

May 2006 SALARY SURVEY FOREWORD

To the 156 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 making APEGGA's salary survey a high-demand product on an ongoing basis. This year marks the largest Survey ever, with 11,818 individual salaries reported, a 30% increase over 2005. We also appreciate your adaptation to its changing requirements, enabling the survey to maintain its value as trends and needs develop. Finally, a special thanks to C-FER Technologies. for supplying the graphics for our cover this year.

Our main publication - The Value of Professional Services May 2006 - has undergone a few changes. Most significantly, we have moved the Survey up one month, from June to May, in response to requests for results that can be incorporated earlier into the budgeting process of our employers. We have continued and expanded our policy, established in 2004, of reporting of both Base Salary and Total Cash Compensation to ensure that firms with significant incentive pay programs are properly recognized. Likewise, we have continued to examine gender issues, the changing demographics of the professional workforce, and the effect of a corporation's size on compensation. New for 2006 is a breakdown of salaries paid to co-op, summer, and intern program students based on their anticipated year of graduation. Our comparison of salaries of other professions in the Province has been discontinued as the survey that forms the basis of that comparison, the Provincial Government's Alberta Wage and Salary Survey, was not performed for 2006.

The survey is intended to provide guidelines for both Alberta Employers and individual Members of the three professions (Engineering, Geology, and Geophysics) in setting 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, utilization 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 get or be given 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. If you find this survey useful and would like your firm to contribute to it in future years, please let us know.

Yours Truly,



Ross J. Plecash, P.Eng.
Director Corporate & Member Affairs
APEGGA

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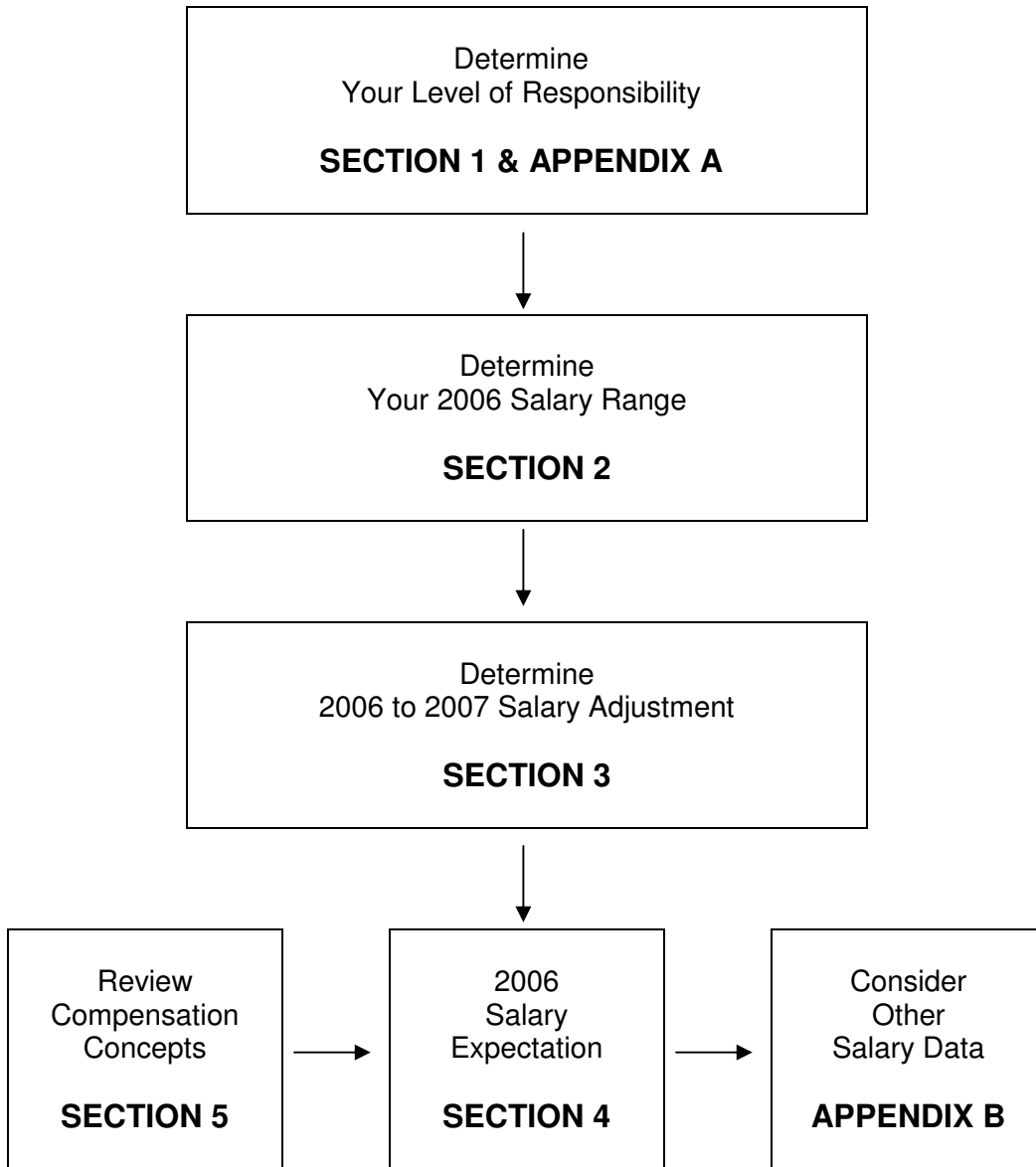
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PROCEDURE FOR USING THIS GUIDE



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. Usage will undoubtedly reveal useful improvements. Used objectively, this guide provides a base whereby any particular engineering, geological and geophysical job can be classified and ranked relative to other engineering, geological and geophysical positions. This same job evaluation system can also be used to evaluate other professional and near 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
<p>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.</p> <p>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.</p>	110
5.5 Midpoint value.....	130
<p>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.</p> <p>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.</p>	150
6.5 Midpoint value.....	175
<p>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.</p>	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

DESCRIPTION		POINTS
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.	
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.

TABLE 3

APEGGA 2006 Employer Salary Survey Years of Experience by Level of Responsibility All Professions - All Organizations							
		2006 Results - Years of Experience					
Level	Total E, G & G's	Mean	D ₁	Q ₁	Median	Q ₃	D ₉
A	610	2	0	1	1	2	4
B	771	8	2	3	4	6	13
C	1,006	10	4	6	8	13	20
D	1,220	17	8	10	15	22	29
E	1,198	23	12	17	22	29	34
F	784	26	16	21	26	31	36
F+	262	27	18	22	27	32	36

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

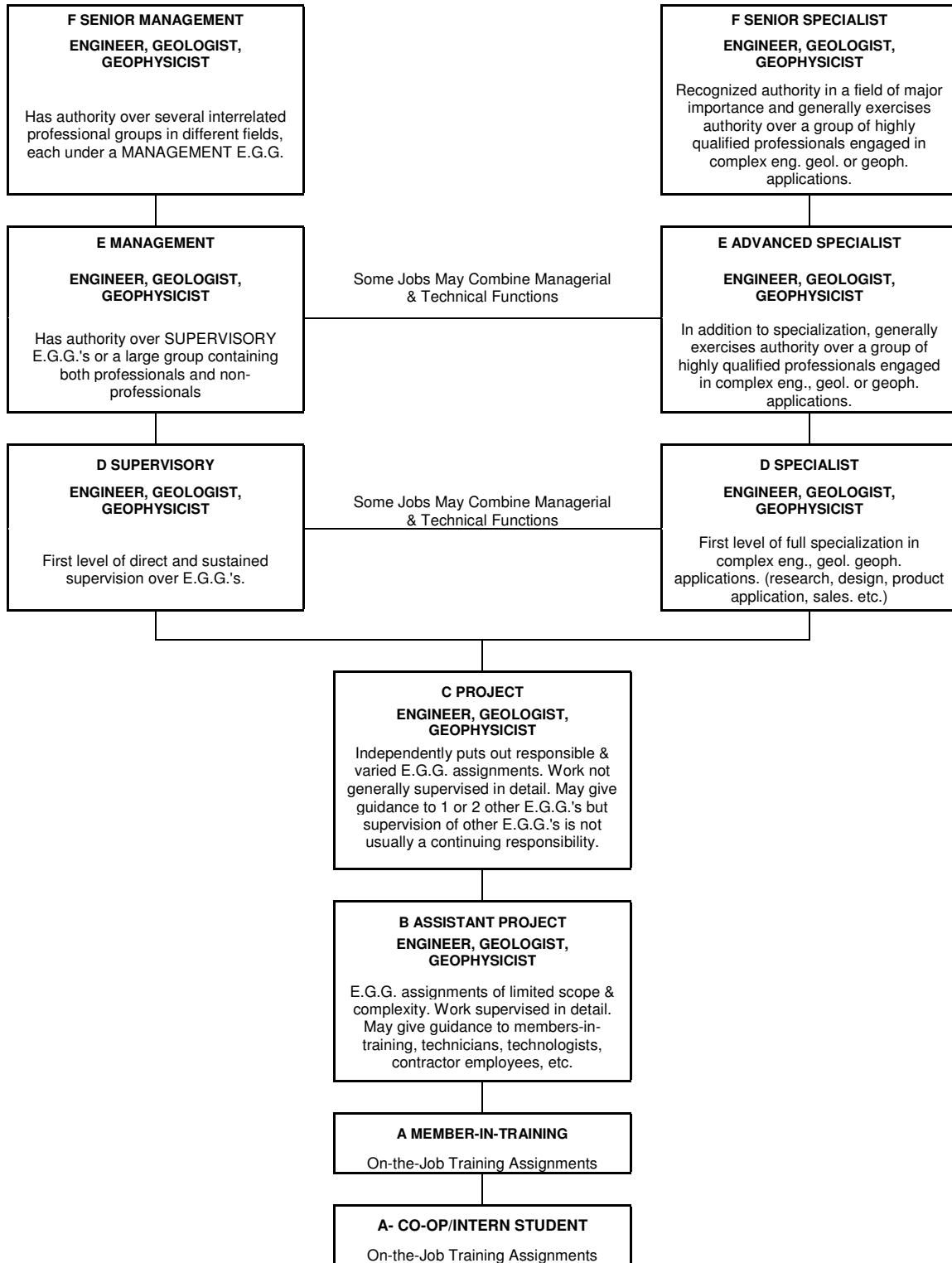
METHOD 2: JOB CLASSIFICATION GUIDE

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



SECTION 2 DETERMINING YOUR 2006 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 2006 APEGGA conducted its annual Employer Salary Survey. A total of 11,818 salary statistics for Alberta engineers, geologists and geophysicists were supplied by 156 employers who are identified in Appendix C.

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.

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 2006 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 8, 9, and 10.
- 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 11 and 12.
- Data on weekly hours of work and overtime compensation is given in Figure 4 and Table 13 in Section 5.
- Data on Additional Cash Compensation is noted in Tables 13 and 15 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-2 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 31, 2006. 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 are indicated by negative signs.

APEGGA 2006 EMPLOYER SALARY SURVEY HIGHLIGHTS

TABLE 4 ANNUAL BASE SALARIES BY LEVEL OF RESPONSIBILITY

Engineers – All Industries								
Level	# of Engs.	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	416	10.7%	42,226	35,520	37,856	42,000	46,320	49,338
A	1,009	7.0%	55,408	45,760	50,376	55,200	60,000	64,159
B	1,168	4.1%	63,443	52,200	58,000	63,600	69,225	73,756
C	1,750	5.2%	77,510	64,573	70,836	78,285	84,012	88,958
D	2,583	6.9%	97,377	81,510	88,900	96,864	105,492	113,880
E	1,992	5.7%	118,806	97,680	108,498	120,000	129,600	136,800
F	1,188	4.9%	141,769	116,000	129,760	142,000	153,267	165,240
F+	363	2.2%	172,017	132,435	150,000	162,900	183,030	214,152

TABLE 5 ANNUAL BASE SALARIES BY LEVEL OF RESPONSIBILITY

Geologists – All Industries								
Level	# of Geols.	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	31	6.2%	50,131	43,800	43,800	48,649	56,400	57,304
A	82	6.9%	57,930	45,000	55,200	60,000	63,000	65,000
B	108	6.2%	67,731	57,200	65,500	69,000	72,108	74,564
C	147	7.3%	81,763	69,600	77,400	82,000	86,000	90,000
D	144	6.8%	105,168	89,600	95,000	104,040	115,891	124,620
E	216	4.7%	129,721	112,358	126,394	132,000	137,760	142,000
F	165	7.8%	147,958	120,732	143,119	149,000	154,700	170,000
F+	60	-4.1%	170,558	130,000	155,000	161,248	180,400	200,100

TABLE 6 ANNUAL BASE SALARIES BY LEVEL OF RESPONSIBILITY

Geophysicists – All Industries								
Level	# of Geophs.	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	19	3.9%	49,387	42,600	45,600	48,000	53,352	56,400
A	18	7.1%	58,599	50,336	59,000	60,500	61,500	63,200
B	31	0.6%	64,802	50,000	65,040	67,000	70,000	73,000
C	49	2.0%	81,311	66,000	74,460	82,100	89,000	93,504
D	51	1.3%	104,190	86,587	95,264	102,000	111,250	117,000
E	113	3.8%	134,915	120,000	130,000	136,000	140,300	146,765
F	93	5.2%	150,656	140,640	146,200	150,000	154,000	158,400
F+	22	-2.8%	163,559	145,800	150,000	155,000	166,700	194,300

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Engineers by Industry Sector									
CONSULTING SERVICE									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	20	14.0%	36,806	31,200	31,200	36,000	41,600	42,000	
A	220	5.0%	50,077	42,003	45,006	49,004	52,800	56,998	
B	250	3.7%	55,542	46,817	50,408	55,575	60,002	64,002	
C	238	4.3%	66,416	56,992	61,376	66,000	70,720	76,850	
D	241	3.7%	82,685	70,005	75,296	82,473	88,816	96,000	
E	254	6.3%	101,232	85,995	93,327	100,464	108,994	116,520	
F	153	1.7%	119,436	96,096	106,002	116,000	130,006	149,000	
F+	47	5.4%	140,868	115,024	120,037	134,918	149,229	165,729	
ENGINEERING, PROCUREMENT AND CONSTRUCTION									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	68	6.6%	41,103	34,560	37,300	40,000	45,760	46,320	
A	270	6.5%	54,788	48,000	51,600	54,180	57,600	61,200	
B	298	3.5%	64,336	56,000	59,600	63,600	68,400	73,200	
C	396	1.9%	78,738	67,600	72,600	78,000	84,000	91,200	
D	544	4.3%	100,966	86,400	93,000	100,000	108,000	114,890	
E	549	5.1%	121,516	105,200	112,800	120,640	129,419	136,800	
F	413	6.4%	145,214	125,000	132,000	142,158	155,000	168,000	
F+	114	-1.4%	167,100	138,408	150,500	160,200	178,214	200,000	
RESOURCE EXPLOITATION – EXCEPT OIL & GAS									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	4	-2.9%	40,500	Insufficient Data					
A	11	4.6%	57,059	54,000	55,370	57,310	58,810	58,810	
B	11	2.9%	61,414	60,000	60,000	61,000	62,307	63,100	
C	11	1.0%	74,030	69,900	69,900	73,100	76,340	80,110	
D	21	3.1%	93,149	84,500	88,500	94,700	97,150	100,263	
E	14	4.8%	111,546	105,800	110,000	111,671	113,705	115,000	
F	11	9.1%	133,513	123,250	125,678	132,010	136,056	137,800	
F+	2	Insufficient Data							

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Engineers by Industry Sector									
RESOURCE EXPLOITATION – OIL & GAS									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	204	6.2%	44,242	36,813	40,200	44,243	49,200	50,467	
A	259	9.1%	61,434	56,500	59,443	61,440	64,159	66,600	
B	326	7.7%	70,163	63,000	66,018	70,000	73,500	76,690	
C	438	6.2%	83,098	74,600	78,475	82,412	86,300	92,000	
D	801	9.3%	104,759	90,786	96,565	104,300	112,100	119,553	
E	689	5.6%	128,223	114,720	121,413	128,000	135,728	141,793	
F	411	3.3%	152,000	135,000	142,897	149,040	160,000	173,700	
F+	161	0.2%	183,425	150,000	157,158	174,720	188,110	222,525	
MANUFACTURING – DURABLES (Includes machinery, equipment, tools, furniture, wood, concrete, steel and plastic products.)									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	3	N/A	37,620	Insufficient Data					
A	11	3.6%	52,205	48,880	49,200	50,800	52,200	54,000	
B	7	-4.9%	55,304	50,000	52,000	53,000	60,000	62,204	
C	19	-2.3%	70,364	60,000	63,840	65,573	72,000	87,605	
D	12	-0.9%	83,607	67,400	72,010	84,000	94,075	95,977	
E	17	-3.8%	99,193	82,000	91,059	100,000	104,897	110,224	
F	9	0.5%	115,982	90,600	109,100	115,200	125,500	138,000	
F+	1	Insufficient data							
MANUFACTURING – NON-DURABLES (Includes food products, beverages, rubber, leather, textiles, pharmaceuticals, chemicals, plants, and pulp & paper.)									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	12	-1.1%	38,373	35,640	35,640	38,400	39,600	39,900	
A	15	1.2%	56,826	55,000	55,200	55,392	58,600	60,000	
B	43	0.0%	67,108	60,864	62,700	65,800	68,496	72,132	
C	59	1.3%	79,544	70,836	74,760	78,696	85,000	90,156	
D	101	3.9%	93,793	86,316	91,068	95,599	95,904	106,400	
E	100	2.4%	109,203	100,032	101,352	109,536	111,144	123,000	
F	47	-6.1%	127,677	116,628	116,628	122,460	135,888	139,968	
F+	14	5.0%	167,478	147,048	161,400	166,320	167,880	176,500	

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Engineers by Industry Sector									
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 '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	19	15.3%	36,471	29,774	31,694	36,116	40,370	42,812	
A	89	12.8%	56,769	50,000	52,704	55,963	59,604	64,836	
B	56	-1.9%	58,335	50,004	53,312	55,000	62,979	72,419	
C	300	6.0%	76,807	64,480	70,116	80,000	84,012	84,012	
D	422	6.7%	89,012	73,824	82,622	90,885	95,880	105,000	
E	128	11.4%	103,051	85,623	94,660	98,844	111,491	125,592	
F	49	10.5%	122,453	103,976	108,541	119,395	135,068	145,000	
F+	6	36.6%	164,621	N/A	136,932	164,004	200,000	N/A	
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 '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	11	5.9%	40,332	36,000	36,936	40,872	41,000	46,764	
A	37	19.5%	53,638	43,200	45,600	56,112	57,192	60,288	
B	34	34.4%	61,310	47,652	56,000	64,224	67,232	67,608	
C	57	32.0%	80,414	72,444	75,040	77,892	88,056	92,208	
D	104	15.9%	101,520	86,496	92,790	101,592	105,684	117,000	
E	101	11.4%	123,167	108,532	118,188	124,800	129,984	133,104	
F	35	33.0%	147,881	140,016	143,712	148,740	152,900	156,900	
F+	7	N/A	195,293	116,790	128,544	157,000	270,000	286,000	
UTILITY – RATE CONTROLLED									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	59	3.7%	42,730	37,340	40,779	42,680	44,010	46,690	
A	54	4.0%	54,092	49,500	51,600	53,640	56,424	58,584	
B	52	-1.3%	61,097	53,088	56,400	60,700	66,768	69,000	
C	78	2.0%	73,898	65,300	70,044	73,000	78,312	80,400	
D	163	3.9%	94,183	83,304	87,000	93,200	99,600	107,600	
E	56	-0.5%	111,823	101,200	102,900	111,972	118,440	121,500	
F	37	0.7%	132,073	116,028	126,660	130,728	137,000	141,700	
F+	3	4.9%	250,000	Insufficient Data					

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Engineers by Industry Sector								
ADVANCED TECHNOLOGIES								
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	16	1.1%	38,539	36,000	36,000	37,966	39,507	41,086
A	43	-0.9%	50,548	45,000	47,500	49,878	53,820	55,844
B	91	4.3%	62,572	55,000	59,808	62,484	66,657	70,298
C	154	4.3%	78,077	69,525	73,976	78,996	82,056	84,838
D	174	4.2%	96,865	84,708	92,809	98,092	102,968	105,760
E	84	4.7%	117,028	101,151	109,581	118,314	124,885	128,642
F	23	21.8%	135,918	120,000	124,982	132,435	144,900	152,089
F+	8	17.1%	171,254	132,435	149,994	177,606	195,000	220,000
Geoscientists by Industry Sector								
CONSULTING SERVICE – GEOLOGISTS								
Level	# of Geologists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	16	9.0%	49,632	40,000	45,000	49,920	55,000	56,165
B	16	16.8%	59,260	53,000	54,000	57,200	65,040	66,560
C	13	12.1%	64,718	57,013	60,000	65,000	69,792	70,000
D	18	11.1%	83,430	66,000	75,000	83,000	90,000	96,200
E	17	3.5%	99,014	85,000	88,000	97,011	107,040	112,000
F	15	14.4%	123,340	92,308	98,000	112,008	122,013	153,648
F+	8	0.5%	134,044	114,488	130,000	130,000	145,000	175,860
RESOURCE EXPLOITATION – OIL & GAS – GEOLOGISTS								
Level	# of Geologists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	31	6.2%	50,131	43,800	43,800	48,649	56,400	57,304
A	52	8.0%	61,680	58,000	60,000	61,400	63,800	65,256
B	84	4.9%	69,196	62,800	67,000	69,500	72,400	74,550
C	110	4.2%	83,666	75,300	79,000	82,046	86,010	90,169
D	108	4.5%	110,079	93,000	100,000	108,276	120,000	125,000
E	190	6.0%	133,307	123,900	129,300	133,000	138,000	143,364
F	144	6.5%	151,201	136,500	145,000	149,360	155,000	170,000
F+	52	-4.4%	176,176	153,051	157,307	163,017	184,650	200,100

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

SERVICE - NOT FOR PROFIT- GEOLOGISTS (Includes governments and their controlled R & D organizations, regulatory agencies, educational and health care organizations, and Crown corporations.)								
Level	# of Geologists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	8	N/A	59,825	45,000	58,600	63,000	65,000	65,000
B	7	7.9%	72,457	63,500	67,700	74,000	77,000	80,500
C	23	11.2%	82,556	74,100	75,960	85,000	86,388	87,800
D	18	1.5%	97,445	86,500	92,810	95,508	102,000	105,829
E	5	N/A	122,860	N/A	120,000	120,500	126,900	N/A
F	5	2.3%	136,409	N/A	139,800	145,000	145,000	N/A
F+	0	Insufficient data						
CONSULTING SERVICE – GEOPHYSICISTS								
Level	# of Geophysicists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	3	8.0%	47,779					
B	8	-4.4%	53,672	39,172	48,000	56,000	66,144	70,080
C	12	12.6%	64,824	51,000	57,200	66,949	69,231	73,122
D	12	-1.4%	87,583	75,600	76,320	86,587	94,304	95,264
E	9	-6.7%	110,747	85,000	102,900	113,400	120,000	132,288
F	3	3.0%	138,150	Insufficient data				
F+	2	Insufficient data						
RESOURCE EXPLOITATION - OIL & GAS – GEOPHYSICISTS								
Level	# of Geophysicists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	19	3.9%	49,387	42,600	45,600	48,000	53,352	56,400
A	15	4.7%	60,763	59,000	59,200	61,000	61,500	63,200
B	23	1.1%	68,674	66,500	67,000	68,400	70,000	73,000
C	37	4.0%	86,657	77,670	82,000	87,000	90,000	94,000
D	38	2.7%	109,708	99,000	100,500	107,004	113,500	118,720
E	104	4.4%	137,007	125,520	131,500	136,800	141,964	146,790
F	90	5.0%	151,073	141,540	147,000	150,050	154,000	159,240
F+	20	-3.6%	165,335	146,200	151,000	156,806	176,300	194,630

Figure 2
Mean Annual Base Salaries of Engineers, Geologists & Geophysicists
by Industry Type - May 2006

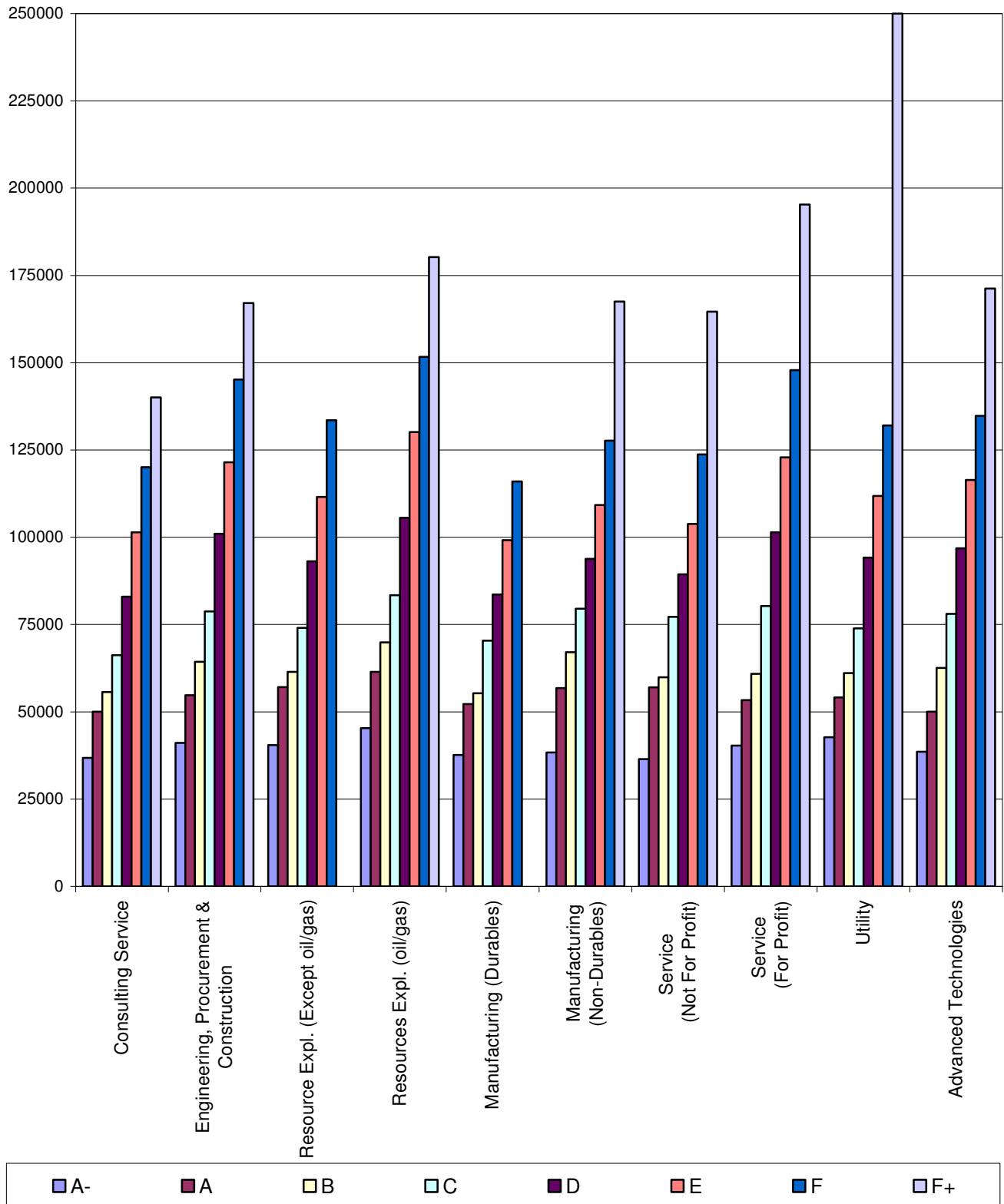


TABLE 8 ANNUAL TOTAL CASH COMPENSATION BY LEVEL OF RESPONSIBILITY

Engineers – All Industries								
Level	# of Engs.	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	416	11.0%	42,515	35,879	38,400	42,048	46,485	50,275
A	1,009	9.3%	58,098	47,015	50,996	56,250	62,562	70,729
B	1,168	5.2%	67,728	53,569	59,485	66,000	74,886	83,456
C	1,750	6.6%	82,846	65,907	73,503	81,765	88,616	101,040
D	2,583	8.6%	105,708	83,049	92,840	102,792	115,816	131,168
E	1,992	8.0%	133,984	101,169	114,008	127,979	149,988	170,802
F	1,134	6.6%	164,299	120,000	135,200	154,405	187,376	216,298
F+	363	-0.4%	214,608	140,001	158,416	202,014	245,140	304,600

TABLE 9 ANNUAL TOTAL CASH COMPENSATION BY LEVEL OF RESPONSIBILITY

Geologists – All Industries								
Level	# of Geols.	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	31	6.6%	50,357	43,800	43,800	48,649	56,400	58,284
A	82	9.9%	63,861	46,600	59,500	62,200	69,000	78,304
B	108	11.3%	78,526	62,520	69,888	79,289	86,700	92,644
C	147	16.5%	99,720	76,530	86,040	96,320	104,060	119,755
D	144	11.0%	125,269	94,480	104,200	121,900	138,075	165,678
E	216	16.5%	173,637	128,000	147,146	170,773	187,479	239,280
F	165	22.5%	209,226	148,397	173,622	202,070	226,563	318,590
F+	60	4.7%	244,675	168,000	211,570	225,200	248,075	327,834

TABLE 10 ANNUAL TOTAL CASH COMPENSATION BY LEVEL OF RESPONSIBILITY

Geophysicists – All Industries								
Level	# of Geophs.	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	19	3.9%	49,406	42,600	45,600	48,000	53,700	56,400
A	18	6.6%	64,618	50,336	59,004	62,200	69,859	79,733
B	31	4.5%	72,806	51,827	65,040	75,000	79,750	83,000
C	49	4.9%	94,098	70,565	81,660	94,929	106,870	111,907
D	51	7.9%	125,934	95,715	108,900	118,580	134,522	146,120
E	113	11.6%	176,057	134,560	155,019	172,836	186,186	209,854
F	93	20.2%	220,461	167,500	195,500	208,314	226,521	290,422
F+	22	-1.1%	230,784	200,794	208,603	220,752	258,524	270,861

TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR
Engineers by Industry Sector

CONSULTING SERVICE									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	20	11.1%	37,244	31,200	33,700	36,000	41,600	42,000	
A	220	5.1%	50,954	42,900	45,600	49,504	53,272	60,002	
B	250	4.0%	57,237	48,009	52,000	57,070	62,010	67,758	
C	238	3.9%	69,216	57,351	62,010	68,000	74,500	83,200	
D	241	3.7%	87,441	72,000	77,792	85,500	96,248	106,935	
E	254	9.5%	109,074	88,021	95,165	106,902	116,900	137,809	
F	153	8.6%	136,619	97,936	110,008	123,510	153,922	186,002	
F+	47	9.6%	154,030	119,000	125,037	144,798	166,229	202,014	
ENGINEERING, PROCUREMENT AND CONSTRUCTION									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	68	9.9%	42,520	37,200	39,520	40,950	46,000	47,400	
A	270	7.2%	55,434	48,000	51,600	54,240	58,000	62,400	
B	298	2.6%	65,467	56,000	60,000	63,600	69,600	75,600	
C	396	1.0%	79,713	68,265	72,800	78,720	85,000	92,400	
D	544	3.2%	101,650	87,076	93,600	100,800	108,000	115,560	
E	549	3.1%	122,248	106,200	113,671	121,200	130,000	137,700	
F	413	5.3%	145,889	125,000	132,340	143,395	155,900	168,376	
F+	114	-1.6%	167,561	138,408	150,500	160,200	180,923	200,960	
RESOURCE EXPLOITATION – EXCEPT OIL & GAS									
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$	
A-	4	-2.9%	40,500	Insufficient data					
A	11	4.3%	57,845	56,820	57,310	58,320	58,810	58,810	
B	11	5.8%	64,045	61,060	62,307	64,800	64,908	66,400	
C	11	4.0%	78,706	69,900	75,492	78,948	80,110	86,832	
D	21	3.0%	97,732	91,260	92,400	97,150	102,276	108,284	
E	14	2.2%	120,968	112,000	118,060	120,605	124,360	125,331	
F	11	9.2%	142,964	133,110	135,732	137,730	145,520	148,824	
F+	2	Insufficient data							

TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

Engineers by Industry Sector

RESOURCE EXPLOITATION – OIL & GAS								
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	204	6.1%	44,314	36,813	40,200	44,243	49,200	50,467
A	259	15.6%	68,708	57,300	60,562	66,600	73,097	83,723
B	326	10.8%	79,145	66,952	73,660	78,741	83,948	89,792
C	438	10.7%	96,561	80,700	84,801	92,000	103,520	117,000
D	801	12.4%	123,543	100,008	109,862	120,532	132,400	150,114
E	689	11.8%	160,527	126,470	140,644	156,753	172,332	191,825
F	357	13.0%	204,633	150,100	176,134	200,000	220,316	267,875
F+	161	0.7%	259,978	193,700	217,000	239,200	273,889	340,569
MANUFACTURING – DURABLES (Includes machinery, equipment, tools, furniture, wood, concrete, steel and plastic products.)								
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	3	N/A	37,620	Insufficient data				
A	11	6.2%	54,376	49,200	50,192	54,000	54,300	57,314
B	7	-7.8%	55,955	51,000	53,000	54,000	60,000	63,339
C	19	-0.6%	75,684	62,734	67,520	72,000	77,000	89,342
D	12	-1.8%	88,173	75,606	79,380	87,000	98,610	99,837
E	17	-1.1%	110,248	95,000	100,000	107,688	121,238	123,693
F	9	12.4%	144,619	115,131	125,056	142,960	163,420	181,101
F+	1	Insufficient data						
MANUFACTURING – NON-DURABLES (Includes food products, beverages, rubber, leather, textiles, pharmaceuticals, chemicals, plants, and pulp & paper.)								
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	12	-1.1%	38,373	35,640	35,640	38,400	39,600	39,900
A	15	-0.7%	59,963	56,055	56,055	58,550	61,950	63,646
B	43	-2.3%	72,080	64,354	65,417	70,513	74,741	80,452
C	59	-0.2%	85,866	74,459	78,189	85,046	93,743	100,557
D	101	2.4%	100,697	90,534	95,756	98,623	103,455	117,238
E	100	-2.5%	123,827	109,760	114,365	118,994	127,873	151,698
F	47	-10.6%	153,855	135,778	140,535	151,499	162,057	168,371
F+	14	1.6%	222,965	181,304	200,735	213,937	233,162	251,044

TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

Engineers by Industry Sector

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 '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$		
A-	19	15.3%	36,471	29,774	31,694	36,116	40,370	42,812		
A	89	13.4%	57,130	50,192	52,704	55,963	59,604	64,944		
B	56	1.0%	60,326	51,764	53,749	55,573	62,979	72,419		
C	300	7.1%	77,766	64,573	70,584	80,160	84,012	84,012		
D	422	7.6%	90,344	75,000	82,929	90,885	96,864	105,492		
E	128	12.2%	105,113	85,623	94,714	99,976	116,491	128,568		
F	49	11.7%	126,227	103,976	108,541	122,486	141,075	155,260		
F+	6	39.9%	176,415	N/A	155,195	194,004	200,000	N/A		
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 '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$		
A-	11	5.9%	40,332	36,000	36,936	40,872	41,000	46,764		
A	37	32.6%	59,524	43,200	53,712	62,187	63,588	67,272		
B	34	12.4%	76,950	67,584	70,410	73,568	81,660	92,730		
C	57	0.5%	90,015	77,770	83,132	87,680	98,856	105,420		
D	104	23.7%	115,764	97,915	102,265	114,476	123,548	138,948		
E	101	15.0%	144,568	124,655	136,813	145,604	153,186	158,666		
F	35	-44.7%	186,564	167,358	177,556	187,040	197,900	202,600		
F+	7	72.3%	280,631	171,750	179,500	252,602	388,720	401,000		
UTILITY – RATE CONTROLLED										
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$		
A-	59	3.7%	42,730	37,340	40,779	42,680	44,010	46,690		
A	54	2.2%	55,059	50,916	51,840	54,288	57,481	58,680		
B	52	-1.1%	63,913	57,852	59,677	62,826	66,840	70,632		
C	78	-2.8%	77,585	68,325	72,688	78,132	80,600	89,148		
D	163	1.1%	99,302	86,700	93,025	98,379	103,992	111,456		
E	56	-5.1%	122,728	102,516	109,224	119,462	128,237	142,241		
F	37	-4.4%	147,022	116,028	128,501	133,632	171,401	186,062		
F+	3	32.3%	457,530	Insufficient data						

TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

Engineers by Industry Sector

ADVANCED TECHNOLOGIES								
Level	# of Engineers	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	16	1.2%	38,563	36,000	37,080	37,967	39,512	42,043
A	43	-0.4%	52,096	45,000	48,897	51,632	55,479	59,775
B	91	6.1%	65,638	58,704	61,902	65,240	70,027	74,218
C	154	8.3%	82,890	73,930	78,038	82,606	86,929	92,461
D	174	9.1%	103,931	86,999	97,828	105,219	110,759	116,023
E	84	7.2%	125,855	107,206	116,899	127,072	133,643	138,181
F	23	0.7%	154,647	133,416	141,060	154,445	164,185	176,606
F+	8	0.6%	204,006	145,200	146,703	214,044	236,234	254,443

Geologists by Industry Sector

CONSULTING SERVICE – GEOLOGISTS								
Level	# of Geologists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	16	12.1%	53,810	40,000	46,508	55,200	59,934	62,520
B	16	19.5%	64,596	53,000	56,394	63,800	70,400	72,700
C	13	13.7%	71,758	58,300	61,000	72,500	77,241	78,236
D	18	13.5%	89,312	70,000	77,434	83,528	100,000	104,005
E	17	5.7%	110,918	85,000	88,880	102,000	128,247	130,000
F	15	20.5%	141,136	92,308	98,000	117,008	149,083	203,994
F+	8	9.8%	165,337	117,000	158,000	160,000	195,000	226,206
RESOURCE EXPLOITATION – OIL & GAS – GEOLOGISTS								
Level	# of Geologists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	31	6.6%	50,357	43,800	43,800	48,649	56,400	58,284
A	52	12.0%	69,038	60,200	61,400	66,200	75,388	79,468
B	84	10.6%	81,341	67,500	73,336	81,267	88,000	94,023
C	110	14.9%	105,852	84,495	91,054	99,950	105,500	129,455
D	108	8.6%	134,775	105,000	115,917	128,998	146,300	175,734
E	190	19.4%	181,485	139,229	157,793	175,619	191,433	241,850
F	136	23.4%	222,017	161,400	187,932	208,050	239,397	321,562
F+	52	4.3%	256,881	208,849	216,200	229,602	259,528	327,834

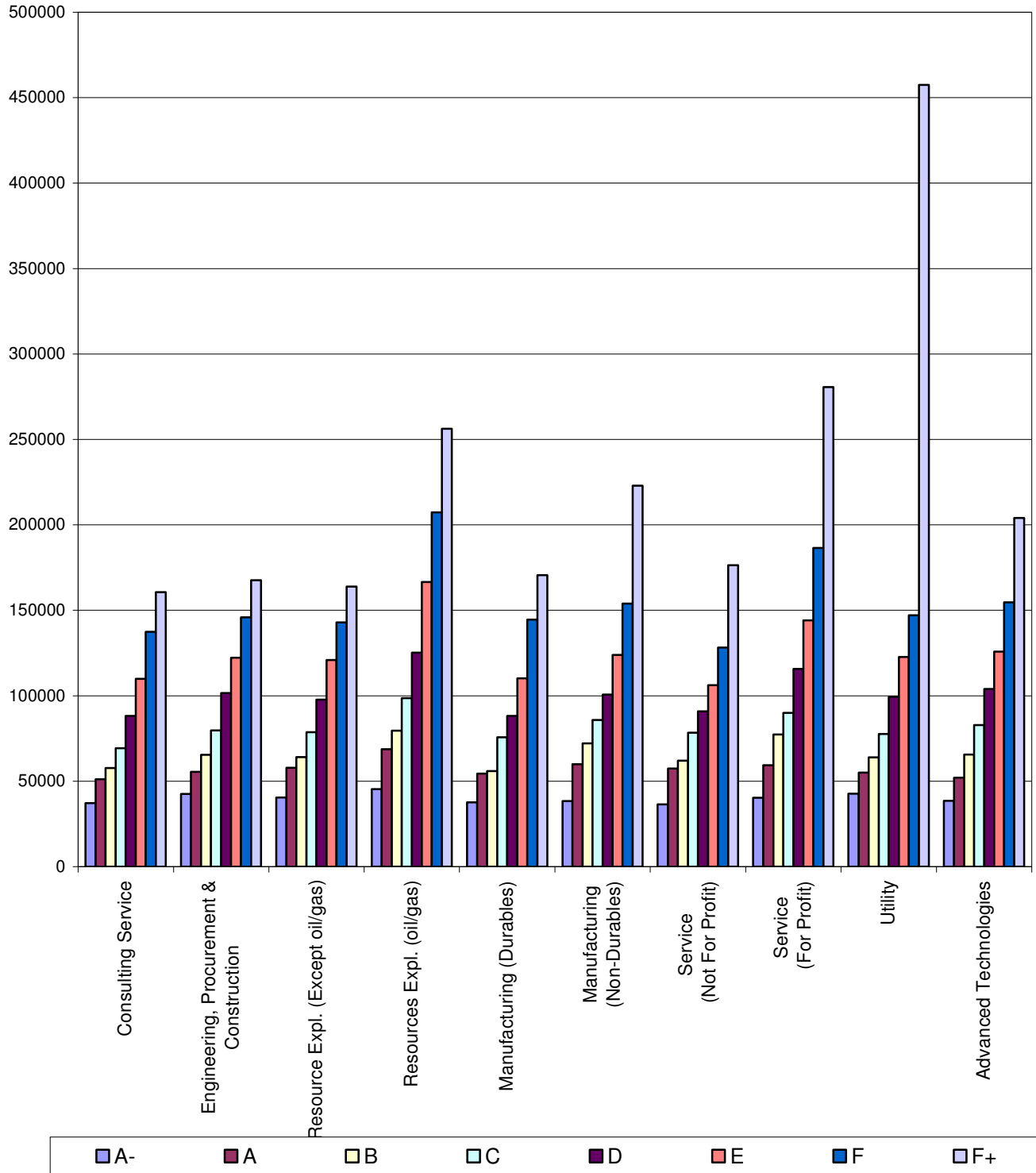
TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

SERVICE - NOT FOR PROFIT- GEOLOGISTS (Includes governments and their controlled R & D organizations, regulatory agencies, educational and health care organizations, and Crown corporations.)								
Level	# of Geologists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	8	N/A	60,977	45,000	60,866	63,000	66,490	67,430
B	7	7.9%	75,104	65,510	67,700	75,760	80,910	85,880
C	23	12.4%	86,837	75,810	78,530	87,770	91,308	96,750
D	18	-0.1%	104,193	90,040	97,932	103,420	108,600	114,849
E	5	N/A	133,710	N/A	129,670	131,420	139,060	N/A
F	5	2.1%	147,336	N/A	152,596	157,140	157,490	N/A
F+	0	Insufficient data						

Geophysicists by Industry Sector

CONSULTING SERVICE – GEOPHYSICISTS								
Level	# of Geo-physicists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	3	-0.1%	49,145					
B	8	0.6%	57,545	39,172	50,000	63,544	73,693	78,144
C	12	19.7%	69,636	59,201	60,495	72,117	75,808	75,891
D	12	3.2%	100,586	80,784	87,683	96,230	110,640	120,264
E	9	-10.6%	130,448	103,000	119,939	120,998	135,207	187,288
F	3	-25.8%	160,724	Insufficient data				
F+	2	Insufficient data						
RESOURCE EXPLOITATION - OIL & GAS – GEOPHYSICISTS								
Level	# of Geo-physicists	Change in Mean '05-'06	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	19	3.9%	49,406	42,600	45,600	48,000	53,700	56,400
A	15	4.9%	67,712	59,004	61,500	65,298	77,627	79,733
B	23	4.4%	78,114	66,842	71,000	78,185	82,365	83,000
C	37	7.6%	102,031	82,100	91,236	101,037	107,580	112,580
D	38	9.8%	134,266	105,000	116,442	121,000	137,807	167,917
E	104	13.2%	180,003	141,187	159,356	175,533	187,097	217,047
F	87	23.8%	223,978	180,278	196,520	208,756	232,608	323,290
F+	20	-5.8%	224,374	197,450	204,900	218,800	235,900	265,000

Figure 3
Mean Annual Total Cash compensation of
Engineers, Geologists & Geophysicists
by Industry Type - May 2006



SECTION 3

DETERMINING 2006 TO 2007

SALARY ADJUSTMENT

The market varies from year to year. After identifying your market salary for 2006 (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 9. 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 9
Consumer Price Increase Index (1992 = 100)
Year-Over-Year Percent Change

	Canada	Alberta	Edmonton	Calgary
1992	1.5	1.5	1.8	1.4
1993	1.8	1.2	0.8	1.3
1994	0.2	1.5	1.6	1.4
1995	2.5	2.4	1.9	2.7
1996	2.3	2.3	2	2.8
1997	1.8	1.8	1.6	2
1998	1	1.5	1.2	1.9
1999	1.8	2.1	2.1	2
2000	3	4	3.7	4.4
2001	2.8*	2.7*	2.7*	2.7*
2002	2.3	2.9	2	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

*Estimated

Source: Statistics Canada

2. DEMAND FACTOR

The Alberta Government reports monthly on the numbers of individuals employed in various industries and occupations, based on information from Statistics Canada. Though our professions of engineering, geology, and geophysics are not specifically broken out, employment trends in the industries that employ our members can be used to predict the demand for our members. For example, overall employment in the Mining and Oil and Gas industry sector (all occupations) grew from 119,700 in May 2005 to 134,800 in May 2006 (12.6% increase). Over the same period, employment in the Utilities sector grew from 11,200 to 17,000 (51.8%); the Construction sector grew from 151,900 to 173,800 (14.4%); the Manufacturing sector grew from 134,900 to 138,800 (2.9%); and the Professional, Scientific, and Technical Services sector grew from 132,200 to 141,600 (7.1%). In addition, 74% of our Survey respondents indicated that they expect to add to their professional staff over the next year (one respondent indicated that their firm was looking to add 300 professionals and members in training), while the remainder indicated that they would be maintaining current staffing levels. Based on these factors, it is expected that the high demand for APEGGA members will continue. Overall we are predicting a demand factor of 3.0%.

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

Using the factors outlined under our example, the May 2006 survey data in Section 2 can be adjusted to May 2007 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)	4.5%
Demand Factor	<u>2.5%</u>
Estimated Salary Adjustment from 2006 to 2007	7.0%

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

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 10
APEGGA Employer Salary Surveys
Percent Change in Mean Base Salaries
By Level of Responsibility – 1995 to 2006

ENGINEERS											
Level	95-96 %	96-97 %	97-98 %	98-99 %	99-00 %	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %	05-06 %
A-	-	-	-	-	-	-	-	6.4	0.7	-0.6	10.7
A	1.2	5.3	6.8	0.6	4.2	1.9	5.9	1.6	3.2	2.6	7.0
B	1.7	4	5	-0.5	1.9	6.7	4.2	1.6	2.8	4.0	4.1
C	0.1	1.8	5.4	2.5	2.8	5.4	2.6	1.0	3.9	3.6	5.2
D	1.4	2.3	5.3	3.6	2.6	3.3	7.9	2.6	3.4	3.7	6.9
E	2.2	2.1	6.3	2.8	4.6	3.2	2.2	4.1	3.7	5.9	5.7
F	0.2	2.3	6.7	4.6	1.9	4.6	4.5	3.8	3.2	6.9	4.9
F+	-5	4.3	7.6	5.1	0.6	5.8	4.1	6.9	1.4	11.9	2.2
GEOLOGISTS											
Level	95-96 %	96-97 %	97-98 %	98-99 %	99-00 %	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %	05-06 %
A-	-	-	-	-	-	-	-	20.2	5.4	-0.1	6.2
A	5.1	0.6	9.2	1.3	1.1	8.2	-3	-8.2	-0.1	3.3	6.9
B	5.8	1.3	5.4	2.5	1.6	8.7	1.3	7.0	4.0	6.4	6.2
C	1.6	-0.3	6.4	1.9	2	9.9	-1.5	3.2	7.7	1.9	7.3
D	1.8	0.2	5.9	-2.5	4.6	11.6	-0.8	6.7	5.1	0.6	6.8
E	4.1	2.5	7	-0.7	4.5	5.3	1.6	4.6	3.5	7.7	4.7
F	-0.9	3.7	5.1	-0.1	5.5	3.6	4.1	2.9	1.2	4.7	7.8
F+	-1.8	1	12.7	0.9	-0.7	5.3	-1.7	8.7	1.8	13.1	-4.1
GEOPHYSICISTS											
Level	95-96 %	96-97 %	97-98 %	98-99 %	99-00 %	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %	05-06 %
A-	-	-	-	-	-	-	-	13.2	-	-	3.9
A	1.6	-	4.4	0.9	1.7	10.9	-5.2	10.2	-0.3	4.1	7.1
B	1.1	1.6	6.8	-0.6	3.2	7.5	-1.3	8.6	-8.1	16.5	0.6
C	-0.5	-0.2	0.6	5.1	5.2	6.2	-1.9	3.0	0.3	10.5	2.0
D	2.4	2.1	1.2	0.3	4.5	8.2	2.3	6.0	0.5	6.1	1.3
E	1.9	2.7	4.9	1.7	5.7	2.7	3.9	4.4	4.2	9.4	3.8
F	-0.7	-0.1	7.2	1.1	4.3	5.8	3.8	2.5	3.5	5.7	5.2
F+	-6.8	2.8	3	-1.6	15.5	-2.6	5.6	7.7	-0.9	9.7	-2.8

SECTION 4

2007 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 noted in Step 3, 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 \$64,573 to \$70,836 (Decile 1 to Quartile 1) per year in 2006.

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 \$84,012 to \$88,958 (Quartile 3 to Decile 9) per year.

STEP 3

DETERMINE YOUR 2006 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 2006 salary range.

STEP 4

DETERMINE 2006 TO 2007 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 2006 to 2007. Use this value to adjust your 2006 salary range in order to arrive at your 2007 salary range.

For example, the 2006 base salary for a level "C" engineers (all industries) ranges as follows:

2006 Results – Engineer Level C – Base Salaries - All Industries					
Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
77,510	64,573	70,836	78,285	84,012	88,958

If the 2006-2007 increase in salaries is estimated to be 7.0% as shown in the example (page 36), the salary range for the level "C" engineer would be:

2007 Projection – Engineer Level C – Base Salaries - All Industries					
Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
82,936	69,093	75,795	83,765	89,893	95,185

SALARY TRENDS

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

- 90%** of our 156 respondents estimated salaries will increase by an average of **5.35%**.
- 10%** of our 156 respondents estimated salaries will remain stable.
- None** of our 156 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.

SECTION 5

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 13 summarizes data obtained from the 2006 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 15 are averages which reflect values for 2006. 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 13 through 15). 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 13. Vacation entitlement data is reported in Table 14.

Additional cash compensation was disbursed to approximately 50% of the engineers, 85% of the geologists and 85% of the geophysicists. Table 15 reports details on additional cash compensation for those who receive it.

FIGURE 4

**Weekly Hours of Work Based on Number of Employees (n=11,818)
May 2006**

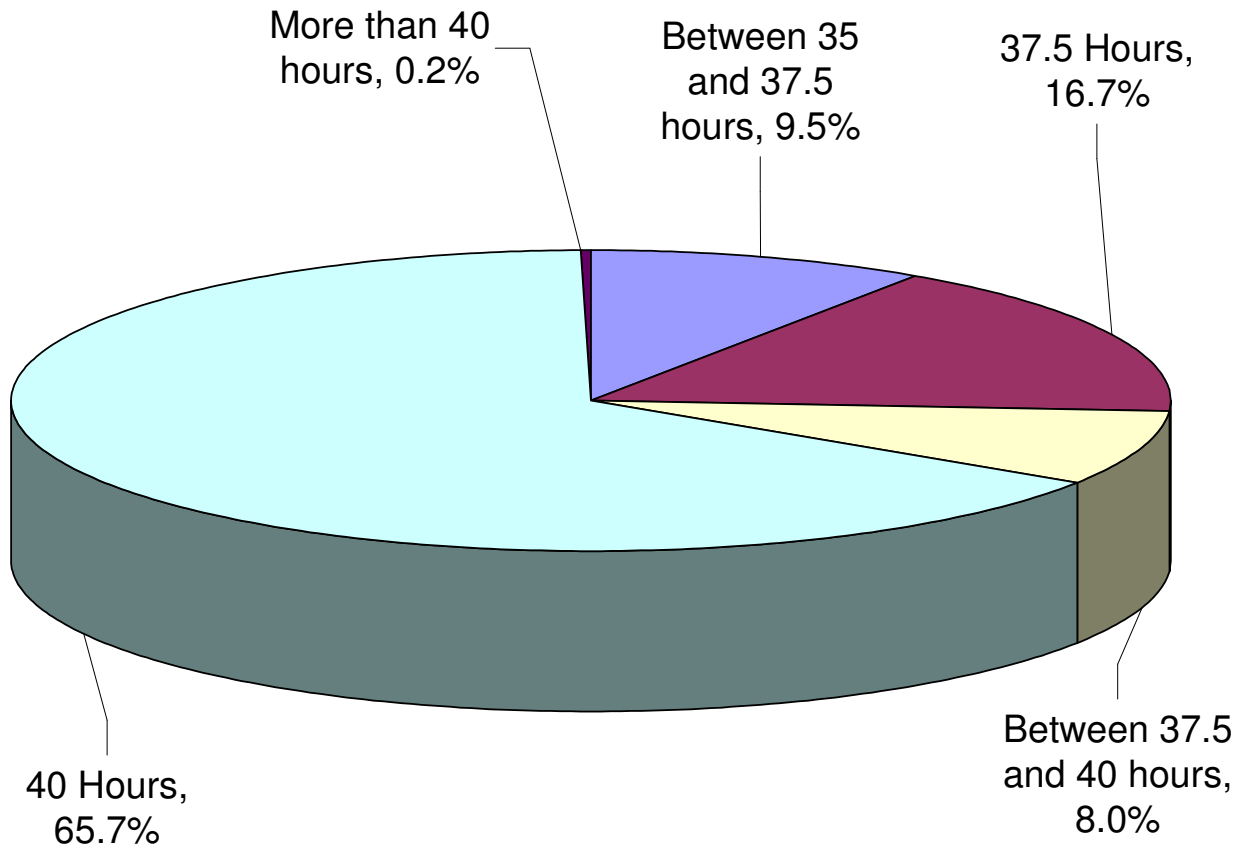


TABLE 13

Percentage of Organizations Providing Additional Compensation & Benefits								
Total Number of Organizations: 156								
Level	A-	A	B	C	D	E	F	F+
Additional Cash Compensation								
a. Cash Bonus Payments	5%	33%	32%	35%	38%	40%	42%	33%
b. Profit Sharing Payments	3%	17%	19%	21%	20%	21%	28%	17%
c. Performance/Merit Bonus	7%	41%	41%	44%	45%	46%	43%	34%
d. Productivity/Gain Sharing	0%	3%	3%	3%	3%	3%	3%	2%
e. Commissions	0%	0%	0%	0%	0%	0%	0%	0%
f. Other	1%	4%	6%	6%	6%	5%	4%	4%
Overtime Compensation								
g. Cash	29%	40%	37%	33%	26%	20%	15%	8%
h. Time Off In-Lieu	24%	47%	49%	46%	45%	38%	34%	24%
Other Compensation								
i. Stock Options/Purchases	2%	18%	22%	24%	29%	33%	36%	36%
j. Car/Car Allowance	0%	1%	2%	2%	5%	6%	7%	10%
k. Vehicle Allowance	1%	3%	3%	3%	6%	7%	10%	12%
l. Parking	3%	8%	8%	13%	16%	21%	29%	24%
m. Other	1%	6%	6%	6%	8%	8%	10%	8%
Benefits Package								
n. Pension Plan	1%	31%	34%	35%	37%	37%	37%	26%
o. Employer Contribution to RRSP	5%	42%	45%	46%	48%	48%	47%	37%
p. Medical Beyond AHC	12%	74%	78%	78%	81%	83%	81%	62%
q. Long Term Disability	10%	77%	81%	82%	85%	85%	83%	64%
r. Life/Accident Insurance	13%	79%	83%	84%	87%	87%	86%	65%
s. Drug Plan	11%	78%	82%	83%	86%	87%	85%	65%
t. Dental Plan	10%	78%	81%	82%	85%	86%	85%	65%
u. Vision Care	6%	54%	54%	56%	59%	58%	58%	45%
v. Legal Plan	1%	3%	3%	3%	4%	4%	4%	2%
w. Savings Plan	0%	25%	28%	28%	28%	29%	28%	24%
x. Other	4%	19%	19%	19%	20%	21%	21%	16%

TABLE 14
Vacation Entitlement – May 2006

Vacation Entitlement	Minimum Years of Service to Qualify	% of Employers Providing Entitlement
2 Weeks	On Hire	23%
	1 year	26%
3 Weeks	On Hire	26%
	1 year	26%
	2 years	7%
	3 years	12%
	4 years	5%
	5 years	16%
	More than 5 years	2%
Never	1%	
4 Weeks	On Hire	2%
	1 year	1%
	2 years	1%
	3 years	1%
	5 years	7%
	6 years	3%
	7 years	4%
	8 years	10%
	9 years	6%
	10 years	53%
	More than 10 years	6%
Never	8%	
5 Weeks	Less than 10 years	3%
	10 to 14 years	7%
	15 years	6%
	16 years	6%
	17 years	3%
	18 years	5%
	19 years	4%
	20 years	19%
	21 years	2%
	25 years	5%
	Never	41%
6 Weeks	15 to 19 years	2%
	20 to 24 years	4%
	25 years	16%
	30 years	2%
	Never	76%
7 Weeks	29 to 30 years	2%
	Never	98%

TABLE 15

Additional Cash Compensation Disbursed – May 2006

ENGINEERS							
Level	# of Engs.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	29	4,145	146	609	2,000	6,105	9,504
A	338	8,029	1,500	2,600	5,620	8,640	19,233
B	564	8,866	1,780	2,804	6,557	11,500	16,744
C	887	10,524	2,000	3,403	7,248	14,117	20,440
D	1,464	14,699	2,500	4,664	9,680	20,000	29,687
E	1,158	26,108	5,150	10,218	19,600	33,000	48,527
F	601	44,536	8,300	20,830	39,400	56,973	74,700
F+	227	68,108	13,500	36,865	63,700	77,640	138,116

GEOLOGISTS							
Level	# of Geols.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	2	Insufficient Data					
A	62	7,844	1,490	2,200	6,725	12,107	13,816
B	91	12,812	2,500	6,500	11,267	16,261	25,644
C	134	19,699	2,500	7,030	15,400	20,335	33,502
D	120	24,121	2,500	8,120	19,648	32,055	50,000
E	198	47,909	15,457	26,262	38,724	51,677	106,850
F	143	70,694	25,000	42,780	58,858	72,390	150,000
F+	58	76,673	30,000	53,667	65,412	70,464	155,134

GEOPHYSICISTS							
Level	# of Geophs.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	2	Insufficient Data					
A	11	9,848	2,100	2,200	8,359	14,885	19,233
B	22	11,278	3,613	7,904	11,100	12,373	15,165
C	41	15,282	3,295	8,201	16,825	19,840	23,320
D	46	24,107	4,113	10,625	20,142	25,000	30,000
E	104	44,702	17,988	27,564	39,296	47,097	69,300
F	88	73,771	35,515	45,056	58,740	82,692	150,000
F+	22	67,225	34,150	58,700	63,894	70,700	77,520

SECTION 6 Additional Analysis

Gender

This is the third year that APEGGA has included questions regarding the gender of individuals. Note that only 72% of responses contained information about gender (8,488 of 11,818 individual salary data points). Therefore, the data presented in this subsection can not be generalized to the membership as a whole.

Of the 8488 data points that contained gender, it was determined that 1477 (17.4%) were female and 7011 (82.6%) were male. The proportion of female members in APEGGA's member database (Professional Members and Members-in-Training), is currently 11.9%.

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

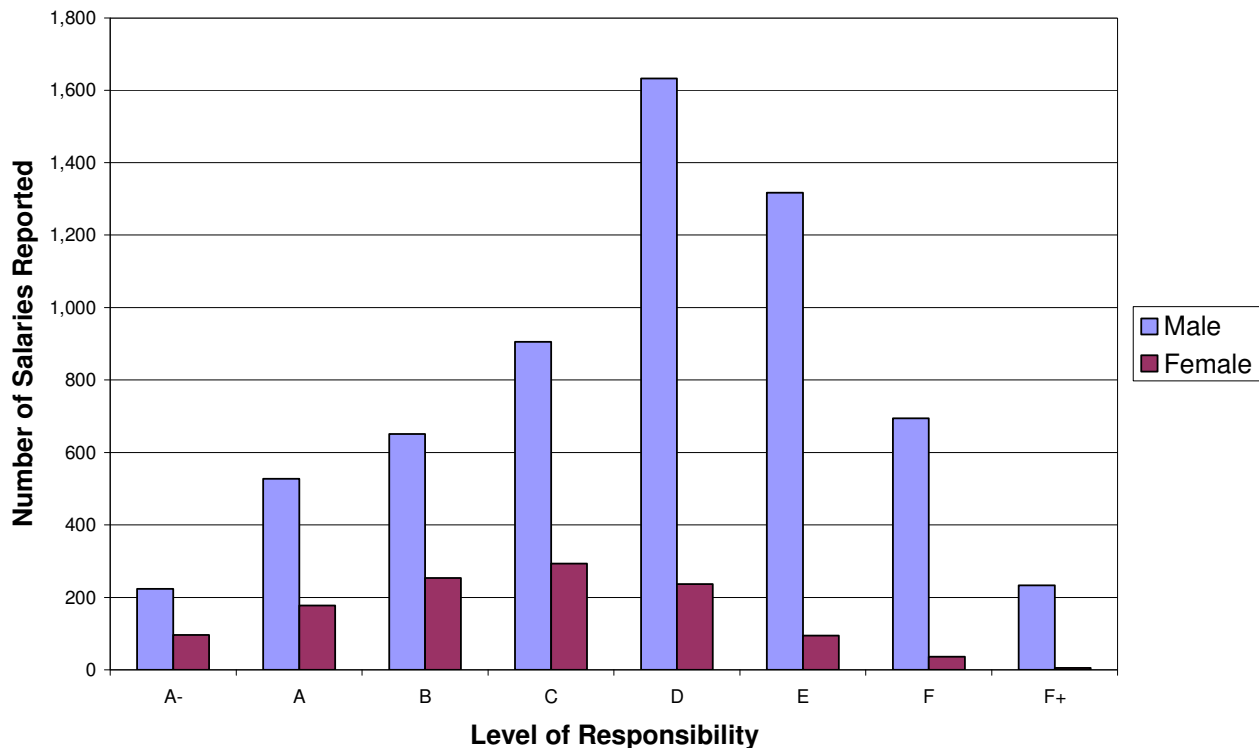


Figure 6 - Gender Distribution by Responsibility Level for Geology

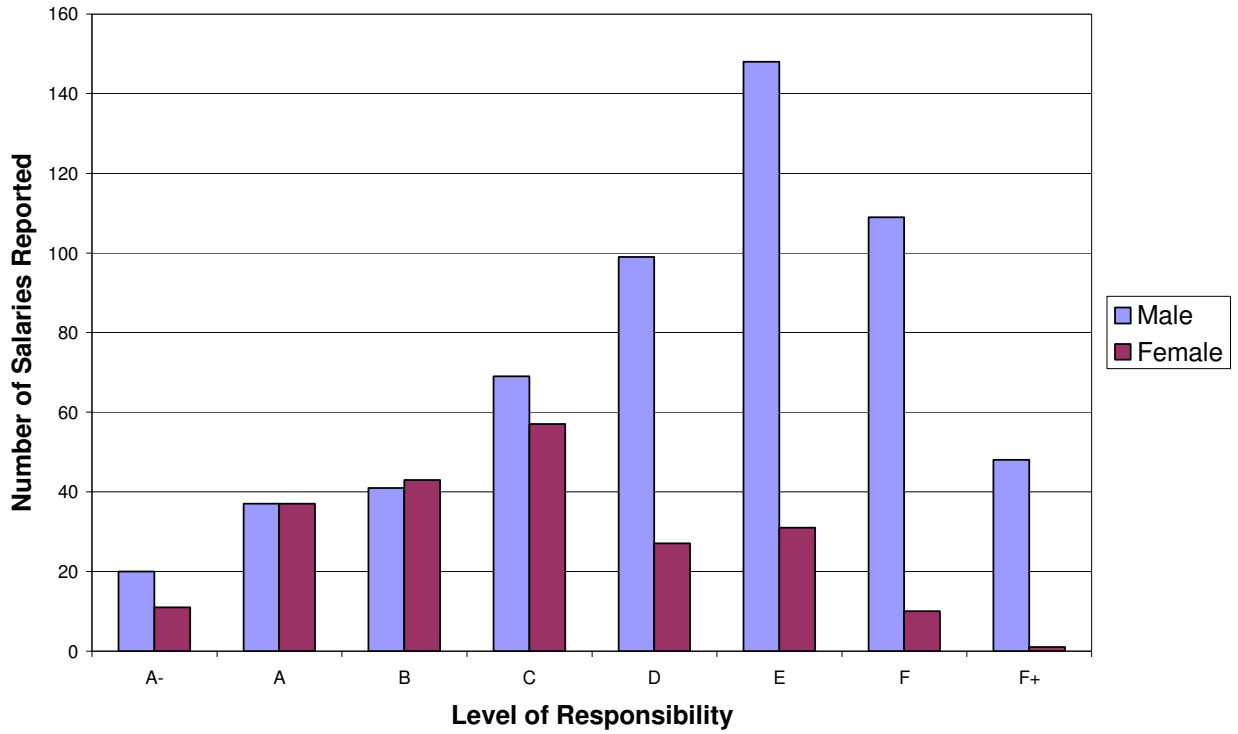
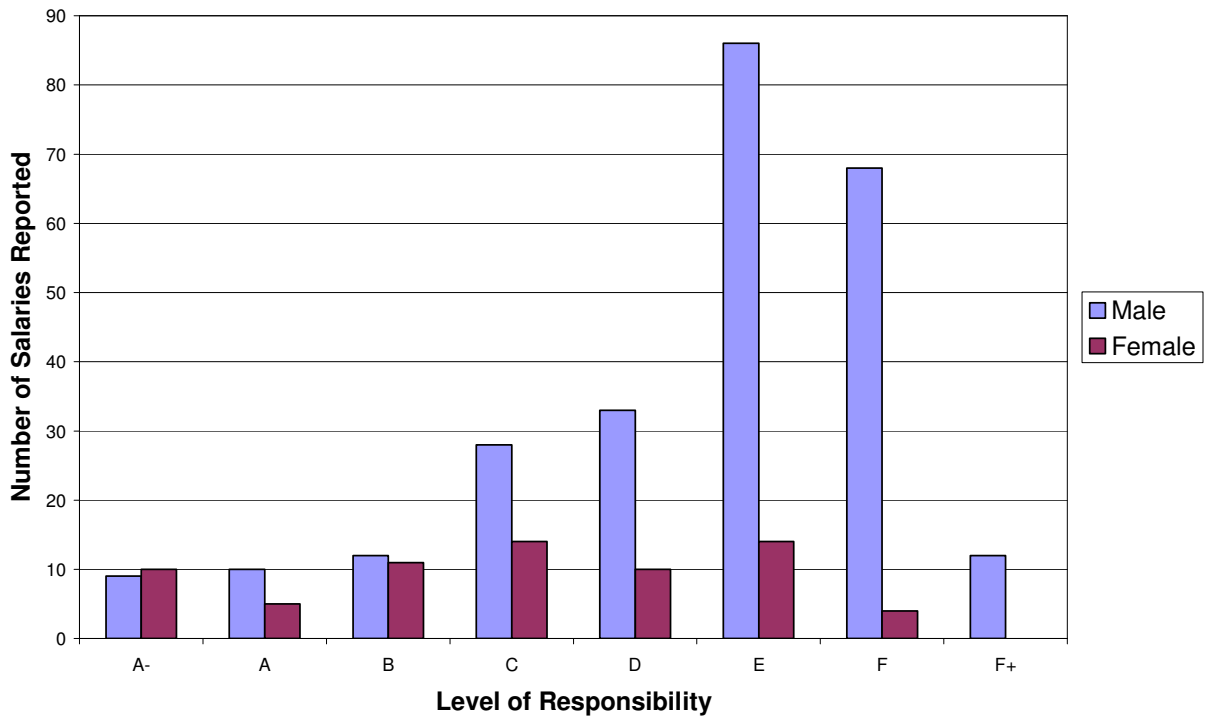


Figure 7 - Gender Distribution by Responsibility Level for Geophysics



An examination of the total cash compensation reported (Table 16) indicates that, on average, women in the professions make \$90,923 per year, compared to the average for men at \$119,321. The overall average for all respondents, including those who did not respond to the gender question was \$113,605. 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.

Table 16

Average Total Cash Compensation – All Designations – May 2006							
	Number	Mean \$	D1 \$	Q1 \$	Median \$	Q3 \$	D9\$
Overall	11,818	113,605	56,250	74,572	102,000	139,600	185,633
Female	1,477	87,350	49,004	60,589	78,246	101,815	140,500
2006 Variance	-	-23.11%	-12.88%	-18.75%	-23.29%	-27.07%	-24.31%
2005 Variance	-	-21.00%	-11.90%	-19.90%	-22.00%	-24.70%	-19.70%
Male	7,009	115,298	57,314	77,792	105,408	140,000	184,246
2006 Variance	-	1.49%	1.89%	4.32%	3.34%	0.29%	-0.75%
2005 Variance	-	7.20%	3.10%	5.80%	7.60%	6.20%	6.70%

Gender variances between total cash compensation are more pronounced at higher (executive) responsibility levels. These levels also tend to be where there are proportionally fewer female professionals, though the complexity of executive compensation may also be a factor.

Figure 8 - Total Cash Compensation by Responsibility Level for Engineering

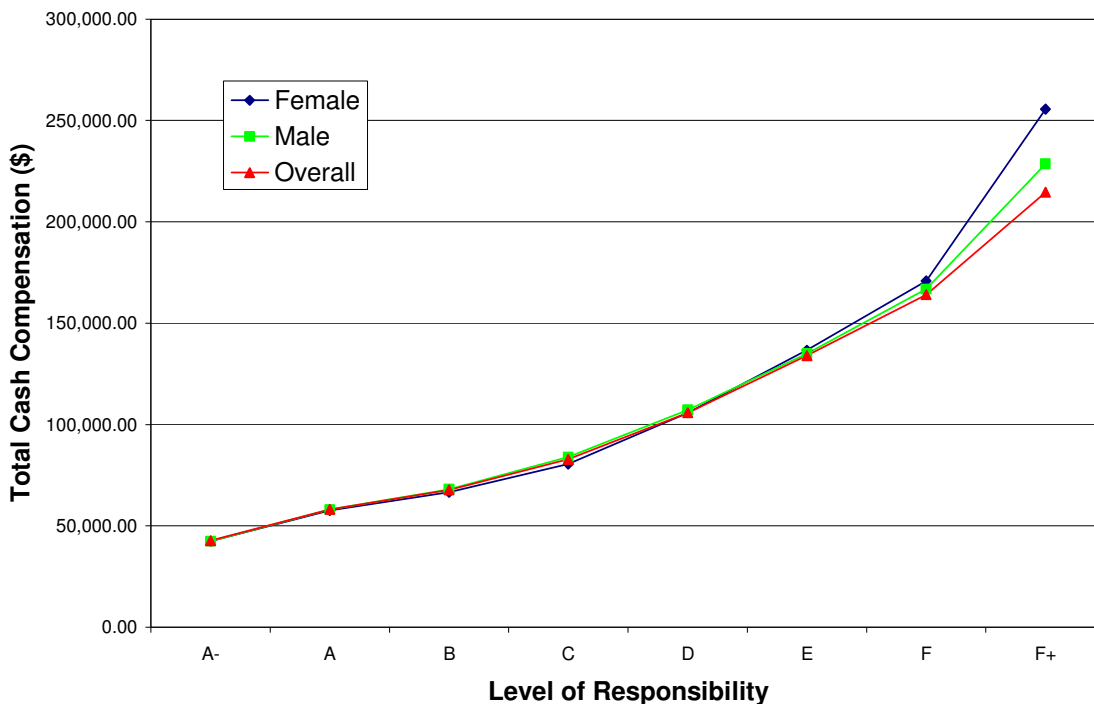


Figure 9 - Total Cash Compensation by Responsibility Level for Geology

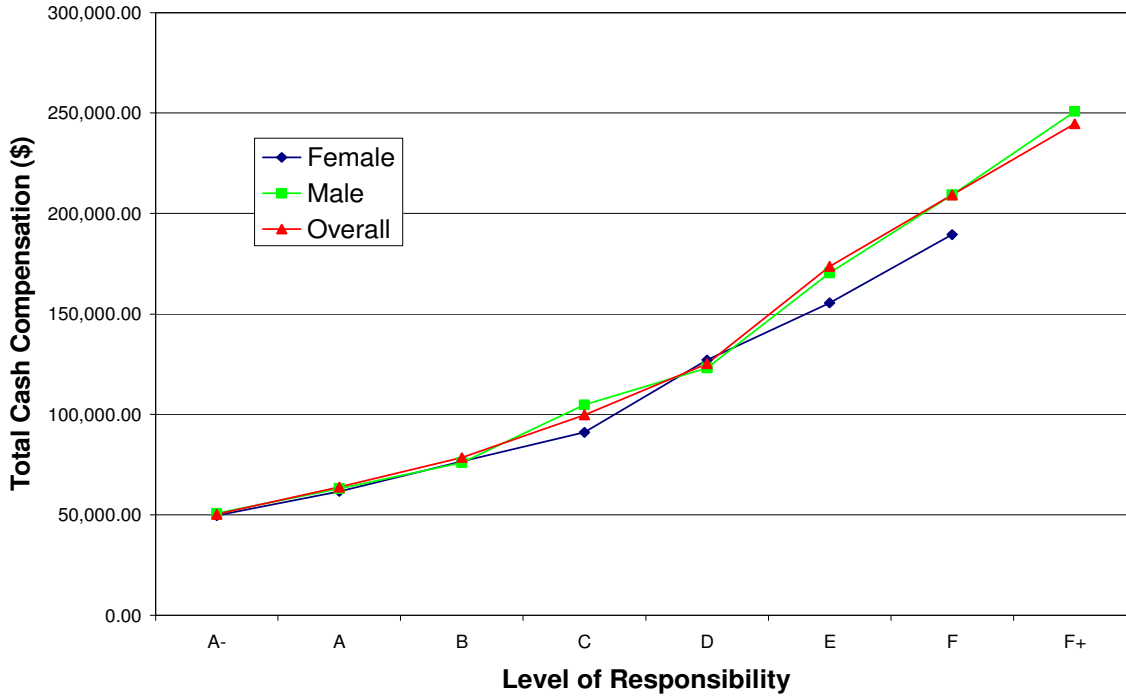
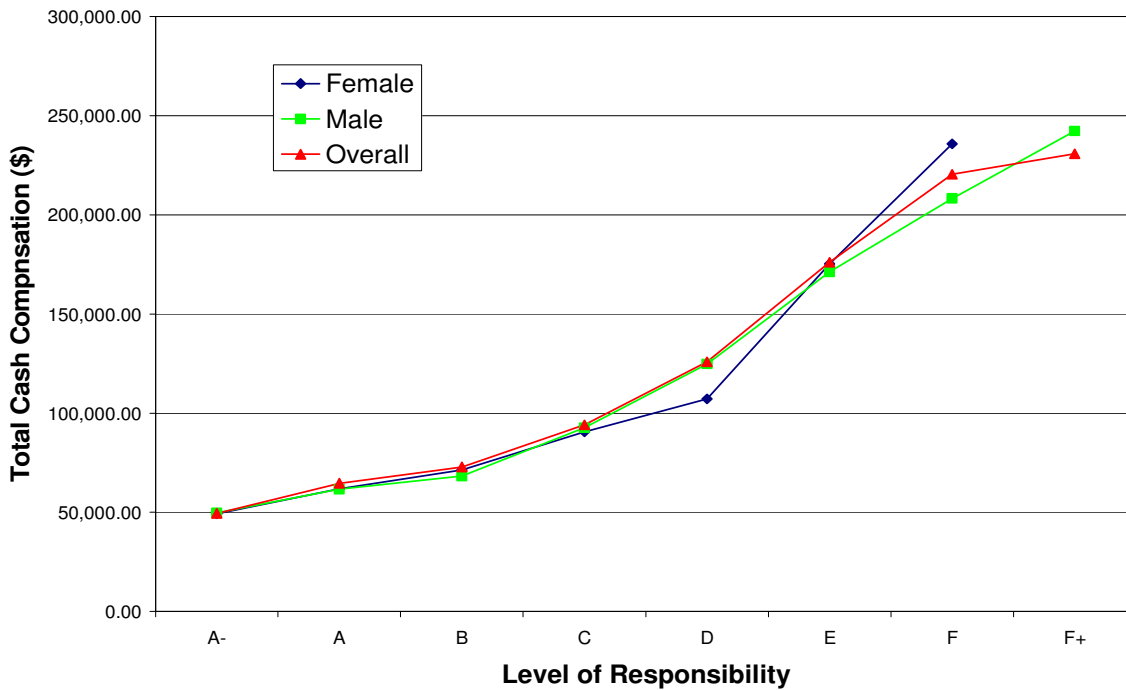


Figure 10 - Total Cash Compensation by Responsibility Level for Geophysics



A more detailed examination of mean salaries by professional designation and level of responsibility reveals better overall parity in salaries in engineering than in the geosciences. It also reveals that the ratio of female respondents to the overall number drops off at the higher responsibility levels.

Table 17

Average Total Cash Compensation by Designation and Responsibility Level								
All Industries – May 2006								
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-	416	42,627	74	42,376	-0.59%	179	42,350	-0.65%
A	1,009	58,098	178	57,535	-0.97%	527	58,006	-0.16%
B	1,168	67,754	253	66,542	-1.79%	649	68,046	0.43%
C	1,750	82,844	293	80,398	-2.95%	904	83,856	1.22%
D	2,583	105,708	237	105,720	0.01%	1,632	107,187	1.40%
E	1,992	133,984	94	136,588	1.94%	1,317	134,991	0.75%
F	1,188	164,044	36	170,873	4.16%	694	166,815	1.69%
F+	363	214,608	5	255,637	19.12%	233	228,576	6.51%
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-	31	50,357	11	49,604	-1.50%	20	50,771	0.82%
A	82	63,861	37	61,653	-3.46%	37	63,111	-1.17%
B	108	78,526	43	76,644	-2.40%	41	75,967	-3.26%
C	147	99,720	57	91,151	-8.59%	69	104,760	5.05%
D	144	125,269	27	127,126	1.48%	99	123,162	-1.68%
E	216	173,637	31	155,503	-10.44%	148	170,376	-1.88%
F	165	209,226	10	189,511	-9.42%	109	209,331	0.05%
F+	60	244,675	1	N/A	N/A	48	250,745	2.48%
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-	19	49,406	10	49,177	-0.46%	9	49,661	0.52%
A	18	64,618	5	61,827	-4.32%	10	61,578	-4.70%
B	31	72,806	11	71,256	-2.13%	12	68,207	-6.32%
C	49	94,098	14	90,537	-3.78%	28	92,663	-1.53%
D	51	125,934	10	107,167	-14.90%	33	124,826	-0.88%
E	113	176,057	14	175,208	-0.48%	86	171,204	-2.76%
F	93	220,461	4	235,808	6.96%	68	208,224	-5.55%
F+	22	230,784	0	N/A	N/A	12	242,271	4.98%

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

An examination of the data sorted by industry type indicates that some specific industries fare better in wage equity than others.

Table 18

Average Total Cash Compensation by Industry Sector – May 2006								
ENGINEERING, GEOLOGICAL, GEOPHYSICAL CONSULTING SERVICE								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	20	37,244	6	33,251	-10.7%	7	37,506	0.7%
A	239	51,122	61	49,962	-2.3%	153	52,355	2.4%
B	274	57,675	78	58,199	0.9%	167	57,555	-0.2%
C	263	69,361	55	67,902	-2.1%	175	69,977	0.9%
D	271	88,147	33	88,070	-0.1%	215	89,115	1.1%
E	280	109,873	15	108,264	-1.5%	223	112,655	2.5%
F	171	137,438	2	N/A	N/A	134	140,033	1.9%
F+	57	160,559	0	N/A	N/A	43	169,986	5.9%
ENGINEERING, PROCUREMENT AND CONSTRUCTION								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	68	42,520	16	43,211	1.6%	45	42,608	0.2%
A	270	55,434	36	55,770	0.6%	122	55,653	0.4%
B	298	65,467	42	64,344	-1.7%	132	65,347	-0.2%
C	396	79,713	52	75,280	-5.6%	162	79,816	0.1%
D	544	101,650	34	95,715	-5.8%	228	100,393	-1.2%
E	549	122,248	14	120,453	-1.5%	259	122,254	0.0%
F	413	145,889	6	148,218	1.6%	162	146,359	0.3%
F+	114	167,561	1	N/A	N/A	47	169,961	1.4%
RESOURCE EXPLOITATION (EXCEPT OIL & GAS)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	4	40,500	1	N/A	N/A	3	40,000	-1.2%
A	11	57,845	0	N/A	N/A	2	58,320	0.8%
B	11	64,045	2	N/A	N/A	4	65,124	1.7%
C	11	78,706	1	N/A	N/A	6	80,378	2.1%
D	21	97,732	1	N/A	N/A	12	100,799	3.1%
E	14	120,968	0	N/A	N/A	9	120,475	-0.4%
F	11	142,964	0	N/A	N/A	11	142,964	0.0%
F+	2	N/A	0	N/A	N/A	2	N/A	N/A

Table 18 (cont.)

RESOURCE EXPLOITATION (OIL & GAS ONLY)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	254	45,432	69	45,928	1.1%	126	45,361	-0.2%
A	326	68,715	79	67,153	-2.3%	180	67,788	-1.3%
B	433	79,517	106	78,856	-0.8%	225	78,910	-0.8%
C	585	98,654	136	94,819	-3.9%	339	98,777	0.1%
D	947	125,254	135	122,275	-2.4%	680	124,621	-0.5%
E	983	166,639	93	158,702	-4.8%	730	163,551	-1.9%
F	645	207,377	31	199,953	-3.6%	417	206,826	-0.3%
F+	233	256,231	5	257,009	0.3%	170	267,704	4.5%
MANUFACTURING (DURABLES)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	3	37,620	0	N/A	N/A	3	37,620	0.0%
A	11	54,376	1	N/A	N/A	10	54,713	0.6%
B	7	55,955	0	N/A	N/A	7	55,955	0.0%
C	19	75,684	1	N/A	N/A	18	76,403	1.0%
D	12	88,173	0	N/A	N/A	12	88,173	0.0%
E	17	110,248	1	N/A	N/A	16	112,014	1.6%
F	9	144,619	0	N/A	N/A	9	144,619	0.0%
F+	1		0	N/A	N/A	1	N/A	N/A
MANUFACTURING (NON DURABLES)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	12	38,373	3	36,560	-4.7%	9	38,977	1.6%
A	15	59,963	5	58,241	-2.9%	10	60,824	1.4%
B	43	72,080	16	71,775	-0.4%	27	72,261	0.3%
C	59	85,866	15	80,731	-6.0%	44	87,617	2.0%
D	101	100,697	21	92,672	-8.0%	80	102,803	2.1%
E	100	123,827	5	130,491	5.4%	95	123,476	-0.3%
F	47	153,855	5	154,442	0.4%	42	153,786	0.0%
F+	14	222,965	0	N/A	N/A	13	226,170	1.4%

Table 18 (cont.)

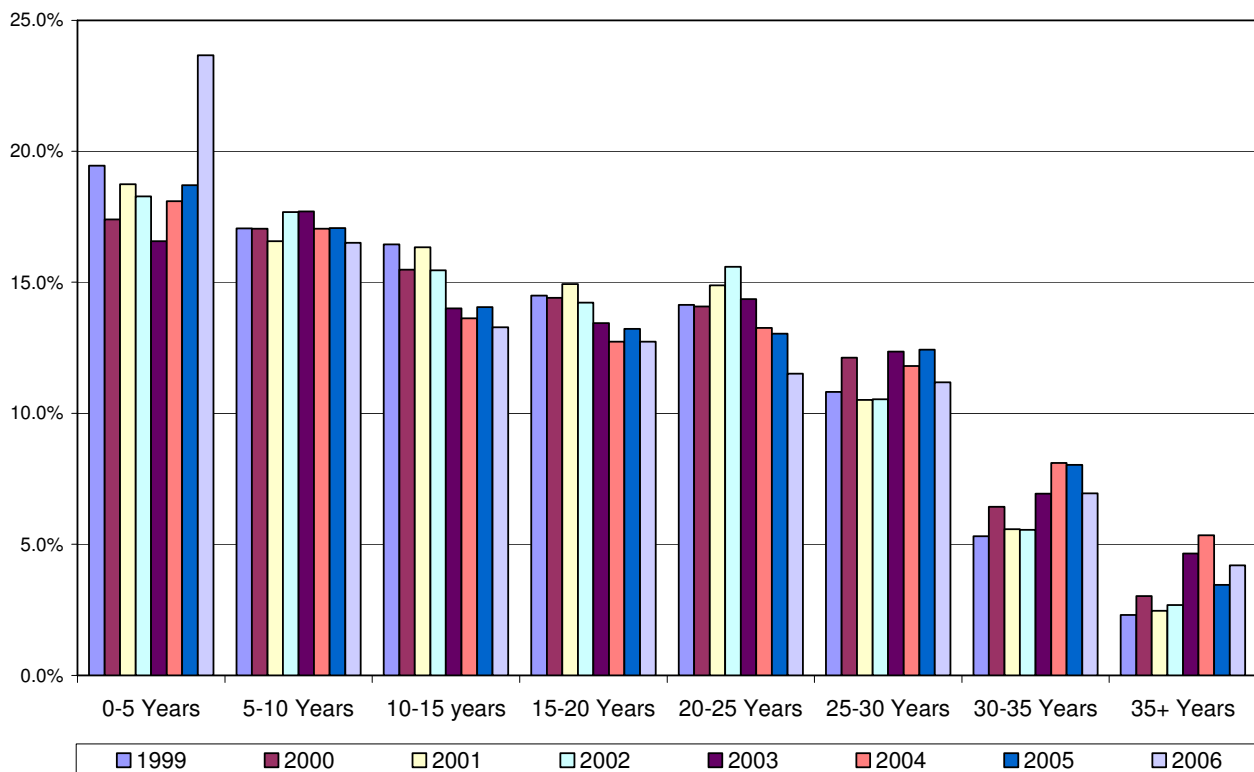
SERVICE AND CONTROL (NOT FOR PROFIT)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	19	36,471	4	35,580	-2.4%	12	38,143	4.6%
A	97	57,447	12	59,931	4.3%	7	58,061	1.1%
B	63	61,968	22	63,112	1.8%	24	66,936	8.0%
C	323	78,412	49	74,948	-4.4%	73	80,563	2.7%
D	440	90,911	14	84,776	-6.7%	203	94,308	3.7%
E	133	106,188	2	N/A	N/A	59	114,531	7.9%
F	54	128,182	1	N/A	N/A	28	142,573	11.2%
F+	6	176,415	0	N/A	N/A	4	163,123	-7.5%
SERVICE (FOR PROFIT)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	11	40,332	3	41,212	2.2%	8	40,002	-0.8%
A	38	59,322	3	70,815	19.4%	15	54,409	-8.3%
B	35	77,291	2	N/A	N/A	19	81,659	5.7%
C	58	89,930	2	N/A	N/A	28	94,486	5.1%
D	105	115,742	3	129,356	11.8%	60	117,635	1.6%
E	103	144,092	1	N/A	N/A	32	138,465	-3.9%
F	35	186,564	0	N/A	N/A	15	192,701	3.3%
F+	7	280,631	0	N/A	N/A	5	322,633	15.0%
UTILITY (RATE CONTROLLED)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	59	42,730	11	42,552	-0.4%	27	43,101	0.9%
A	54	55,059	12	52,217	-5.2%	38	55,095	0.1%
B	52	63,913	16	63,021	-1.4%	31	63,220	-1.1%
C	78	77,585	16	75,108	-3.2%	40	77,558	0.0%
D	163	99,302	10	96,781	-2.5%	123	97,443	-1.9%
E	56	122,728	3	108,797	-11.4%	47	118,036	-3.8%
F	37	147,022	4	152,735	3.9%	30	141,625	-3.7%
F+	3	457,530	0	N/A	N/A	0		
ADVANCED TECHNOLOGIES								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	16	38,563	4	39,513	2.5%	12	38,246	-0.8%
A	48	52,096	11	51,870	-0.4%	37	52,163	0.1%
B	91	65,638	23	64,595	-1.6%	68	65,991	0.5%
C	154	82,890	37	82,488	-0.5%	117	83,017	0.2%
D	174	103,931	23	100,592	-3.2%	151	104,440	0.5%
E	86	125,855	5	124,335	-1.2%	81	125,949	0.1%
F	24	154,308	1	N/A	N/A	23	154,817	0.3%
F+	8	211,195	0	N/A	N/A	8	211,195	0.0%

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.

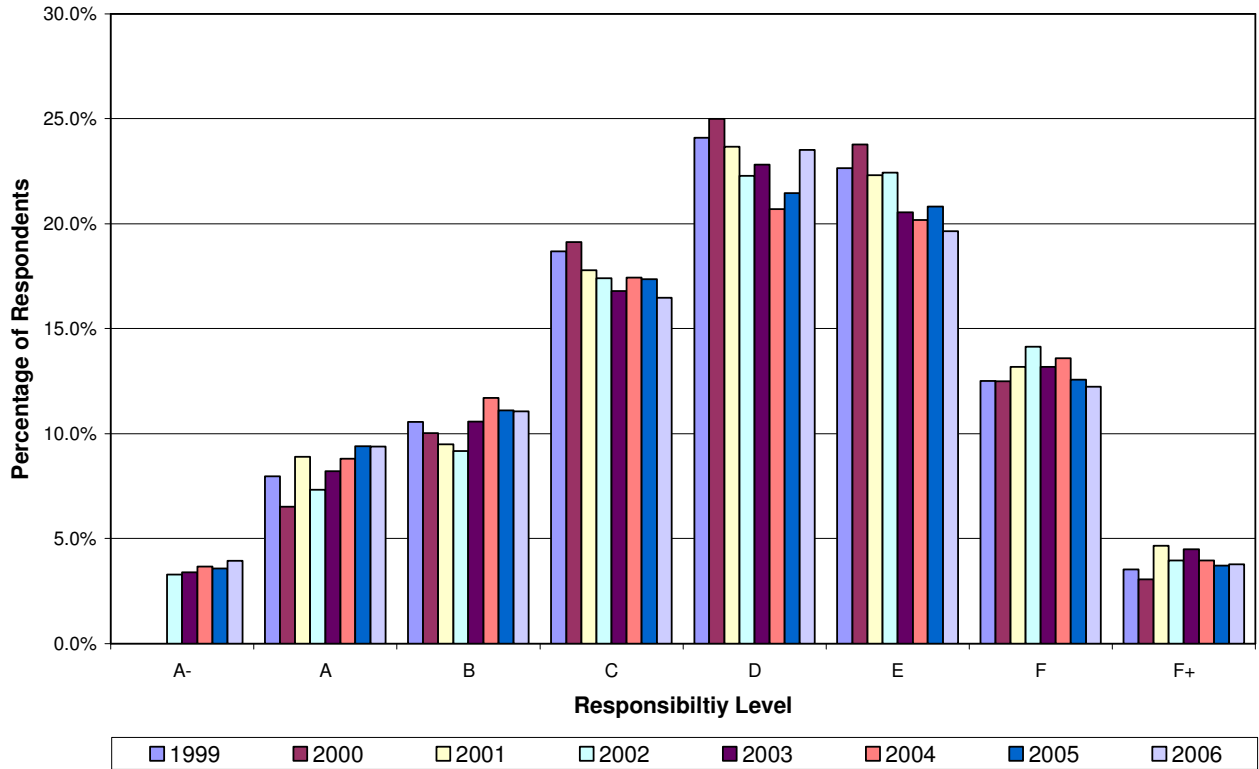
Figure 11 shows that over the last seven years there have been decreases in the workforce of professionals in their middle years (10-15 years since graduation, 15-20, and 20-25), while those with 5-10 years and 25-30 years are essentially holding even. There has been a slight upward trend for those with 30 to 35 years experience, and for this year a substantial jump in those with fewer than 5 years experience. Year-over year variations and incomplete reporting (only 49.5% of respondents included year of graduation) make it difficult to draw conclusions.

Figure 11 - Age Distribution Based on Years Since Graduation (1999-2006)



Responsibility level distribution appears to be more consistent year over year, possibly because all respondents must declare the responsibility level for each salary. The trend to decreasing numbers of professionals at two of the mid levels (C and E), previously identified, appears to be continuing, while the D level may have reversed. Lower (A-, A, and B) and upper (F and F+) appear to be holding even.

Figure 12 - Distrubution by Responsibility Level (1999-2006)



The seven-year history reflected in these figures is inadequate to predict any long-term trends. While year-over-year variations may seem to indicate either the continuation or the reversal of a trend, these small variations are typically not truly indicative of long-term changes. This type of analysis began with the 2004 Value of Professional Services report (though data was available going back to 1999) and information in these categories will continue to be reported so that long-term trends can be identified.

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.

To determine if this influence is skewing the results of the survey unduly, an examination of the salaries reported with respect to the size of the reporting organization was performed. The data in Table 19 has historically been reported in the appendix of previous Salary Surveys, but it was felt that understanding this effect held enough importance to move the analysis into the main report. In addition to the base salaries reported in Table 19, we have added data on Total Cash Compensation (Table 20), and have provided graphs of mean Base Salaries (Figure 13) and Total Cash Compensation (Figure 14) by organization size and individual responsibility level for comparison.

The results of the analysis varied somewhat from pattern established last year. For the most part, the smallest organizations continued to offer the lowest mean base salaries and the lowest total cash compensation at the lowest levels (A-, A, and B), but offered the highest base salaries at the higher levels (E and F; most small companies do not have F+ responsibility levels). When additional cash compensation is included, however, the smaller firms lose some of their advantage to the mid-sized firms, but still remain strong.

The effect of a vibrant economy can be easily seen in the additional cash compensation paid at the executive level, with the F+ level employees receiving significant adders to their base compensation. Again, however, we see that it is the executives of the small to medium enterprises that reap the greatest benefits, possibly resulting from profit sharing or stock option plans providing an additional boost.

Only two years of analysis has been performed on our Salary Survey data, so no comments on long-term trends can be made at this time. Further, in both years that this analysis has been performed Alberta's economy has been buoyed by strong oil and gas prices. It is likely that these results do not reflect a "normal" year.

Table 19 - Annual Base Salaries by Size of Organization, May 2006								
Level	Size (# of Employees)	# of Eng., Geol., Geoph.	MEAN \$	D1 \$	Q1 \$	MEDIAN \$	Q3 \$	D9 \$
A-	2-10	1						
	11-20	2						
	21-50	4	38,665					
	50-100	14	38,479	31,200	36,000	37,584	42,000	43,000
	101-250	20	36,054	31,200	34,257	36,000	37,440	39,520
	251-500	20	40,997	35,860	37,300	40,950	44,580	44,720
	Over 500	334	44,129	35,880	39,749	43,800	48,649	50,467
A	2-10	2						
	11-20	13	47,681	38,792	39,500	44,400	51,400	60,000
	21-50	13	47,316	40,000	45,000	47,700	49,608	51,893
	50-100	45	54,363	48,000	51,000	54,000	57,600	60,000
	101-250	92	50,278	43,200	45,000	49,483	53,820	58,431
	251-500	113	53,111	45,360	48,500	53,000	57,564	60,753
	Over 500	818	57,000	48,498	52,272	57,000	61,500	64,944
B	2-10	5	52,600		52,000	53,000	54,000	
	11-20	18	58,369	43,700	50,124	52,800	64,000	67,000
	21-50	29	54,865	40,753	47,273	53,985	60,000	65,500
	50-100	46	63,228	53,000	59,004	62,484	67,416	72,000
	101-250	110	61,270	50,000	55,000	62,000	66,300	72,000
	251-500	146	61,368	52,008	54,816	61,500	66,816	71,573
	Over 500	924	65,271	55,000	60,112	66,000	70,920	74,550
C	2-10	1						
	11-20	13	61,809	52,000	55,200	60,000	66,675	71,680
	21-50	25	71,489	50,029	59,000	66,000	73,122	105,000
	50-100	50	82,936	61,000	69,680	75,920	90,000	120,000
	101-250	136	77,215	65,000	69,500	78,000	83,200	90,156
	251-500	169	75,951	62,475	67,500	75,000	83,200	90,064
	Over 500	1,508	78,366	65,826	73,000	79,716	84,012	88,500
D	2-10	5	80,300		66,500	80,000	90,000	
	11-20	18	86,799	54,000	72,800	86,230	99,840	110,000
	21-50	31	103,022	75,600	84,254	95,490	118,000	138,237
	50-100	46	98,693	84,000	86,320	96,000	103,800	110,400
	101-250	127	94,995	80,000	85,915	93,320	100,458	109,767
	251-500	247	93,208	75,000	83,352	93,000	100,000	110,400
	Over 500	2,234	98,851	83,012	90,885	98,996	106,550	114,923
E	2-10	3	123,667					
	11-20	24	116,736	83,000	98,000	112,800	132,288	153,360
	21-50	27	116,401	81,237	91,500	110,000	125,846	160,000
	50-100	39	111,303	93,840	101,208	112,008	118,008	126,480
	101-250	84	116,529	94,800	104,000	112,980	126,000	135,324
	251-500	175	113,817	92,400	102,324	115,430	125,798	132,000
	Over 500	1,928	121,795	100,737	111,300	124,000	132,412	139,000
F	2-10	5	157,960		124,800	200,000	200,000	
	11-20	23	131,558	95,400	100,000	133,000	150,000	150,000
	21-50	29	121,206	97,200	102,500	116,280	132,868	141,120
	50-100	20	134,432	110,000	121,000	131,000	150,000	153,684
	101-250	85	156,238	124,800	138,200	156,700	170,500	180,000
	251-500	119	136,334	107,040	120,000	138,600	149,760	160,000
	Over 500	1,134	143,905	119,900	133,302	145,200	153,603	164,720
F+	2-10	0						
	11-20	4	190,975	140,000				
	21-50	5	197,062	145,800		176,000	188,110	
	50-100	8	173,805	140,000	159,583	180,000	190,000	200,000
	101-250	33	180,477	149,229	162,200	176,300	187,872	230,000
	251-500	36	164,873	124,000	130,000	152,000	179,500	222,520
Over 500	356	170,490	135,013	151,000	160,524	180,000	206,000	

Table 20 - Annual Total Cash Compensation by Size of Organization, May 2006								
Level	Size (# of Employees)	# of Eng., Geol., Geoph.	MEAN \$	D1 \$	Q1 \$	MEDIAN \$	Q3 \$	D9 \$
A-	2-10	1						
	11-20	2						
	21-50	4	38,815					
	50-100	14	38,704	31,200	36,000	38,743	42,000	43,000
	101-250	20	36,864	31,700	35,384	36,000	37,440	39,520
	251-500	20	40,997	35,860	37,300	40,950	44,580	44,720
	Over 500	334	44,433	36,936	40,370	43,800	48,649	51,600
A	2-10	2						
	11-20	13	50,523	39,412	40,800	45,375	59,400	65,000
	21-50	13	50,650	43,417	47,700	48,179	53,272	56,842
	50-100	45	57,799	48,000	52,041	56,780	64,671	69,965
	101-250	92	53,312	45,000	47,100	51,334	56,400	64,200
	251-500	113	54,942	45,756	49,200	54,132	58,240	62,800
	Over 500	818	60,130	48,886	52,704	57,730	65,344	74,205
B	2-10	5	54,067		53,000	54,000	54,335	
	11-20	18	63,309	48,700	51,000	57,990	72,000	78,144
	21-50	29	60,210	44,623	52,790	61,086	63,891	73,693
	50-100	46	67,564	54,000	62,948	66,845	71,973	76,400
	101-250	108	68,072	55,000	60,000	64,500	72,419	85,500
	251-500	146	64,262	52,800	55,764	63,000	70,000	74,880
	Over 500	924	70,326	55,010	61,016	69,550	79,012	85,590
C	2-10	1						
	11-20	13	67,268	54,000	58,372	61,376	79,780	80,000
	21-50	25	78,483	59,085	64,000	72,923	85,614	105,000
	50-100	50	103,922	61,000	72,040	82,788	97,800	160,833
	101-250	136	82,255	65,000	72,000	80,000	88,093	97,775
	251-500	169	79,463	65,161	70,000	78,000	86,400	94,000
	Over 500	1,508	84,799	67,389	75,030	84,012	91,655	103,711
D	2-10	5	82,300		66,500	85,000	95,000	
	11-20	18	101,801	54,000	80,227	98,071	120,264	146,000
	21-50	31	114,124	80,784	93,142	117,438	134,320	146,667
	50-100	46	116,451	85,000	90,724	103,950	113,871	130,000
	101-250	127	104,376	82,056	87,782	98,550	114,292	130,000
	251-500	247	98,424	76,936	86,738	96,468	104,168	117,961
	Over 500	2,234	108,189	84,412	94,368	105,492	119,093	134,598
E	2-10	3	151,333					
	11-20	24	146,639	92,000	114,000	138,500	177,500	187,288
	21-50	27	132,353	87,500	112,117	121,926	160,000	182,854
	50-100	39	125,074	93,840	106,362	124,468	135,000	144,094
	101-250	84	125,590	95,165	107,100	121,848	140,933	160,680
	251-500	175	123,501	96,000	105,504	118,244	131,244	151,780
	Over 500	1,928	142,248	105,000	117,500	135,200	160,800	182,662
F	2-10	5	187,960		124,800	250,000	250,000	
	11-20	23	162,946	100,000	109,200	150,000	161,400	265,000
	21-50	29	159,386	100,000	121,999	156,512	167,500	203,425
	50-100	20	158,458	115,200	125,271	145,000	184,014	204,030
	101-250	85	194,995	135,200	154,445	177,583	217,547	275,000
	251-500	119	144,164	110,000	128,256	141,000	151,934	168,376
	Over 500	1,069	175,892	124,000	138,600	166,004	203,545	227,426
F+	2-10	0						
	11-20	4	216,725					
	21-50	5	275,566	203,536		288,390	301,379	
	50-100	8	319,048	140,000	226,206	280,000	523,500	556,916
	101-250	33	239,564	184,583	200,794	223,362	252,489	282,882
	251-500	36	208,296	132,315	143,148	163,000	194,004	376,772
	Over 500	356	215,291	142,560	160,200	212,700	244,880	278,437

Figure 13 - Annual Base Salary by Firm Size and Responsibility Level

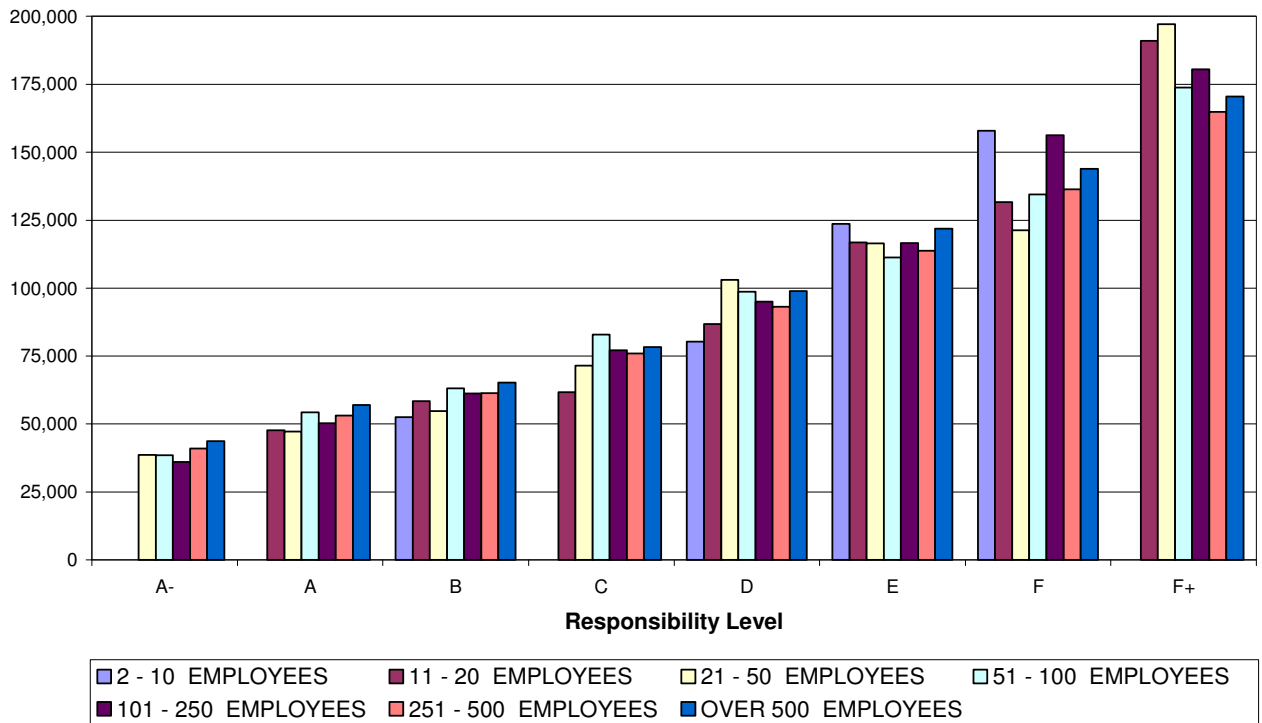
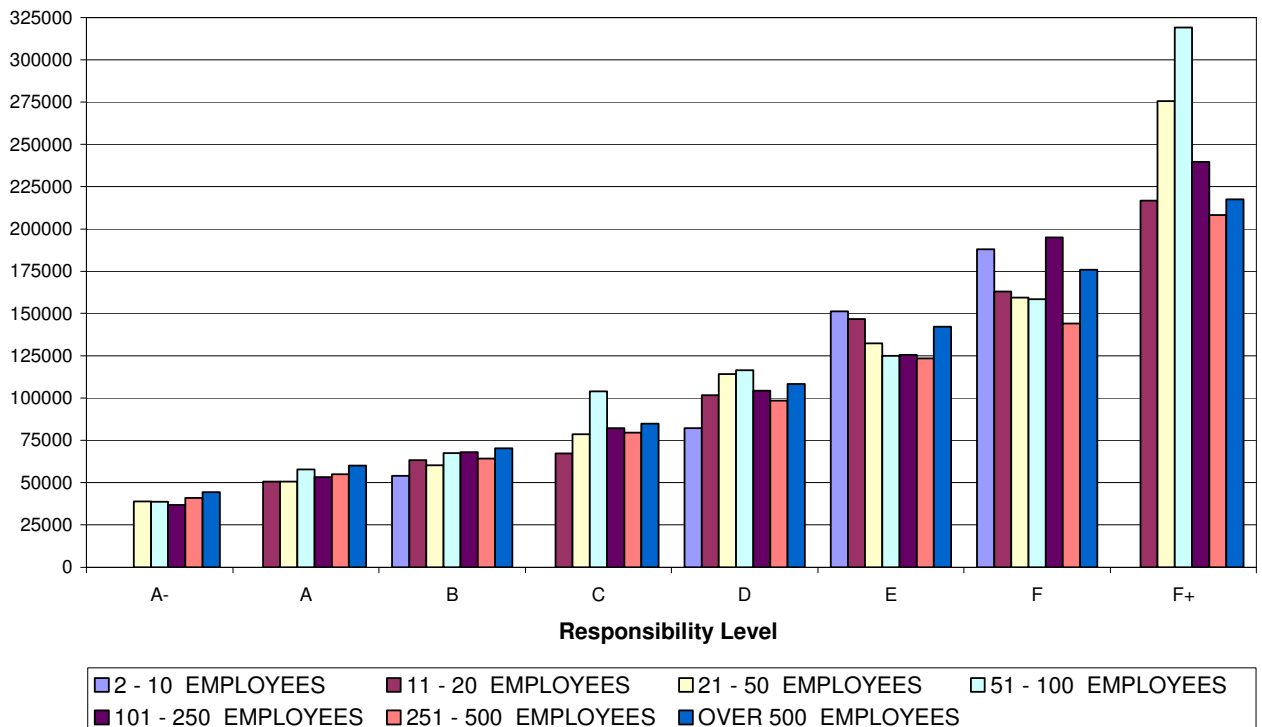


Figure 14 - Annual Total Cash Compensation by Firm Size and Responsibility Level



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. This year, in addition to reporting these salaries in the A- category in our other tables and graphs, we have broken the information down by the anticipated year of graduation of the student. In future years, we will gather this data in a manner consistent with how the university programs assess academic preparation – by how many semesters have been completed by the student prior to entering the work term. Our analysis this year, however, has been constrained by the method by which the data was gathered. Of the 466 A- salaries reported, only 275 (59%) 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 student anticipating graduation in 2006, overlap the A level, indicating that some firms value these senior students almost as much as actual graduates.

As this is the first year we have performed this analysis, no trends have been identified. Subsequent survey reports will continue examining these figures and will attempt to identify trends as they become apparent.

Table 21: Base Hourly Wages for Co-op, Summer, and Intern Program Students – May 2006

Anticipated Year of Graduation	# of Students	Mean \$/hour	D1 \$/hour	Q1 \$/hour	Median \$/hour	Q3 \$/hour	D9 \$/hour
2006	26	25.07	18.18	20.05	27.12	28.41	29.00
2007	119	22.07	17.95	20.00	22.57	24.23	24.62
2008	97	20.70	17.09	18.00	20.50	23.65	24.04
2009	33	18.53	16.55	17.25	19.04	19.90	20.51

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 the companies' reported normal work week. Future surveys will request hourly rates directly.

APPENDIX A

DETAILED JOB CLASSIFICATION GUIDE

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

LEVEL OF RESPONSIBILITY**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

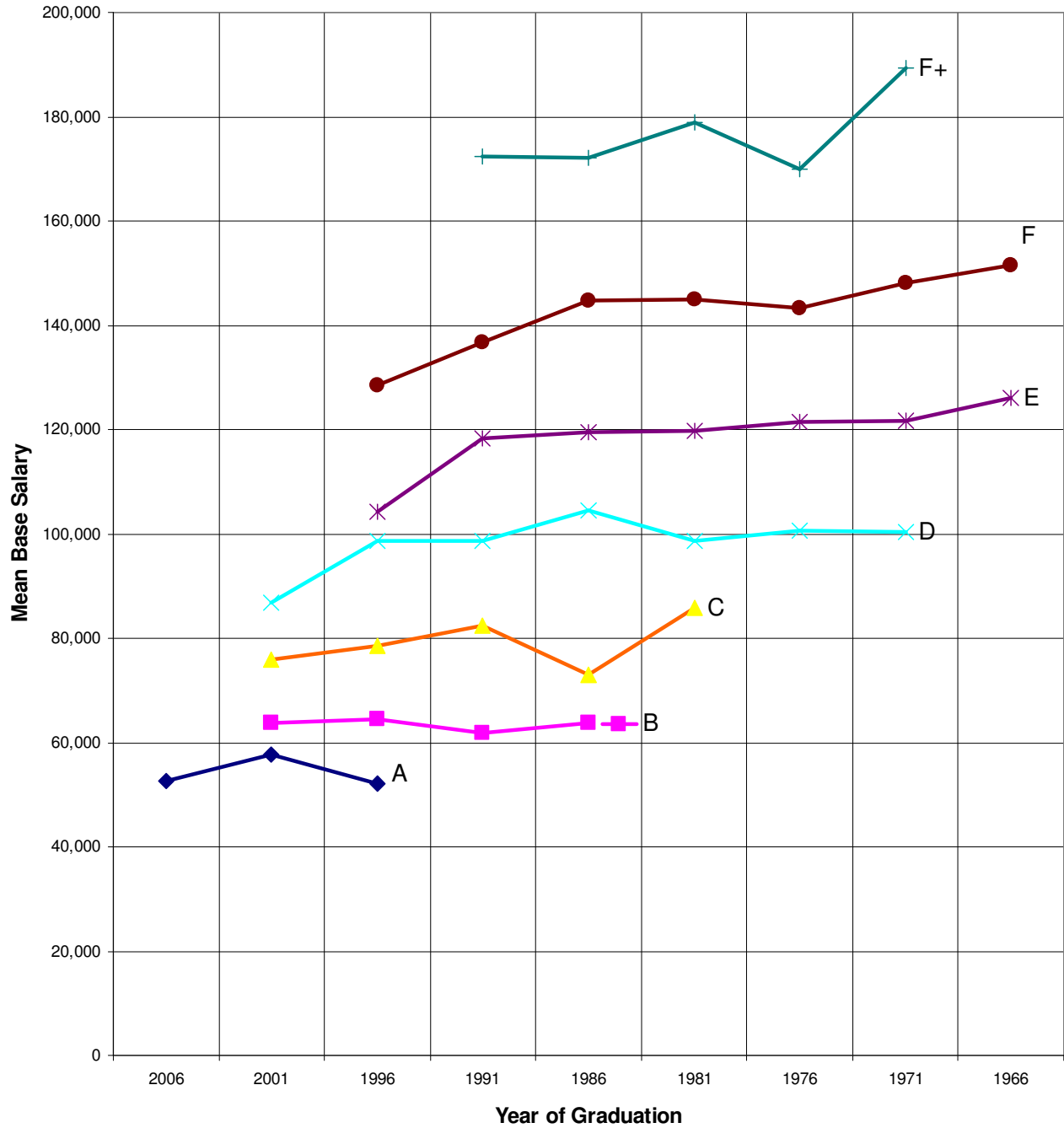
Additional results from APEGGA's May 2006 Employer Salary Survey. Other survey results are published in sections 2, 4, 5 and 6 of this booklet.

TABLE B-1

Annual Base Salaries by Highest Degree - All Professions – May 2006							
Highest Degree Completed	Count	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
Ph.D.	229	106,579	67,000	81,600	100,006	127,800	151,000
M.Sc., M.Eng.	1,042	106,643	63,000	76,619	102,500	132,000	152,400
B.Sc., B.Eng.	10,048	98,833	58,228	71,757	95,000	122,438	145,000
Annual Total Cash Compensation by Highest Degree – All Professions – May 2006							
Ph.D.	229	117,600	67,891	81,454	106,019	135,979	193,000
M.Sc., M.Eng.	1,042	119,695	64,847	80,000	108,750	143,148	187,972
B.Sc., B.Eng.	10,048	195,748	60,000	76,960	101,500	135,202	178,364

FIGURE B-1

APEGGA MAY 2006 EMPLOYER SALARY SURVEY
Mean Base Salaries by Year of Graduation and Level of Responsibility
All Professions (Eng., Geol., Geoph.)



APPENDIX C

LIST OF PARTICIPANTS

A.D. Williams Engineering Inc
ABSA: The Pressure Equipment Safety Authority
Acuren Group
Agrium Inc.
Aker Kvaerner Process Systems Canada Inc.
Alberta Energy and Utilities Board
Alberta Research Council
AltaGas Utilities Inc.
AltaLink Management
AMEC Americas Ltd.
AMEC Earth & Environmental
AMEC Infrastructure Ltd.
Anadarko Canada Corporation
APEX Energy Consultants Inc.
Aquatera Utilities Inc.
Arrow Engineering
Associated Engineering Alberta Ltd.
Associated Mining Consultants Ltd.
ATCO Electric
ATCO Gas
ATCO Pipelines
Bantrel Company
Beaubien Glover Maskell Engineering
Beck Engineering (1992) Ltd.
Bel-MK Engineering
Beta Machinery Analysis Ltd.
Birchcliff Energy Ltd.
BMO Oil & Gas Department
Bonavista Energy Trust
BSEI Municipal Consulting Engineers
Burlington Resources Canada Ltd.
Canfer Rolling Mills
C-FER Technologies (1999) Inc.
CGG Canada Services
CH2M HILL Canada Ltd.
Chevron Canada Resources
Cinch Energy Corp.
City of Calgary
City of Edmonton
City of St. Albert
Colt Engineering Corporation
Compton Petroleum Corporation
Con-Force Structures
Crew Energy
Dacro Industries
Degussa Canada Inc.
Devon Canada Corporation
Dillon Consulting Ltd.
Direct Energy Business Services
Dominion Construction Company
Dominion Exploration Canada Ltd.
Dow Chemical Canada Inc.
DPH Engineering Inc.
Duke Energy Gas Transmission
Earth Tech Canada In.
EBA Engineering Consultants Ltd.
Emerson Process Management
Enbridge Pipelines Inc.
EnCana Corporation
Enerplus Resources Fund
EPCOR Utilities Inc.
Fluor Corporation
FVB Energy
Gemini Corporation
General Dynamics Canada
Geophysical Exploration & Development Corporation
GLM Tanks & Equipment
Golder Associates
Government of Alberta
GRB Engineering
Group2 Architecture Engineering Ltd.
Halliburton Group Canada
High-Time Industries Ltd.
Honeywell Canada
Horton CBI Ltd.
Husky Energy Inc.
I.S. Results Inc.
IHS Energy (Canada) Ltd.
Imperial Oil Ltd.
IMV Projects Inc.
Iteration Energy Ltd.
Jacobs Canada Inc.
Jacques Whitford
Kellogg Brown & Root (KBR)
KemeX Engineering Services
Klemke Mining Corporation
Klohn Crippen Berger Ltd.

Kobayashi Partners Ltd.
Lafarge Canada Inc.
Lehigh Inland Cement
Luscar Ltd.
Mastco Derrick Services
MEG Energy Corp.
MEGlobal Canada Inc.
Mentor Engineering Inc.
Micrologic Limited
MPE Engineering Ltd.
MR Control Systems
Mulvey + Banani
Natco Canada
NewAlta Corporation
Nexen Inc.
North American Construction Group
Northrock Resources Ltd.
Northwest Hydraulic Consultants Ltd.
Norwest Corporation Inc.
NOVA Chemicals
NovAtel Inc.
Orbis Engineering Field Services
Pembina Pipeline Corporation
Pengrowth Corporation
Petro-Canada
PHH ARC Environmental Ltd
Pillar Resource Services
PrimeWest Energy Inc.
ProSolve Consulting Ltd.
Ready Engineering Corporation
Real Resources Inc.
Red Flame Hot Tap Services
Rowan Williams Davies & Irwin Inc.
Ryan Energy Technologies
SAMAC Engineering Ltd.

Scheffer Andrew Ltd.
SemCAMS
SES (Engineering) Ltd.
Shaw Pipe Protection
Sherritt International Corporation
SNC Lavalin Inc.
Stantec Consulting
Stewart, Weir & Company Ltd.
Suncor Energy Inc.
Sunstone Projects Ltd.
Syncrude Canada Ltd
Talisman Energy Inc.
Tartan Engineering Ltd.
Telvent Canada Ltd.
Temple Energy
Three Streams Engineering Ltd.
Tracer Industries Canada Ltd.
TransCanada PipeLines Limited
Transglobe Energy Corporation
Trican Well Service
Tucker Wireline Services CDA Ltd.
U of A Utilities
Univar Canada Ltd.
Vantage Engineering Inc.
VECO Canada Ltd.
Vermilion Energy Trust
Walters Chambers & Associates Ltd.
Weatherford Canada Partnership
Weyerhaeuser Company Ltd.
Wiebe Environmental Services Inc.
Winstar Resources Ltd.
WorleyParsons Komex
WorleyParsons MEG, A Division of
WorleyParsons Canada Ltd.
Zapata Energy Corporation