

# Zinc and copper helped to forge progress

By Greg Huneault  
the News

If only the miners and metal workers of 6,000 years ago could see the modern equipment used to get to the zinc and copper deposits which are mined at Minnova.

It would be quite a surprise to say the least.

Because it is a soft metal and occasionally found in its native state, copper was one of the first metals to be worked by man. Sometime under 7,000 years ago, primitive tools helped man shape and mould the metal into useful items.

Copper played such an important part in the history of humankind's development that it is recognized as an era in man's progress — The Copper Age.

Later, about 4,000 years ago, metal workers learned to mix or alloy copper with small amounts of tin, which was found in many of the same areas throughout the world that copper was deposited, and the copper age gave way to the Bronze Age.

Long before the dawning of the Industrial Age, copper was worked and fashioned to provide tools, utensils and ornamental work and served an adequate need.

With the invention of machinery and methods to supply electricity to new industries, however, the demand for copper skyrocketed.

During the vast span of the industrial age, copper was the second-most widely used metal next to iron.

Recently, this position was

taken over by aluminum, but copper still has a plays a major role in progress, mainly because of its ability to conduct heat and electricity.

Approximately half of the present uses of copper centre around electric applications. It is also important to the building industry when used in forms such as wire, sheets or pipe.

When combined with tin, copper becomes an alloy called tin, and when mixed proportionally with zinc, it is called brass. Both brass and tin have played vital roles in development in their own right.

Despite being at an all-time high, the products made with copper are in no immediate danger of becoming scarce.

Copper reserves are also at an all-time high. Despite thousands of uses throughout the world, copper is produced in only a few areas.

Mines are found in areas such as Northern Rhodesia and the Congo, Arizona, Chile Ontario and Quebec to name some.

These areas produce almost 70 per cent of the world's copper, and a large part of the production of copper is overseen by less than a dozen companies, who in most cases have interests in a number of countries.

The production of copper is unique in that no other metal show as high a degree of concentration in terms of location and producers.

The history of zinc is somewhat more recent than that of copper, but it plays a very important role none-the-less.

A form of zinc was found to be

used in China and India as well as by metal workers in Europe, but it dates back to the 16th Century.

Zinc cannot be smelted by simple methods like those used to 'melt the copper out of the rock,' so it eluded early metallurgists.

It is a base metal like copper, but because it does not have a long history of production, the methods used to obtain it vary greatly.

Zinc's major strength lies in its ability to resist moisture and the corrosive action of gases in the atmosphere.

By coating other metals such as iron with a thin layer of zinc, it protects the metal in two ways.

The first source of protection is by providing a protective physical sheath, which prevents contact between the metal and corrosive material. Even trusty iron will rust in time when exposed to air and moisture.

The second method is through "galvanic" action.

Galvani, an 18th Century Italian scientist, discovered that when two dissimilar metals are in electrical contact with each other by the help of a conducting liquid, one metal will corrode while protecting the other.

This process of coating steel is called "galvanizing," and a large demand for zinc results from this desired quality.

Other major uses are in brass castings, die castings, and zinc oxides for the rubber, paint and other industries.

Zinc is usually found and mined together with other metals, such as copper or more often lead. It is mined in countries throughout the world: in Mexico; United States; Australia; and Canada.

Demand for these two valuable metals is expected to remain strong for some time. Despite cycles of demand and price (as with most natural resources) there is no dan-

ger of the production decreasing drastically.

As mining milling techniques such as those at Minnova continue to improve, it will be possible to mine deposits where it otherwise wouldn't have been economical.

Mining in this area has been going on for a long time. It will continue to do so through the progress and skill resources of companies like Minnova Winston Lake Division.



**Township  
of  
Schreiber**

**We're proud  
of our  
new  
neighbour.**

**NORONT**

STEEL (1981) LTD.

*Structural  
and  
Miscellaneous  
Steel*

*Platework*

*Ornamental  
Iron  
Work*

*Steel  
Erection*

*Industrial  
Maintenance*

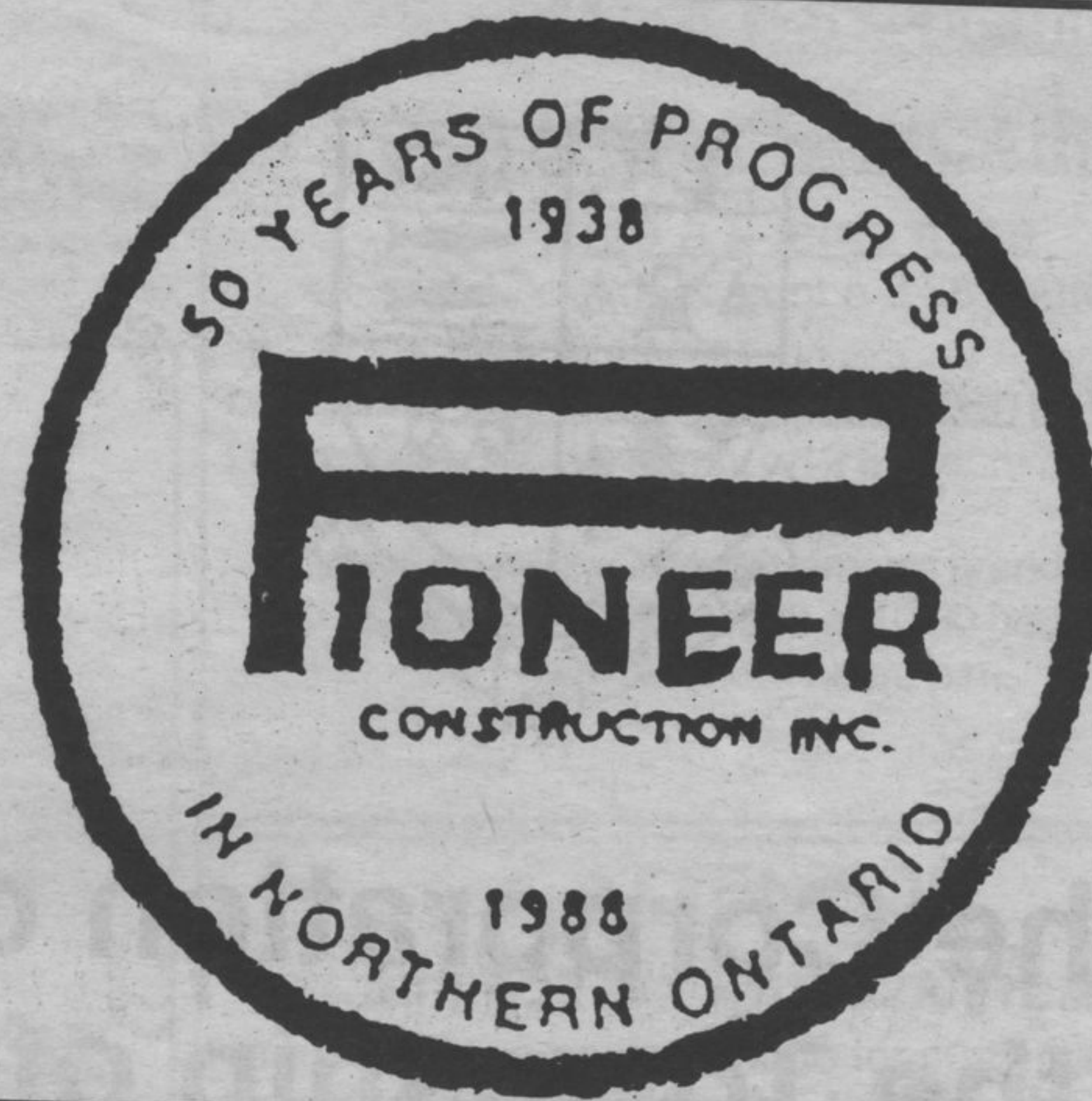


(705) 692-3683

Box 678

Copper Cliff, Ontario

P0M 1M0



\* Custom crushing

\* Sewer and water

\* Road building

\* Equipment rentals

\* Open pit mining  
and tunnelling

\* Asphalt products

\* Sand and Gravel

**Fax: 705-560-8263**

**705-560-7200**