

# CAREERS IN MINERAL RESOURCES

## GEOLOGIST

### What's a Geologist?

Geologists, or geoscientists, research the nature and history of the earth's crust, the atmosphere and hydrosphere, the distribution and properties of rocks and the stratigraphic arrangement of the earth. They identify and classify rocks, minerals and fossils. The data they collect are used to create maps, reports and databases that describe the geology of a region and assist in the search for mineral resources. Geologists plan, direct and participate in geological field studies and drilling and testing programs. Rock samples from drilling are analysed to help identify new mining and petroleum resources. Geologists are also involved in environmental and land-use planning. Some geologists identify aggregate resources (e.g., sand and gravel) used for construction materials.

### Working Conditions

Geologists work in a variety of indoor and outdoor settings. Laboratory and office work involves regular hours, whereas field work involves day, evening, weekend and holiday hours during any season. Geologists may also work in a surface open pit and/or underground mining environment. Traveling is almost always required. Geologists may be exposed to extreme temperatures, primitive living conditions and other climatic factors. The physical demand of the work is moderate to high. Field work usually requires hiking through bush-covered terrain, lifting and carrying equipment and rocks, and operating motor vehicles and small engines.



### Training Required

A four-year program in Geological Sciences offered at most major universities, including the University of Manitoba and Brandon University. High school students should include mathematics (Pre-calculus 40S, Chemistry 40S and Physics 40S) in their areas of study. Post-graduate work leading to a Master's or Doctoral degree may be required by some employers. The admissions requirements can be obtained by contacting the individual admissions offices. All provinces require professional registration; Manitoba instituted this requirement in 1999.

## Geologist Q & A

### What kinds of employers hire geologists?

- Petroleum Companies
- Geotechnical Firms
- Government (Federal, Provincial)
- Educational Institutions
- Environmental Consulting Firms
- Exploration Companies
- Mining Companies
- Crown Corporations
- Museums
- Private Consulting Firms
- Self Employment

### What specialties can geologists go into?

- Hydrogeologist
- Mineralogist
- Geochemist
- Glaciologist
- Geophysicist
- Paleontologist
- Petroleum Geologist
- Economic Geologist
- Volcanologist
- Environmental Geologist

### What are some occupations related to geology?

- Mining Engineers
- Geological Engineers
- Hydrologist
- Metallurgist
- 3-D Modeller
- Geographer
- Cartographer
- Environmental Consultant
- Mining Analyst
- GIS Specialist

### What is the salary range for geologists?

Provincial government salaries range from \$51,000 to \$115,000. Private sector salaries range from \$56,000 to \$175,000.

### Where can I get more information on becoming a geologist?

Department of Earth Sciences, University of Manitoba  
204-474-9371 / [www.umanitoba.ca/geoscience](http://www.umanitoba.ca/geoscience)

Department of Geology, Brandon University  
204-727-9680 / [www.brandonu.ca/geology](http://www.brandonu.ca/geology)

Manitoba Geological Survey  
204-945-1119 / 1-800-223-5215 / [manitoba.ca/minerals](http://manitoba.ca/minerals)

Earth Sciences Canada  
[www.earthsciencescanada.com/careers](http://www.earthsciencescanada.com/careers)

Engineers Geoscientists Manitoba  
204-474-2736 / [www.enggeomb.ca](http://www.enggeomb.ca)

Geological Survey of Canada  
[www.nrcan.gc.ca/earth-sciences](http://www.nrcan.gc.ca/earth-sciences)

Geoscientists Canada  
604-412-4888 / [geoscientistscanada.ca](http://geoscientistscanada.ca)

Mining Association of Manitoba Inc. (MAMI)  
204-989-1890 / [www.mines.ca](http://www.mines.ca)