

GEOLOGIST/PETROLEUM GEOLOGIST

Job Description: A geologist studies the composition, structure, and other physical attributes of the earth, including rocks and minerals. They use physics, mathematics, and geological knowledge in exploration for oil, gas, minerals, or underground water. The duty of a petroleum geologist is to discover the location and amount of useful fuel (oil and natural gas) in sediments (shale) or reservoirs. Geologists in this occupation may be required to interpret geophysical information in project reports, conduct field studies to analyze project data, accurately estimate fuel amounts, implement drilling strategies for extraction of the fuel, and create post-project reports. They use a variety of techniques to discover this information including geochemical analysis, ground-based sonar and satellite mapping. In some cases, they work side-by-side with oil companies in the supervising of the oil extraction process. Geologists may be hired by engineering or environmental consulting firms; oil, gas, and mining companies; federal and state government agencies; and science centers and museums.



Needed Skills and Education: To become a geologist, you need to begin by earning a Bachelor of Science degree in Geology or a closely related field such as Environmental Science. Important coursework includes geology and other physical sciences, mathematics and physics. Depending on career ambitions, a graduate degree in geology or a specialized field like petroleum geology is needed to become a senior level geologist. Knowledge of geographic information systems (GIS) and the global positioning system (GPS) is strongly recommended. Petroleum geologists may rely heavily on data collected using these systems. Petroleum geologists should also have good interpersonal skills since they will often work as part of a team involving industry personnel and other geoscientists.

Wages: In North Dakota, a geologist can expect to earn an average annual wage of \$73,800, but this varies depending on level of experience and education. This is considerably below the national average annual wage of \$106,780. The entry-level hourly wage in North Dakota is \$29.97, increasing to \$43.20 for experienced geologists. The demand for petroleum geologists nationally is increasing, likely due to the increased activity in oil and gas exploration and extraction.

Other Information: Geology is not just a job; it's the pursuit of knowledge about the earth. People interested in this field should look forward to a lifetime of learning. Some states require geologists to obtain a license. There are also voluntary certification programs obtained through accredited agencies. One of these is the Certification for Petroleum Geology, administered by the American Association of Petroleum Geologist's (AAPG) Division of Professional Affairs.

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