Copper Extraction

A metal ore is a rock that contains a metal/metal compound that has a high enough concentration to make it economically worth extracting.

Metals and compounds are often found in the earth's crust. They are often mixed with other substances when they are found. The metals have to be extracted from whatever substance they are mixed with to become useful.

Ores are normally mined. Before the metal is extracted and purified, they need to be concentrated.

There can be two different types of ore: low grade ore or a high grade ore. The grade of an ore basically tells you how much of a mineral is in it. Low grade ores generally don't contain a high proportion of valuable minerals. They are less valuable than high grade ores. High grade ores contain relatively large amounts of valuable minerals.

There are many different names for copper ore, but it is often know as cuprite.

There are different ways that metals can be extracted from their ores.

Metals can be extracted from their ores through the use of living organisms. This is known as bioleaching. It is a much cleaner method than what people traditionally did – which involved using cyanide. When bacteria absorbs copper compound, they produce a solution called leachates. Leachates contain the copper compounds. It has the advantage that it is very energy efficient because it only uses thirty to fifty percent of the traditional method.

Some plants absorb copper compounds through their roots and, as a result of this, they concentrate the compounds. To get the copper out of the plants, they are burned. The copper can be found in the ashes. This is known as phytomining. This method can also be used to extract metals from contaminated land.