PETROLEUM ENGINEER

#DrillingandCompletionsEngineer
#WellPlanningEngineer #ReservoirEngineer

You act as the detective of the oil and gas world, using all the tools at your disposal to investigate a reservoir or well. Once you have gathered all your evidence, you can crack the code of optimal oil or gas production. Wells are your world. Drilling, completions, testing, re-working. If it has to do with wells, you've got a clear goal to maximize production.

PETROLEUM ENGINEER

Petroleum Engineers take on many roles, including:

- **Drilling and Completion Engineers** plan, design and implement drilling and completion programs for all types of oil and gas wells. They identify exactly where to (or where not to) drill a well.
- **Reservoir Engineers** conduct simulation studies to determine optimal development plans for oil and gas reservoirs.
- **Production Engineers** analyze, interpret and optimize the performance of individual oil and gas wells. They design “connections” between the reservoir and the well, evaluate artificial lift methods, and develop surface equipment systems to separate oil, gas and water.
- **Exploitation Engineers** monitor and evaluate oil and gas reservoir performance and identify, develop and oversee the implementation of techniques to improve oil and gas recovery.

What does this career look like?

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What would I do?

Your main muse is the mystery of the muddy, oily, rocky, gassy, and watery nooks and crannies underground. You conduct studies to explore, develop and extract oil and gas deposits.

You consider variables, such as changing temperatures and pressures that occur as the well is depleted over time. Under your watch, oil or gas reaches the surface in the most cost-effective method. You may do this through some of these activities:

- Using software to enter data and process information
- Monitoring production rates to evaluate well and field performance and plan rework processes to improve production
- Maintaining relationships and working with other engineers, oil services technicians and geophysicists/geologists
- Developing objectives and strategies, including forecasting oil and gas reservoir performance and recommending oil recovery techniques that extend the economic life of wells

HEALTH & SAFETY TRAINING

- Specific health and safety certifications will be determined by job requirements

HOW DO I GET HERE?

A post-secondary degree in petroleum, chemical or mechanical engineering from an institution accredited by Engineers Canada is typically required.

**Licensing**

To obtain a licence as a professional engineer (P. Eng), you must obtain a degree from an accredited engineering program, pass a professional practice exam and have three or four years of engineering experience, of which one year must be gained in Canada. You must also have Canadian citizenship or proof of permanent residency in Canada.
What competencies do I need?
You’re analytical, curious and adaptable to change. You might have some evidence that tells you one story, but a new piece of evidence will reveal a different story. And, you’re ok with that. It’s all in a day’s work. So are these skills and knowledge:

ENTRY LEVEL
- Engineering and technology
- Public safety and security
- Critical thinking
- Complex problem solving
- Innovative

SENIOR LEVEL
- Production and processing
- Design
- Selecting equipment
- Evaluating systems
- Judgment and decision making

What can I expect?
Expect to work with computer programs, spreadsheets and cutting-edge software such as reservoir simulators – the crystal ball of engineering technology. Typically employed in the exploration and production (E&P), oil sands and oil and gas services sectors of the oil and gas industry, some of these jobs may require working outdoors to inspect wells or supervise drilling operations.

How can I learn more?
To find out more about the roles related to a Petroleum Engineer and other careers in the oil and gas industry, visit the Careers in Oil + Gas online tool at careersinoilandgas.com.