	Engineering Graduate	Junior Engineer	Electrical Design Engineer
Summary	Engineering work at the entrance and limited performance level. Assignments are designed to develop knowledge of company	Engineering work at a junior working level. Assignments relate to the design of new or modified plant equipment and	Engineering work relating to the development of electrical layouts for substations. Assignments involve design, preparation of
	procedure and practices.	are performed under continuing supervision.	specifications and investigation and correction of design complaints.
Duties	Prepares simple plans; makes related engineering calculations; develops cost estimates in line with established formats; assists more senior engineers.	Handles design problems of moderate complexity using a variety of standard engineering methods and techniques; assists more senior engineers in solving special problems.	Prepares preliminary and final layouts, liaising with others to achieve design compatibility; checks bids and recommends contract awards; assumes professional responsibility for designs completed.
Education	B.Sc.	B.Sc.	B.Eng.
Experience	One year.	Four years. 65	Seven years. 65
Recommendations, Decisions and Commitments	Decisions bear upon procedures to be used in work of a standardized nature.	Recommendations do not go beyond limitations of immediate tasks.	Recommendations include complete solutions within scope of assignment. Refers unusual problems to supervisor.
Supervision Received	Receives specific instructions as to required tasks. Results usually checked in detail.	Supervisor screens assignment for unusual or difficult problems and selects techniques or procedures to apply in unfamiliar work.	Supervisor provides occasional guidance as work proceeds and reviews all final material.
Leadership Authority and/or Supervision Exercised	May occasionally work with a helper.	Assigns work to a drafter and checks his finished drawings.	Works with a technician and occasionally with a junior engineer; liaises with construction supervisors on interpretation of plans.
Supervision Scope	No continuing responsibility.	No continuing responsibility.	One Technician.
Use of Professional Seal	0 Not applicable.	Occasionally.	Frequently.
Job Environment	Usually good; some exposure to bad weather on trips.	Good office conditions with some exposure to plant noise.	Good office conditions; occasional field trips.
Absence from Base of Operations	Two to five days a month.	Seldom absent.	One to two days a month.
Accident and Health Hazards	Minor accident hazards encountered on field trips.	Some exposure to mechanical hazards in plant.	Care required in conducting tests on live equipment in field.
TOTAL POINTS	5 <b>160</b>	5 <b>238</b>	10 <b>318</b>
	100		

	<b>Manufacturing Engineer</b>	Sales Engineer	Senior Design Engineer
Summary	Engineering work pertaining to	Engineering work related to the	Engineering work in the field of
	the improvement of plant layout,	sale of specialized equipment,	structural design involving the
	work methods, and	apparatus, and other products to	supervision of a small group of
	manufacturing processes, the	established and prospective	professional and sub-
	selection of machines, tools, and	customers; through discussion,	professional persons.
	materials-handling equipment,	relates product application to	Assignments are for clients and
	and quality control. Gaining co-	needs of customers; makes sales;	relate primarily to the design of
	operation of supervisors and	follows up to ensure customer	commercial buildings.
	foremen is essential to job.	satisfaction.	
Duties	Makes studies and prepares	Quotes prices, terms, deliveries	Plans methods of solving
	reports on industrial engineering	for standardized products and	problems, sometimes devising
	assignments in plant and shops.	adaptations. Liaises with design	new approaches; assigns work to
	Assists in the implementation of	personnel on major product	subordinates; sees that time
	recommendations that are	modifications and new product	schedules are met; confers with
	approved. Monitors quality	possibilities. Acts as technical	clients, contractors, suppliers,
	control on a continuing basis.	consultant to customers to ensure	and members of top
		best use of company products.	management; assumes
			professional responsibility for
		70	designs completed in section.
	55		110
Education	B.Sc.	B.Eng.	B.A.Sc.
	65	65	65
Experience	Eight years.	Ten years.	Twelve years.
	70	80	90
Recommendations,	Recommendations are usually	Recommendations and decisions	Recommendations normally
Decisions and	based on operational experience.	are usually based on precedent.	relate to alternatives in design or
Commitments	Decisions of an unusual nature or	Errors in judgment could result	use of different materials to
	involving monetary	in losses of money and goodwill.	achieve same result; financial
	commitments are referred to		commitments are subject to
	supervisor.		approval by management.
	63	63	70
Supervision	Work is not supervised in detail	Work is performed under general	Work is performed under genera
Received	and amount received varies with	direction. A senior sales	directions and guidance to
	the assignment. Findings are	engineer is available to give	achieve specified objectives; co-
	recommendations are subject to	guidance and review results.	ordination with other engineerin
	technical review.		groups is achieved through
			superior.
	45	45	50
Leadership	Directs the work of several	Gives technical direction to	Assigns work and reviews it for
Authority and/or	technicians and a junior	clerical staff and to a more junior	technical adequacy. Responsibl
Supervision	engineer.	sales engineer.	for training and discipline of
Exercised			staff. Directs structural work
	20	1.5	contractors on major project.
a •• a	20	15	40
Supervision Scope	Four persons.	No continuing responsibility.	Ten persons.
TI CD C	8	0	10
Use of Professional	Occasionally.	Occasionally.	Regularly.
Seal	0 10	10	30
Job Environment	Good plant conditions.	Generally good office	Good office conditions; some
		conditions; some exposure to	work in field on inspections.
	2	bad weather.	_
A L	Saldam abaset	Alassa alassa 500/ afaires assal	J. f
Absence from Base	Seldom absent.	Absent about 50% of time; much	Infrequent absences.
of Operations		driving.	0
A	0	15	0
Accident and	Some exposure to mechanical	Driving on highways presents	Some exposure to hazards in
Health Hazards	hazards in plant.	considerable hazard.	buildings under construction.
TOTAL BODIES	5	20	10
TOTAL POINTS	344	388	480

	Highway Construction Engineer	Production Superintendent	Senior Hydrologist
Summary	Engineering work in the supervision of highway construction projects, mostly let to private contractors but with	Advanced supervisory work in directing the production activities of a chemical plant with operations scheduled	Engineering work in the field of hydrology, particularly as related to groundwater, water supply development, and flood control.
	some done by departmental crews and equipment. Acts as departmental representative in control of contractor's work.	around the clock. Operating controls are largely built around advanced instrumentation and scheduled maintenance procedures.	As a specialist, provides advice and technical assistance to other staff members and to clients.
Duties	Through subordinates, ensures that contractors observe contract terms and adhere to specifications. Authorizes changes to specifications and negotiates bids for work not covered by contract. Checks claims for extras. Organizes, supervises, and directs work of department crews.	Plans production activities to meet sales requirements. Analyzes and corrects offstandard conditions in conjunction with laboratory specialists and other technical assistance. Directs continuing studies to improve quality, better productivity, and eliminate unplanned shutdowns.	Conducts investigations and evaluations, prepares reports, makes recommendations, develops designs, writes specifications, and provides expert testimony on matters within field of specialization. Keeps up to date in field, contributes to the literature, and participates in technical meetings.
Education	B.Sc. 65	B.Eng. 65	Ph.D. 100
Experience	Fourteen years. 100	Fifteen years.	Twelve years.
Recommendations, Decisions and Commitments	Makes decisions in field when plans or contracts require alteration. Selects, disciplines, and terminates staff except for engineers.	Within limitations of plant operating policies, is accountable for quality, cost, safety and personnel. Has considerable latitude in technical decision-making.	Advice and recommendations are usually regarded as authoritative. Financial commitments, except for minor amounts, are subject to approval.
Supervision Received	Work governed by departmental policy and established priorities. Must also consider relations with municipalities, agencies, and individuals affected by construction programs.	Work is carried out within broad guidelines. Looks to Plant Manager for direction on administrative matters.	Technical decisions usually arrived at through consultation and agreement. Matters of administration are normally referred for advice and/or decision.
Leadership Authority and/or Supervision Exercised	Responsible for quality and quantity of work of a technically oriented work force.	Co-ordinates production programs and directs use of materials, equipment, and personnel. Makes recommendations on selection, discipline, and remuneration of technical staff.	Provides authoritative advice to other staff. Heads a small group of engineers and technologists.
Supervision Scope	Fifty engineering, technical, clerical, construction, and maintenance personnel.	Engineering, technical, and production staff of sixty.	Six persons.
Use of Professional Seal	Occasionally.	Occasionally.	Regularly.
Job Environment	Considerable exposure to bad weather on field trips.	Good plant and office conditions.	Some exposure to bad weather on field trips.
Absence from Base of Operations	Two to three days a week; much driving.	Seldom absent.	One to two days a week; much driving.
Accident and	Much care required on highway	Fire is a danger in the plant. Little chance of involvement.	Care is required in highway
Health Hazards	driving.	10	driving, particularly at night.

	Project Manager	Chief Engineer	Plant Manager
Summary	Engineering work at a senior	Administrative work in the	Administrative work in the
	level. Work involves	management of the engineering	management of a manufacturing
	responsibility for directing the	division of a major construction	plant with sales of engineered
	construction usually of several	company with responsibility for	products in excess of \$5M
	projects of major importance.	engineering procedures,	annually. Responsible for
	Assignments require extensive	estimates, and contracts. Annual	production, research,
	familiarity with several broad	operating budget approaches	development, engineering, and
	fields of engineering.	\$1M.	personnel functions to meet
			company objectives. Limited
			responsibility for marketing and
			financial administration.
Duties	Working through several	Directs studies aimed at	Establishes plant operating
	subordinate project engineers,	improving and techniques and	policies. confers with customers
	sees that work of contractors is	procedures of the company in its	suppliers, engineering
	properly carried out,	specialized field. Counsels	consultants, and community
	coordinated, and expedited.	section heads and sees to the	leaders. Counsels department
	Liaises with designers on major	timely production of	heads. Deals with union
	difficulties and on matters which	construction bids and contract	management problems. Effects
	may delay project completion.	documents.	co-ordination on a wide scale.
	120	150	175
Education	M.Sc. 130	150 M.Eng.	No degree, but accepted for
Education	Wilde.	141.12116.	registration.
	80	80	registration.
Experience	•	•	Twenty-five years.
Experience	Fourteen years.	Twenty years.	1 wenty-rive years.
Dagammandations		<b></b>	÷
Recommendations, Decisions and	Decisions may involve	Approves bids on jobs up to	Responsible for administration of
Commitments	substantial sums of money and	\$100,000; recommends all	approved operating and capital
Communicities	must usually be made quickly	others. Reviews and evaluates	budgets. Makes important
	with little time for consultation.	technical work. Selects,	technical decisions. Errors in
	Recommendations carry	discipline, and terminates staff.	judgment could cause grave
	considerable weight.	120	losses.
C	105	120	120
Supervision	Works within the constraints of	Work is checked largely through	Work is reviewed against
Received	policies covering the company's	consultation and agreement with	previously established
	engineering activities. Major technical decisions made in	others rather than by directives	production and financial goals.
		from superiors.	Operations are conducted within
	consultation with design.	80	limitations of over-all policies.
T 11		<b>.</b>	90
Leadership	Plans and directs the work of	Plans, organizes, directs, and	Sets up standards of
Authority and/or	project engineers, technicians,	supervises work of unit with full	performance, co-ordinates
Supervision	and clerks.	responsibility for quality and	operations and activities,
Exercised		quantity of work, costs, and	evaluates performance, and sees
		methods.	that policies and programs are
			carried out.
	50	60	60
Supervision Scope	Twenty-five persons.	Fifty engineering, technical, and	One Hundred and twenty-five
	20	clerical personnel.	staff and plant personnel.
TI CD C .	20	30	45
Use of Professional Seal	Occasionally.	Occasionally.	Occasionally.
Job Environment	Some exposure to bad weather	Good office conditions with	Good office conditions.
JOD EHAH OHHIGHT			Good office collations.
	on field trips.	occasional field trips.	0
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Absence from Base	One to two days a week.	Two to five days a month.	Infrequent absences.
of Operations	5	5	0
Accident and	Minor accident hazards	Little exposure.	Little exposure.
Health Hazards	encountered on field trips.	_	_
momit =====	5	0	0
TOTAL POINTS	580	660	715

~	Junior Geoscientist	Senior Geoscientist	Geoscience Manager
Duties	Assists in the accumulation, analysis and interpretation of geological, geophysical, or geochemical data. Keeps up to date on current activities in the industry.  Maintains appropriate databases. Suggests field or laboratory programs Makes field studies as assigned and prepares both surface and subsurface maps. Performs laboratory examinations of samples and cores in relation to field studies. Assists with the accumulations and analysis of geoscience data for an exploratory	Conducts special geoscience studies and makes recommendations based on the findings. Conducts geological, geophysical, or geochemical investigations on problems that have been approved for study. May carry out programs necessary for the development of proven and semi-proven discoveries.  Prepares and reviews with senior personnel, recommendations for special geological, geophysical, or geochemical studies which may involve recommendations for property acquisition or exploratory drilling. Assists in making economic analyses or other comparable evaluations relevant to further planning decisions.	Managers a large staff administers and coordinates several professional, sub-professional and/or mechanical trades functions.  Works independently on broad, general assignments with responsibility for planning associates 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
	and/or drilling program.	Collaborates with other company personnel as appropriate in matters o f mutual interest.  Maintains contacts with external geoscience personnel, associations and others.	affecting work progress. Conducts the normal administrative functions related to position. Acts as engineering/ geoscience consultant and advisor to the organization. Develops and maintains top-level contacts inside and outside the company.
Education	B.Sc. 65	B.Sc. 65	B.Sc. 65
Experience	Two years.	Four years.	Fourteen years.
Recommendations, Decisions and Commitments	Recommendations limited to the solution of immediate problems relating to a phase of a project. Decisions related to the selection of data and the application of techniques. Such judgment are normally made by following established guidelines and practice. Refers unusual problems to more senior geoscientists.	Recommendations are usually based on operational experience and are relied upon as sound and authoritative within the scope of an assignment. Errors of judgment could have significant financial consequences.	Makes responsible decisions without reference to superiors. Implements approved major programs involving expenditures of large sums of money. Errors in judgment could cause grave losses.
Supervision Received	Work is assigned in detail and the incumbent works under close supervision. Work is normally checked for accuracy and completeness.	Work not generally supervised in detail. Consultation with more senior geoscientists is available when required.	Work is reviewed for accomplishment, adherence to company policy and coordination with other phases of company's operations.
Leadership Authority and/or Supervision Exercised	May check the work of one or two more junior geoscientists and assist them with the application of standard techniques and the interpretation of data.	May guide the work of several more junior geoscientists and/or technologists when they are assigned to the same project.	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.
Supervision Scope	No continuing responsibilities.		Geoscience, technical, and support staff of fifty-five.
Use of Professional Seal	Occasionally.	Frequently used.	Occasionally.
Job Environment	Average laboratory conditions.	Average laboratory. 5	Office and comparable.
Absence from Base	Occasional. 5	Occasional.	Occasional.
of Operations Accident and Health Hazards	5 Minor accident hazards on field trips.	5 Minor accident hazards on field trip.	5 Little exposure.
	5	5	5
TOTAL POINTS	260	345	610