

## Petroleum engineer

### Job description

Petroleum engineering is about devising methods to improve oil and gas well production and determining the need for new or modified tool designs.

Petroleum engineers are concerned with gauging the production of hydrocarbons (which become crude oil and gas in large underground reservoirs). Petroleum engineers identify areas of hydrocarbon accumulation based on geological theory, and advise companies on development and depletion issues surrounding its abstraction from the subsurface reserves.

Essentially their role involves designing and supervising the process of getting oil and natural gas out of the ground and into storage tanks. Experienced petroleum engineers help with research aimed at finding ways to recover a greater percentage of the oil and natural gas that exists in petroleum reservoirs.

### Work activities

- Testing samples of the oil-bearing rock layers.
- Using specialist computer applications and mathematical models to maximise production.
- Analysing geological data and interpreting well-logging results.
- Preparing reports and maps.
- Ascertaining extraction risks and advising on ways to avoid them.
- Choosing best methods and equipment for the job and supervising workers who install and operate it.
- Monitoring and evaluating reservoir performance.
- Developing oilfield production programmes.

- Liaising with and advising managerial and technical staff.

### Work conditions

Travel: a regular part of the working day including overnight absence from home.

Opportunities for self-employment: possible to work freelance or in a private practice.

### Typical employers

- Oil companies
- Extraction equipment manufacturers
- Banks
- Government agencies
- Universities and other educational institutions
- Fuel consultancies for industry and government.

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