



## CAREER PROFILE

# Petroleum Drilling Engineers

## JOB OUTLOOK

Employment is expected to grow by 15% by 2028. A Petroleum Drilling Engineer's life can be attractive if you're interested in educated risks and engineering; the search for petroleum is a lot of science and a little luck. The Petroleum Drilling Engineer needs to like the idea of adventure as this position can mean travel, extended stays in unusual locations, and possibly unknown or unique working conditions.

## SALARY RANGE<sup>3</sup>

\$75,000–\$208,000

## WHO ARE THEY?<sup>1</sup>

Petroleum Drilling Engineers are the scientists who explore below Earth for the best places to find oil and natural gas using criteria such as the efficiency of retrieval, safety, and profitability of deposit. They are experts in drilling into Earth to develop new wells and revitalize old wells. Petroleum Drilling Engineers are innovators that find new ways to extract oil and gas from the ground. They will often specialize in an aspect of the drilling operations such as reservoir engineering, drilling engineering, completions engineering, and production engineering. They make the drilling process safer for people, communities, wildlife, and the environment. Petroleum Drilling Engineers work to ensure the industry is in step with government, industry, environment, and safety standards. They may find jobs with oil companies, government organizations, and businesses focused on geologic or underground resource searches.

## WHAT DO THEY DO?<sup>2</sup>

Petroleum Drilling Engineers are involved in all phases of oil and gas exploration. They design equipment to work on the land and the sea. They develop ways of forcing oil and gas from the ground using water, chemicals, gases, or steam. They are responsible for making sure the equipment is safe and fully operational. They provide the necessary information to determine if a well is suitable for drilling with surveys, testing, and analysis. Petroleum Drilling Engineers can specialize in completions which refers to forcing the gas and oil out of the ground with tubing, hydraulic fracturing, or pressure. Drilling specialists find the best ways to drill the wells. Production specialists make sure the wells keep producing after the wells are drilled. Reservoir specialists determine how much oil or gas may be in the well. Petroleum Drilling Engineers create ways to dig deeper than anyone ever has in the most challenging places in the world at times and do so through continuous technological innovations.

<sup>1</sup> Environmental Science, What is a Petroleum Engineer, On the internet <https://www.environmentalscience.org/career/petroleum-engineer> (visited on September 23, 2019)

<sup>2</sup> Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Petroleum Engineers, on the Internet at <https://www.bls.gov/ooh/architecture-and-engineering/petroleum-engineers.htm> (visited September 23, 2019).

<sup>3</sup> Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Petroleum Engineers, on the Internet at <https://www.bls.gov/ooh/architecture-and-engineering/petroleum-engineers.htm> (visited September 04, 2019).



## CAREER PROFILE

# Petroleum Drilling Engineers

### EDUCATION/ TRAINING

- Bachelor's Degree in Petroleum Engineering
- Certification from the Society of Petroleum Engineers.
- State and local licensing
- Internships or Apprenticeships

### SALARY RANGE<sup>4</sup>

\$75,000–\$208,000

### HOW DO I BECOME ONE?<sup>3</sup>

A Petroleum Drilling Engineer needs a Bachelor's degree in Engineering, preferably petroleum engineering. In some cases, an employer may accept a bachelor's degree in mechanical, civil, or chemical engineering.<sup>5</sup> Employers are also looking for some work experience. Students should look for cooperative-education programs, in which students earn academic credit and other internships. Students will also need a strong background in math, physics, biology, and chemistry. Courses in petroleum engineering will cover rock properties, computer applications, and well construction.

<sup>3</sup>Chron, What Are the Requirements to Be a Petroleum Engineer? by Karen Farnen; Updated July 01, 2018 on the internet <https://work.chron.com/requirements-petroleum-engineer-6816.html> (visited September 23, 2019)

<sup>4</sup>On the internet [https://www.glassdoor.com/Salaries/petroleum-project-manager-salary-SRCH\\_K00,25.htm](https://www.glassdoor.com/Salaries/petroleum-project-manager-salary-SRCH_K00,25.htm)