

# OPENING A CLEAR AND EQUITABLE DIALOGUE ON THE ISSUE OF MINING IN MICHIGAN'S KEWEENAW PENINSULA

Geological Society of America

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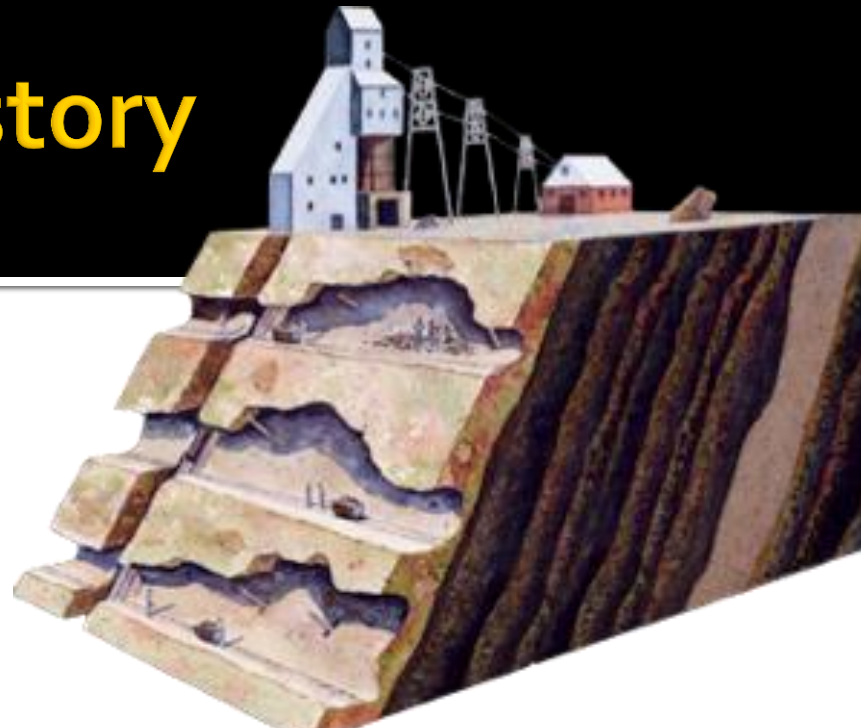
# Outline

- Mining history in the Keweenaw
- Current exploration project
- The need for community dialogue
- Methods for opening this dialogue
- Conclusions



# Keweenaw Mining History

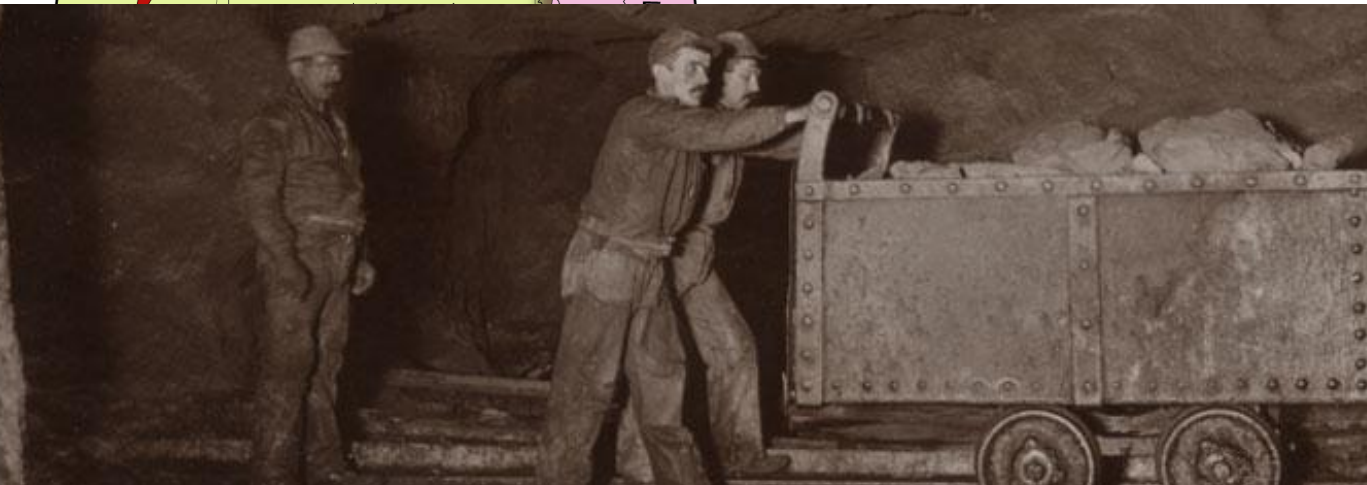
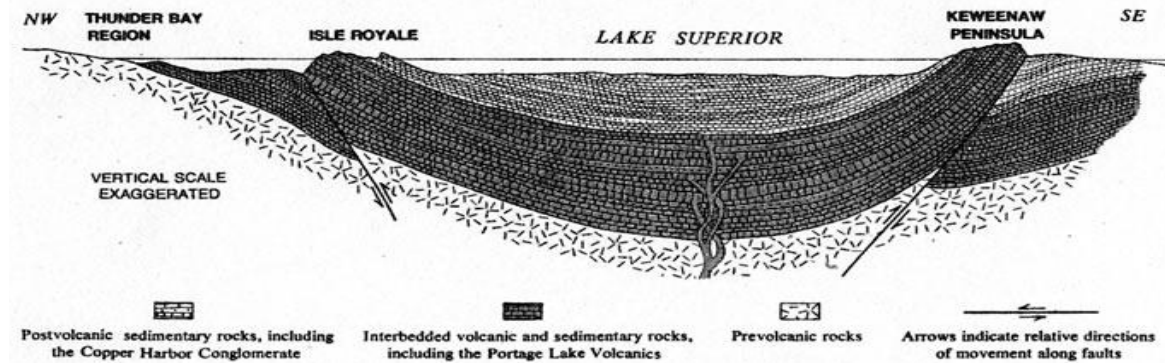
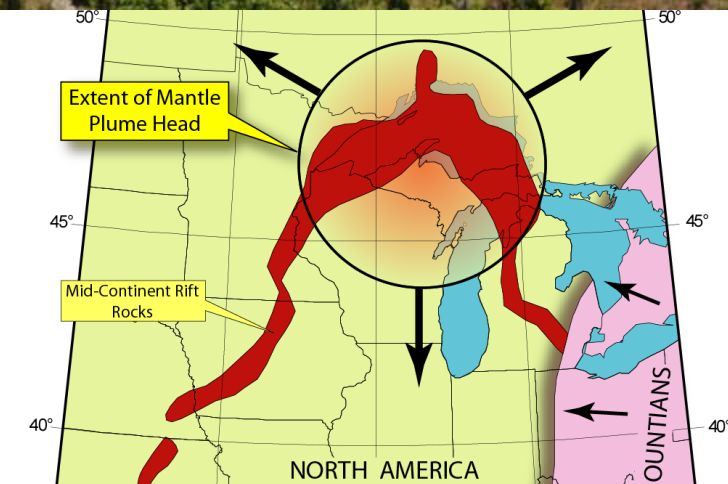
- Over 7000 years of mining history
- 11 billion pounds of copper produced between 1845 to 1977
- Major copper mining districts in the United States
- Mining rush brought immigrants and numerous cultures to the area





## Isle Royale

National Park  
Michigan



## Keweenaw

National Historical Park  
Michigan



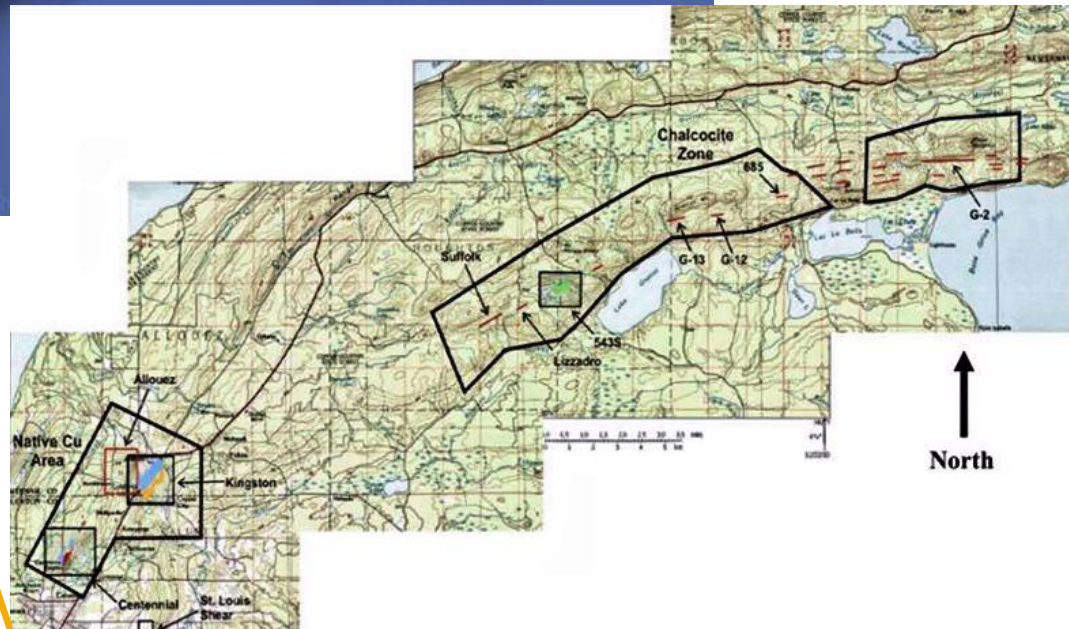
# Past practices creating concern?



# "Keweenaw Copper Project" - Highland Resources



13,000 acres and hosts  
the Centennial Mine,  
Kingston Mine



# Highland resources

- Spending \$11,500,000 in development and exploration and completing a feasibility study by October 26, 2015
- Validating the results of historic diamond drill holes covering a zone of chalcocite mineralization known as the 543S deposit and further exploring the potential of a 20-mile long chalcocite belt
- All of the properties are held through private but separated mineral and surface rights

# Why the need for an open dialogue?

Community undecided if mining represents:

- An economic boost to community?
- An environmental threat?

Community unclear about:

- Mining practices, mineral rights, drilling, extraction, transportation, reclamation, what's being mined

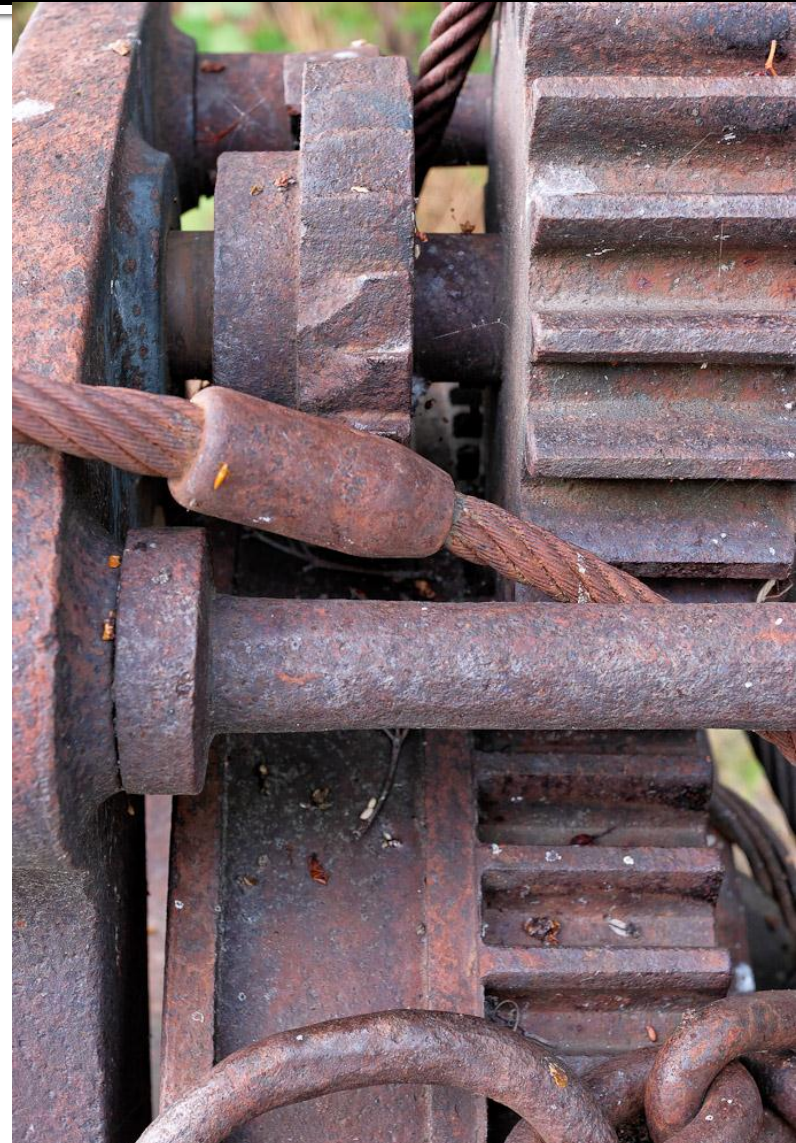


# What is the role of the university?

- Improve earth science literacy within our community
- Provide expert knowledge of issues related to mining to extend and deepen community understanding
- As an established and rooted institute in the community we can be trusted to facilitate this dialogue and encourage community partnerships

# Starting the dialogue

- 1. Partnering with community groups
- 2. Surveys
- 3. Interviews (follow up to survey)
- 4. Blog spot, newspaper feature
- 5. Education
- 6. Public forum



# 1. Partnering with community groups





The purpose of the FOLK Mining Education and Empowerment Campaign is to ensure that new mining in the western Upper Peninsula will not place at risk the environmental, economic, and human health of the region.



- KUUF has organized a public forum on mining in the Keweenaw, assisting in organizing speakers
- The KLT has been hosting conservation forums addressing issues of concern in the Keweenaw; additional data source on community environmental concerns

**Keweenaw Unitarian Universalist Fellowship (KUUF)**  
invites you to participate in...

**Mining Education Monthly Forums**  
10:30 am, 2nd Sundays at KUUF in Houghton

Spring 2013 Schedule

**March 10** *How will mining impact KBIC land and cultural sites?*  
Chuck Brumleve, KBIC geologist, and Jessica Koski, Mining Tech. Assist

**April 14** *Recent Mine Reclamation in Wisconsin: Jackson County Iron Mine and the Flambeau Mine.*  
Jim Ludwig, President, Ecological Restoration, Research & Consulting

**May 12** *The role of the Michigan DEQ in regulating mining*  
Joe Maki, U.P. District Geologist, MI Dept. of Environmental Quality

**June 9** *Copper Mining Prehistory in the Copper Country*  
Susan Martin, Associate Professor of Archaeology, MTU

**July 14** *Independent community environmental monitoring*  
Carl Lindquist, Exec. Director, Superior Watershed Partnership & Land Trust  
Lake Superior, Lake Michigan, Lake Huron.

**Aug 11** *PBS documentary: America's Ancient Industry*  
Bob Wheeler, founder and president, Copper Country Ancient Sites Conservancy. Field trip to local ancient archaeological site will follow.

**Sept. 8** *Mining Education and Citizen Empowerment Campaign*  
Friends of the Land of Keweenaw (FOLK)

*Future Dates & Topics to be announced*

As part of the Green Sanctuary Program, KUUF is investigating the question: "What are the characteristics of an acceptable mine – economically, socially, and environmentally?" The monthly forums are intended to educate the Fellowship and the community, and guide future activities. Mining encompasses water, tribal rights, land use, remediation policy & enforcement, economics, personal consumption of consumer goods made from mined resources, corporate responsibility, and much more.

**All Are Welcome**

**Keweenaw Unitarian Universalist Fellowship (KUUF)**  
Sunday Service Location:  
BHK Head Start Center,  
700 Park Avenue, Houghton

**KUUF Office:**  
(not Sunday service location)  
Annex of Trinity Episcopal  
203 Montezuma St, Houghton  
Entrance to office is in Trinity  
Episcopal Annex.  
Mail: P.O. Box 276  
Houghton, MI 49931  
Email: [keweenawuu@att.net](mailto:keweenawuu@att.net)  
Tel: 906.482.5586

<http://www.kuuf.net/>

## 2. Surveys

- Currently developing a community survey through collaboration with members of FOLK, the KUUF mining committee and Michigan Tech
- Random sample of Keweenaw Peninsula (Keweenaw County and Houghton County)
- Quantitative survey: collecting data on demographics, education and spiritual background, position on issue, questions that probe knowledge and misconceptions about mining.

# Survey (continued)

Closed questions investigating what people know about:

- The geology of the area
- The technology for mining
- Mining processes and practices
- Economics (benefits? impacts?)
- Education programs
- Environmental concerns

### 3. Interviews – follow up to survey

- Informants selected from survey respondents
- Open-ended questions to probe level of support much deeper
- Investigate how place attachment affects community members decisions regarding mining
- Are they attached in a cultural sense, familial, environmental, economical?
- What has created the meaning and how does it influence decisions people make about mining?

# Why is this depth of exploration important?

Research based on the **affective domain** - how it influences how we learn and make decisions

- *Emotional* response
- Connection, belongingness, rootedness all likely to result in strong feelings of protection for a place
- *Critical* for land use management and research!

## 4. Blog spot and newspaper feature

- KUUF forum speakers and other experts will be asked five standard questions with responses run in the local paper (in collaboration with KUUF)
- Blog site available for community response



*The Daily Mining Gazette*

# 5. Education

- Need to connect to the local formal education system
- Current graduate student Mark Klawiter was formally a high school teacher at Ladysmith, WI
- Working with FOLK to share his experiences developing curriculum with focus on the varied stages of mining process to the classroom

## 6. Public Forum

- Through data collected we will learn gaps in understanding to help develop education and outreach programs that aid community members in making informed decisions about mining in their community
- Data collected will be used to steer an expert panel discussion on mining perceptions in September in collaboration with FOLK and KUFF

# Conclusion

- Mining is a highly controversial issue
- We wish to open an open dialogue within our community on this issue
- We want to know what people know, what their concerns are and how their connection to place affects their decisions before developing education programs and public forums addressing this issue
- These efforts and community education campaigns require partnerships