Job Class Profile:

Mineral Development Engineer

Pay Level:

CG-44

Point Band:

1082-1135

						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	Total
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	Points
Rating	8	6	2	5	8	6	6	2	4	
Points	373	100	13	24	240	130	124	43	43	1090

JOB SUMMARY

The Mineral Development Engineer performs responsible, specialized, technical and professional work assisting in the planning and implementation of mineral development policy and regulations governing the establishment, operation, and termination of mining operations in the province. Work may also include serving as a functional expert in areas such as environmental, mineral processing, open pit mining, mine development and mine rehabilitation.

Key and Periodic Activities

- Conducts the technical and economic assessment of new and proposed projects, including the size, nature and distribution of reserves, mining and processing methods, waste disposal and ground stability. Provides recommendations on conditions for government approval.
- Conducts the overall engineering analysis and environmental review of the Rehabilitation and Closure Plans, Annual Operational Plans and Annual Reports submitted by lessees as required by the Mining Act including detailed assessment of plans for mine rehabilitation and closure, adequacy of Financial Assurance proposals, and recommendations on acceptance.
- Performs project site inspections to verify compliance with the Mining Act, in particular to assess the lessee's compliance with submitted schedules regarding management and remediation of environmental issues. Prepares regular assessment reports.
- Coordinates the review of mineral licence applications submitted under the Mining Act, ensuring that the mill licence is compatible with the mineral processing operation and recommends conditions to the mill licence where necessary and applicable.
- Conducts engineering analysis and evaluation of proposals for new mineral processing projects and monitoring the technical and economic efficiency of processing operations of existing projects including compliance with production licenses issued under the Mining Act. Evaluates the technical and economic feasibility of proposed projects and a determination of possible environmental, infrastructure and economic impacts, implications for the mining industry, government policy actions and provides recommendations for government approval.
- Undertakes reviews of existing and emerging mineral processing technologies to assess their efficiency in terms of resources use, production costs, recovery rates, environmental effects and final product grade.
- Reviews existing mining operations for compliance with licences, leases and orders and monitoring operations at the close-down phase to ensure the public interest is protected.

Key and Periodic Activities

- Undertakes reviews of existing mining operations to: assess the efficiency of the operation in terms of resources use; identify potential positive and negative changes in the operation; and highlight measures that could maximize the positive effects within the province.
- Maintains liaison with other government departments and agencies concerning mineral developments and their integration with general development plans.

SKILL

Knowledge

General and Specific Knowledge:

- Thorough understanding of a number of different engineering disciplines.
- Current trends and developments in a number of mining related specialized fields.
- Technology related to mineral development, mining operations and processing fields.
- Contract procedures and policies.

Formal Education and/or Certification(s):

— Minimum: Undergraduate Degree in mining engineering field and Professional Engineering Designation (i.e. P. Eng.).

Years of Experience:

- Minimum: 5 to 6 years professional work experience.

Interpersonal Skills

- A range of interpersonal skills are used to listen, ask questions, provide routine information, communicate complex or specialized information to the industry and senior managers, interpret legislation to industry and make formal presentations, facilitate meetings and gain cooperation of others to comply with legislation and solve problems.
- Communications occur with co-workers, peers, supervisors/managers; and from time to time with other government staff, department executives, mining industry clients and stakeholders, professional associations, and professional advisors.

EFFORT

Physical Effort

- Physical effort may include fine finger/precision work and sitting with periods of occasional standing, walking and driving.
- There is the requirement to inspect mining processing operations and open pit mines requiring occasionally walking and climbing and extended driving.
- Most of the time work is performed in an office environment working on a computer.

Concentration

- **Visual** concentration is required to: review engineering plans; and read reports, technical documents, design drawings, spreadsheets and data on a computer and on hardcopy.
- Auditory concentration includes listening and communicating in person with supervisors and co-workers, and on the phone with internal and external stakeholders.

- Other sensory demands such as smell may be required to detect hazardous substances/chemicals and hydrocarbons.
- While on mine and mineral processing sites there is a need to remain **attentive for health and safety of self and others**.
- Additionally, there are time pressures and deadlines for project approvals, responding to emergencies and priority information requests.
- Exact results and precision is regularly required when calculating, data entry and analysis, evaluating contractual documents, detailed engineering plans and designs, and preparing legal documents.

Complexity

- Work typically involves tasks that vary in complexity, requiring a broad range of skills and knowledge related to mineral development and mining projects.
- Tasks tend to require different solutions and at times there are guidelines to follow, but often creative solutions must be developed to assist industry to meet legislative guidelines. Regulations, guidelines and technology are constantly changing so this needs to be researched and revised. Work deals with multiple mine operations in the province involved in the mining and processing of various types of ores using different techniques which requires experience and a solid knowledge of the mining industry to analyze/evaluate the different operations and put forth recommendations as required. Tasks can have strategic or policy significance.
- Additionally, there is potential for new types of operations, such as uranium. These projects will be using new techniques which require expanding the current knowledge base.
- Materials/resources available include Mining Act, Environmental Protection Act and regulations, guidelines, industry best practices, standard operating procedures, departmental reference materials, reference codes and standards, policies and procedures, scientific journals, and co-workers.

RESPONSIBILITY

Accountability and Decision-Making

- Work tasks range from generally to somewhat prescribed or controlled.
- Approval is required for purchases, departmental commitments, policy changes, and awarding contracts.
- Considerable independent professional judgment, action and decision-making is exercised in conducting engineering analysis and environmental review of proposals, developing conditions and ensuring compliance with the Mining Act and regulations, making

recommendations/providing technical advice, conducting site visits and during investigations.

Impact

- Work decisions and recommendations or the advice/interpretations provided generally impact: the immediate work area; department; organization; and on industry; municipalities; and the general public.
- Work activities impact resources such as: facilities; the environment; finances; information; material and human resources; processes and systems; health and safety; and corporate image. The most extreme impacts are on the environment, industry, general public.

Errors could either negatively or positively impact the environment, industrial projects, and new initiatives for economic development. Depending on the nature error it could be detected and resolved in a relatively short time period, or may have longer lasting impacts with possible health and safety impacts.

Development and Leadership of Others

- No responsibility for the ongoing supervision of staff.
- May be required to provide on the job technical advice and guidance to others, or act as technical mentor or subject matter expert.

WORKING CONDITIONS

Environmental Working Conditions

- Required to wear safety equipment such as safety boots, hard hat, safety vests, safety glasses and personal protection measures when in the field/on-site.
- The likelihood of serious injury or illness is limited if normal precautions are followed.
- Most work is performed in an office setting with exposure to limited undesirable conditions. A small amount of time is spent on industrial mine operation sites where there is exposure to a variety of undesirable environmental conditions such as unusual/distracting noise, dirt/dust/garbage, glare, dangerous heights/depths, wet or slippery surfaces, heavy equipment, physical dangers/threats, adverse weather conditions, and travel.