

Career Pathway Spotlight

Discover a Career as a Petrophysicist



Discover your career in energy!

Petrophysicists translate raw well data into a clear picture of what is underground, guiding decisions on where to drill, how to produce, and where to safely store carbon.

Operator Asset Teams

Most petrophysicists sit inside oil and gas operating companies along with geologists, reservoir engineers, and drilling teams. They translate raw well data into recommendations that shape where to drill, how to complete a well, and how much hydrocarbon a field will ultimately produce.

Service Companies and Logging Contractors

At service providers, petrophysicists run wireline and Logging-While-Drilling (LWD) tools, deliver interpretations to client operators, and help develop the next generation of downhole measurements.

Carbon Storage and Energy Transition Projects

A fast-growing area sends petrophysicists into carbon capture and storage (CCS), geothermal, and enhanced recovery projects. They characterize saline aquifers and depleted reservoirs as candidates for safely storing carbon dioxide.

CAREER PATH

Start with:

- » A high school diploma or GED

Get Educated:

- » A bachelor's degree in a relevant earth-science or engineering field
 - Geology, geophysics, petroleum engineering, or physics
 - Strong coursework in math, calculus-based physics, and rock and fluid mechanics
- » An advanced degree (often preferred by employers)
 - Master's or PhD in petrophysics, petroleum engineering, geophysics, or applied geology
 - Thesis or capstone work involving well log interpretation, core analysis, or subsurface modeling
- » An industry training program or military-to-energy pathway

Specialize With:

Knowledge in:

- » Reservoir characterization
- » Well log interpretation
- » Carbon capture and storage (CCS)
- » Enhanced recovery methods
- » Digital subsurface modeling

OCCUPATIONAL SKILLS

- » Interpreting wireline and Logging-While-Drilling (LWD) data
- » Integrating well logs with core measurements and seismic surveys
- » Building digital subsurface models in software such as Techlog, Geolog, Petrel, or Interactive Petrophysics (IP)
- » Designing logging programs and supervising data acquisition at the wellsite
- » Communicating findings to geologists, reservoir engineers, drilling teams, and management
- » Evaluating carbon storage candidates and enhanced recovery opportunities

BENEFITS

These energy industry careers offer:

- » A globally portable career — petrophysicists work on projects across every major basin
- » Competitive pay and comprehensive benefits packages, often with international assignments
- » Meaningful work shaping major energy investment decisions
- » Continuous learning through conferences, training, and emerging digital tools
- » Stable employment across operators, service companies, and energy-transition projects

What Might You Do As A Petrophysicist?

ENTRY LEVEL

1-4 years

What you will do:

- » Process raw well log data and prepare it for senior interpretation
- » Run quick-look analyses to flag pay zones, water contacts, and data quality issues
- » Assist with core descriptions, sample preparation, and laboratory coordination
- » Populate digital subsurface models with curves, tops, and formation markers
- » Build standard formation evaluation plots and prepare materials for team presentations
- » Maintain well databases

MID- CAREER

5-8 years

- » Independently lead formation evaluation work for new wells, fields, and prospects
- » Build integrated petrophysical models that incorporate logs, core, and seismic data
- » Recommend completion strategies and perforation intervals to drilling and reservoir teams
- » Evaluate carbon storage candidates and enhanced recovery opportunities
- » Mentor junior petrophysicists and review their work
- » Present findings to asset teams, partners, and regulators in clear, decision-ready formats

EXPERIENCED

8+ years

- » Set petrophysical standards and workflows across an asset, region, or company
- » Lead studies that inform major capital decisions on drilling, completions, and storage projects
- » Drive adoption of machine learning, digital twins, and high-resolution imaging
- » Mentor mid-career staff
- » Advise leadership on reservoir quality, recovery potential, and energy-transition opportunities
- » Represent the organization at industry conferences, joint ventures, and regulatory hearings

What knowledge, skills and abilities will you need to succeed?

- » Listen and follow directions from senior petrophysicists and supervisors
- » Strong foundation in geology, physics, math, and basic petrophysics from your degree
- » Comfort with petrophysical software such as Techlog, Geolog, Petrel, or Interactive Petrophysics (IP)
- » Curiosity for what is happening thousands of feet underground
- » Eagerness to attend industry events and pursue certifications

- » Solid understanding of reservoir geology, fluid behavior, and rock physics
- » Fluency in advanced petrophysical software and scripting in Python or R
- » Experience across both conventional and unconventional reservoirs
- » Knowledge of completion design, log quality control, and uncertainty analysis
- » Strong written and verbal communication for technical reports and cross-team presentations

- » Deep expertise across conventional, unconventional, and carbon-storage reservoirs
- » Leadership and mentoring skills to develop a high-performing technical team
- » Strategic communication with executives, partners, and regulators
- » Strong analytical judgment and financial acumen for major project decisions
- » Mastery of change management as the industry adopts digital and energy-transition workflows

GET PAID!

Entry Level:

- » \$58,790 / year*

As You Gain Seniority:

- » \$99,240 / year*

Later in Your Career:

- » \$178,880 / year*

*Source: BLS OEWS (2024). These figures use the 10th, 50th, and 90th percentiles of all workers in the role as a proxy for seniority progression and for consistency with BLS OEWS and the United States Energy & Employment Report. Compensation figures should be used as a guide; actual compensation may vary depending on education, geography, experience, and many other factors.



ENERGY INDUSTRY CAREERS OFFER:

- » Excellent salaries
- » Opportunities for advancement
- » Job growth & stability
- » Professional development and training
- » Great benefits

Scan to view our Job Board