## Houghton's Geologic History

The main geological event that is recorded in Houghton's rock record is the result of a huge volcanic outpouring that created a great crack in the continent and a basin that now holds Lake Superior. This great rift zone was filled with lava flows and red sandstones and conglomerates. The rift zone created ore deposits rich in copper, a precious material gift from the deep earth that was mined as soon as humans found it. Mining led to settlement and created wealth in the region. The pattern of the rift rocks influences the way we live today in many ways.

### **Geoheritage Awareness**

"Geoheritage" is a generic but descriptive term applied to sites or areas of geologic features with significant scientific, educational, cultural, or aesthetic value.



W: www.geo.mtu.edu/~raman/Silverl/HoughtonEC



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# DISCOVER GEOLOGY IN HOUGHTON



★How to do it? Easy!
★Go to the website.
★Download the locations to your smart phone or GPS.
★Then go hunting on foot or on your bike.

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Much of Houghton is strongly influenced by the geology under it. Houghton's settlement was also dictated by its geology.

Geoheritage sites serve the public interest. Such sites are critical to advancing knowledge about natural hazards, groundwater supply, soil processes, climate and environmental changes, evolution of life, mineral and energy supplies, and other aspects of the nature and history of Earth. Such sites have high potential for scientific studies, use as outdoor classrooms, enhancing public understanding of science, recreation, and economic support to local communities.



## FIND GEO SITES IN HOUGHTON

•Learn about the geological history of Earth, North America, the UP and Houghton itself.

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#### Some questions that your Geo walk will answer:

Where does Houghton's water come from?
Where does Houghton's sewage go?
Where is the Keweenaw Fault?
How does the fault affect us?
Why is there a "canal" between Houghton & Hancock?
Are there old mines in Houghton itself?
Where can I see old lava flows?
How can I tell where the top of a lava flow is?
What are main kinds of rock under Houghton?
What minerals can I find in lava flow tops?
Why are the lava flows in Houghton tilted?

**Minerals!** This is a world class location for mineral collecting. Many minerals from this location are found in the world's great mineral museums (agate, copper, silver, greenstone, datolite and many more). It is common to find minerals, especially in the mine rocks and beach stones. The AE Seaman Mineral museum in Houghton is the premier mineral museum in the whole Great Lakes region.





Minerals within lava flow

*Greenstone from Seaman Museum* 



Glacial Boulders in MTU Boulder Garden

Houghton has many rock exposures, places where you can see the various parts of lava flows and the "redbed" sediments (sandstones and conglomerates) which are also found. Many buildings are built from the quarried local rocks. Glaciers left boulders everywhere. The shapes of the landscapes were determined by the work of glaciers, wind and the actions of river and lake water.

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