



Careers in Oil and Natural Gas

There are hundreds of services needed to safely drill a natural gas well and put it into production. These jobs are provided directly by the drilling companies and the dozens of contractors used to complete specific tasks. While many of these jobs are found at drilling locations, an equal number are performed off site to support the drilling process. Provided below is a summary of many of the most common careers in the oil and natural gas industry and typical educational requirements for those positions.

Abstractor/ Title Examiner	Searches public records and examines titles to determine a property title's legal condition.	High school diploma or two-year degree. Requires courthouse knowledge and the ability to work through legal documents and titles to create an ownership chain. Background in real estate law helpful.
Chemical Technician	Performs laboratory tests and tasks on soil and water samples.	Minimum two-year diploma in chemical technology or a related program.
Compressor Operator	Maintains and troubleshoots natural gas compressors and associated equipment.	Requires good mechanical skills. May require training in compressor and dehydration equipment.
Derrick Hand	Handles sections of pipe from a platform on the rig derrick during drilling. Operates and maintains drilling mud systems and pumps. Records mudflows and volumes and takes samples. Operates and maintains drilling rig diesel motors, transmissions and other mechanical equipment. Assists in setting up, taking down and transporting rigs. Supervises floor hands and laborers.	High school diploma.
Draftsman/ Cartographer	Supports the work of engineers, architects and other professionals by preparing drawings, maps and specifications.	Two-year college degree or higher.
Driller	Supervises and organizes the well drilling crew. Operates drilling rig controls and monitors drilling operations.	High school diploma and possibly some vocational training or job-related coursework. In some cases, an associate's or bachelor's degree could be needed. Drillers need anywhere from a few months to one year of working with experienced employees.
Electrician	Installs and maintains electric lines and electrical equipment.	Trade school certification or two-year college degree.
Environmental Technician	Develops and implements Environmental and Erosion Sedimentation Plans. Has a complete understanding of environmental law and regulations and their application to the oil and gas industry. Develops and implements Spill Prevention Contingency Control Plans (SPCC). Completes water-testing analysis.	Minimum two-year degree in environmental technology or related field.
Equipment Operator	Operates heavy equipment typically used in production operations, such as bulldozers, backhoes and excavators.	Commercial driver's license may be required.
Field Engineer	Supervises all aspects of drilling, completion and workover operations.	Two- or four-year college degree or five-plus years experience in field operations.
Floor Hand/ Roughneck/Rig Hand	Operates well drilling and service rigs. Assists with the connection and disconnection of pipes used in drilling and performs general maintenance tasks around the rig.	Some high school education is required.
Geo Tech	Collects and analyzes geological data for petroleum exploration. Often works in teams with geologists to determine where underground deposits of oil and gas may be.	Two- or four-year college degree.

Geochemist	Studies the liquid, gas and mineral deposits contained in rocks. Provides valuable information about the rock formations encountered while drilling for petroleum.	Four-year college degree or higher.
Geologist	Surveys and interprets an area's geological rock structure. Assesses the prospects of producing oil and gas in that area.	Four-year college degree or higher. An advanced degree is needed for many research positions. Graduates with physics, chemistry, mathematics, or computer science degrees may qualify for some positions if they also studied geology.
Geophysicist	Studies the Earth using gravity, magnetic, electrical and seismic methods to determine likely locations of oil and gas reservoirs.	Four-year college degree or higher in geology.
GIS Specialist	Creates and maintains geographic information system (GIS) databases that enable companies to capture, store, analyze and display information related to the location of oil and gas well sites, pipelines, compressor stations, roads and other facilities.	Technical school training or a two- or four-year college degree.
Lease Agent/ Land Agent/ Landman	Works on behalf of the oil and gas company to acquire land for operations through leases, purchases and access/usage agreements. Coordinates with the survey company, the oil and gas company and the landowners.	High school diploma or two-year degree. Requires good people skills and the ability to negotiate. Requires a legal understanding of mineral ownership, a basic familiarity with exploration and production operations, and a general understanding of geology.
Lease Hand	Performs general labor tasks. Must work outdoors in all weather conditions.	Some high school education is required.
Mechanic	Maintains and repairs equipment, much of it diesel-powered.	Previous experience or trade school certification.
Petroleum Engineer	Analyzes production for problems and makes recommendations for remediation or workovers. Declines curve analysis experience using Aries or similar software.	Four-year college degree or higher.
Production Foreman	Oversees pumpers and other field personnel.	High school diploma.
Pumper/ Well Tender	Looks after oil and gas wells, monitors the progress of the well and ensures all equipment is functioning properly. Maintains tank batteries, performance tests and general maintenance duties. A valid driver's license, basic math and analytical skills and a willingness to work outdoors in all weather conditions are needed.	Some high school education is required.
Roustabout	Performs pipefitting and all-around mechanical tasks.	High school diploma.
Seismologist	Maps subsurface structures to determine likely locations of oil and gas reservoirs.	Four-year college degree or higher in seismology, with an emphasis on petroleum.
Soil Scientist	Conducts soil surveys. Recommends soil management programs. Helps design hydrologic plans. Manages soils for landscape design, mine reclamation and site restoration. Has a strong background in the physical and biological sciences and mathematics.	Four-year degree in environmental soil science.
Surveyor	Determines property boundaries, lays out oil and gas projects and creates maps.	Surveyors are not required to have a college education, but state licensing requirements make it preferable to earn one. Vocational training in civil engineering, mathematics, physics, statistics, geometry, drafting, blueprint reading, and computer science are helpful.
Surveyor's Assistant	Assists surveyor in determining property boundaries and laying out projects.	High school education or higher with a strong background in physics, science, and math.
Truck Driver	Operates trucks used to move equipment and supplies on and off highways in all types of conditions.	Commercial driver's license required. Specific CDL endorsements may be needed.
Welder	Performs a wide variety of welding tasks outdoors and in the shop, including stick, MIG and TIG welding.	High school diploma and welding school certification.