

# Post Mine Copper

by Todd Town

When we think of abandoned mines, thoughts of ore cars, empty carbide cans, powder boxes, a trash heap of cap tins, and the hope of finding an orphan candle stick or carbide lamp runs through our minds. We imagine being the first person in the mine workings since the miners of old made their last shot and decided that enough was enough. Left behind we only hope is a tomb of modern mans's tools used to gather the earth's riches. But na-

ture has its own agenda. If you have ever reached for a cap tin, left behind on a waste pile in a stope, you pick it up and your thumb goes through it. It is a rusted skeleton of its once self. Time and nature have been unkind to most artifacts left behind. But in a rare occurrence, nature can create beauty. In this case post mine native copper was discovered recently in Arizona. In a large expanding open pit operation, an old mine drift filled with water was encountered. After the shovel opened up the entrance and released the water, the modern day miners went in and explored the old workings. To their amazement, five ore cars sat on their tracks and the square set mine timber was covered in post mine native copper. Imbedded in the square set was more than fifty years of debris. It included powder boxes and iron pipe fittings. The native copper had artistically intertwined itself throughout the square set and cemented in pieces of powder boxes, timbers, rail spikes, and iron fittings. Post mine native copper is a natural occurrence. All the elements must exist in the abandoned workings for it to form. First, ore bearing rock needs the percolation of water on it to create a mild sulfuric acid. The acid then leaches the copper into solution. The pregnant leach solution or PLS then needs to find a place to collect and form itself into native copper crystals. Then you must have time, unmolested, and lots of it. If all of these events can take place, the specimen is produced: a natural wonder that has incorporated mine garbage and nature's natural leaching process.

