

Senior Geologist

EDUCATION AND TRAINING^{1,2}

- At least a bachelor's degree in geology, with a master's degree possible
- Experience with software applications for conducting field studies and storing and processing data.
- Coursework in physical sciences, mathematics, engineering, and computer science is helpful and may be required.

SALARY RANGE

- \$125,670

WHO ARE THEY?¹

Senior geologists are problem-solving, critical thinkers who study and collect information about the physical aspects of the Earth to help resource producers locate and safely extract deposits of minerals and fuels. They are knowledgeable about the Earth's natural processes, history, and materials, including soil and rocks. Senior geologists use a wide variety of tools to collect samples and data. They have critical thinking skills for drawing sound conclusions based on analysis of data and excellent communication skills for conveying their findings and recommendations to others. They take a leadership role in projects, possess physical stamina for conducting fieldwork in remote places, and are willing to spend significant time outdoors in a variety of conditions.

WHAT DO THEY DO?^{1,2}

Senior geologists use specialized understanding of the composition and natural history of the Earth to help resource producers identify deposits of minerals and fuels. They collaborate with others to plan mining sites, design wells, and ensure efficiency and environmental sustainability of resource extraction activities. They plan and conduct detailed projects called field studies, visit sites to collect soil and rock samples, and analyze aerial photographs of locations on Earth. Senior geologists use a variety of simple and complex tools to collect and test samples. These range from hammers and chisels to sensing equipment and geographic information systems (GIS). They often supervise technicians who assist with field studies. Successful senior geologists use information to help mine operators identify and extract natural resources efficiently and as cleanly as possible.

JOB OUTLOOK

Over the next 10 years, overall employment in the field of geoscience is projected to grow faster than the average rate for all occupations. This growth can be attributed to increasing global demands for energy resources, environmental protection efforts, and responsible resource management. While demand for geoscience workers is slowing at

traditional employers such as mines and quarries, geoscientists will be needed to help develop sites for alternative energies. For example, geoscientists will be needed to identify sites suitable for geothermal energy plants.

HOW DO I BECOME ONE?¹

Senior geologists will need at least a bachelor's degree, and possibly a master's degree, in geology plus a minimum of five years of field experience. In addition, coursework in other areas, including physical sciences, mathematics, engineering, and computer science, may be required.

Senior geologists also need leadership skills for supervising geology technicians during field studies, written and spoken communication skills for writing and presenting reports, critical thinking skills for drawing conclusions from complex data, stamina for hiking to testing locations and carrying equipment, and a desire to spend time outdoors in sometimes challenging conditions.

¹ "Geoscientists," Occupational Outlook Handbook, U.S. Bureau of Labor Statistics
<https://www.bls.gov/ooh/life-physical-and-social-science/geoscientists.htm>

² Position Announcement, Cortez U Senior Geologist, Nevada Gold Mines,
<https://jobs.barrick.com/jobs/cortez-ug-senior-geologist-7400>