Mining Engineer

DO YOU WANT TO USE THE LATEST INFORMATION TECHNOLOGY IN YOUR EVERYDAY WORK? WOULD YOU LIKE TO HELP PLAN, DESIGN AND BUILD NEW MINES? DO YOU WANT TO PLAY A KEY PART IN A MINE’S OVERALL SUCCESS?

Mining Engineers work with other engineers and technologists in the development and construction of new mines and in the management of existing mines. If you are looking for a challenging career full of variety, then you might enjoy a career as a Mining Engineer.

Job Description

• Conduct investigations of mineral deposits and undertake evaluations in collaboration with geologists, other earth scientists and economists to determine whether the mineral deposits can be mined profitably
• Prepare plans for mines, including tunnels and shafts for underground operations, and pits and haulage roads for open-cut operations, using computer-aided design packages
• Prepare the layout of the mine development and the way the minerals are to be mined
• Consult with Geologists and other engineers about the design, selection and provision of machines, facilities and systems for mining and infrastructure such as access roads, water and power supplies
• Oversee the construction of the mine and the installation of plant and equipment
• Provide trouble-shooting support to improve operational efficiencies
• Lead the implementation of cutting edge processes and safety practices
• Prepare tendering competitions, evaluate technical aspects of bids, supervise contractors, negotiate variations and remedial works, assure and control quality, measure work done, approve and accept works
• Lead or work on a team to ensure projects are completed to time and budget, and to high quality standards
• Write reports, attend meetings, exchange information with other professionals, record and store information in compliance with legislation, regulations and company policies
• Play a leading role in ensuring safety, improving operational efficiency and quality, controlling production costs and protection of the environment at all stages of a mine life cycle
• Work cooperatively with other departments, project managers, supply chain and mine management to optimize production, reduce costs, solve problems and meet deadlines
• Supervise Junior Engineers and Technicians and assist Supervisors in building an efficient work force
• Only licensed engineers authorize designs, calculations and drawings and are accountable on behalf of their employers

Compensation

Mining Engineers are paid on an annual basis. Depending on factors such as the location of the mine and the type of mineral or metal produced, annual salaries range from $70,000 - $120,000 (CostMine, 2014). In addition, Mining Engineers often receive other benefits.

Why are People Attracted to this Career?

In general, people are drawn to a career in the mining industry for the rewarding work, as well as the opportunity to apply their skills in the workplace. The compensation is attractive as are the fixed on and off times or five day work, which allow for personal pursuits and professional development.

People drawn to the role of Mining Engineer tend to want challenging and rewarding technical work. With their strong analytical skills, they enjoy tackling a problem and testing different ways to solve it. They like the idea of working both independently and with a team, as well as the opportunity to work with new technologies.

Job Prospects

Each year, MiHR researches the needs of the mining industry to hire Minerals Processing Operators. Based on 2015’s forecast, we are providing the following assessment of the Job Prospects in mining as well as an evaluation applicability of these skills in other sectors. Together, these measures will help future job seekers to make informed decisions about potential careers, based on the opportunities in the mining industry.

Job Prospects in Mining

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<tr>
<td>Limited</td>
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Transferability

Demand for these skills in other industries

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<td>Low</td>
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What is it Like to Work as a Mining Engineer in Mining?

Note: conditions vary according to employer and region.

As a Mining Engineer, you will probably be based in an office on (or near) the mine site, but will spend most of your time at the mine. You may be exposed to challenging working conditions and may be
required to work safely in confined spaces, at heights and near open holes. You must be willing and able to climb ladders and steel ramps on the surface and underground.

Safety is the top priority in the mining industry and employers take every precaution to create a safe workplace. All mine employees observe strict health and safety rules and wear personal protective equipment (e.g., safety glasses, respirator, steel-toed boots, hard hats, ear protection, etc.). This equipment also reduces the risks that come with exposure to various environmental conditions, extreme temperatures and hazards.

Working hours vary considerably from mine to mine. You might have standard weekday working hours or shift work that involves evening and/or weekend work. Overtime is generally not required but you may have opportunities to work overtime in return for extra compensation.

Some mines are located near communities, which would enable you to live at home and commute to work. These mining communities tend to be close-knit, with strong friendships forming among co-workers and their families. Because these communities are often small towns, they provide wonderful opportunities for outdoor activities such as hunting, fishing, snowmobiling and hiking.

Many mines are situated in remote areas and require most employees to live in a mining camp. In these mines, employees usually work on a “fly-in, fly-out” schedule. When on-site, all of your living expenses would be covered, including meals. Trained chefs and kitchen staff generally prepare meals and some camps provide accommodations for dietary restrictions and preferences. Many employees find they build strong bonds with their coworkers when living and working on-site.

Some camps are fairly basic, while others are well-equipped with gym, recreation, and internet facilities. Many camps provide a variety of training courses including language, yoga and First Aid. Fishing and hiking may or may not be permitted, depending on local regulations, licence requirements, and environmental considerations. Firearms are not permitted in mining camps.

Success Profile
Common traits that successful Mining Engineers share are:

- Ability to build trust and maintain positive relationships with a wide variety of personnel
- Ability to plan and work in a fast-paced, dynamic environment
- Ability to visualize three-dimensional layouts
- Embrace new techniques and technologies
- Have a deep level of respect for, and understanding of, safety procedures, regulations and legislation
- Intelligent, creative and goal-oriented
- Organized and a critical thinker
- Patient, flexible, adaptable and resilient
- Strong listening skills
- Strong analytical, computer and planning skills
- Strong communication skills (verbal and written)
- Strong time management skills
- Takes initiative and demonstrates pride in work
- Team player
- Works well under pressure

Many of these traits can be developed. If you are interested in following this career path, first determine your strengths and weaknesses, and set goals in order to develop the traits you need to succeed.

Supporting You in Building a Career in Mining
Many employers want to help job seekers build a successful and fulfilling career. Here are some ways that the mining industry may support you:

- Offer job placements, training and mentoring
- Welcome applicants with experience in other industries and countries
- Have incentives to attract women and Aboriginal peoples to mining education, training and employment
- Offer parental leave, on-site housing for couples, gender-inclusive work environments or flexible schedules
- Provide professional development programs to support you and to develop career progression options

Job Entry Requirements

Note: This table reflects what is required at the time of hire. The requirements listed below illustrate what it takes to start the career and do not take into account on-the-job training given to new employees.

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<th>Fixed Requirement</th>
<th>Regional Requirement</th>
<th>May Be Required</th>
<th>Asset</th>
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<tbody>
<tr>
<td>Bachelor's degree in mining engineering</td>
<td>Eligible for Registration as Engineer in Training</td>
<td>Proficiency with word processing, spreadsheet and email software</td>
<td>Specialized software skills</td>
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Go to www.acareerinmining.ca for more information