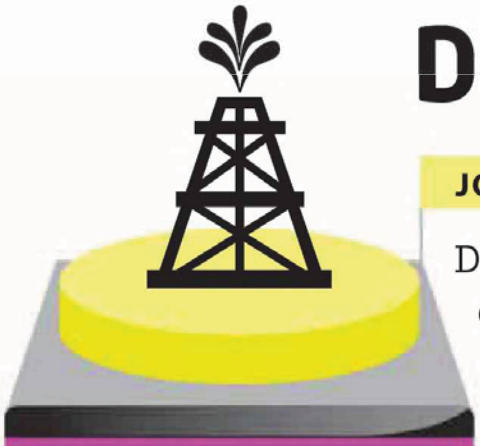
DRILLING ENGINEER



SALARY

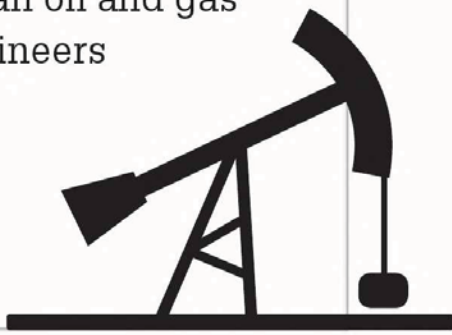
Drilling engineer ★★★☆☆
Senior drilling engineer ★★★★★

INDUSTRY PROFILE

Most jobs in multinational companies and consultancies • Experienced drilling engineers very well paid • Number of jobs depends on current economic conditions

JOB DESCRIPTION

Drilling engineers are responsible for planning, coordinating, and managing oil and gas drilling operations. In this role, you will use a combination of geology, physics, and engineering to design, plan, and oversee the drilling of an oil and gas well. The majority of drilling engineers work for oil and gas companies, while others may work for consultant drilling contractors.



AT A GLANCE

YOUR INTERESTS Geology • Physics • Chemistry • Mathematics • Engineering • Geography • Languages • Information Technology (IT)

ENTRY QUALIFICATIONS A degree in a subject such as engineering, physics, or geology, or a related postgraduate degree, is required.

LIFESTYLE Most drilling engineers work long hours. Extended periods away from home and travel to drilling sites, possibly overseas, are common.

LOCATION Drilling engineers should expect to shuttle between the office and the wellsite (either an offshore or land-based drilling rig).

THE REALITIES Working on rigs may require travel by helicopter or boat. The work is physically challenging, and may involve dangerous conditions.

RELATED CAREERS

- **GEOSCIENTIST** *see pp. 148–149*
- **MECHANICAL ENGINEER** *see pp. 182–183*
- **ENERGY ENGINEER** Researches and develops methods of generating energy from different sources, including renewable forms, such as wind, wave, geothermal, and solar power.
- **MARINE ENGINEER** Designs, builds, and tests oil rigs, pipelines, remotely operated vehicles, ships, boats, and support vessels for the oil, gas, and marine-leisure industries.
- **MINING ENGINEER** Plans, designs, and monitors new and existing mining and quarrying sites. Mining engineers are also responsible for ensuring that sites are safe and working efficiently.

The oil and gas sectors provide the raw materials for almost half the world's forms of energy.

CAREER PATHS

Drilling engineers typically gain on-the-job responsibility quickly, moving from managing small projects to larger, multi-million dollar projects in a relatively short space of time. Training programs typically last for five years, and may include several changes of project and location.

GRADUATE You can apply for graduate training programs with a degree in subjects such as geology, natural sciences, or petroleum engineering.

POSTGRADUATE You can improve your chances of entry into this career if you have a higher-level degree. You may also begin your career in a area of drilling.

SKILLS GUIDE

The ability to communicate with managers, engineers, and "rig hands" (manual workers).

Excellent team-working skills, and the willingness to live on rigs or in oilfield towns with colleagues.

Good interpersonal skills in order to work, often very closely, with people from all over the world.

Sharp analytical skills for effective decision-making about complex drilling operations.

The ability to draw on subject knowledge and technical expertise to solve complex problems.

DRILLING ENGINEER Since some firms operate overseas, you may need to be fluent in a foreign language. With experience you can choose a particular specialty, or seek promotion to senior roles.

DIRECTIONAL DRILLING ENGINEER Specializes in techniques that enable wells to be drilled at an angle, in order to extract more oil and gas.

DEEP WATER DRILLING ENGINEER Specializes in drilling wells under the sea floor from floating or fixed platforms. These wells may be for the exploration of new gas or oil reserves, or for extraction.

OIL COMPANY WELLSITE MANAGER Oversees every aspect of the drilling project from the wellsite, on behalf of the oil company.

HIGH-PRESSURE HIGH-TEMPERATURE DRILLING ENGINEER Drills wells under high pressures and temperatures, which require advanced drilling equipment and technique.

WELL TEST ENGINEER Conducts technical checks to ensure the optimum conditions for production of oil and gas. Also monitors operations, equipment, and staff to ensure health and safety standards are met.