7	93.9	93.8	100.0	101.9
E	100.0	105.1	95.7	113.6	95.6	98.1	-	88.8	94.0	104.6	-
F	100.0	104.7	92.7	110.1	105.9	108.1	-	90.7	91.1	107.4	96.9
F+	100.0	104.6	88.5	93.2	-	-	-	91.2	70.2	152.1	-

Table 27: Comparative Salary Index for Geologists – Mean Total Cash Compensation by Location May 2011

Geologists				
	All	Calgary	Edmonton	Fort McMurray
A-	Insufficient Data			
A	100.0	111.7	88.3	-
B	100.0	105.0	82.2	112.7
C	100.0	105.4	90.0	104.6
D	100.0	93.1	88.1	105.6
E	100.0	89.4	78.4	91.1
F	100.0	99.6	61.7	100.4
F+	100.0	-	-	-

APPENDIX A

Detailed Job Classification Guide

LEVEL OF RESPONSIBILITY	LEVEL A -	LEVEL A
DUTIES	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.	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.
RECOMMENDATIONS, DECISIONS AND COMMITMENTS	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.	Few technical decisions called for and these will be of routine nature with ample precedent or clearly defined procedures as guidance.
SUPERVISION RECEIVED	Works under close supervision, often side-by-side with a pre-assigned "A-level" or higher "buddy". Work is reviewed for accuracy and adequacy and conformance with prescribed procedures.	Works under close supervision. Work is reviewed for accuracy and adequacy and conformance with prescribed procedures.
LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED	None	May assign and check work of one to five technicians or helpers.
GUIDE TO ENTRANCE QUALIFICATIONS	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.	Bachelor's degree in Engineering / Geosciences or Applied Sciences, or its equivalent, with little or no practical experience.

LEVEL OF RESPONSIBILITY**LEVEL B****LEVEL C****DUTIES**

Normally regarded as a continuing portion of an engineer's/geoscientist's training and development.

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.

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.

RECOMMENDATIONS, DECISIONS AND COMMITMENTS

Recommendations limited to solution of the problem rather than end results. Decisions made are normally within established guidelines.

Makes independent studies, analyses, interpretations and conclusions. Difficult, complex or unusual matters of decisions are usually referred to more senior authority.

SUPERVISION RECEIVED

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.

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.

LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED

May give technical guidance to one or two junior engineers / geoscientists or technicians, assigned to work on a common project.

May give technical guidance to engineers / geoscientists of less standing, or technicians assigned to work on a common project. Supervision over other engineers / geoscientists not usually a regular or continuing responsibility.

GUIDE TO ENTRANCE QUALIFICATIONS

Bachelor's degree in Engineering / Geosciences or Applied Sciences, or its equivalent, normally with two to three years working experience from the graduation level.

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.

LEVEL OF RESPONSIBILITY	LEVEL D	LEVEL E
DUTIES	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 / geoscience. 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.
RECOMMENDATIONS, DECISIONS AND COMMITMENTS	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.
SUPERVISION RECEIVED	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.
LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED	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 use of equipment and material. Generally makes recommendations as to the selection training, discipline, and remuneration of staff.
GUIDE TO ENTRANCE QUALIFICATIONS	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.

LEVEL OF RESPONSIBILITY	LEVEL F	LEVEL F+
DUTIES	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 / geoscience 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.
RECOMMENDATIONS, DECISIONS AND COMMITMENTS	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.
SUPERVISION RECEIVED	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.
LEADERSHIP AUTHORITY AND/OR SUPERVISION EXERCISED	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.
GUIDE TO ENTRANCE QUALIFICATIONS	Bachelor's degree in Engineering / Geosciences or Applied Sciences, or its equivalent, with broad engineering / geoscience experience, including responsible administrative duties.	Bachelor's degree in Engineering / Geosciences, or Applied Sciences, or its equivalent with many years authoritative engineering / geoscience and administrative experience. The incumbent is expected to possess a high degree of originality, skill and proficiency in the various broad phases of engineering / geoscience applications.

APPENDIX B

Additional APEGGA Salary Survey Data

Additional results from APEGGA's May 2011 Employer Salary Survey. Other survey results are published in sections 2, 4, 5 and 6 of this booklet.

Table B-1

Annual Base Salaries by Highest Degree - All Professions – May 2011							
Highest Degree Completed	Count	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
Ph.D.	180	128,655	84,636	99,600	124,000	150,400	180,003
M.Sc., M.Eng.	1,184	125,223	76,323	92,001	117,875	150,000	183,500
B.Sc., B.Eng.	5,985	117,870	70,000	84,000	109,200	144,700	177,833
Annual Total Cash Compensation by Highest Degree – All Professions – May 2011							
Ph.D.	180	142,150	88,160	106,257	133,200	168,457	213,700
M.Sc., M.Eng.	1,184	137,158	78,000	96,000	125,125	165,328	210,712
B.Sc., B.Eng.	5,985	131,396	72,313	89,008	117,000	159,000	207,200

APPENDIX C

List of Participants

Advanced Measurements Inc.
Agrium
Aker Process Systems
Alberco Construction Ltd.
Alberta Boilers Safety Association
Alberta Capital Region Wastewater Commission
AltaGas Utilities
AltaLink
AMEC Earth & Environmental
ARC Resources Ltd.
Arcis Corporation
Associated Engineering
ATCO Electric
ATCO Gas
ATCO Pipelines
ATCO Structures & Logistics
Awarebase Corporation
Bantrel Co.
BAR Engineering Co. Ltd.
Barr Engineering and Environmental Science
Canada Ltd.
Beta Machinery Analysis Ltd
Birchcliff Energy Ltd.
Bonavista Energy Corporation
Capital Power Corporation
C-FER Technologies
CGGVeritas
CH2M HILL Canada
Chevron Canada Resources
Cima Canada
Cimarron Engineering Ltd.
Coffey Geotechnics Inc.
Collins Industries Ltd.
Collision Analysis Ltd
Compton Petroleum Corporation
Conestoga-Rovers & Associates
Connacher Oil and Gas Limited
Crescent Point Energy Corp.
Dacro Industries Inc.
Det Norske Veritas (Canada) Ltd.
Devon Canada
DIALOG
Dillon Consulting Limited
DPH Focus Corporation
Dynastream Innovations Inc.
EBA, A Tetra Tech Company
Emerson Process Management
Canada Engineer Centre
Encana Corporation
Energy Resources Conservation Board
ENMAX Corporation
Equinox Engineering Ltd.
Evonik Degussa Canada Inc.
exp Services Inc.
Ferguson Glass Western Ltd.
Finning (Canada)
Fluor Canada Ltd.
Focus Corporation
FortisAlberta Inc.
General Dynamics Canada
Geophysical Exploration & Development
Corporation
Grantech Engineering International Inc.
Group2 Architecture Engineering Ltd.
Halcrow Yolles
Halliburton Group Canada
Honeywell Ltd
Husky Energy Inc.
Imperial Oil Limited
IMV Projects Inc.
Inter Pipeline Fund
KemeX Ltd.
Klohn Crippen Berger Ltd.
March Consulting Associates Inc.
Matrix Solutions Inc.
MEG Energy
MEGlobal Canada Inc.
Mentor Engineering Inc.
Mistaya Engineering Inc.
Multi-Chem Production Chemicals
Nexen Inc.
Norwest Corporation
NOVA Chemicals
NovAtel Inc.
Orbis Engineering Field Services Ltd.
O'Rourke Engineering Ltd.
Owen Oil Tools
Pasquini & Associates Consulting Inc.
PetroBakken Energy Ltd.
Pillar Resource Services Inc.
PROJEX
Rally Engineering Inc.
Raytheon Canada Limited, Services & Support
Division
Ready Engineering Corporation
Rowan Williams Davies & Irwin Inc. (RWDI AIR Inc.)
SemCAMS ULC.
Sherritt
SNC-Lavalin Inc
Spectra Energy Transmission

Stantec Consulting Ltd.
Stewart Weir
Stream-Flo
Suncor Energy Inc.
Sword Energy Inc.
Syncrude Canada Ltd.
Teck Coal Limited
The City of Red Deer
The Dow Chemical Company
Three Streams Engineering Ltd.
Town of Redcliff
Trace Associates Inc.
TransCanada Corporation
Tri Ocean Engineering Ltd.
UMATAC Industrial Processes Inc.
Vermilion Energy
Vista Projects Limited
Voice Construction Ltd.
Weyerhaeuser Company Limited
Willowglen Systems Inc.
WorleyParsons Canada Services Ltd
ZJ Solutions