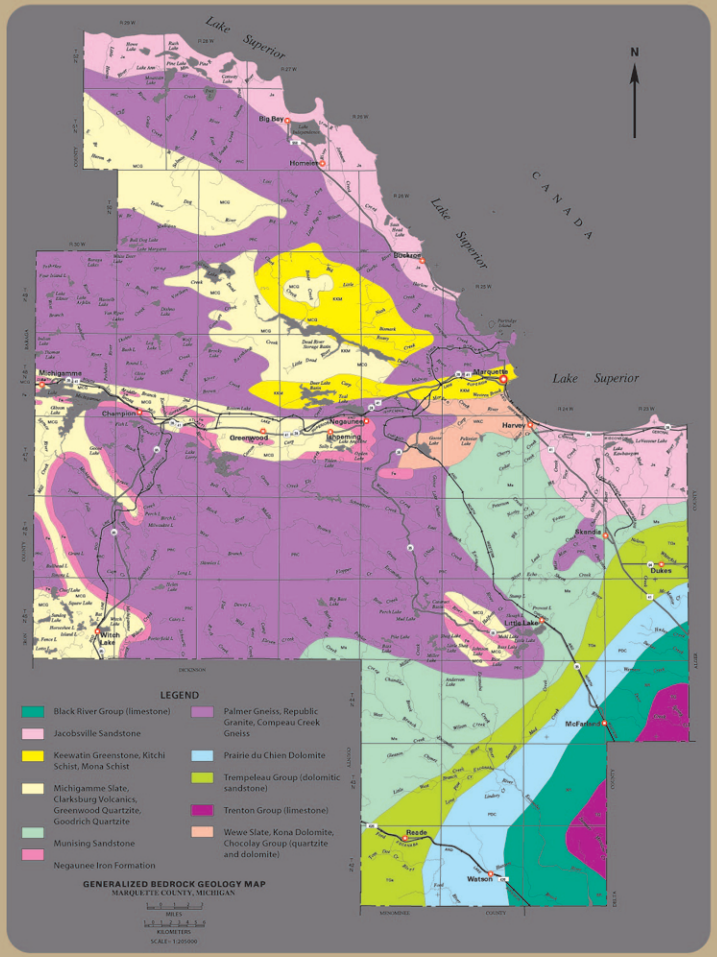
Why Iron Ore Is Here

IRON ORE HERITAGE TRAIL



Iron Ore Origins - Geologic History

When and how did iron compounds form?

Most geologists agree that:

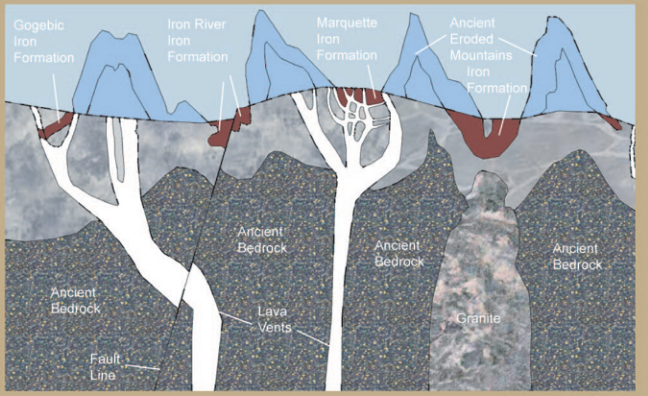
1) This area, several billion years ago, was under a sea in a methane/carbon dioxide environment.

2) The iron in this watery environment originated deep in the earth and surfaced through volcanic eruptions and sea vents.

3) About 2.0 billion years ago, oxygen producing algae and bacteria first appeared. These were the prelude of life as we know today.

4) Oxygen combined with iron and formed into iron ore compounds.

5) The timing of the end of the huge iron deposition may be determined from the fall-out of an enormous asteroid that slammed into the earth near Sudbury, Ontario, about 1.8 billion years ago.



Mike Lempinen Graphic

Deposition of iron was followed by a period of intense mountain building. During this period the iron rich sediments were folded and faulted, subjected to heat and pressure, and intruded with volcanic material. Weathering, erosion and glaciation helped to reduce the uplifted rock to a relatively flat surface.

Tsu-Ming Han, Cleveland Cliffs, Inc. Graphic

Gracefully coiled filaments are easily seen by the naked eye in these 1.7 billion year-old fossils from the Upper Peninsula's Empire Iron Mine. They are possibly the oldest "megascopic" formations of life ever found.