

# IRON MINING PROCESS



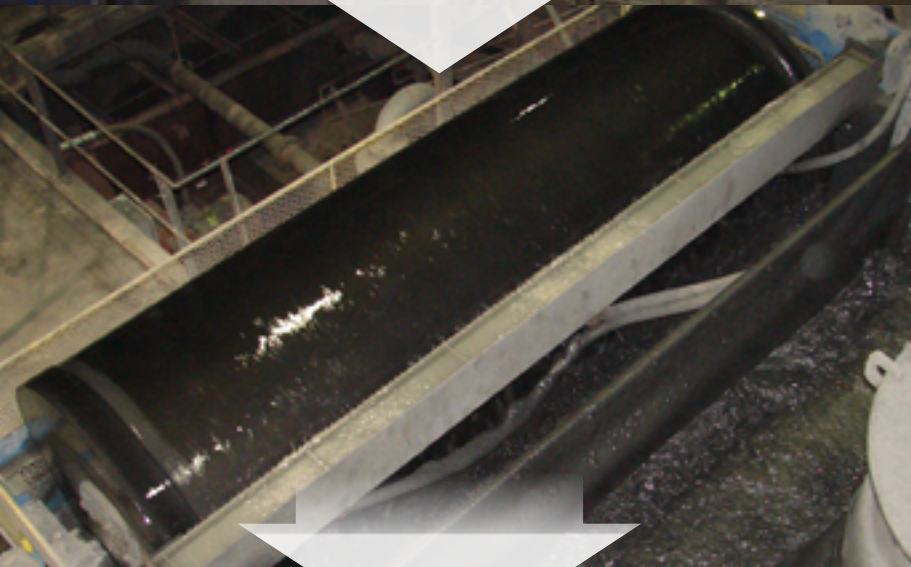
## Blasting

Taconite is a very hard rock. Using explosives, the taconite is blasted into small pieces.



## Transportation

The taconite pieces are scooped up by electric shovels. Each shovel can hold up to 85 tons of rock! The shovels place the taconite into giant dump trucks. These trucks are as big as a house and hold up to 240 tons of taconite. The trucks take the taconite directly to the processing plant, if it is nearby, or to train cars if it is far away.



## Crushing

At the processing plant, the taconite is crushed into very small pieces by rock crushing machines. The crushers keep crushing the rock until it is the size of a marble. The rock is mixed with water and ground in rotating mills until it is as fine as powder.



## Separation

The iron ore is separated from the taconite using magnetism. The remaining rock is waste material and is dumped into tailings basins. The taconite powder with the iron in it is called concentrate.

## Pellets

The concentrate (the wet taconite powder) is rolled with clay inside large rotating cylinders. The cylinders cause the powder to roll into marble-sized balls. (This is like rolling wet, sticky snow into balls to make a snowman). The balls are then dried and heated until they are white hot. The balls become hard as they cool. The finished product is taconite pellets.



## Steel

The taconite pellets are loaded into ore ships. These ships sail on the Great Lakes to Gary, Indiana, Cleveland, Ohio and other steel-making towns. The taconite pellets are brought to the steel mills to be melted down into steel.

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