

Career Pathway Spotlight

Discover a Career in Mining & Extraction

Discover your career in energy!

Mining and extraction workers produce the raw materials that fuel the energy industry – from coal and uranium to critical minerals like lithium, copper, and rare earths that make up batteries, solar panels, and wind turbines.

Underground and Surface Mining Operations

From open-pit copper mines to underground tunnels and quarries, miners and drill operators extract the raw rock that contains the metals society depends on. Crews operate haul trucks, drills, and blasting equipment to bring ore to the surface.

Mineral Processing and Ore Handling

Once material reaches the surface, ore handling technicians and mill operators run the conveyors, crushers, screens, and processing circuits that separate valuable minerals from waste rock. Samplers and assayers test each load to confirm grade and quality.

Critical Minerals for the Energy Transition

At lithium, cobalt, nickel, and rare-earth operations across North America, mining teams produce the materials that go into electric vehicle batteries, solar panels, and wind turbines. These projects are growing fast and need experienced and entry-level workers.

CAREER PATH

Start with:

- » A high school diploma or GED

Get Educated:

- » A community college or vocational mining program
- » A mining apprenticeship or on-the-job training pathway
 - Mining company training programs and labor union apprenticeships
- » A military pathway with heavy equipment or surveying experience (e.g., Army Heavy Equipment Operator (12N) or Navy Seabees)

Specialize With:

Certificates or credentials

- » Mine Safety and Health Administration (MSHA) training
- » Commercial Driver's License (CDL) for haul trucks

Knowledge in:

- » Ore handling and bulk material processing
- » Drilling and blasting operations
- » Heavy equipment operation
- » Mineral processing and refining
- » Mine safety and environmental compliance

OCCUPATIONAL SKILLS

- » Strong mechanical aptitude and willingness to learn
- » Sharp attention to detail and safety focus
- » Physical stamina for active, all-weather outdoor work
- » Strong problem-solving when machinery or processes fail
- » Clear communication on radios and across teams
- » Adaptability across shifts, sites, and changing conditions
- » Comfort following strict mining and environmental safety procedures

BENEFITS

These energy industry careers offer:

- » Strong, growing demand from critical minerals projects
- » Competitive pay and benefits, often with bonuses
- » Growth into operator, foreperson, and supervisor roles
- » Specialize in processing, drilling, or heavy equipment
- » Hands-on work supporting the energy transition

What Might You Do In Mining & Extraction?

ENTRY LEVEL

1-4 years

What you will do:

- » Assisting senior operators with loading, hauling, and material movement tasks
- » Running conveyors, hoppers, and basic processing equipment under direct supervision
- » Inspecting haul trucks, drills, and shop equipment before each shift
- » Sampling ore and recording grade information for the laboratory analysis team
- » Following haul road, blast zone, and ground control safety procedures
- » Maintaining tools, vehicles, and equipment cleanliness across the site

MID- CAREER

5-8 years

- » Independently operating haul trucks, loaders, drills, and processing equipment
- » Running shift production targets and reporting material flow to operations
- » Using AI-assisted predictive maintenance tools to spot equipment issues early
- » Supervising blasting prep, crusher feeds, and conveyor handoffs across the site
- » Coordinating with the assay lab on grade control and ore routing
- » Training entry-level operators and reviewing their safety practices

EXPERIENCED

8+ years

- » Leading shifts and crews across multiple pits, processing lines, or sites
- » Designing mine plans, processing schedules, and equipment fleet strategies
- » Driving safety, environmental, and reclamation programs across all operations
- » Adopting new technology like autonomous haul trucks, AI grade prediction, and digital twins
- » Coordinating with engineers, geologists, regulators, and major industrial customers
- » Mentoring mid-career operators and shaping training and certification pathways

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

- » Listen and follow directions from senior operators and supervisors
- » Comfort with hard work, dust, and long outdoor shifts
- » Strong attention to detail when running mining equipment and logging data
- » Mechanical aptitude and willingness to learn new machinery
- » Eagerness to earn MSHA training and a CDL

- » Active MSHA certification and equipment-specific operator credentials
- » Working knowledge of ore grades, processing flows, and recovery rates
- » Fluency in fleet management software and processing control systems
- » Clear communication with the lab, maintenance, and supervisor teams
- » Composure during equipment failures, blasts, and storm conditions
- » Familiarity with environmental compliance and reclamation requirements

- » Deep expertise across mining, processing, and material handling
- » Leadership and people-management skills for multi-shift crews
- » Strategic communication with executives, regulators, and customers
- » Strong financial judgment for capital, fleet, and processing decisions
- » Mastery of change management as automation increases
- » Senior credentials such as Mine Foreman or MSHA instructor

GET PAID!

For salary information on Mining & Extraction roles, please refer back to the Get Into Energy Explorer.

Get Into Energy Explorer



ENERGY INDUSTRY CAREERS OFFER:

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

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