



ON THE ROCKS



A Newsletter of the Michigan Basin Geological Society

2008-2009 Number 8

www.mbgs.org

April 2009

EVENTS

Wednesday, April 15, 2009: MBGS Annual BBQ meeting will be at Western Michigan University in the Michigan Geological Repository for Research and Education Building, Kalamazoo, Michigan. The speaker is **Dr. Michael Velbel** from Michigan State University presenting “**The “Lost Interval”:** **Michigan Geology from the Permian to the Pliocene**”. See talk details and location information below. Dinner at 6:00 pm; speaker at 7:00pm; cost \$25.00, please RSVP for this meeting to: Thomas Godbold, Ph: 517-241-1545, E-mail:godboldt@michigan.gov.

NOTES FROM THE EDITOR

- Office Geological Survey is looking for a theme & logo for the 2010 AAPG Eastern Section meeting. Any ideas will be welcome! Please contact Robb Gillespie at robb.gillespie@wmich.edu or Arlene Anderson-Vincent at aanderson-vincent@golder.com
- A committee chairperson meeting is scheduled for 3:00 pm at Western Michigan University, Michigan Geological Repository for Research and Education, for the 2010 AAPG Eastern Section Meeting in Kalamazoo. Directions are included in the newsletter. For additional information, please contact Robb Gillespie at robb.gillespie@wmich.edu



MEMBERS CORNER



This section will be used to share information submitted by members. Attend an interesting conference? Hear an exciting lecture? Please feel free to submit any information you would like to share to the membership to: Arlene at aanderson-vincent@golder.com

- **Extreme Ice Survey**

These videos are a compilation of photographs of primarily glacier terminus taken at a rate of one photograph per hour during daylight over a period of two years. Worth checking out. http://www.extremeicesurvey.org/index.php/time_lapse/, submitted by Mark Wollensak.



MBGS Field Trips Update
Copper Country with MBGS!!

The Copper Country Trip planned. Registration form and cost information included in this newsletter. Dates are set for June 4-7, 2009. Hurry and register, spots are filling up fast!

Some of the highlights of the trip include:

- Dr. Larry Lankton to talk on the “Boom to Bust: The Life Cycle of a Great Mining District”.
- Scott See (MTU PhD candidate) and Bill Haller and will lead the Friday historical tour of the area.
- Dr. Bill Rose to talk on the “Geology of the Mid-Continent Rift, Keweenaw Peninsula, Michigan”.
- Surface and underground tours of the Adventure Mine, Quincy Mine and Caledonia Mines.
- Specimen collecting opportunities.
- Guided tour of Seaman’s Mineralogical Museum by Dr, Ted Bornhorst.

REGISTRATION WILL BE LIMITED TO 30 PARTICIPANTS

MUST BE A MEMBER TO PARTICIPATE

MEMBERSHIP APPLICATIONS ARE AVAILBLE AT MBGS.ORG

MBGS and the Michigan Geological Repository for Research and Education
are sponsoring the
2010 AAPG Eastern Section Meeting in Kalamazoo, Michigan

Date: September 26 – 28, 2010

Venue: Radisson Plaza Hotel and Suites



American Association of Petroleum Geologists

An International Geological Organization

We are in need of volunteers to chair committees and to assist on committees. This is a great opportunity to work and meet others in our profession. A list of the committees positions that are still in need of a chair are listed below. Find a committee you are enthusiastic about and join us in showing the Eastern Section AAPG what a great host Michigan can be!!!

Committee Chairs Still Needed

Audio/Visual
Webmaster

Student Volunteers
Graphics and Media

Please contact Robb Gillespie at robb.gillespie@wmich.edu to get involved.

Important Information: Committee tasks/descriptions are found on the AAPG-ES website at the following link: <http://karl.nrcce.wvu.edu/esaapg/Esguide.pdf>

Current Meeting Itinerary

- Sept 25th Sat: Field Trips
- Sept 26th Sun: Meeting Program
- Sept 27th Mon: Meeting Program, also icebreaker/social at Air Zoo in evening
- Sept 28th Tues: Meeting Program
- Sept 29th Wed: Field Trips

2007-2008 MBGS Officers

The Executive Committee meeting minutes are available on our website at www.mbgs.org

PRESIDENT:

EMANUAL (EZ) MANOS

Detroit Salt Mine
2164 E. Allen Road, Howell, MI
313-841-5144, fax 313-841-0466, ezmanos@detroitssalt.com

VICE PRESIDENT:

CRAIG JOHNSON,

NTH Consultants, Ltd
608 S. Washington Ave. Lansing, MI 48933
517-702-2950, fax 517-485-8323,
crjohnson@nthconsultants.com

SECRETARY:

JENNIFER JENNINGS

Michigan Department of Environmental Quality
P.O. Box 30256
Lansing, MI 48909
517-335-0432 jenningsj@michigan.gov

TREASURER & PUBLICATIONS:

TOM HOANE FMFM, DNR

P.O. Box 30452, Lansing, MI 48909-7952
Bus 517-241-3769, fax 517-373-2443 hoanet@michigan.gov

BUSINESS MANAGER:

TOM GODBOLD OGS, DEQ

P.O. Box 30256, Lansing, MI 48909-7756
Ph: 517-241-1545, Fax 517-241-1595
godboldt@michigan.gov

PAST-PRESIDENT:

MARK NIDA,

LEG, Public Service Commission
P.O. Box 30221, Lansing MI 48909
517-241-6136, fax 517-241-6121, nidam@michigan.gov
CO-FIELDTRIP DIRECTORS:

MARK WOLLENSAK, CPG

Hamp, Mathews & Assoc, Inc.
15266 Ann Drive, Bath, MI 48808
Ph: 517-641-7333 Fax 517-641-7337
Cell 517-719-8321 wollensak@voyager.net
and

LEONARD ESPINOSA

Ph: 517-349-1917
espinosl@comcast.net

NEWSLETTER EDITOR:

ARLENE ANDERSON-VINCENT

Golder Associates
15851 South U.S. 27, Suite 50
Lansing, MI 48906
Ph: 517-318-3246, Fax 517-482-2460
aanderson-vincent@golder.com

ELECTRONIC PUBLICATIONS:

MARK WOLLENSAK

AAPG DELEGATES:

William Stelzer,
920 Long Lake Blvd., Suite 12
Lansing, MI 48911, 517-694-4770
stelzrb@aol.com
and
Dr. WILLIAM, HARRISON,
Western Michigan University
616-387-8691
William_harrison_iii@wmich.edu

MEETING CANCELLATION POLICY

Monthly meetings will be automatically cancelled whenever the National Weather Service issues a "Storm Warning" for the Lansing area. If driving conditions are poor but a "Warning" has not been issued please contact any member of the Executive Committee for the status of the meeting.

MICHIGAN BASIN GEOLOGICAL SOCIETY PUBLICATIONS

Historical CD #1: Nine out-of-print publications from 1949 through 1965 and 1998, 2000, \$15

Historical CD #2: Four out-of-print publications from 1947, 1959, 1983 and 1991, 2001, \$15

Historical CD #3: Six out-of-print publications from 1948, 1952, 1990 - 1995, 2001, \$15

Historical CD #4: Six out-of-print publications from 1957, 1958, 1961, 1967, 1968 and 1970, 2004, \$15

Historical CD #5: Five out-of-print publications from 1971, 1989, 2001, and Oil & Gas Fields Vol. 1 & 2, 1969 & 1992, 2006, \$50

(NEW) Historical CD #6: Six out-of-print publications from 1946, 1953, 1963, 1966, 1978 & 1987 plus the Richfield Challenge, 1952 & Tom Knapp's MS Thesis, 2007 \$15.

****Special Price** - Historical CDs 1 - 6 \$85**

NE Lower Peninsula Geological Field Conf., 2004, T. Black, M. Wollensak, On CD \$10

Stratigraphic Lexicon for Michigan, 2001, prepared by MBGS and published by DEQ, \$4

(NEW) Robert E. Mosher Geological Studies
A lifetime of geological research on Silurian Rocks with John T. Sanford. The disks are organized chronologically and include field work in North America and Europe. 2007, 2 CDs \$35.

Price Includes postage, handling and any applicable sales tax. Orders for publications should be **prepaid in U.S. Funds** and addressed to:
MBGS - Publications, P O Box 18074, Lansing MI 48901-8074



MBGS Meeting

Wednesday, April 15, 2009

Location: Western Michigan University, Michigan Geological Repository for Research and Education (directions following topic information)

MBGS Annual BBQ Dinner

Executive Committee Meeting at 4:00 PM (members welcome)

Dinner at 6:00 PM

Talk at 7:00 PM

Cost \$25.00

Please RSVP for this meeting to:

Thomas Godbold

Bus Ph: 517-241-1545, Fax 517-241-1595

E-mail: godboldt@michigan.gov

“The “Lost Interval”: Michigan Geology from the Permian to the Pliocene”

By: Dr. Michael Velbel

Department of Geological Sciences, Michigan State University

Biographical Sketch

MICHAEL ANTHONY VELBEL (Ph.D., Yale University, 1984) is Professor of Geological Sciences at Michigan State University, East Lansing, MI. He studies regolith geoscience; rates and mechanisms of mineral-water interactions during rock and mineral weathering, emphasizing the geological, mineralogical, geochemical, and geomorphic factors which control mineral alterations at the Earth's surface and the migration of chemical elements through the landscape; and small-watershed geochemistry. Related areas of research include terrestrial weathering of Antarctic meteorites, rock-, mineral-, and chemical-weathering on Mars and in Martian meteorites; and pre-terrestrial aqueous alteration on other meteorite parent bodies. He was a member of the Mineralogy-Petrology subteam of the NASA Stardust mission Preliminary Examination Team (2006). In addition to MSU, Prof. Velbel has held visiting appointments at the University of Cincinnati, the Université Paul Cézanne (Université d'Aix-Marseilles III), and the Australian National University, and held NASA/ASEE Summer Faculty Fellowships at the Johnson Space Center in 1987 and 1999.

The “Lost Interval”: Michigan Geology from the Permian to the Pliocene

Dr. Michael Velbel, Michigan State University

Abstract

The “Lost Interval” in Michigan’s geologic history represents the time between the Coal Age and the Ice Age, a long time interval lacking an easily accessible rock record. The geologic processes that operated in Michigan during the “Lost Interval” left several kinds of evidence, including a sparse record of sedimentary deposits of Middle Jurassic age, and a record of post-Pennsylvanian thermal modification of all older rocks in and around the Michigan Basin. Deposition of sedimentary rocks (almost certainly dominated by sandstones and shales derived from the ancestral Appalachians and deposited in coastal and continental sedimentary environments) likely continued for some time after the time represented by the youngest Paleozoic sedimentary rocks of the Michigan Basin. Most evidence suggests that hundreds of meters (but probably not a kilometer or more) of sediment were deposited in the Lower Peninsula during the Permian and/or Triassic.

Ordovician and Devonian limestones had not yet been eroded from the western Upper Peninsula when Jurassic dinosaurs roamed North America. If present, Permo-Triassic sedimentary rocks of the Michigan Basin were eroded completely away by the Middle Jurassic. During the Middle Jurassic redbed sands and muds, along with limestones and evaporites, were deposited in valleys in a hilly landscape on Pennsylvanian sedimentary rocks of Michigan’s Lower Peninsula. The thermal-maturation indicators of Michigan Basin Paleozoic sedimentary organic matter and Middle Jurassic pollen and spores are direct evidence that there was some sort of heating event after the Pennsylvanian and before the Middle Jurassic. Late Jurassic, Cretaceous, and/or Cenozoic sedimentary rocks were probably also deposited, and might have been thick enough to insulate the buried rocks enough to allow temperatures slightly higher than the present, but at no time after the Middle Jurassic did sediments accumulate to great enough thicknesses for paleotemperatures at depth to thermally modify fossil pollen and spores in the Middle Jurassic sedimentary rocks.

The Pipe Creek Sinkhole of Indiana not only provides direct evidence of numerous aspects of Pliocene life and times in the Great Lakes region. It is also a testimonial to observers (quarry operators and scientists) with open eyes and minds, who recognized the unusual sediment among the locally ordinary rock and thereby found an important part of the “Lost Interval”. Professional geologists will find out more about what Michigan was like between the Pennsylvanian and the Pleistocene. Alert professional and amateur observers (including quarry operators, well drillers, construction workers, rock-hounds, mineral- and fossil-collectors, and cavers) with open eyes and minds, will certainly continue to discover additional informative geologic features that will add to scientific understanding of Michigan during the time between the Coal Age and the Ice Age. The “Lost Interval” is not really lost – it is just waiting to be discovered.

Michigan Geological Repository for Research and Education

Map and Directions to 5272 W. Michigan Avenue, Kalamazoo, MI 49006--(269) 387-8633



From the Kalamazoo Airport:

Exit the airport and turn right onto Portage Road. Go 0.2 miles to I-94
Take I-94 West toward Chicago—go 3.9 miles
Take Exit #74B/US-131 North to I-94-BUS East toward Grand Rapids—go 2.1 miles
I-94-BUS East becomes US-131 North—go 0.4 miles
Take exit #36B onto Stadium Drive toward Oshtemo—go 0.5 miles
Turn right on S. 11th Street—go 0.1 miles
Turn right on W. Michigan Avenue—go 0.3 miles and arrive at 5272 W. Michigan.
Our driveway is the first one just past the US131 overpass on the left, through the fence gates. Our building is the largest one in this fenced area.

From the South or North

From US 131, take exit #36B/Stadium Drive onto Stadium Drive—go 0.4 miles. Turn right on S. 11th Street—go 0.1 miles. Turn right on W. Michigan Avenue—go 0.3 miles and arrive at 5272 W. Michigan Avenue. Our driveway is the first one just past the US131 overpass on the left, through the fence gates. Our building is the largest one in this fenced area.

From the East or West

From I-94, exit onto US 131 North—go about 2.5 miles and take exit #36B onto Stadium Drive toward Oshtemo—go 0.5 miles
Turn right on S. 11th Street—go 0.1 miles
Turn right on W. Michigan Avenue—go 0.3 miles and arrive at 5272 W. Michigan.
Our driveway is the first one just past the US131 overpass on the left, through the fence gates. Our building is the largest one in this fenced area.

From Rood Hall, Western Michigan University

Drive west on W. Michigan about 2 miles to S. Drake Road
Turn left on S. Drake Road—go 0.2 miles
Turn right on W Michigan Avenue—to 0.3 miles and arrive at 5272 W. Michigan.
Our driveway is the last one before the US 131 overpass on the right, through the fence gates. Our building is the largest one in this fenced area.

Other Events and Happenings

April 14, 2009, AIPG Section Meeting and Vendor Night to be held at Weber's Inn, Ann Arbor

April 30, 2009, Michigan Section SPE meeting will be held on Thursday at Christie's Bistro located in the Sheraton Hotel in Lansing, MI. Ken Arnold, SPE Vice President of Finance, will be the speaker and his presentation will be on SPE and related topics. RSVP to: Sue Burla , TransCanada, 5250 Corporate Drive, Troy, MI 48098, tel: 248-205-7414, e-mail: susan_burla@transcanada.com

May 12th, 2009, AIPG Michigan Section 5th Annual Golf Outing, 18-hole Scramble, contact either Kevin Lund at klund@g-eri.com or at Bob Reichenbach robert_reichenbach@sbcglobal.net

A GEOLOGICAL AND HISTORICAL FIELD EXCURSION

Sponsored by the
Michigan Basin Geological Society

MICHIGAN'S COPPER COUNTRY GEOLOGY AND MINING HISTORY “A Step Back In Time”

Thursday, June 4th through Sunday, June 7th, 2009

Take an adventure back to the life and history of the copper miner and copper mining industry. The north western portion of Michigan's Upper Peninsula is known as Copper Country due to the rich native copper found in the northwesterly tilted Precambrian rocks of the Keweenaw Rift sequence. This field excursion will include evening lectures on the history of the mining industry and on the geology of the rocks creating the copper deposits. Of the two days of travel, one day will be dedicated to exploring the rich history of the mining community and industry and the second day will be exploring the rocks and mines where those miners worked. Additional highlights will include an evening tour of the Seaman's Mineralogical Museum and an afternoon guided tour of the Quincy Hoist, known for operating the world's largest steam hoist. Two local copper mines will be entered for tours and collecting may be provided at some of the local mine dumps.

Itinerary:

Thursday, June 4th, 2009:

Meet for dinner, 5:00 pm at Gino's Restaurant in Hancock, MI (optional)

Meet at Michigan Tech Univ. for 8:00 pm lecture by Dr. Larry Lankton, MTU, titled “Boom to Bust: The Life Cycle of a Great Mining District”

Friday, June 5th, 2009:

Meet at hotel lobby and depart for morning and afternoon of visiting and discussing mining history with Scott See, PhD candidate, MTU, and Bill Haller

A sandwich lunch is provided during noon break

Participate in a tour of Quincy Hoist and Mine to include the museum, video and guided tour of the surface structures, tram ride and underground mine tour.

Meet for dinner at suggested local restaurants in Houghton or Hancock Area (optional)

Meet at Michigan Tech Univ. for 8:00 pm lecture by Dr. William Rose titled “Geology of the Mid-Continent Rift, Keweenaw Peninsula, Michigan”

Saturday, June 6th, 2009:

Meet at hotel lobby and depart for morning and afternoon of guided tours and collecting at The Adventure and Caledonia Mines, a possible side trip to include Victoria Dam (time permitting)

A pasty lunch to be provided during noon break

Meet for dinner at suggested local restaurants in Houghton and Hancock areas (optional)

Meet at the Seaman's Mineralogical Museum for private guided tour starting at 8:00 pm

Sunday, June 7th, 2009:

Optional stops will be suggested for return trip (a small guide book will be included)

MICHIGAN'S COPPER COUNTRY GEOLOGY AND MINING HISTORY FIELD EXCURSION

June 4, 5, 6 and 7, 2009
REGISTRATION FORM

NAME: _____

EMAIL ADDRESS: _____

Cost per person: \$100 Registration deadline is *May 15, 2009*

There is a limit of 30 registrants.

All participants must be members of the Michigan Basin Geological Society

Annual membership fee is \$25 and applications can be downloaded at

www.mbgs.org/Membership-Application.php

Send payment in US Funds with the registration form (and application if applicable) to:

Copper Country Field Excursion, Michigan Basin Geological Society

P. O. Box 18074, Lansing, MI 48901-8074

The fee will include the following: Friday museum donations, Quincy Hoist and Mine tour fee and sandwich lunch; Saturday Adventure and Caledonia mine tour fees, pasty lunch and donation to the Seaman's Mineralogical Museum.

You will be responsible for: your lodging and meals (except for Friday and Saturday lunches), all your transportation to and from Houghton and during the field trip. Carpooling will be coordinated on Friday and Saturday.

You must be a member of the Michigan Basin Geological Society to participate. You can become a member by retrieving an application at our website <http://mbgs.org>. Registrations should be submitted no later than May 15th, 2009. Please call ahead to confirm openings are available.

A block of rooms have been reserved for the participants at the Holiday Inn Express, 1110 Century Way Houghton, MI 49931. You are responsible to make your own reservations by calling (906) 482-1066 direct. The base rate for a room is \$65/night and does not include taxes. Please let the hotel registration know you are with the Michigan Basin Geological Society to get the group rate. This rate is good only through to May 15th, 2009.

Boots with ankle support, safety glasses and a light jacket are recommended to participate in the Saturday mine tours. Helmets and headlamps are provided. Safety glasses are strongly encouraged if participating in any rock collecting activities.

If you have any questions, please contact Mark Wollensak at wollensak@voyager.net or by calling (517) 719-8321.

DESCRIPTION OF EVENTS

Thursday Evening Lecture: “Boom to Bust: The Life Cycle of a Great Mining District” presented by Dr. Larry Lankton, Michigan Technological University. This will tell the story of the Lake Superior copper district from its first mines in the 1840s to the closure of its last mine in 1995.

Dr. Larry Lankton is a Professor of History at Michigan Tech, where he has been on the faculty since 1981. His primary research topic has been the history of the Lake Superior copper mining district. He has published many articles and several books on this topic. With Charlie Hyde, in 1982 he co-authored Old Reliable: An Illustrated History of the Quincy Mining Company. In 1991 Oxford University Press published his Cradle to Grave: Life, Work and Death at the Lake Superior Copper Mines, and Oxford also published his Beyond the Boundaries: Life and Landscape at the Lake Superior Copper Mines, 1840-1875. Wayne State University Press, as part of its Great Lakes Book series, will publish Lankton’s forthcoming book: Boom to Bust: The Copper Mines and Copper Towns of Lake Superior, 1840s to 1990s.

Friday Evening Lecture: “Geology of the Mid-Continent Rift, Keweenaw Peninsula, Michigan” presented by Dr. William Rose, Michigan Technological University. The Keweenaw Peninsula and Isle Royale are one of the most extensive exposures of the volcanic rocks of the Proterozoic Mid Continent Rift, probably earth’s earliest subaerial continental flood basalt sequence. About 400 lava flows erupted in a supereruption and ponded an elongate rift basin 1097 to 1095 ma. Some of the flows are hundreds of feet thick and took more than 1000 years to solidify (magma oceans). Conglomerates and fluvial subaerial redbed sandstones occur within and above the lavas. The rift subsided during eruptions creating a synclinal basin which was later up thrust and compressed by the Grenville orogeny. Native Copper mineralization is a unique and spectacular feature of the Keweenaw, the result of a very extensive hydrothermal system which permeated the rift layers and mineralized porous conglomerates and lava flow tops. The rift rocks were buried by Paleozoic rocks which were eventually nearly completely eroded, and now the Proterozoic rift deposits are covered only by Pleistocene glacial deposits.

Dr. William Rose is a volcanologist/professor who has worked on active volcanoes in Central America and other active regions for more than 40 years. He leads one of the world’s leading volcanological research groups at Michigan Tech, where he has taught since 1970.

Saturday Evening Tour: Seaman Mineralogical Museum is the Mineral Museum of Michigan and a Keweenaw National Historical Park Heritage Site. One of the finest collections of minerals in North America is on display at The Mineral Museum of Michigan. Be awed by the artistic beauty of nature's creations. About 8,000 mineral specimens are on display and the total collection consists of more than 30,000 specimens. The museum features the world's best collection of crystallized native copper and native copper in crystallized calcite. Among the specimens on display are numerous examples of the finest specimen of an individual mineral species. The museum contains one of the finest collections of North American celestite and native sulfur. Special exhibits include native silver, datolite, Lake Superior agates and greenstones (chloraastrolite- the gemstone of the state of Michigan). A well represented suite of worldwide mineral are also on display.

A guided tour of the museum will be provided by Dr. Theodore Bornhorst, Professor of Economic and Engineering Geology, Michigan Tech University.

Friday Field Excursion to the Mining History of the Copper Country: Scott See, MTU PhD candidate, and Bill Haller will guide the participants to local museums and sites of historical importance during the morning and afternoon. Included in the trip will be a tour of the Quincy Mine and will include a video, a tour of the surface structures, tram ride and entry into the underground workings. The Quincy Mine was owned by the Quincy Mining Company and operated between 1846 and 1945, although some activities continued through the 1970s. When the mine ceased production in 1945, the Quincy Number 2 shaft was the world's deepest shaft, at 9,260 feet (2.82 km or 1.75 miles) along the dip of the deposit. To raise and lower ore and workers into this shaft, the world's largest steam-driven mine hoist was built in 1918 and housed in the Quincy Number 2 Hoist House.

Saturday Field Excursion to the Adventure Mine and Caledonia Mine: The Adventure Mine operated from 1850 to 1920 and is one of the best preserved mine sites of its age. Like almost all of the mining locations of the Copper Country, the Adventure was opened on existing prehistoric excavations located on Adventure Bluff. These prehistoric workings date to about 5,000 years before present and were very extensive. The mine consisted of five shafts; four were inclined at 45 degrees to follow the ore body and one was vertical. The deepest of these shafts, the No. 3, contained 13 levels and extended down 1300' following the ore body. The site tour will consist of a 30 minute abbreviated historic surface tour including mine openings and shafts, prospector pits, old mine foundations and prehistoric mine workings (approx. 5000 years before present). The underground tour will enter by the No. 1 shaft and see solid pieces of native copper weighing hundreds of pounds left behind by earlier miners. Participants will walk through the largest rooms of the mine and past shafts to lower levels.

The Caledonia Mine is privately owned by Red Metal Explorations and operated for specimens. The mine is set in the side of a mountain overlooking the beautiful valley of the Flintsteel River. Exceptional exposures are provided in the mine to see and discuss the mineralized Knowlton and Butler Series flow top lodes. Red Metal Explorations acquired the mineral rights in 1985. The No. 4 Caledonia adit was reopened for a currently active program of exploration. The copper that is recovered by Red Metal Explorations is prepared and sold as specimens. The largest single piece removed to date weighed 1360 kg (3000 lbs). Other specimens recovered by Red Metal Explorations include native silver, datolite, calcite, epidote, adularia and native copper crystals.





**Michigan Chapter
American Institute of Professional Geologists
MEETING ANNOUNCEMENT**



Wednesday, June 17, 2009

Special Section Meeting

Members of the AIPG Michigan Section are invited to attend an informal luncheon meeting. The AIPG National Executive Director, Bill Siok, will be joining Section members in meeting discussions. The agenda will consist of discussing the state of the profession, potential impacts to members of the MDEQ-RRD program redesign, an invitation to members to attend the 2009 annual meeting in Grand Junction, Colorado, and individual member's comments about AIPG and how value could be added to membership. This is your chance to provide feedback on the organization directly to a member of the National Headquarters staff.

Location: To Be Determined, Howell/Brighton Area

Cost: Also to be determined and based on the number of attendees. Maximum cost estimated to be \$25.00 (lunch plus cost for room space), but may be less.

Time: 12:00 to 1:00 pm (approximately)

RSVP: We are asking that members that want to attend this meeting to please RSVP to Vicki Hill at national headquarters (vlh@aipg.org or (303) 412-6205) no later than Friday, April 3, 2009, so we can determine how many individuals the facility will need to be able to accommodate.

Those members that RSVP by the deadline will be provided specific meeting information regarding cost and location by the end of April.