

JUNE 2005 SALARY SURVEY FOREWORD

To the 134 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. 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 Stantec Consulting Ltd. for supplying the graphics for our cover this year.

Our main publication - The Value of Professional Services June 2005 - has undergone a few changes. 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 and the changing demographics of the professional workforce. New for 2005 is an analysis of how the size of a firm affects the compensation that it pays. The results may surprise you. Also new this year is a comparison of salaries and professional dues for other regulated professions in Alberta, based on the Government of Alberta's 2005 Alberta Wage and Salary Survey. The results of our investigation can be found in Section 6 – Additional Analysis, starting on page 49.

The survey is intended to provide guidelines for both Alberta Employers and individual Members of the three professions (P. Eng., P. Geol., P. Geoph.) 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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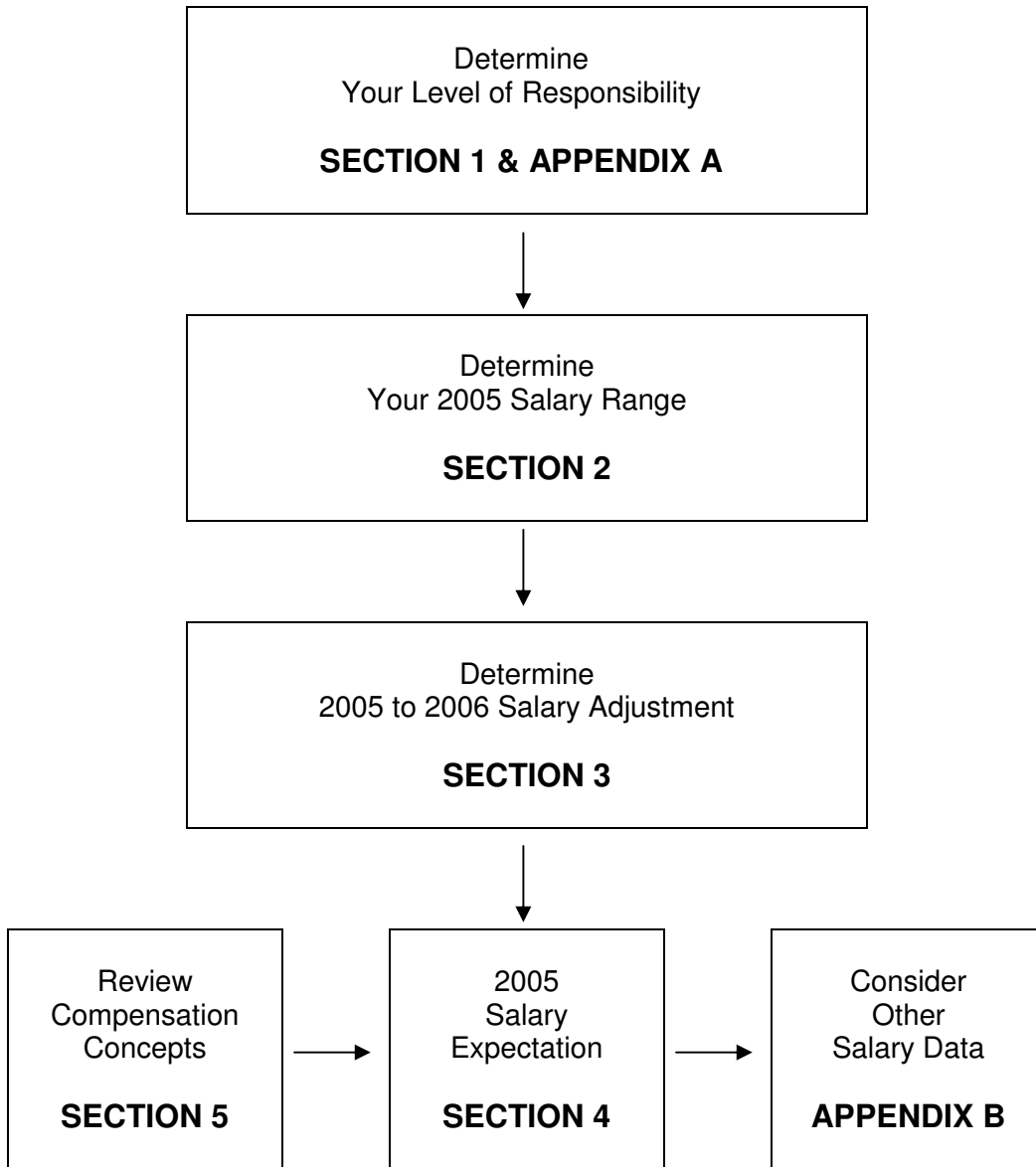
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PROCEDURE FOR USING THIS GUIDE



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 in line 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
<p>5.5 Midpoint value.....</p>	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
<p>6.5 Midpoint value.....</p>	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 2005 Employer Salary Survey Years of Experience by Level of Responsibility All Professions - All Organizations							
		2005 Results - Years of Experience					
Level	Total E, G & G's	Mean	D ₁	Q ₁	Median	Q ₃	D ₉
A	464	2	0	1	1	3	4
B	628	5	2	3	4	6	11
C	853	10	5	6	8	12	19
D	1,020	17	8	11	16	23	29
E	1,094	25	13	17	23	29	34
F	648	27	17	22	27	32	36
F+	210	27	18	23	26	31	36

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

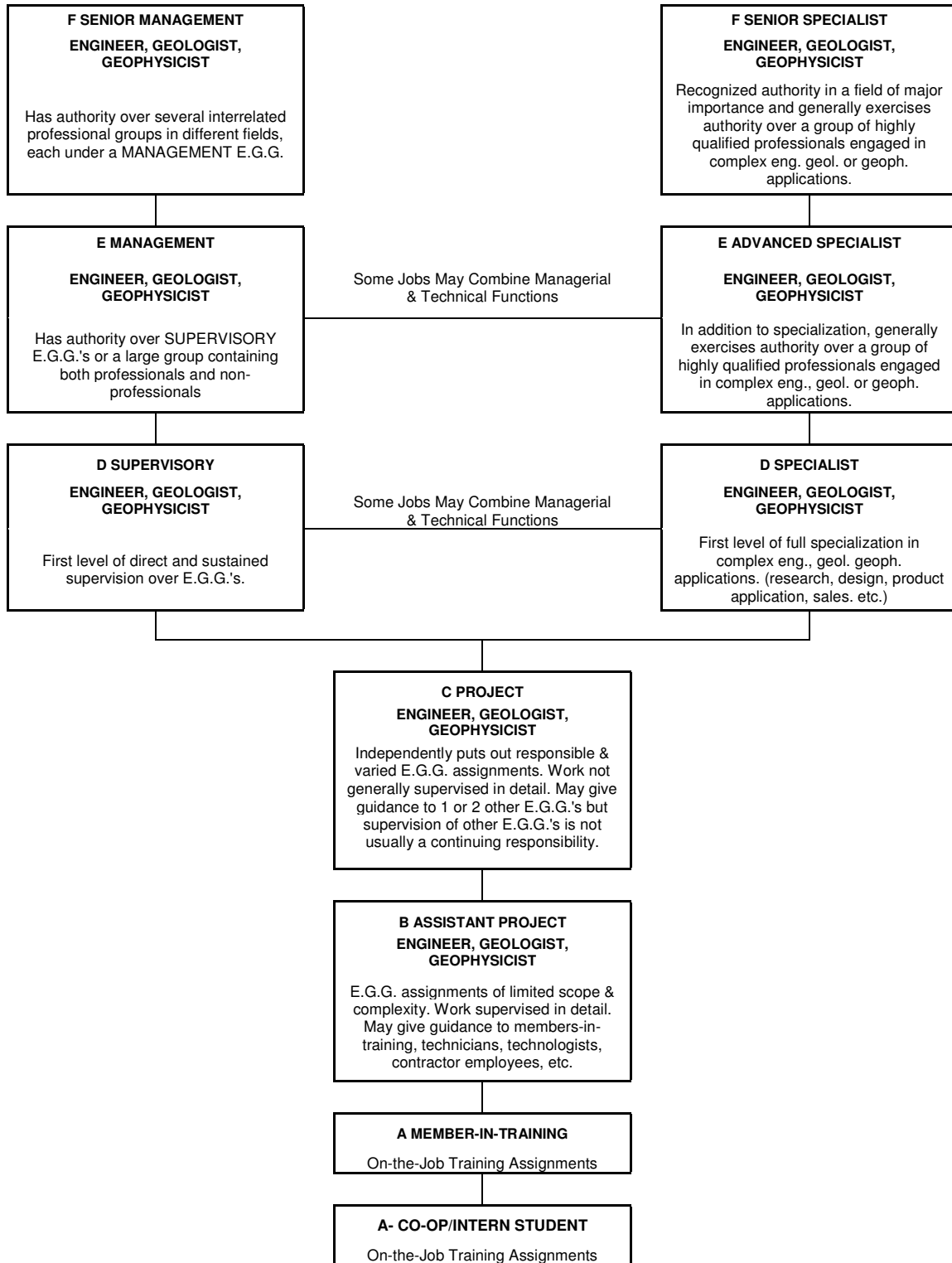
METHOD 2: JOB CLASSIFICATION GUIDE

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 2005 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 June of 2005 APEGGA conducted its annual Employer Salary Survey. A total of 9,068 salary statistics for Alberta engineers, geologists and geophysicists were supplied by 134 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 2005 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 June 2005. 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 no significant differences were found between salaries paid to engineers, geologists and geophysicists in a particular industry sector, or where there was insufficient data to break responses down by professions, data from all three professions were combined into a single table for that specific industry sector.
- Negative figures are indicated by negative signs.

APEGGA 2005 EMPLOYER SALARY SURVEY HIGHLIGHTS

TABLE 4 ANNUAL BASE SALARIES BY LEVEL OF RESPONSIBILITY

Engineers – All Industries								
Level	# of Engs.	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	281	-0.6%	38,159	30,649	32,838	38,400	42,600	44,871
A	776	2.6%	51,765	45,000	48,300	52,016	55,200	58,300
B	895	4.0%	60,917	50,213	55,994	61,800	66,500	70,000
C	1,391	3.6%	73,711	61,395	68,000	74,112	79,211	84,432
D	1,774	3.7%	91,113	76,760	84,000	90,660	98,076	105,036
E	1,568	5.9%	112,388	93,236	102,000	113,506	121,817	130,000
F	905	6.9%	135,173	108,000	122,181	135,000	147,800	161,500
F+	251	11.9%	168,348	129,079	142,300	159,500	185,000	223,987

TABLE 5 ANNUAL BASE SALARIES BY LEVEL OF RESPONSIBILITY

Geologists – All Industries								
Level	# of Geols.	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	35	-0.1%	47,201	41,654	42,600	45,902	50,700	52,650
A	53	3.3%	54,170	45,006	51,000	56,000	58,240	60,800
B	90	6.4%	63,794	52,624	61,400	65,300	68,420	71,000
C	140	1.9%	76,208	62,000	72,052	77,040	81,000	88,000
D	127	0.6%	98,473	80,000	89,100	99,200	107,500	118,111
E	198	7.7%	123,949	111,500	120,000	125,681	131,352	135,039
F	163	4.7%	137,210	114,525	131,871	139,080	146,110	151,980
F+	51	13.1%	177,841	140,600	147,100	167,000	188,023	233,347

TABLE 6 ANNUAL BASE SALARIES BY LEVEL OF RESPONSIBILITY

Geophysicists – All Industries								
Level	# of Geophs.	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	8	N/A	47,529	39,300	41,106	53,400	53,400	57,120
A	23	4.1%	54,691	36,960	54,000	56,000	59,834	61,000
B	22	16.5%	64,440	55,000	60,000	66,910	70,000	70,740
C	43	10.5%	79,709	64,374	77,000	82,000	86,000	89,247
D	45	6.1%	102,833	80,922	92,000	104,000	110,200	120,000
E	121	9.4%	130,028	117,650	125,177	130,000	135,475	145,182
F	73	5.7%	143,179	133,944	138,000	142,610	146,542	156,000
F+	35	9.7%	168,208	137,500	145,300	164,390	182,000	189,107

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Engineers by Industry Sector								
CONSULTING SERVICE								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	24	0.6%	32,277	27,600	29,250	32,175	32,176	36,000
A	193	5.5%	47,707	40,000	43,875	47,216	50,960	55,000
B	181	3.6%	53,569	46,010	49,000	53,040	57,018	61,116
C	209	6.3%	63,688	54,000	58,577	64,480	68,504	73,554
D	215	6.2%	79,708	67,509	72,500	80,000	86,400	93,015
E	227	5.5%	95,263	81,900	89,018	95,004	101,712	109,005
F	142	12.9%	117,445	95,014	105,008	114,462	125,922	139,080
F+	37	0.7%	133,603	113,880	118,446	132,990	144,000	157,837
ENGINEERING, PROCUREMENT AND CONSTRUCTION								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	16	1.5%	38,574	33,280	35,360	39,000	40,560	42,120
A	194	1.9%	51,454	45,600	49,130	51,600	54,000	56,400
B	186	4.9%	62,177	53,400	57,595	62,400	66,780	70,800
C	286	6.8%	77,251	66,000	70,800	76,800	82,200	88,750
D	361	7.5%	96,759	82,700	89,891	95,992	103,210	111,600
E	443	6.1%	115,605	99,600	105,840	113,400	123,000	131,328
F	270	5.0%	136,503	117,600	124,093	133,560	144,286	162,518
F+	46	9.8%	169,392	138,000	152,475	164,160	181,000	195,000
RESOURCE EXPLOITATION – EXCEPT OIL & GAS								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	6	N/A	41,710	N/A	38,542	40,955	45,771	N/A
A	7	N/A	54,535	50,000	52,000	55,370	56,820	56,820
B	8	3.8%	59,659	56,820	58,000	60,200	62,095	62,209
C	13	2.5%	73,330	67,716	69,880	72,690	76,105	77,250
D	18	5.4%	90,381	81,123	83,473	90,856	93,950	98,325
E	10	2.6%	106,447	96,900	103,500	107,120	109,721	110,476
F	10	2.7%	122,354	113,580	117,150	121,993	123,990	130,000
F+	0	Insufficient data						

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Engineers by Industry Sector								
RESOURCE EXPLOITATION – OIL & GAS								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	83	3.6%	41,674	34,500	37,200	42,000	44,400	45,600
A	186	2.3%	56,335	51,696	54,281	56,000	58,320	60,669
B	263	4.0%	65,160	59,766	62,000	65,760	67,946	70,440
C	320	4.4%	78,262	70,000	73,392	77,390	82,000	86,944
D	472	3.0%	95,823	84,678	88,020	94,950	101,115	108,000
E	511	7.2%	121,424	109,080	115,105	120,000	127,500	135,000
F	336	7.6%	147,170	130,260	137,100	145,500	155,400	167,820
F+	129	14.4%	183,090	145,000	152,000	167,940	204,600	238,635
MANUFACTURING – DURABLES (Includes machinery, equipment, tools, furniture, wood, concrete, steel and plastic products.)								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	13	1.9%	50,381	45,900	47,250	50,000	55,000	55,000
B	27	2.3%	58,127	47,000	50,820	57,780	64,000	68,860
C	38	2.6%	72,043	65,000	68,000	72,000	76,000	79,560
D	22	4.2%	84,392	75,560	80,340	84,915	87,000	93,750
E	14	6.1%	103,123	80,000	95,500	103,512	109,262	118,000
F	3	N/A	115,412	Insufficient data				
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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	10	4.5%	38,812	34,200	34,200	36,000	39,120	48,688
A	22	9.4%	56,170	52,344	53,600	55,200	57,096	60,500
B	41	15.8%	67,115	59,640	62,292	66,700	71,500	74,900
C	21	11.6%	78,514	70,968	71,662	77,200	83,800	89,700
D	64	6.7%	90,269	84,444	86,220	88,884	93,324	103,000
E	88	8.0%	106,645	95,940	98,904	103,848	114,936	118,320
F	20	10.7%	135,929	126,000	128,664	131,292	139,100	143,900
F+	10	14.0%	159,445	138,000	151,596	159,180	163,728	174,000

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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	57	15.5%	31,622	30,649	30,649	30,649	32,838	35,027
A	55	0.6%	50,318	46,189	48,331	51,272	51,677	53,747
B	43	-3.8%	59,459	53,615	55,818	58,204	64,342	67,000
C	244	-0.4%	72,452	59,704	66,863	75,355	79,211	79,211
D	228	-0.1%	83,421	70,855	79,123	84,224	88,982	89,766
E	70	0.4%	92,538	80,397	87,353	93,295	94,782	98,448
F	47	0.8%	110,864	99,521	101,816	105,380	118,918	132,500
F+	12	-4.6%	120,514	100,750	100,750	115,000	131,134	131,134
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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	4	N/A	38,100	Insufficient data				
A	5	N/A	44,880	N/A	43,200	43,200	46,800	N/A
B	3	-8.6%	45,607	Insufficient data				
C	3	-6.0%	60,920	Insufficient data				
D	5	-1.4%	87,620	N/A	84,000	87,600	91,100	N/A
E	5	9.2%	110,560	N/A	110,400	110,400	113,000	N/A
F	6	-5.9%	111,167	N/A	108,000	108,000	115,000	N/A
UTILITY – RATE CONTROLLED								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	61	5.1%	41,194	35,912	37,377	41,037	44,377	44,871
A	74	0.7%	52,031	47,000	49,800	52,296	54,036	55,847
B	57	6.0%	61,921	56,976	59,532	61,368	64,956	66,500
C	110	1.5%	72,444	62,209	68,000	72,330	76,406	83,358
D	216	3.1%	90,650	76,636	82,572	91,416	97,368	103,236
E	121	4.1%	112,401	96,576	104,824	113,880	119,316	124,752
F	53	8.7%	131,158	118,524	121,548	130,896	141,800	145,440
F+	5	57.2%	238,420	N/A	205,200	210,180	255,720	N/A

TABLE 7 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Engineers by Industry Sector								
ADVANCED TECHNOLOGIES								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	19	4.3%	38,101	34,846	34,846	36,000	41,086	44,206
A	26	2.1%	51,014	44,000	48,000	52,000	55,000	56,160
B	74	4.1%	60,008	51,581	56,000	60,996	63,843	66,300
C	137	3.1%	74,853	66,625	72,141	75,381	79,916	81,900
D	166	3.7%	92,930	80,080	89,494	94,860	99,000	101,703
E	77	2.8%	111,811	94,480	106,938	114,880	119,774	123,658
F	12	-6.4%	111,577	72,000	72,000	112,224	130,130	133,120
F+	11	N/A	146,252	126,000	129,079	142,139	151,000	189,107

TABLE 8 ANNUAL BASE SALARIES BY INDUSTRY SECTOR

Geoscientists by Industry Sector								
CONSULTING SERVICE – GEOLOGISTS								
Level	# of Geologists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	13	10.2%	45,529	39,020	41,700	45,760	50,000	53,040
B	13	7.1%	50,733	45,000	46,712	50,000	53,274	56,992
C	19	2.9%	57,733	48,000	49,525	59,500	62,500	66,144
D	23	1.4%	75,107	54,500	65,000	80,000	83,200	86,040
E	12	4.5%	95,685	75,000	87,006	92,082	108,752	111,000
F	22	7.3%	107,788	90,000	96,000	103,500	114,525	131,040
F+	3	N/A	133,373	Insufficient data				
RESOURCE EXPLOITATION – OIL & GAS – GEOLOGISTS								
Level	# of Geologists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	35	-2.2%	47,201	41,654	42,600	45,902	50,700	52,650
A	39	2.1%	57,131	53,000	56,000	57,400	58,856	61,000
B	73	4.2%	65,937	59,800	63,000	66,000	69,240	71,000
C	97	2.9%	80,319	72,032	75,000	78,500	83,990	89,000
D	85	2.6%	105,356	90,000	97,078	105,000	110,500	120,000
E	185	7.3%	125,803	114,110	121,500	126,000	131,982	135,415
F	138	4.8%	141,985	128,220	135,886	141,100	147,950	152,859
F+	45	15.5%	184,261	145,000	156,000	169,913	191,010	233,347

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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	1	Insufficient data						
B	4	6.8%	67,125					
C	24	0.5%	74,218	69,000	70,550	75,000	77,700	78,800
D	19	1.9%	95,965	84,650	89,000	95,000	100,530	107,188
E	1	Insufficient data						
F	3	N/A	133,333	Insufficient data				
F+	0	Insufficient data						
CONSULTING SERVICE – GEOPHYSICISTS								
Level	# of Geophysicists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	4	N/A	44,230	Insufficient data				
B	5	27.5%	56,158	N/A	55,000	55,000	55,000	N/A
C	6	-4.0%	57,568	47,238	48,000	59,936	64,374	66,568
D	10	14.3%	88,811	67,200	72,000	80,922	92,132	117,590
E	12	27.6%	118,673	68,000	81,900	105,022	164,230	166,250
F	5	N/A	134,109	N/A	126,600	133,944	156,000	N/A
F+	3	N/A	136,880	Insufficient data				
RESOURCE EXPLOITATION - OIL & GAS – GEOPHYSICISTS								
Level	# of Geophysicists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	8	N/A	47,529	39,300	41,106	53,400	53,400	57,120
A	18	-7.3%	58,054	54,000	56,000	57,200	61,000	62,098
B	16	8.4%	67,931	64,270	65,000	68,436	70,740	71,000
C	37	8.9%	83,299	77,000	79,511	83,000	86,920	89,700
D	35	4.0%	106,839	90,000	99,655	106,350	110,200	123,840
E	109	7.9%	131,279	122,000	126,000	130,953	135,300	143,739
F	68	5.4%	143,846	135,000	138,000	142,610	146,000	156,100
F+	29	12.7%	171,463	140,100	148,300	166,400	182,000	215,000

FIGURE 2

Mean Annual Base Salaries of Engineers, Geologists & Geophysicists
by Industry Type - June 2005

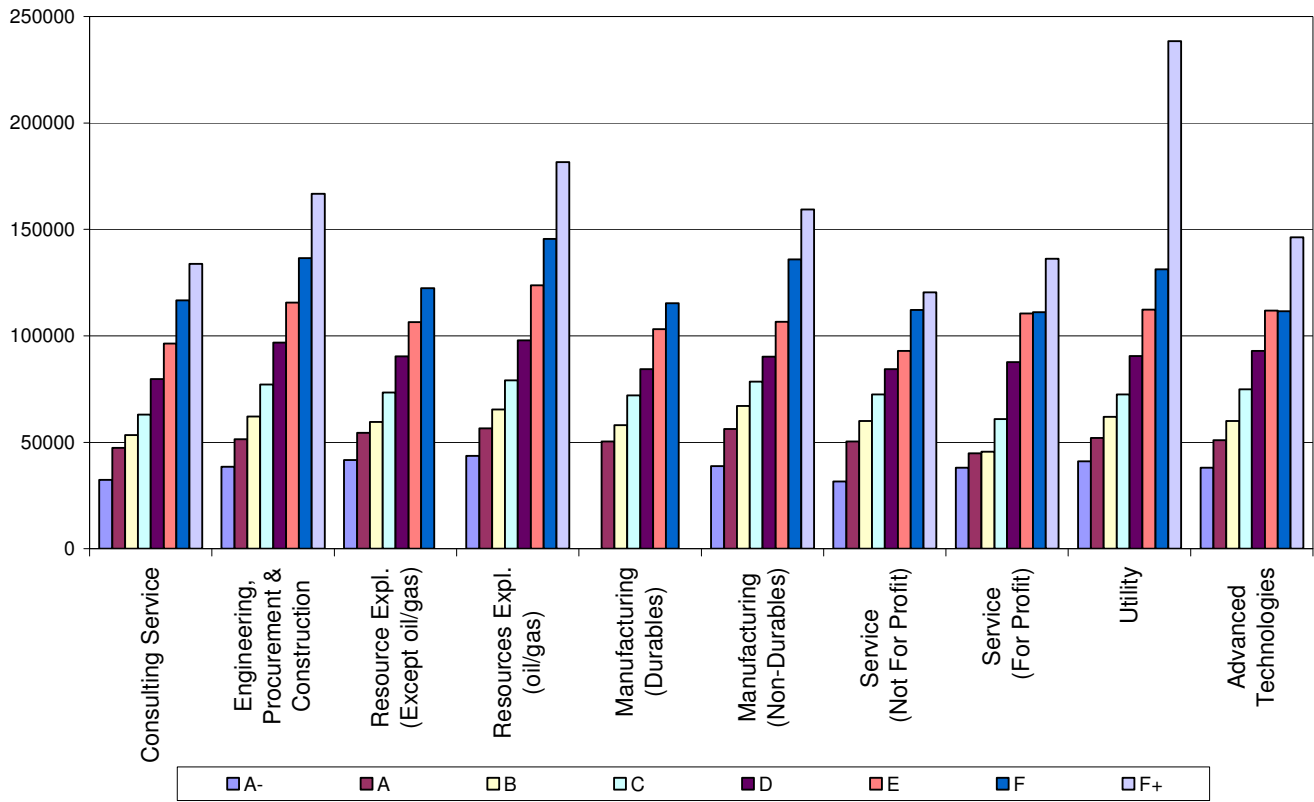


TABLE 8 ANNUAL TOTAL CASH COMPENSATION BY LEVEL OF RESPONSIBILITY

Engineers – All Industries								
Level	# of Engs.	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	281	-0.6%	38,303	30,649	33,600	38,400	43,200	44,871
A	776	2.6%	53,137	45,360	48,614	52,650	57,000	62,400
B	895	6.3%	64,400	51,840	57,600	64,342	70,521	76,500
C	1,391	5.0%	77,707	62,649	70,000	77,851	83,529	91,232
D	1,772	5.2%	97,367	78,944	87,405	95,880	105,968	118,800
E	1,568	8.1%	124,050	94,782	108,000	121,280	139,498	153,907
F	905	12.9%	154,101	111,629	126,352	150,000	176,280	197,000
F+	251	25.1%	215,456	133,000	157,566	192,822	245,555	324,220

TABLE 9 ANNUAL TOTAL CASH COMPENSATION BY LEVEL OF RESPONSIBILITY

Geologists – All Industries								
Level	# of Geols.	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	35	0.0%	47,243	41,654	42,600	46,303	50,700	52,731
A	53	6.5%	58,093	45,850	54,350	59,122	63,409	67,292
B	90	10.7%	70,557	53,344	67,100	71,314	77,200	80,848
C	140	4.0%	85,630	65,325	78,170	86,630	93,043	102,684
D	127	3.1%	112,874	81,510	95,400	114,372	127,288	140,757
E	198	10.6%	149,014	127,312	137,100	150,113	161,000	172,105
F	163	11.8%	170,731	119,200	155,000	174,259	190,000	203,878
F+	51	21.7%	233,657	168,000	176,972	230,360	255,200	345,000

TABLE 10 ANNUAL TOTAL CASH COMPENSATION BY LEVEL OF RESPONSIBILITY

Geophysicists – All Industries								
Level	# of Geophs.	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	8	N/A	47,559	39,300	41,343	53,400	53,400	57,120
A	23	7.1%	60,634	36,960	57,720	62,822	67,628	71,684
B	22	17.2%	69,675	55,868	60,000	71,605	78,660	79,928
C	43	14.3%	89,692	64,374	85,000	92,253	98,754	106,400
D	45	7.5%	116,765	82,826	104,691	117,997	131,074	139,290
E	121	13.4%	157,773	128,800	144,568	158,213	168,484	189,238
F	73	14.8%	183,337	153,160	168,000	181,599	190,130	204,000
F+	35	23.9%	233,410	170,100	182,900	226,092	255,920	295,731

TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

Engineers by Industry Sector								
CONSULTING SERVICE								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	24	2.5%	33,518	27,775	29,498	33,087	35,640	37,440
A	193	5.6%	48,481	40,020	44,000	47,760	52,080	57,069
B	181	4.4%	55,042	48,000	50,000	54,000	59,544	64,400
C	209	8.5%	66,644	54,502	60,008	66,000	70,720	77,741
D	215	9.5%	84,283	68,400	75,000	82,800	92,800	103,212
E	227	6.8%	99,569	83,252	90,012	97,760	109,035	115,000
F	142	15.7%	125,836	100,356	108,000	121,000	140,000	160,000
F+	37	-9.4%	140,476	121,967	125,880	136,772	149,224	161,490
ENGINEERING, PROCUREMENT AND CONSTRUCTION								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	16	1.8%	38,684	33,280	35,360	39,239	40,773	42,120
A	194	1.8%	51,711	45,714	49,200	51,600	54,171	57,600
B	186	7.0%	63,806	54,000	57,600	62,400	67,800	72,000
C	286	8.2%	78,953	66,030	72,000	77,969	84,000	90,288
D	361	8.0%	98,471	84,000	91,200	96,720	105,271	114,000
E	443	7.8%	118,570	100,800	107,569	114,912	125,040	135,200
F	270	5.5%	138,515	119,280	124,800	134,826	145,347	164,160
F+	46	7.4%	170,339	140,160	152,475	164,160	181,000	195,000
RESOURCE EXPLOITATION – EXCEPT OIL & GAS								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	6	N/A	41,710	N/A	38,542	40,955	45,771	N/A
A	7	N/A	55,443	50,000	55,120	56,800	56,820	57,169
B	8	4.2%	60,561	56,820	59,000	60,950	62,095	65,942
C	13	5.2%	75,686	69,860	71,779	75,468	79,500	80,671
D	18	9.4%	94,880	85,990	88,481	93,950	96,457	104,224
E	10	8.5%	118,331	109,710	116,270	117,105	118,603	124,510
F	10	7.7%	130,866	120,395	124,179	129,313	131,429	137,800
F+	0	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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	83	3.6%	41,779	34,500	37,200	42,000	44,400	46,318
A	186	2.2%	59,413	53,256	55,000	58,200	62,845	67,354
B	263	7.3%	71,443	63,120	66,720	70,700	75,674	80,100
C	320	5.7%	87,239	75,360	80,400	85,600	91,560	101,193
D	470	5.9%	109,872	91,360	98,504	107,778	119,403	129,090
E	511	11.6%	143,612	121,020	130,031	142,066	153,676	168,000
F	336	15.2%	181,050	150,511	161,462	177,700	196,290	215,400
F+	129	30.7%	258,206	174,300	189,400	226,815	294,798	348,903
MANUFACTURING – DURABLES (Includes machinery, equipment, tools, furniture, wood, concrete, steel and plastic products.)								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	13	2.6%	51,196	46,800	48,020	50,298	55,000	55,760
B	27	5.2%	60,712	48,500	52,000	60,543	69,766	71,520
C	38	6.8%	76,124	66,883	70,800	75,780	79,755	82,565
D	22	5.2%	89,751	78,377	84,488	88,006	97,067	98,675
E	14	4.1%	111,498	95,000	99,776	111,221	119,058	125,258
F	3	N/A	128,693	Insufficient data				
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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	10	4.0%	38,812	34,200	34,200	36,000	39,120	48,688
A	22	12.1%	60,371	52,344	54,000	59,541	63,225	68,421
B	41	17.0%	73,803	64,856	68,030	73,189	80,186	84,741
C	21	11.9%	86,044	73,901	77,136	83,800	90,039	105,702
D	64	7.8%	98,380	88,003	93,158	96,963	99,694	117,476
E	88	10.8%	126,996	110,967	115,692	122,540	140,052	146,307
F	20	18.5%	172,002	148,504	160,065	167,014	180,796	192,315
F+	10	21.5%	219,451	163,000	210,693	219,035	226,522	248,975

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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	57	15.5%	31,622	30,649	30,649	30,649	32,838	35,027
A	55	0.5%	50,384	46,189	48,331	51,272	51,677	53,747
B	43	-3.7%	59,742	53,615	55,818	58,204	64,354	67,296
C	244	-0.6%	72,644	59,704	66,863	76,159	79,211	79,211
D	228	-0.6%	83,926	70,855	79,123	84,224	88,982	89,766
E	70	0.1%	93,642	80,397	87,353	93,295	94,782	100,990
F	47	0.6%	113,055	99,521	101,816	105,380	118,918	145,840
F+	12	-0.1%	126,114	110,750	110,750	121,500	131,134	131,134
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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	4	N/A	38,100	Insufficient data				
A	5	N/A	44,880	N/A	43,200	43,200	46,800	N/A
B	3	0.2%	68,440	Insufficient data				
C	3	16.8%	89,587	Insufficient data				
D	5	-4.7%	93,620	N/A	87,600	91,100	93,200	N/A
E	5	2.2%	125,660	N/A	110,400	118,500	123,000	N/A
F	6	129.4%	337,083	N/A	182,500	288,000	288,000	N/A
F+	3	N/A	162,833	Insufficient data				
UTILITY – RATE CONTROLLED								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	61	4.8%	41,194	35,912	37,377	41,037	44,377	44,871
A	74	0.3%	53,857	47,444	50,000	53,868	56,091	60,969
B	57	5.1%	64,637	58,734	60,448	64,776	67,936	70,845
C	110	3.3%	79,834	65,148	71,403	78,048	83,348	92,940
D	216	4.3%	98,219	81,387	88,566	95,822	106,424	116,800
E	121	6.0%	129,319	103,704	113,880	133,462	141,370	147,932
F	53	11.5%	153,841	119,604	123,360	162,046	175,896	188,116
F+	5	99.1%	345,901	N/A	274,304	315,180	383,720	N/A

TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

Engineers by Industry Sector								
ADVANCED TECHNOLOGIES								
Level	# of Engineers	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	19	3.6%	38,101	34,846	34,846	36,000	41,086	44,206
A	25	3.2%	52,292	44,910	51,000	53,000	55,080	56,160
B	73	4.7%	61,893	55,295	58,402	61,480	65,502	68,000
C	137	3.7%	76,562	69,494	72,847	76,411	80,301	83,360
D	166	4.3%	95,278	83,510	90,049	96,000	99,715	104,593
E	77	3.9%	117,400	106,200	112,151	117,948	121,272	124,582
F	12	17.0%	153,596	130,130	136,620	145,401	159,346	173,904
F+	8	N/A	202,756	142,139	148,337	196,202	285,068	310,290

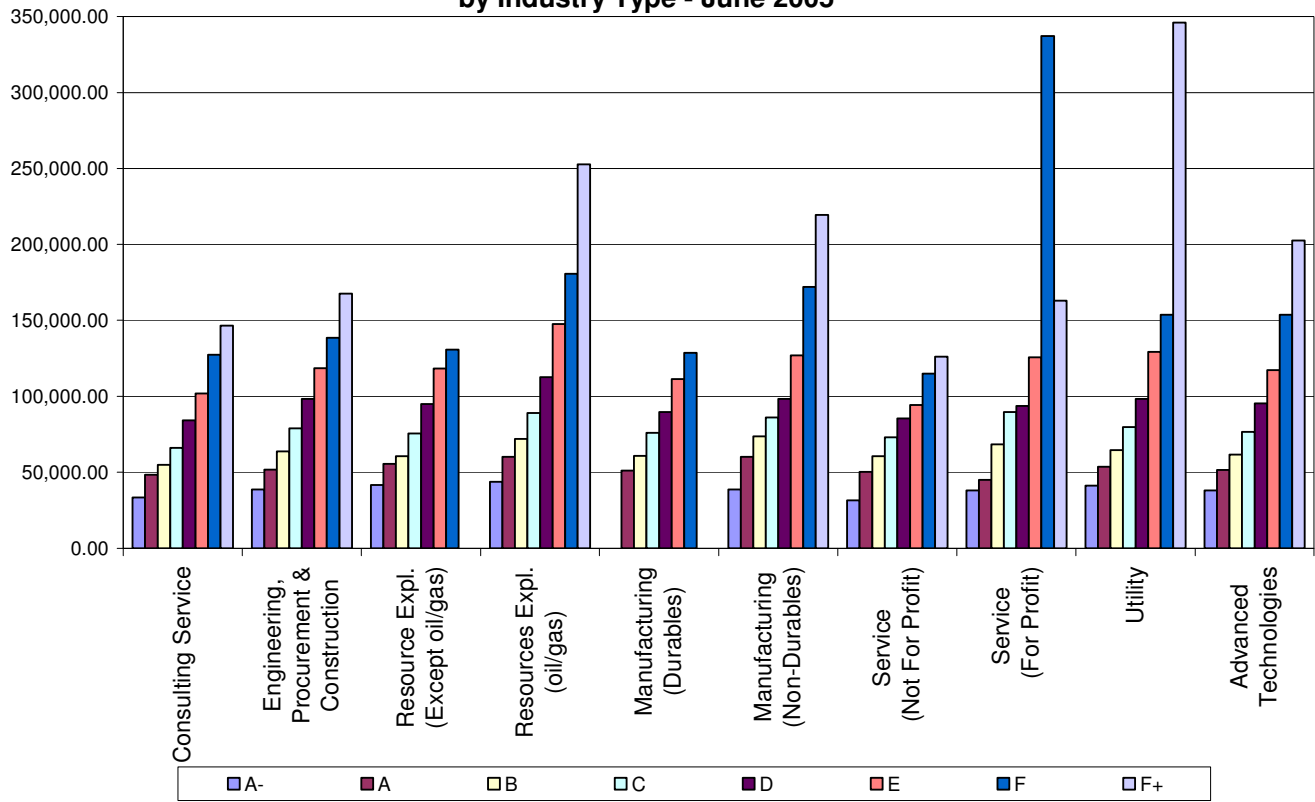
TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

CONSULTING SERVICE – GEOLOGISTS								
Level	# of Geologists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	13	13.2%	48,001	39,020	42,000	50,000	54,518	55,360
B	13	11.4%	54,059	45,000	49,000	52,229	56,992	58,000
C	19	10.6%	63,112	48,945	54,000	59,500	67,628	78,986
D	23	3.3%	78,667	58,500	65,021	81,510	88,661	92,559
E	12	10.9%	104,917	87,006	88,000	95,695	118,752	119,580
F	22	3.6%	117,113	93,600	103,000	114,525	119,200	131,040
F+	3	N/A	150,605	Insufficient data				
RESOURCE EXPLOITATION – OIL & GAS – GEOLOGISTS								
Level	# of Geologists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	35	-2.1%	47,243	41,654	42,600	46,303	50,700	52,731
A	39	5.4%	61,639	54,350	58,200	61,310	64,724	68,240
B	73	8.2%	73,547	65,829	69,520	73,519	77,900	80,864
C	97	4.7%	92,118	78,410	85,417	90,082	96,200	106,022
D	85	6.5%	124,050	102,136	113,368	123,700	132,138	149,615
E	185	9.8%	151,961	130,550	140,681	151,699	162,000	172,553
F	138	13.5%	179,852	148,100	167,776	177,108	192,088	205,688
F+	45	26.2%	246,371	174,300	189,000	235,141	261,021	345,000
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 '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	Insufficient data						
A	1	Insufficient data						
B	4	6.3%	69,608					
C	24	17.9%	77,233	69,000	73,490	78,200	80,830	81,678
D	19	35.2%	104,281	91,230	93,510	102,350	111,860	115,498
E	1	Insufficient data						
F	3	N/A	144,350	Insufficient data				
F+	0	Insufficient data						

TABLE 11 ANNUAL TOTAL CASH COMPENSATION BY INDUSTRY SECTOR

CONSULTING SERVICE – GEOPHYSICISTS								
Level	# of Geo-physicists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0			Insufficient data				
A	4		49,196	Insufficient data				
B	5	20.0%	57,210	N/A	55,868	55,900	56,134	N/A
C	6	-10.1%	58,183	N/A	48,128	61,171	64,374	66,568
D	10	14.0%	97,495	72,000	77,023	82,826	94,223	139,290
E	12	45.7%	145,956	78,000	91,341	109,854	204,950	N/A
F	5	N/A	216,656	N/A	137,772	159,485	340,200	N/A
F+	3	N/A	219,717	Insufficient data				
RESOURCE EXPLOITATION - OIL & GAS – GEOPHYSICISTS								
Level	# of Geo-physicists	Change in Mean '04-'05	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	8	N/A	47,559	39,300	41,343	53,400	53,400	57,120
A	18	6.9%	64,544	57,720	58,200	63,200	67,628	72,831
B	16	11.5%	74,800	65,000	70,740	75,500	79,721	79,928
C	37	13.5%	94,801	83,600	87,400	95,088	102,171	106,678
D	35	6.0%	122,271	102,636	110,000	123,000	131,074	138,327
E	109	11.2%	159,074	132,870	146,340	158,512	168,391	187,710
F	68	11.9%	180,887	154,600	170,100	181,599	190,000	203,196
F+	29	29.6%	238,072	170,100	182,900	226,092	255,920	344,542

FIGURE 3
Mean Annual Total Cash Compensation of Engineers, Geologists & Geophysicists
by Industry Type - June 2005



SECTION 3

DETERMINING 2005 TO 2006

SALARY ADJUSTMENT

The market varies from year to year. After identifying your market salary for 2005 (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 Appendix C, you will find a comparative Consumer Price Index for various centres around Alberta.

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

*Estimated

Source: Statistics Canada

2. DEMAND FACTOR

The Salary Survey results show continued strength in the oil and gas sector, with spill-over effects being felt in nearly every other industry sector we examine. The number of people employed in the Professional, Technical, and Scientific Services sector increased from 121,900 in June 2004 to 135,500 in June 2005, and this trend is expected to continue. This industry sector includes Professional Engineers, Geologists and Geophysicists, but also includes other applied science professionals as well as technicians and technologists working in these areas. Anecdotal information received from our Permit holders indicates that there are shortages of certain specialists and of generalists with between five and fifteen years of work experience. Demand for professionals in the oil and gas sector is expected to remain very strong, and the strengthening of the Consulting and EPC industries that began last year is expected to continue. This will result in a high demand factor for APEGGA members in general. Overall we are predicting a demand factor of 2.0%.

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 June 2005 survey data in Section 2 can be adjusted to June 2006 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)	2.4%
Demand Factor	<u>2.0%</u>
Estimated Salary Adjustment from 2005 to 2006	4.4%

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

For you as a 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 – 1994 to 2005

ENGINEERS											
Level	94-95 %	95-96 %	96-97 %	97-98 %	98-99 %	99-00 %	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %
A-	-	-	-	-	-	-	-	-	6.4	0.7	-0.6%
A	0.8	1.2	5.3	6.8	0.6	4.2	1.9	5.9	1.6	3.2	2.6%
B	0.3	1.7	4	5	-0.5	1.9	6.7	4.2	1.6	2.8	4.0%
C	1.2	0.1	1.8	5.4	2.5	2.8	5.4	2.6	1.0	3.9	3.6%
D	-0.5	1.4	2.3	5.3	3.6	2.6	3.3	7.9	2.6	3.4	3.7%
E	0	2.2	2.1	6.3	2.8	4.6	3.2	2.2	4.1	3.7	5.9%
F	1.5	0.2	2.3	6.7	4.6	1.9	4.6	4.5	3.8	3.2	6.9%
F+	1.6	-5	4.3	7.6	5.1	0.6	5.8	4.1	6.9	1.4	11.9%
GEOLOGISTS											
Level	94-95 %	95-96 %	96-97 %	97-98 %	98-99 %	99-00 %	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %
A-	-	-	-	-	-	-	-	-	20.2	5.4	-0.1%
A	7.6	5.1	0.6	9.2	1.3	1.1	8.2	-3	-8.2	-0.1	3.3%
B	1.4	5.8	1.3	5.4	2.5	1.6	8.7	1.3	7.0	4.0	6.4%
C	6.4	1.6	-0.3	6.4	1.9	2	9.9	-1.5	3.2	7.7	1.9%
D	3.3	1.8	0.2	5.9	-2.5	4.6	11.6	-0.8	6.7	5.1	0.6%
E	2	4.1	2.5	7	-0.7	4.5	5.3	1.6	4.6	3.5	7.7%
F	2.3	-0.9	3.7	5.1	-0.1	5.5	3.6	4.1	2.9	1.2	4.7%
F+	7.2	-1.8	1	12.7	0.9	-0.7	5.3	-1.7	8.7	1.8	13.1%
GEOPHYSICISTS											
Level	94-95 %	95-96 %	96-97 %	97-98 %	98-99 %	99-00 %	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %
A-	-	-	-	-	-	-	-	-	13.2	-	-
A	1	1.6	-	4.4	0.9	1.7	10.9	-5.2	10.2	-0.3	4.1%
B	4.5	1.1	1.6	6.8	-0.6	3.2	7.5	-1.3	8.6	-8.1	16.5%
C	14.4	-0.5	-0.2	0.6	5.1	5.2	6.2	-1.9	3.0	0.3	10.5%
D	6	2.4	2.1	1.2	0.3	4.5	8.2	2.3	6.0	0.5	6.1%
E	1.4	1.9	2.7	4.9	1.7	5.7	2.7	3.9	4.4	4.2	9.4%
F	1.9	-0.7	-0.1	7.2	1.1	4.3	5.8	3.8	2.5	3.5	5.7%
F+	6.2	-6.8	2.8	3	-1.6	15.5	-2.6	5.6	7.7	-0.9	9.7%

SECTION 4

2006 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 2005 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 2005 salary range.

STEP 3

DETERMINE 2005 TO 2006 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 2005 to 2006. Use this value to adjust your 2005 salary range in order to arrive at your 2006 salary range.

For example, the 2005 salary for a level "C" engineers (all industries) ranges as follows:

2004 Results – Engineer Level C – All Industries		
D ₁	Median	D ₉
\$61,395	\$74,112	\$84,432

If the 2005-2006 increase in salaries is estimated to be 4.4% as shown in the example (page 38), the salary range for the level "C" engineer would be:

2005 Projection – Engineer Level C – All Industries		
D ₁	Median	D ₉
\$64,096	\$77,373	\$88,147

STEP 4

2006 SALARY EXPECTATION

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 should expect base pay in the range of \$61,395 to \$68,000 (Decile 1 to Quartile 1) per year in 2005.

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 \$79,211 to \$84,432 (Quartile 3 to Decile 9) per year.

Salary Trends

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

- 85% of our 134 respondents estimated salaries will increase by an average of 4.2%.
- 15% of our 134 respondents estimated salaries will remain stable.
- none of our 134 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 unacceptably 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 2005 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 2005. 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 most of the organizations provide benefits packages which include health care beyond Alberta Health Care (90%), long-term disability (87%), life/accident insurance (94%), drug (95%), and dental (94%) coverage. Approximately 64% of the employers offer some type of retirement plan, consisting of a pension plan (38%), RRSP contributions (42%) or both.

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 43% of the engineers, 82% of the geologists and 87% 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=9068)
June 2005**

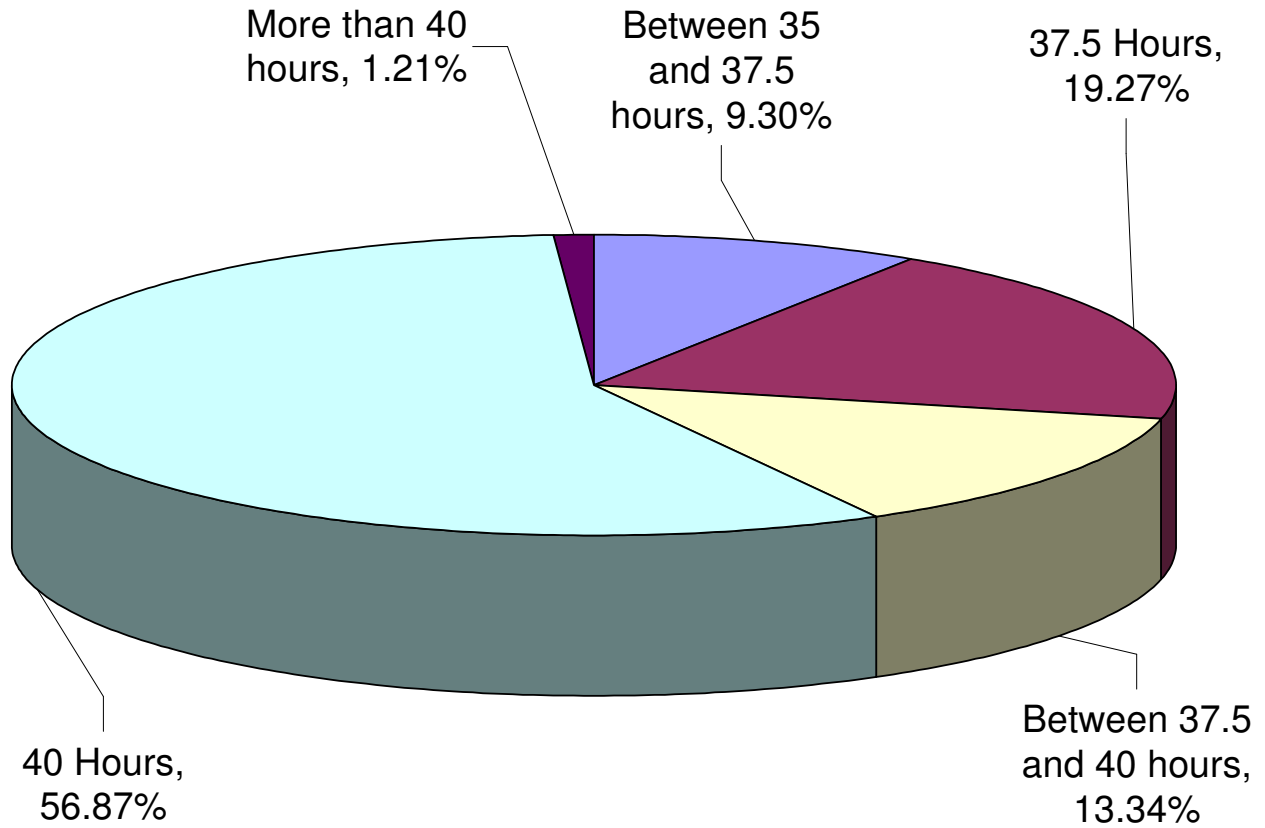


TABLE 13

Percentage of Organizations Providing Additional Compensation & Benefits								
Total Number of Organizations: 134								
Level	A-	A	B	C	D	E	F	F+
Additional Cash Compensation								
a. Cash Bonus Payments	4%	30%	28%	31%	34%	38%	40%	28%
b. Profit Sharing Payments	2%	16%	16%	17%	19%	19%	22%	13%
c. Performance/Merit Bonus	5%	34%	37%	40%	43%	46%	43%	31%
d. Productivity/Gain Sharing	0%	1%	2%	2%	2%	2%	1%	1%
e. Commissions	0%	0%	1%	1%	1%	1%	0%	0%
f. Other	1%	4%	3%	3%	4%	4%	4%	4%
Overtime Compensation								
g. Cash	36%	41%	35%	30%	25%	19%	16%	12%
h. Time Off In-Lieu	28%	48%	44%	47%	40%	36%	34%	23%
Other Compensation								
i. Stock Options/Purchases	2%	17%	18%	23%	26%	32%	38%	31%
j. Car/Car Allowance	0%	1%	1%	4%	4%	9%	12%	11%
k. Vehicle Allowance	1%	3%	2%	3%	4%	5%	10%	7%
l. Consulting Fees	1%	1%	1%	1%	1%	1%	1%	1%
m. Other	0%	4%	4%	6%	5%	8%	14%	11%
Benefits Package								
n. Pension Plan	1%	34%	34%	37%	36%	37%	36%	24%
o. Employer Contribution to RRSP	3%	37%	37%	39%	40%	38%	37%	28%
p. Medical Beyond AHC	11%	78%	75%	80%	83%	82%	81%	58%
q. Long Term Disability	11%	77%	74%	79%	81%	80%	81%	58%
r. Life/Accident Insurance	16%	82%	79%	84%	87%	87%	87%	61%
s. Drug Plan	12%	83%	79%	85%	87%	87%	87%	61%
t. Dental Plan	12%	83%	79%	85%	87%	87%	87%	61%
u. Vision Care	8%	55%	53%	57%	60%	60%	60%	44%
v. Legal Plan	1%	2%	2%	2%	2%	2%	2%	2%
w. Savings Plan	2%	23%	22%	23%	25%	25%	25%	19%
x. Other	4%	19%	17%	19%	20%	19%	21%	16%

TABLE 14
Vacation Entitlement

Vacation Entitlement	Minimum Years of Service to Qualify	% of Employers Providing Entitlement
2 Weeks	On Hire	21%
	1 year	31%
	2 years	1%
	5 years	1%
3 Weeks	On Hire	19%
	1 year	27%
	2 years	6%
	3 years	14%
	4 years	4%
	5 years	19%
	More than 5 years	4%
	Never	0%
4 Weeks	On Hire	1%
	1 year	1%
	2 years	1%
	5 years	7%
	6 years	4%
	7 years	3%
	8 years	9%
	9 years	6%
	10 years	49%
	More than 10 years	7%
	Never	8%
5 Weeks	Less than 10 years	1%
	10 to 14 years	4%
	15 years	4%
	16 years	6%
	17 years	2%
	18 years	5%
	19 years	4%
	20 years	22%
	21 years	1%
	25 years	3%
	Never	47%
6 Weeks	10 to 19 years	1%
	20 to 24 years	5%
	25 years	13%
	30 years	2%
	Never	72%
7 Weeks	1 to 10 years	1%
	25 to 30 years	2%
	Never	97%

TABLE 15

Additional Cash Compensation Disbursed - June 2005

ENGINEERS							
Level	# of Engs.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	1	No data reported at this level					
A	204	4,294	910	2,000	3,500	6,200	8,658
B	360	6,723	2,000	3,848	6,184	9,178	10,629
C	513	9,650	2,320	4,635	8,575	12,329	15,730
D	814	12,854	3,200	6,045	11,550	17,544	22,400
E	825	20,847	5,000	12,000	19,450	27,746	35,973
F	456	37,020	7,830	20,058	34,850	45,319	53,475
F+	180	65,672	11,000	29,200	56,815	74,975	116,462

GEOLOGISTS							
Level	# of Geols.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	No data reported at this level					
A	41	4,498	1,150	2,200	3,000	7,240	9,396
B	74	7,808	2,540	5,220	8,149	9,726	10,500
C	121	10,528	2,720	5,000	10,000	13,827	17,844
D	107	16,952	5,000	6,630	15,460	21,342	32,778
E	182	27,269	11,100	20,000	25,323	32,415	41,276
F	136	40,119	13,000	28,665	40,000	48,975	60,000
F+	45	63,258	29,000	34,200	60,815	70,817	94,308

GEOPHYSICISTS							
Level	# of Geophs.	Mean \$	D ₁ \$	Q ₁ \$	Median \$	Q ₃ \$	D ₉ \$
A-	0	No data reported at this level					
A	20	6,835	2,200	2,200	4,576	9,428	10,731
B	17	6,774	900	1,296	5,900	9,047	14,416
C	36	11,903	3,780	9,100	12,375	14,186	19,538
D	38	16,434	1,920	8,863	12,936	20,838	27,470
E	112	29,959	10,000	20,000	29,106	40,008	45,822
F	67	43,605	14,108	27,500	42,488	47,096	57,648
F+	32	71,315	28,200	30,200	60,183	92,622	127,400

SECTION 6 Additional Analysis

Gender

This is the second year that APEGGA has included questions regarding the gender of individuals. Note that only 74% of responses contained information about gender (6699 of 9156 individual salary data points). Therefore, the data presented in this subsection can not be generalized to the membership as a whole.

Of the 6699 data points that contained gender, it was determined that 696 (16.2%) were female and 5616 (83.8%) were male. The proportion of female members in APEGGA's member database (not including Life Members and APEGGA Student Advantage Program (ASAP) members), is currently 11.7%.

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

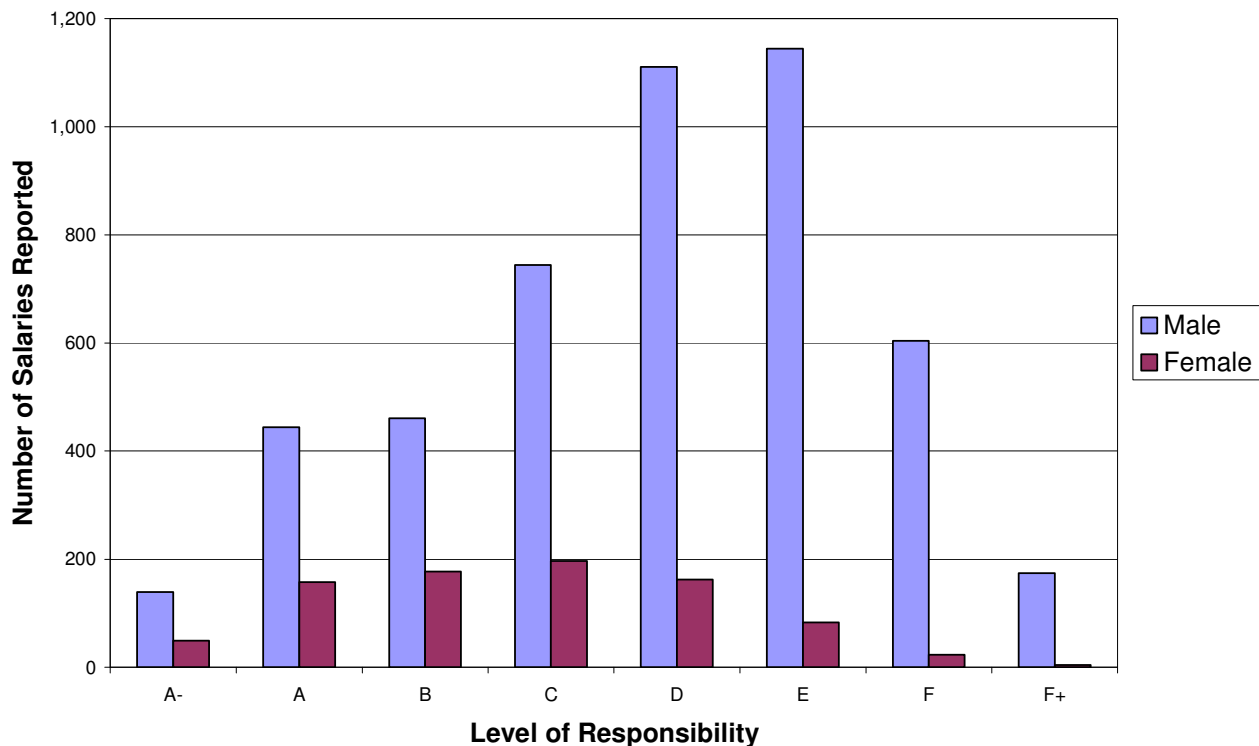


Figure 6 - Gender Distribution by Responsibility Level for Geology

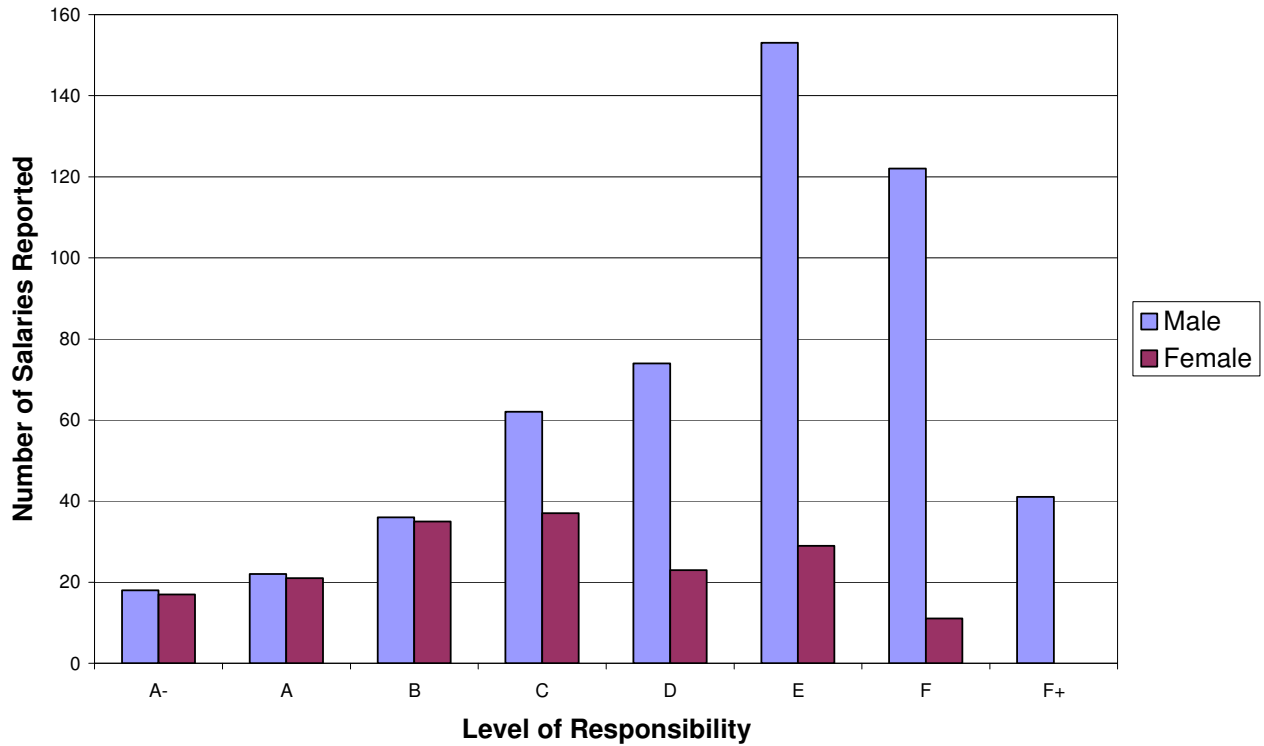
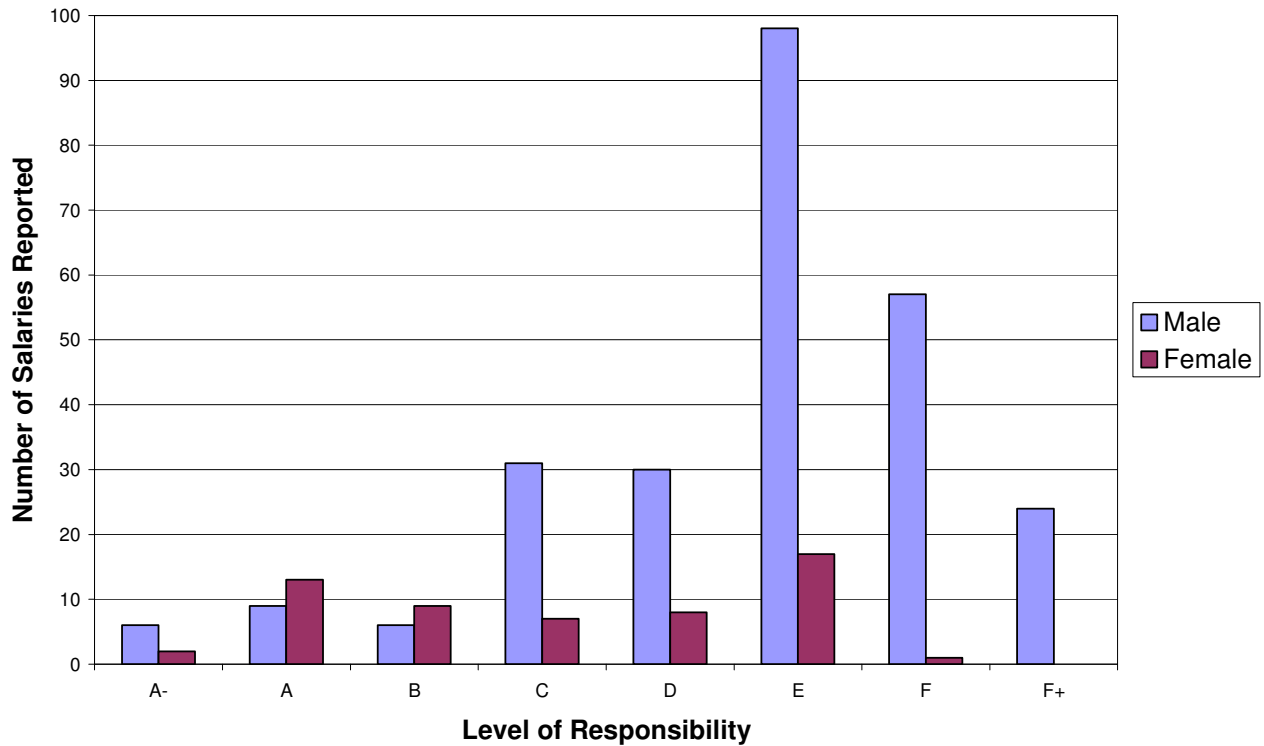


Figure 7 - Gender Distribution by Responsibility Level for Geophysics



An examination of the total cash compensation reported (Table 16) indicates that, on average, women in the professions make \$81,768 per year, compared to the average for men at \$110,931. The overall average for all respondents, including those who did not respond to the gender question was \$103,467. 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 – June 2005							
	Number	Mean \$	D1 \$	Q1 \$	Median \$	Q3 \$	D9\$
Overall	9,068	103,467	53,332	70,000	93,460	127,635	165,000
Female	1,084	81,768	47,000	56,091	72,893	96,172	132,500
Variance	-	-21.0%	-11.9%	-19.9%	-22.0%	-24.7%	-19.7%
Male	5,613	110,931	55,010	74,070	100,605	135,600	176,076
Variance	-	+7.2%	+3.1%	+5.8%	+7.6%	+6.2%	+6.7%

In comparing salary by level of responsibility and by profession, gender differences become less evident (Figures 8 - 10).

Figure 8 - Total Cash Compensation by Responsibility Level for Engineering

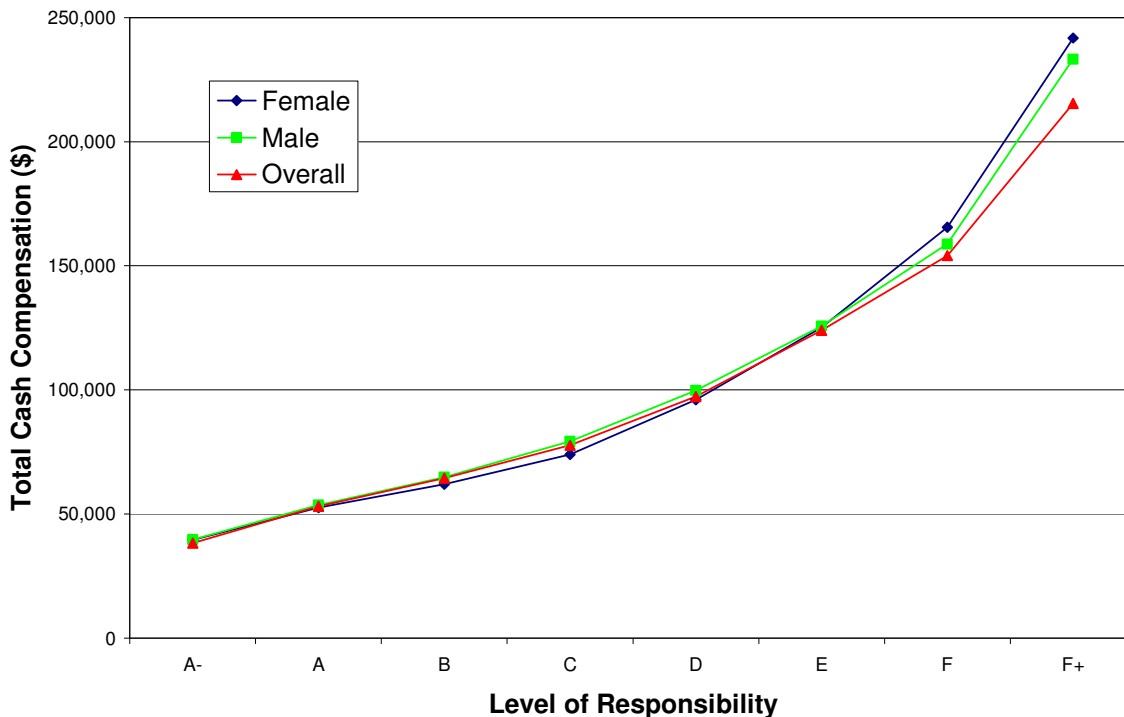


Figure 9 - Total Cash Compensation by Responsibility Level for Geology

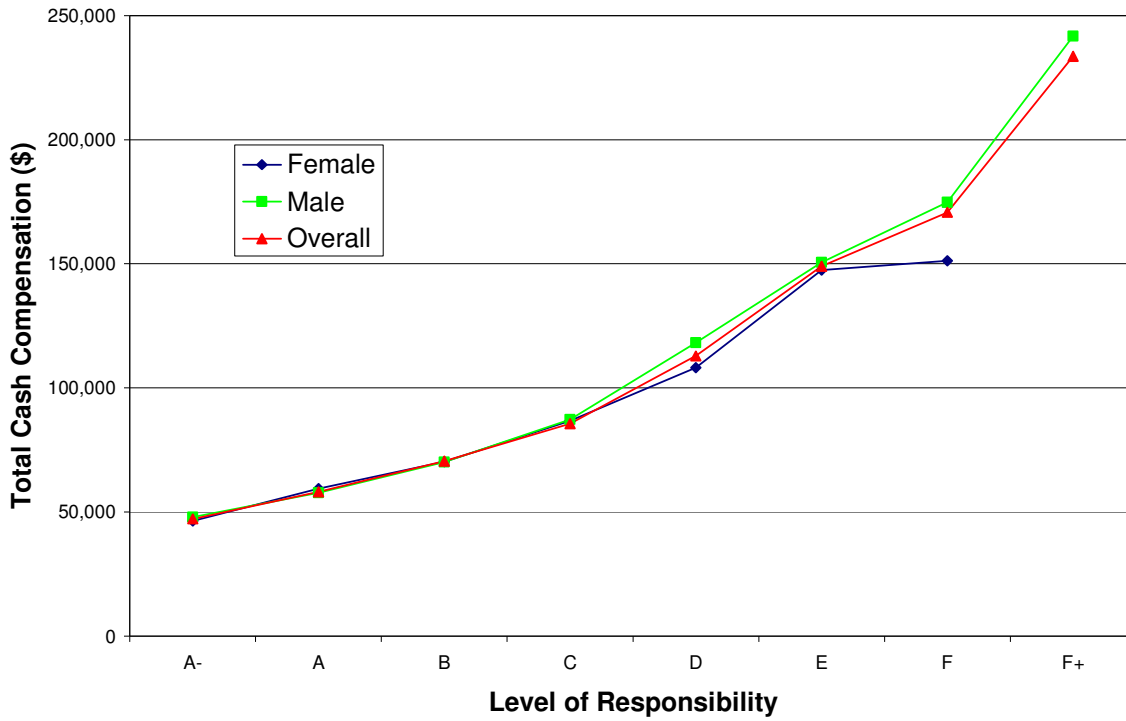
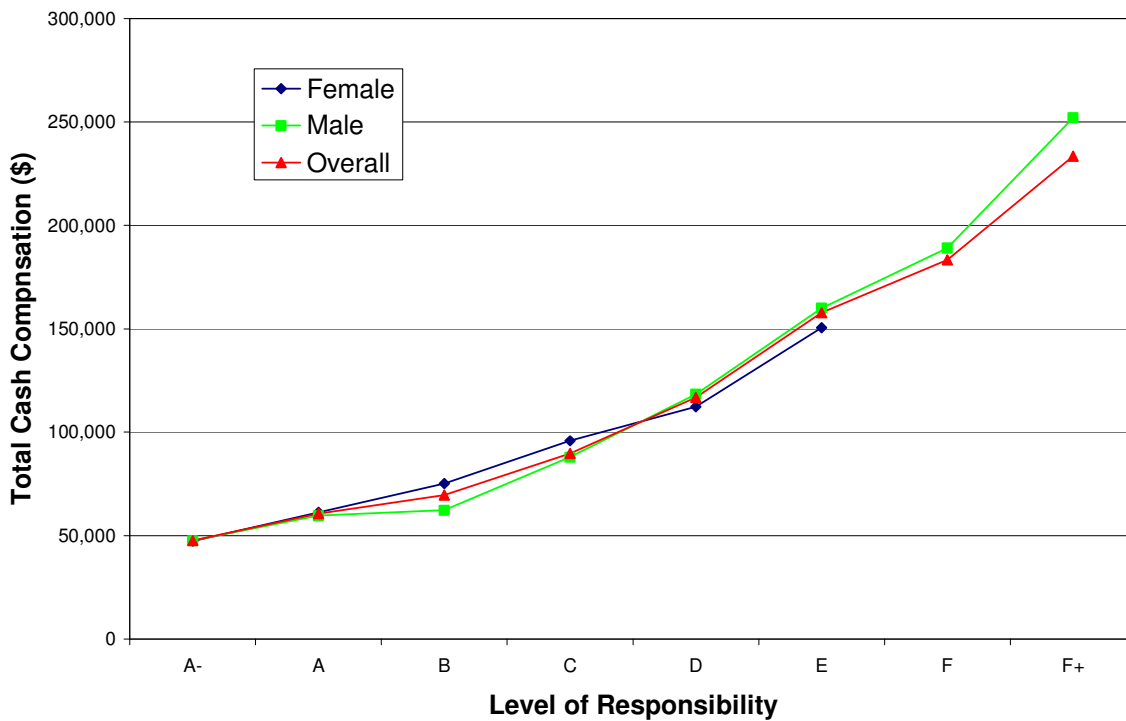


Figure 10 - Total Cash Compensation by Responsibility Level for Geophysics



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

Table 17

Average Total Cash Compensation by Designation and Responsibility Level All Industries – June 2005								
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-	281	38,303	49	39,552	3.3%	139	39,773	3.8%
A	776	53,137	158	52,585	-1.0%	444	53,633	0.9%
B	895	64,400	177	62,066	-3.6%	461	64,942	0.8%
C	1,391	77,707	197	74,017	-4.7%	744	79,260	2.0%
D	1,772	97,367	162	96,071	-1.3%	1,110	99,802	2.5%
E	1,568	124,050	83	125,165	0.9%	1,144	125,682	1.3%
F	905	154,101	23	165,532	7.4%	604	158,801	3.0%
F+	251	215,456	4	241,739	12.2%	174	233,231	8.2%
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-	35	47,243	17	46,478	-1.6%	18	47,966	1.5%
A	53	58,093	21	59,508	2.4%	22	57,734	-0.6%
B	90	70,557	35	70,300	-0.4%	36	70,245	-0.4%
C	140	85,630	37	86,840	1.4%	62	87,315	2.0%
D	127	112,874	23	108,171	-4.2%	74	118,174	4.7%
E	198	149,014	29	147,475	-1.0%	153	150,641	1.1%
F	163	170,731	11	151,163	-11.5%	122	174,762	2.4%
F+	51	233,657	0	-	-	41	241,769	3.5%
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-	8	47,559	2			6	47,621	0.1%
A	23	60,634	13	61,314	1.1%	9	59,711	-1.5%
B	22	69,675	9	75,251	8.0%	6	62,286	-10.6%
C	43	89,692	7	95,855	6.9%	31	87,994	-1.9%
D	45	116,765	8	112,364	-3.8%	30	118,402	1.4%
E	121	157,773	17	150,439	-4.6%	98	160,058	1.4%
F	73	183,337	1	-	-	57	188,979	3.1%
F+	35	233,410	0	-	-	24	251,906	7.9%

*Again, 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 – June 2005								
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-	24	33,518	7	30,281	-9.7%	15	34,458	2.8%
A	210	48,465	46	46,048	-5.0%	140	48,206	-0.5%
B	199	55,032	61	52,620	-4.4%	118	55,101	0.1%
C	234	66,140	55	58,753	-11.2%	155	65,726	-0.6%
D	248	84,295	28	77,297	-8.3%	186	82,610	-2.0%
E	251	102,042	14	88,945	-12.8%	223	101,657	-0.4%
F	169	127,387	3	106,347	-16.5%	146	124,146	-2.5%
F+	43	146,711	0	-	-	41	143,976	-1.9%
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-	28	37,993	6	34,349	-9.6%	5	37,508	-1.3%
A	170	50,478	23	49,771	-1.4%	72	48,808	-3.3%
B	194	59,257	22	59,158	-0.2%	71	58,563	-1.2%
C	300	72,323	28	70,644	-2.3%	103	71,280	-1.4%
D	397	89,995	16	86,650	-3.7%	111	89,719	-0.3%
E	387	108,971	8	103,100	-5.4%	150	106,605	-2.2%
F	351	129,997	1	-	-	104	132,496	1.9%
F+	91	154,301	0	-	-	11	165,574	7.3%
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-	6	41,710	1	-	-	5	40,414	-3.1%
A	7	55,443	1	-	-	6	55,213	-0.4%
B	8	60,561	3	59,893	-1.1%	5	60,961	0.7%
C	13	75,686	2	78,046	3.1%	11	75,257	-0.6%
D	18	94,880	1	-	-	17	95,473	0.6%
E	10	118,331	0	-	-	10	118,331	0.0%
F	10	130,866	0	-	-	10	130,866	0.0%

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-	126	43,664	39	44,446	1.8%	75	43,971	0.7%
A	243	60,151	69	60,200	0.1%	148	60,060	-0.2%
B	352	72,032	82	72,639	0.8%	147	72,952	1.3%
C	454	88,897	95	88,324	-0.6%	274	89,941	1.2%
D	590	112,650	92	109,423	-2.9%	443	113,218	0.5%
E	805	147,625	79	147,167	-0.3%	624	150,233	1.8%
F	542	180,724	22	177,710	-1.7%	388	187,121	3.5%
F+	203	252,706	2	277,158	9.7%	148	272,758	7.9%
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	13	51,196	4	51,018	-0.3%	9	51,275	0.2%
B	27	60,712	7	61,722	1.7%	20	60,358	-0.6%
C	38	76,124	0	-	-	37	75,860	-0.3%
D	22	89,751	3	85,081	-5.2%	19	90,488	0.8%
E	14	111,498	0	-	-	13	111,017	-0.4%
F	3	128,693	0	-	-	3	128,693	0.0%
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-	10	38,812	2	41,444	6.8%	8	38,154	-1.7%
A	22	60,371	1	-	-	21	60,497	0.2%
B	41	73,803	10	71,142	-3.6%	31	74,661	1.2%
C	21	86,044	1	-	-	20	86,670	0.7%
D	64	98,380	6	95,139	-3.3%	58	98,715	0.3%
E	88	126,996	17	132,353	4.2%	71	125,713	-1.0%
F	20	172,002	4	157,200	-8.6%	16	175,703	2.2%
F+	10	219,451	2	206,320	-6.0%	8	222,734	1.5%
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-	5	27,384						
A	86	50,194						
B	112	61,865						
C	333	72,853						
D	219	84,412						
E	80	92,202						
F	47	111,422						
F+	13	126,295						

Insufficient Data Reported

Table 18 (cont.)

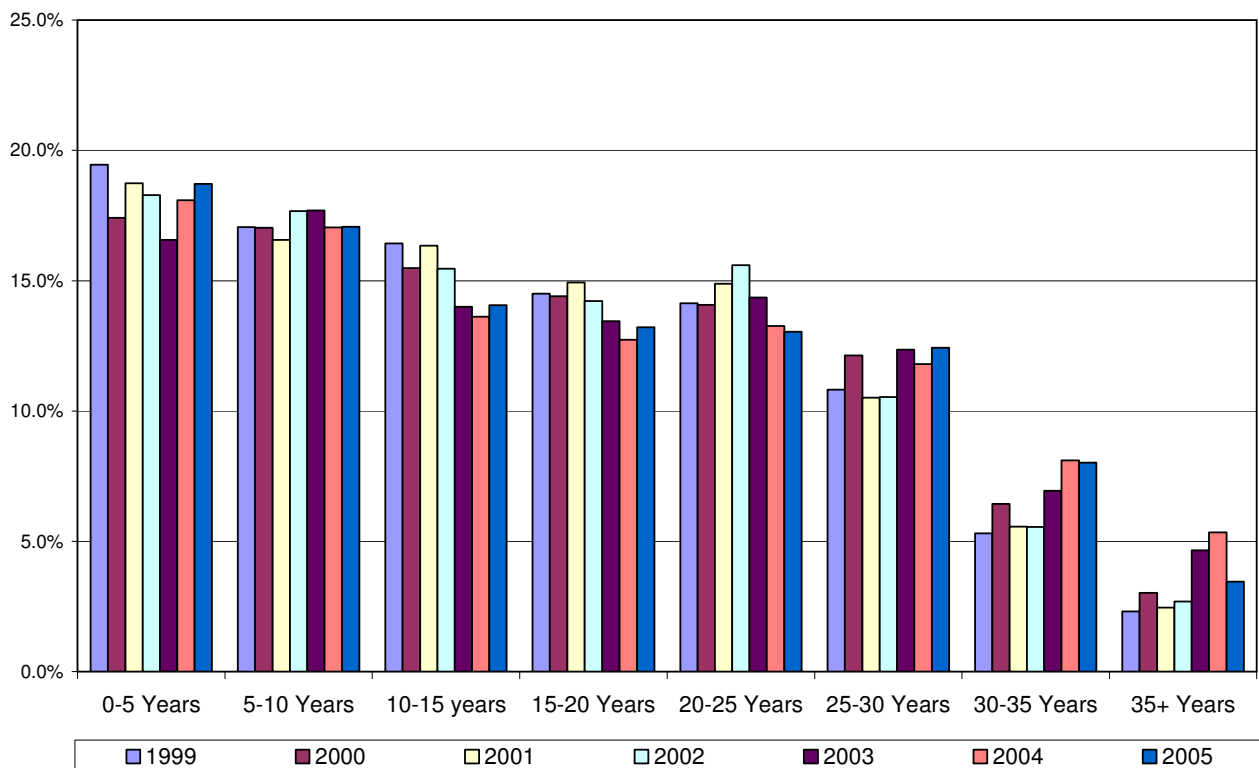
SERVICE (FOR PROFIT)								
Level	# of Members *	Overall Mean Salary - \$	# of Females	Female Mean Salary - \$	Variance from Mean	# of Males	Male Mean Salary - \$	Variance from Mean
A-	4	38,100						
A	5	44,880						
B	3	68,440						
C	3	89,587						
D	5	93,620						
E	5	125,660						
F	6	337,083						
F+	3	162,833						
Insufficient Data Reported								
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-	61	41,194	11	40,656	-1.3%	27	40,252	-2.3%
A	74	53,857	24	55,329	2.7%	32	53,644	-0.4%
B	57	64,637	10	65,600	1.5%	22	63,980	-1.0%
C	110	79,834	22	71,890	-10.0%	62	82,450	3.3%
D	216	98,219	14	91,051	-7.3%	115	99,594	1.4%
E	121	129,319	2	105,801	-18.2%	51	119,631	-7.5%
F	53	153,841	3	120,218	-21.9%	30	145,423	-5.5%
F+	5	345,901	0	-	-	5	345,901	0.0%
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-	19	38,101	1	-	-	18	38,282	0.5%
A	26	51,666	8	49,991	-3.2%	18	52,410	1.4%
B	74	61,732	16	61,094	-1.0%	58	61,908	0.3%
C	137	76,562	29	75,779	-1.0%	108	76,772	0.3%
D	166	95,278	24	90,619	-4.9%	142	96,065	0.8%
E	77	117,400	6	113,638	-3.2%	71	117,718	0.3%
F	12	153,596	1	-	-	11	150,032	-2.3%
F+	11	202,560	0	-	-	11	202,560	0.0%

Experience and Responsibility Level Distribution

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.

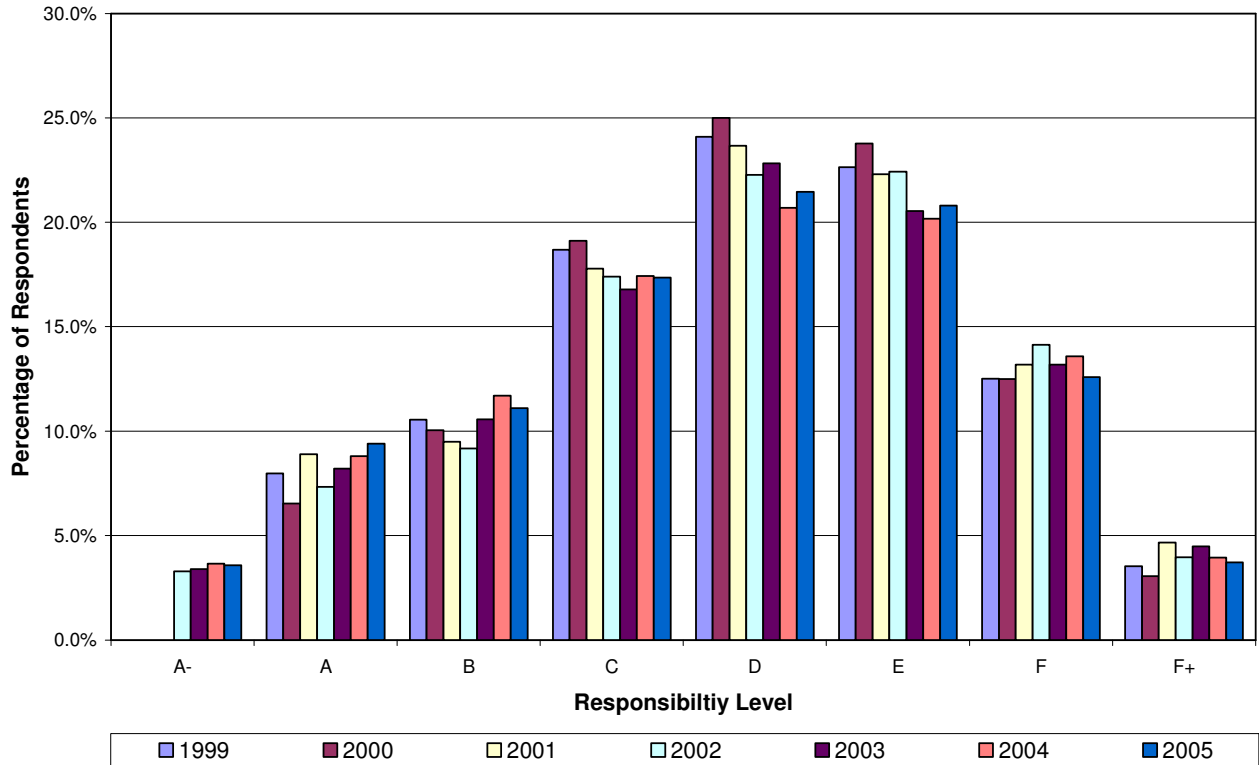
Figure 11 shows that over the last six years there has been a trend towards members with a greater number of years experience since graduation. There has been an overall increase in the percentage of respondents in the groups with 25 to 30 years, 30 to 35 years, and more than 35 years experience since graduation. Likewise, there has been a decrease in the percentage of respondents in each 5-year grouping, from 0 to 25 years experience since graduation, with the exception of the 5 to 10-year grouping, which has remained essentially constant.

Figure 11 - Age Distribution Based on Years Since Graduation (1999-2005)



In addition to looking at years since graduation, the Survey also examined the number of respondents at each responsibility level. Figure 12 shows that over the past six years, the percentage of respondents at the upper (F and F+) and lower (A- and A) levels have been relatively constant. The percentage of respondents at Level B (essentially the first level of responsibility as a Professional Engineer, Geologist or Geophysicist) has increased slightly. The mid-level professional positions, at Levels C, D, and E have shown a decreasing trend.

Figure 12 - Distrubution by Responsibility Level (1999-2005)



The six-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 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 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 to this 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 were, at the same time, both expected and surprising. It came as no surprise that, for the most part, the smallest organizations offered the lowest mean base salaries and the lowest total cash compensation. What was surprising was that the highest mean base and total compensation were not paid by the largest firms, but by firms that could be described as small to medium in size. This trend is most visible at the higher levels of responsibility, levels E and F; there is a somewhat tighter distribution of salaries at the lower levels. Indeed, at the entry level, level A, the variation between the mean total compensation paid at the smallest firms (lowest) are within 14% of those paid at the largest firms (highest). The range of mean total compensation at the D responsibility level, the level that represents the largest single group of responses, is even tighter, with just a 7.2% spread between the lowest-compensated group (firms with 21 to 50 total employees) and the highest (firms with 251 to 500 total employees).

Results for the senior executive level, F+, demonstrate an interesting phenomenon. In looking at base salaries, the lowest compensation corresponds to the smallest firms (in this case, the smallest firms reporting F+ salaries had between 21 and 50 employees), but the total cash compensation for this group was the highest by a substantial margin. A closer examination of the data provides an explanation – a small number of senior executives of these small firms held an equity position in their firms (likely as founders and either partners or major shareholders); these firms were in the oil and gas sector; large bonuses resulting from high profits driven by high oil and gas revenues drove up the mean. In a year with more rational energy prices, the bonuses paid by these firms would result in Total Cash Compensation figures closer to the norm.

As this is the first year this type of analysis has been performed on our Salary Survey data, no comments on trends can be made at this time.

Table 19 - Annual Base Salaries by Size of Organization, June 2005								
Level	Size (# of Employees)	# of Eng., Geol., Geoph.	MEAN \$	D1 \$	Q1 \$	MEDIAN \$	Q3 \$	D9 \$
A-	2-10	1						
	11-20	1						
	21-50	3	35,560					
	50-100	8	39,485	33,280	36,000	36,000	39,600	63,000
	101-250	10	33,380	27,040	27,600	34,500	37,200	38,400
	251-500	7	39,098	35,091	35,091	39,413	43,560	43,680
	Over 500	293	39,627	30,649	34,076	40,800	44,377	47,100
A	2-10	6	46,750		42,000	44,000	49,000	
	11-20	9	44,677	31,200	43,689	46,000	48,000	55,000
	21-50	18	45,351	36,000	36,960	45,760	50,250	55,000
	50-100	46	51,325	43,000	45,760	49,920	54,000	62,400
	101-250	71	51,075	43,200	46,800	52,200	54,000	58,200
	251-500	90	49,025	40,800	43,200	50,000	54,080	56,160
	Over 500	610	52,956	46,508	49,703	53,400	56,400	59,000
B	2-10	2						
	11-20	3	50,567					
	21-50	28	54,835	45,760	48,120	55,000	57,660	62,400
	50-100	29	60,043	51,000	53,500	60,600	62,920	72,000
	101-250	50	57,896	48,000	52,870	57,780	63,000	67,000
	251-500	96	56,474	48,000	50,000	55,100	62,000	66,560
	Over 500	786	62,509	53,060	58,423	63,072	67,080	70,440
C	2-10	4	56,225					
	11-20	12	64,022	56,900	56,900	64,000	70,000	70,000
	21-50	26	78,337	54,000	59,292	70,000	93,600	115,000
	50-100	30	77,962	64,641	66,500	69,500	76,080	100,000
	101-250	84	71,326	59,939	63,000	69,509	80,000	85,000
	251-500	146	70,481	52,000	63,500	70,000	77,969	87,720
	Over 500	1,262	74,738	63,502	70,081	75,360	79,600	85,000
D	2-10	2						
	11-20	10	86,328	52,500	68,850	81,313	85,430	117,590
	21-50	31	90,102	66,000	72,000	90,000	106,080	114,000
	50-100	34	96,355	81,000	83,200	90,000	99,600	105,000
	101-250	82	89,522	72,000	80,750	89,999	99,590	105,000
	251-500	213	94,922	69,700	84,000	93,800	106,080	120,000
	Over 500	1,567	91,597	78,010	84,444	91,237	98,520	105,500
E	2-10	7	87,071	72,000	76,000	95,000	96,000	97,500
	11-20	21	120,936	90,000	100,000	110,000	142,000	166,250
	21-50	26	99,571	66,000	81,900	95,020	114,400	124,800
	50-100	16	139,828	97,760	111,000	128,000	152,000	176,800
	101-250	82	114,723	90,000	105,500	115,000	124,800	135,000
	251-500	213	109,815	88,000	96,000	109,999	123,120	131,328
	Over 500	1,520	115,474	94,900	105,840	116,850	125,000	132,500
F	2-10	13	102,754	75,600	75,600	120,000	125,000	125,000
	11-20	22	122,302	93,600	105,450	110,000	125,000	156,000
	21-50	26	120,952	72,000	100,000	125,000	135,000	148,840
	50-100	23	154,131	114,400	125,884	145,000	165,000	195,520
	101-250	76	133,476	110,000	123,136	135,970	144,400	150,000
	251-500	104	130,816	103,200	117,000	131,000	143,000	160,000
	Over 500	871	137,532	113,500	127,356	138,337	147,900	160,000
F+	2-10	0						
	11-20	2						
	21-50	14	157,498	126,000	139,800	145,000	169,500	189,107
	50-100	5	158,872		163,080	163,080	165,000	
	101-250	36	164,166	131,040	142,123	158,700	166,100	215,000
	251-500	29	179,076	124,000	135,000	163,560	195,000	239,000
	Over 500	251	170,008	131,134	145,000	161,580	185,000	223,357

Table 20 - Annual Total Cash Compensation by Size of Organization, June 2005								
Level	Size (# of Employees)	# of Eng., Geol., Geoph.	MEAN \$	D1 \$	Q1 \$	MEDIAN \$	Q3 \$	D9 \$
A-	2-10	1						
	11-20	1						
	21-50	3	35,560					
	50-100	8	40,235	33,280	36,000	36,000	39,600	69,000
	101-250	10	33,406	27,040	27,775	34,500	37,200	38,400
	251-500	7	39,098	35,091	35,091	39,413	43,560	43,680
	Over 500	293	39,746	30,649	34,500	40,800	44,377	47,120
A	2-10	6	47,442		43,800	45,850	49,000	
	11-20	9	46,582	31,200	44,339	46,000	48,000	71,500
	21-50	18	48,289	36,000	36,960	47,760	55,000	59,998
	50-100	46	52,380	43,000	46,000	50,000	55,360	62,400
	101-250	71	52,738	43,200	46,800	52,200	56,731	63,000
	251-500	90	49,748	40,800	43,200	50,000	54,852	59,122
	Over 500	610	54,719	46,706	50,000	54,000	58,400	64,275
B	2-10	2						
	11-20	3	52,733					
	21-50	28	60,348	46,543	51,843	55,900	63,000	70,600
	50-100	29	63,986	54,603	57,228	62,400	67,356	72,800
	101-250	50	63,144	49,440	55,894	62,400	69,000	75,812
	251-500	96	58,248	48,000	50,000	55,300	63,228	69,204
	Over 500	786	66,261	53,730	60,000	66,600	72,200	78,000
C	2-10	4	56,350					
	11-20	12	68,129	62,400	64,000	69,273	70,623	73,500
	21-50	26	82,468	58,000	62,400	72,500	93,600	120,000
	50-100	30	82,037	65,000	68,754	74,315	82,307	105,606
	101-250	84	76,666	62,400	68,000	76,600	83,427	90,500
	251-500	146	76,298	55,000	65,000	72,560	84,308	92,780
	Over 500	1,262	79,232	64,140	72,512	79,211	85,500	93,820
D	2-10	2						
	11-20	10	97,009	52,500	80,000	87,237	103,416	139,290
	21-50	31	96,112	73,000	80,759	93,500	108,296	125,000
	50-100	34	100,814	83,200	87,045	95,400	104,000	123,700
	101-250	82	96,987	74,704	85,200	95,992	108,035	117,371
	251-500	213	103,661	70,000	86,000	99,564	116,554	138,399
	Over 500	1,565	98,381	80,057	88,584	96,416	107,500	120,400
E	2-10	7	97,807	81,500	88,000	95,000	109,150	118,500
	11-20	21	139,870	90,000	100,000	124,195	162,000	220,930
	21-50	26	112,914	90,000	95,000	111,673	124,800	132,500
	50-100	16	150,229	99,000	115,000	142,480	176,000	186,000
	101-250	82	129,426	95,695	110,400	126,006	144,824	168,484
	251-500	213	121,690	88,200	98,300	114,264	132,000	156,000
	Over 500	1,520	129,873	98,232	112,320	129,002	147,185	162,050
F	2-10	13	120,254	75,600	75,600	120,000	155,000	155,000
	11-20	22	204,508	102,000	120,000	140,000	182,000	288,000
	21-50	26	159,663	100,000	124,000	137,772	159,485	190,000
	50-100	23	164,972	114,400	125,884	165,000	183,040	198,000
	101-250	76	155,079	120,000	132,309	145,642	181,500	190,000
	251-500	104	142,139	106,800	118,092	132,000	149,040	173,701
	Over 500	871	159,821	117,000	132,750	162,635	183,200	199,881
F+	2-10	0						
	11-20	2						
	21-50	14	315,280	140,000	174,000	200,462	268,662	420,528
	50-100	5	204,230		202,776	202,776	225,000	
	101-250	36	209,103	131,040	160,805	192,000	209,271	310,290
	251-500	29	210,071	124,000	144,000	165,525	253,368	345,000
	Over 500	251	217,201	138,000	168,000	209,566	251,815	315,180

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

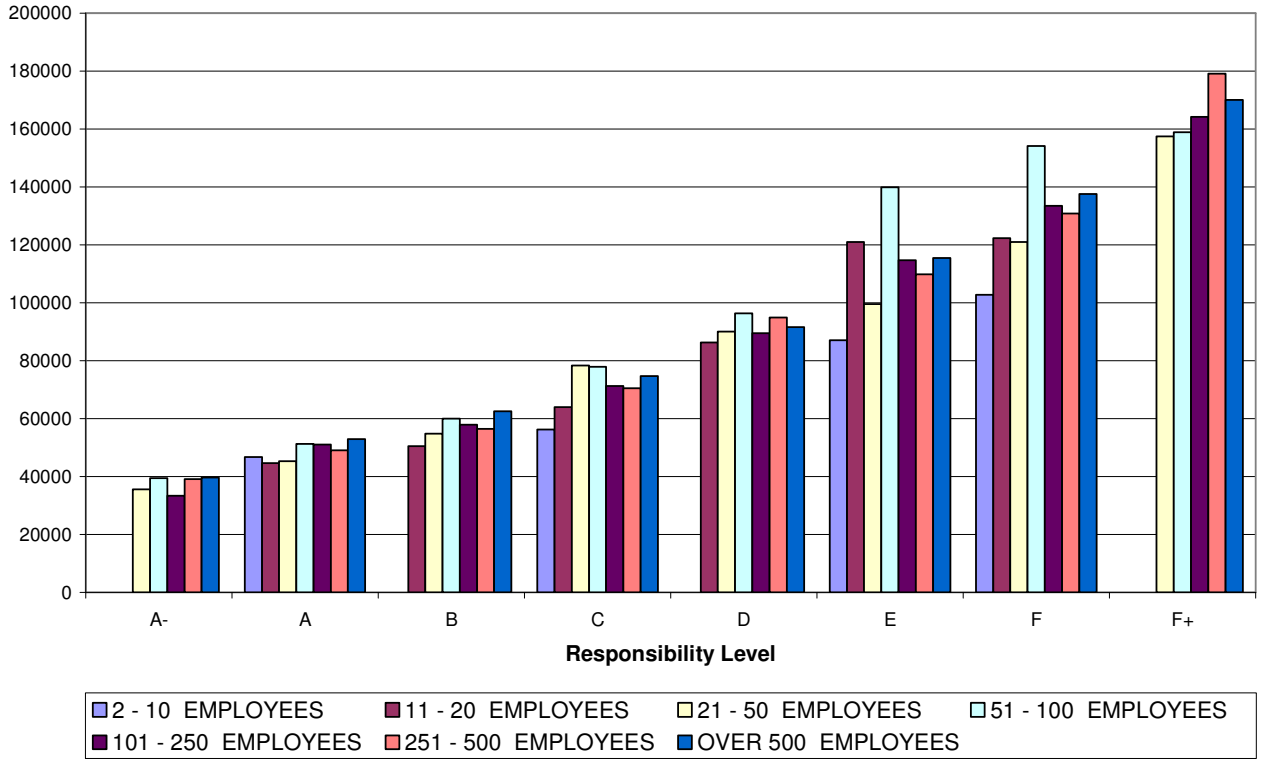
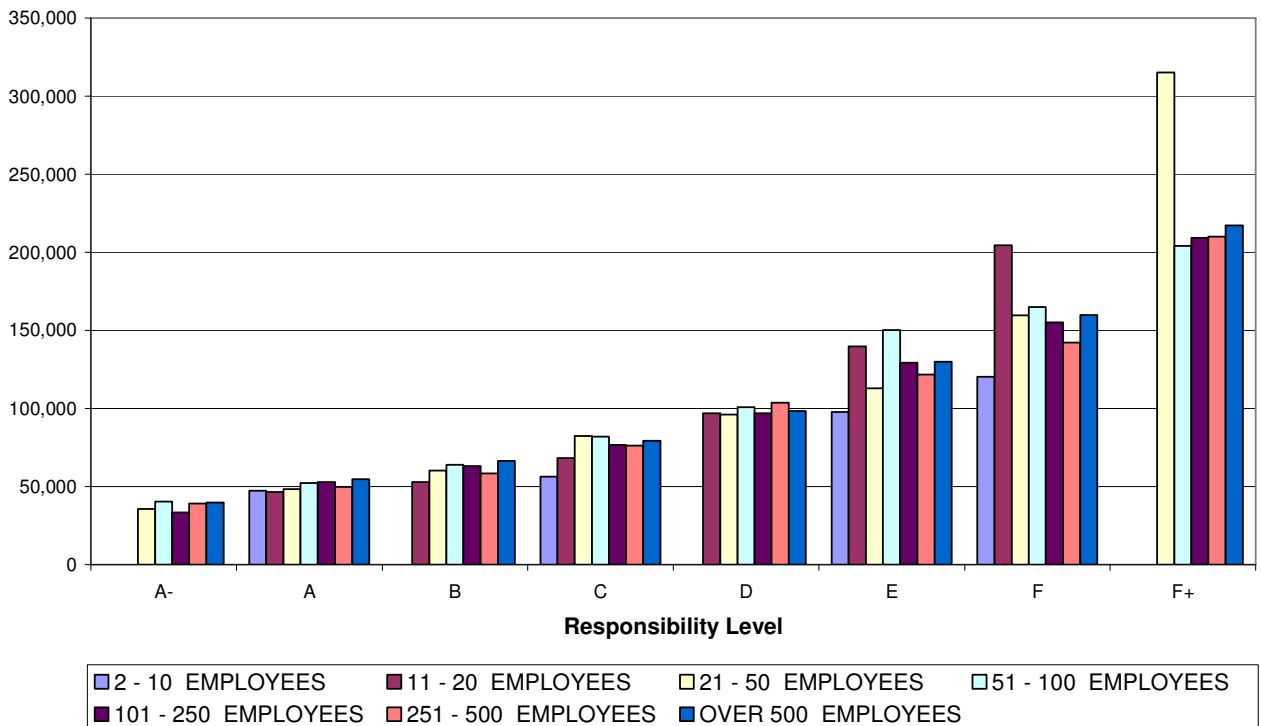


Figure 14 - Annual Total Cash Compensation by Firm Size and Responsibility Level



Other Professions

Every two to three years, the Alberta government performs the largest salary survey in the province, the Alberta Wage and Salary Survey. The survey is conducted by contacting employers in the province and having them complete questionnaires, in a very similar manner to the APEGGA Salary Survey. From the WAGEinfo website (www.alis.gov.ab.ca/wageinfo):

“The 2005 Alberta Wage and Salary Survey was conducted by R.A. Malatest and Associates Ltd. on behalf of Alberta Human Resources and Employment, Human Resources and Skills Development Canada, Alberta Economic Development and Alberta Advanced Education. The survey results include over 6,700 completed surveys providing a successful response rate of 35.3 per cent. The responses represent over 303,000 full-time and part-time employees in Alberta.”

The information gathered by the Alberta Wage and Salary Survey can be broken down in a number of ways. Of interest to this survey, however is the breakdown by the National Occupation Classification or NOC code system. Through this breakdown, it is possible to obtain the mean salaries for most of the other regulated professions in Alberta. The only comparable professional group missing from this analysis is the physicians; the Alberta government survey received an insufficient number of responses from this sector to produce meaningful results. It must be noted that the data reported was for salaries – income earned from holding an equity position in a firm (profits distributed among owners) was not reported.

In order to compare how a particular profession or occupational segment is doing year over year, it is common to express the salary as a ratio over the overall mean salary for all occupations. For example, the overall mean annual salary for all occupations in Alberta in 2005 was **\$42,193**. The overall mean annual salary (base) for engineers from the 2005 APEGGA Salary Survey was **\$90,600**, meaning that the ratio between the average engineer’s salary and the overall average salary in the province was **2.15**. This ratio can be used to track how professional’s salaries are performing in relation to the overall economy. Future reports will plot these ratios over time.

In addition to salaries, the professional dues for each of the examined professions has been provided, along with a calculation of what percentage of the professional’s salary they constitute.

Table 21 – Mean Salaries of Other Professions in Alberta				
Profession	Mean Salary	Profession Mean to Overall Mean	Annual Dues	Dues - % of Mean Salary
Geophysicist	\$ 116,712	2.77	\$ 225	0.2%
Dentist	\$ 111,463	2.64	\$ 2,500	2.2%
Geologist	\$ 104,337	2.47	\$ 225	0.2%
Engineer	\$ 90,600	2.15	\$ 225	0.2%
Lawyer	\$ 87,862	2.08	\$ 1,370	1.6%
Veterinarian	\$ 75,805	1.80	\$ 1,062	1.4%
Architect	\$ 63,149	1.50	\$ 775	1.2%
Accountant	\$ 51,693	1.23	\$ 905	1.8%

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

APEGGA SALARY SURVEY DATA

Additional results from APEGGA's June 2005 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 - June 2005							
Highest Degree Completed	Count	Mean \$	D ₁ \$	Q ₁ \$	Median	Q ₃ \$	D ₉ \$
Ph.D.	139	107,873	69,000	83,200	105,587	129,060	147,630
M.Sc., M.Eng.	833	102,716	59,900	74,400	98,625	128,235	146,340
B.Sc., B.Eng.	7989	91,863	51,659	65,520	87,500	115,124	137,251
Annual Total Cash Compensation by Highest Degree – All Professions – June 2005							
Ph.D.	139	118,485	71,032	86,412	108,222	135,000	177,108
M.Sc., M.Eng.	833	114,576	61,171	78,000	105,500	140,657	175,500
B.Sc., B.Eng.	7989	102,316	52,565	69,181	92,369	126,060	163,793

FIGURE B-1

APEGGA JUNE 2005 EMPLOYER SALARY SURVEY
Mean Base Salaries by Year of Graduation and Level of Responsibility
All Professions (Eng., Geol., Geoph.)

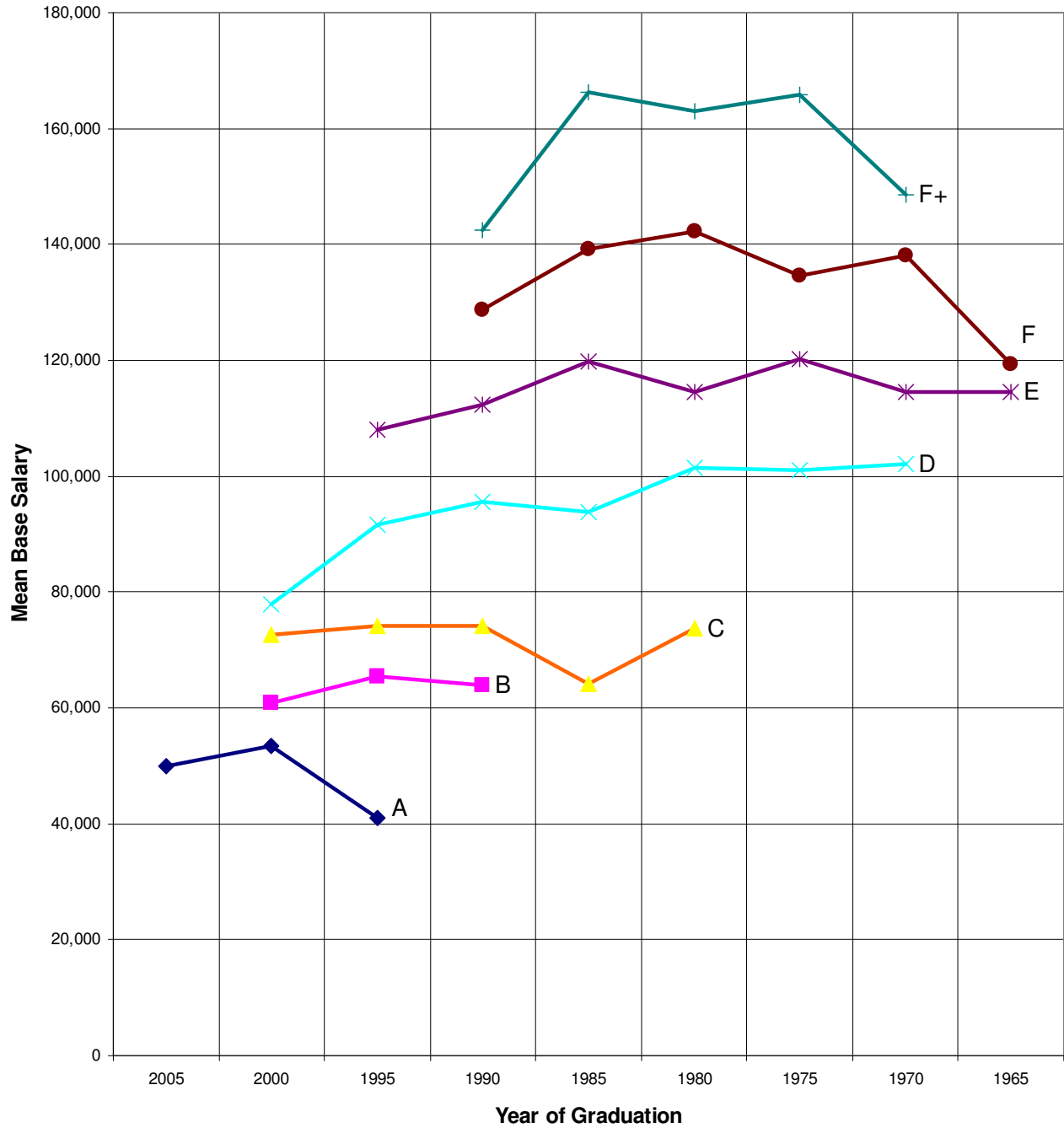


TABLE B-2

Frequency Distribution of Annual Base Salaries by Level of Responsibility Engineers, Geologists, Geophysicists - June 2005									
UPPER LIMIT	A-	A	B	C	D	E	F	F+	TOTAL
\$26,400	3								3
\$28,800	6	1							8
\$31,200	33								33
\$33,600	32	4		1					37
\$36,000	43	4		1					48
\$38,400	23	11							34
\$40,800	32	13	2						48
\$43,200	52	26	5						83
\$45,600	52	39	13	1					105
\$48,000	18	83	27	5					133
\$50,400	6	127	54	19	1				207
\$52,800	13	122	47	11	3	1			197
\$55,200	8	175	72	18	4				277
\$57,600	1	121	68	29	4				223
\$60,000		63	93	36	6				198
\$62,400		40	131	56	14				241
\$64,800	1	17	134	73	9	2			236
\$67,200			149	101	16	3			269
\$69,600		1	87	84	18	5			195
\$72,000	1	2	78	128	33	1	1		244
\$74,400		1	26	193	28	7	3		258
\$76,800			14	154	56	3	3		230
\$79,200			4	163	57	8			232
\$81,600		1	2	236	97	10			346
\$84,000				72	107	13	1	1	194
\$86,400			1	68	157	16	1		243
\$88,800				43	118	24	3		188
\$91,200				35	233	36	4		308
\$93,600				18	145	42	3		208
\$96,000				9	167	88	7		271
\$98,400				4	140	62	5		211
\$100,800				3	134	54	15	5	211
\$103,200					73	58	21		152
\$105,600				4	91	74	27		196
\$108,000					58	68	11	1	138
\$110,400				2	55	104	22	1	184
\$112,800					29	109	17	1	156
\$115,200				3	25	114	20	4	166
\$117,600					14	133	22	3	172
\$120,000					12	122	27	3	164
\$132,000				3	34	513	214	20	784
\$144,000					6	166	343	43	558
\$156,000					1	39	221	62	323
\$168,000				1		7	82	59	149
\$180,000						2	41	32	75
>\$180,000					1	3	26	102	132
TOTAL	324	852	1,007	1,574	1,946	1,887	1,141	337	9,068

APPENDIX C

LIST OF PARTICIPANTS

ACUREN (CANSPEC)
Agrium Inc.
Alberta Energy and Utilities Board
AltaLink Mgt Ltd.
Altia Energy Ltd.
AMEC Earth & Environmental, a division of AMEC Americas
AMEC Americas Limited - Energy & Mining
Amec Infrastructure Limited
Anadarko Canada Corporation
ARC Resources Ltd.
ASSOCIATED ENGINEERING ALBERTA LTD
ATCO Electric
ATCO Gas
ATCO Pipelines
Athabaskan Resource Company
Bantrel Co.
Beck Engineering (1992) Ltd.
Bel-MK Engineering Ltd.
Beta Machinery Analysis Ltd.
BIRCHCLIFF ENERGY LTD.
BMO Oil & Gas Department
Broadsword Corrosion Engineering Ltd.
Bunge Canada Holdings Inc
Burlington Resources Canada Ltd.
Canam Steel Works
Capital Engineering
Central Alberta Midstream
CGG Canada Services Ltd.
CH2M HILL Canada Limited
Chevron Canada Resources
City of Calgary
City of Edmonton
City of Lethbridge
Cohos Evamy
Colt Engineering Corporation
Compton Petroleum Corporation
CWD Windows and Doors Inc.
Dacro Industries Inc.
Deer Creek Energy Limited
DEGUSSA Canada Inc.
Dominion Exploration Canada Ltd.
Dow Chemical Canada Inc.
DPH ENGINEERING INC.
Earth Tech Canada Inc.
EBA Engineering Consultants Ltd.
ECO Waste Systems Ltd.
Emerson Process Management
Emerson Process Management/Bettis Canada Ltd.
Enbridge Pipelines Inc
EnCana Corporation
Enerflex Systems Ltd
Enerflow Industries
Enerplus Resources Fund
ENERSUL INC.
EPCOR Utilities Inc.
Frontline Engineering
General Dynamics Canada Ltd.
Geo-Engineering (M.S.T.) Ltd.
GLM Tanks & Equipment Ltd.
Geophysical Exploration & Development Corporation
Golder Associates Ltd
Government of Alberta
Hampson-Russell Limited Partnership
Hanover Canada Corporation
Hatch Acres
Hatch Optima
Hawk Energy Corp
HONEYWELL
Horton CBI, Limited
Husky
Imperial Oil Limited
IMV Projects Inc.
Jacobs Canada Inc.
Kaminak Resources Ltd.
Kemex Engineering Services Ltd.
Key Seismic Solutions Ltd.
KLOHN CRIPPEN CONSULTANTS LTD.
Kodiak Engineering Ltd.
KOMEX International Ltd.
Lehigh Inland Cement Limited
Luscar Ltd.
Matrix Solutions Inc.
MEG Energy Corp
Mentor Engineering Inc.
Micrologic Limited
Mulvey & Banani Int (AB) Inc.
Newalta Corporation
Nexen Inc.
Nichols Environmental (Canada) Ltd.
North American Construction Group
Northwest Hydraulic Consultants Ltd
Norwest Corporation
NovAtel Inc.
O'Connor Associates Environmental Inc.
Orbis Engineering Field Services Ltd.
Pace Industrial Inc.
Paramount Resources
Petro-Canada
Pioneer Land Services Ltd.
Polaris Engineering
Precision Energy Services Ltd.
ProjEx Technologies Ltd.
Purcell Energy Ltd.
Ready Engineering Corporation
Rockyview Energy Inc.
Rostel Industries Ltd.
Ryan Energy Technologies
Sherritt International Corporation

2004 EMPLOYER SALARY SURVEY - LIST OF PARTICIPANTS (cont'd)

Signal Energy Inc.	Transcanada Pipelines Limited
Slave Lake Pulp	Transglobe Energy Corporation
SNC-Lavalin Inc.	Trican Well Service
SolTech Engineering Inc.	True Energy Inc.
Stantec Consulting Ltd.	UMA Engineering Ltd.
StarPoint Energy Trust	Univar Canada Ltd
Stewart, Weir & Co. Ltd.	VECO Canada Ltd.
Stuart Olson Construction	Vermilion Energy Trust
Suncor Energy Inc.	Walters Chambers & Associates Ltd.
Sunrise Engineering Ltd.	Westerra Environmental Management Ltd.
Taber Irrigation District	Weyerhaeuser Canada Limited
Talisman Energy Inc.	Wiebe Environmental Services Inc.
Telvent Canada Ltd.	WorleyParsons MEG Ltd.