

# What's this job all about?

Mining is the process of digging into the earth to extract natural minerals. Miners in mechanized mines operate machinery that extracts various minerals, coal, sand, gravel, building stone, fertilizers and other materials that are needed for hundreds of uses. For example, coal for energy, copper for wiring, and gold for jewelry and electronic components. Many other minerals are used to make medicines and household products. Miners extract metallic minerals such as copper, gold, iron, lead, silver, and zinc. Metal produced by miners is found in virtually every product you use or buy. Nonmetallic minerals such as stone, sand, gravel, and clay are also mined.

Alaska is the world's largest producer of zinc, a major producer of gold, silver, lead, tin, and coal. Alaska also produces sand and gravel used for construction and in concrete. There are two types of mining: surface mining and underground mining. The type of mine depends on how deep the minerals are under the earth's surface. Alaska has several underground mines and numerous surface operations. Alaska's history is tied closely to its mining heritage. In the early 1900's, the Alaska-Juneau, the Independence and other mines, and of course the Alaska Gold Rush, brought early settlers who worked and helped develop the state's resources. Today, mining continues to be a vital industry.

### Here's what Miners do:

- Use carefully controlled explosives to loosen rock from the ore body.
- Operate loaders and excavators to move the broken rock and load it into haul trucks.
- Operate large off-road haul trucks to transport broken rock to the mill or stockpile.
- Operate various machinery to reclaim previously mined areas and return them to a productive state.
- Plan for and carry out mining operations that strictly follow permitted activities.
- Operate machinery that crushes and grinds mineral bearing rock to extract the valuable metals from the waste.
- Strictly follow worker safety, health, and environmental laws and regulations.
- Maintain mining machinery to ensure a safe and productive operation.

### How much money can I make?

**Median Wage: \$18.80 per hour.**

Wages vary by area of the country and employer and by the type of mining operation. A 2006 survey by the Alaska Miners' Association showed \$72,000 as the average annual wage for Alaska miners. Many miners make much more when they gain experience and gain mining skills. Many mines in Alaska are camp jobs and miners work various shifts with a typical schedule being two weeks on and two weeks off. Most major mines generally offer full time workers benefits such as sick leave, paid vacations, health insurance, profit sharing, and retirement plans.

## HELPFUL HIGH SCHOOL COURSES

A high school degree is almost always required to work as a miner. You should take courses in high school that prepare you to earn a high school diploma. Below is a list of high school courses that will help prepare you for a job as a miner. You don't have to take all of them, but you should consider them in planning for high school. Some of these courses are also available at colleges and technical schools.

### **Construction Trades**

Exploration of Construction Careers  
Construction  
Construction Trades Work Experience

### **English Language and Literature**

Reading

### **Health and Safety Education**

Safety and First Aid

### **Industrial and Technology Education**

Exploration of Careers  
General Industrial Arts  
Industrial Safety and First Aid  
Equipment Maintenance and Repair  
Industrial and Technology Education Work Experience

### **Life and Physical Sciences**

Earth Science  
Geology  
Physical Science

### **Mathematics**

Integrated Math  
General Math  
Applied Math  
Pre-Algebra  
Algebra

### **Physical Education**

Physical Education  
Fitness and Conditioning Activities

## **How long does it take to receive training?**

To work as a miner, you must have a high school diploma or GED, be at least 18 years old, be in good physical condition, and be free of drugs and alcohol. A background check may be required if the miner will have access to explosives on the job.

The federal regulations under MSHA (Mine Safety and Health Administration) require a minimum of 24 hours mandatory health and mine safety training for surface miners and 40 hours for underground miners. This training must take place prior to being assigned tasks at a mine. In addition, the miner must receive "task training" for any new task they are assigned.

Some people train to be miners by taking formal training. Some professional technical and two-year schools offer mine technology courses. Usually, the minimum time to become entry-level task trained is one month, while specialized cases such as underground or hard rock may require up to six weeks. Most miners also receive training on the job from an experienced worker. Training includes operations and maintenance of mining machines, mine safety, and first aid. Appropriate training usually takes four to six months to complete.

## **When I'm ready to work, will there be job openings?**

According to Alaska industry representatives, there is indication of higher than average growth for miners and mining machine operators through 2014. Many openings are expected to result from replacing those who retire or otherwise permanently leave the occupation.

***Please see the Training Programs section of this booklet to find out more about training in these career fields in Alaska.***

