

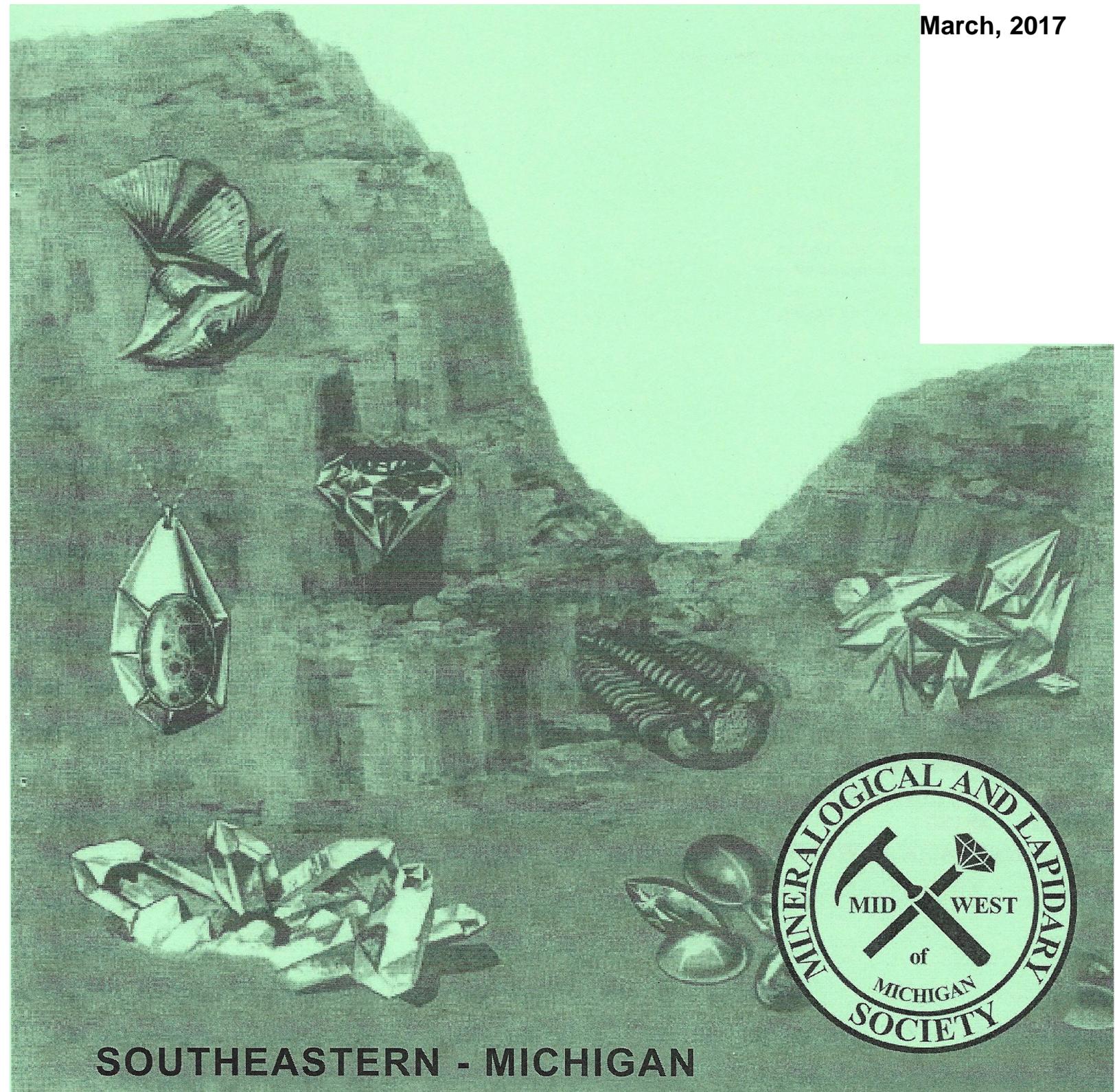
THE

ROCKPILE

Official Publication of the Midwest Mineralogical and Lapidary Society

AFFILIATED WITH • MIDWEST FEDERATION OF MINERALOGICAL AND GEOLOGICAL SOCIETIES • AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES

March, 2017



SOUTHEASTERN - MICHIGAN

Midwest Mineralogical & Lapidary Society

2017 OFFICERS

President: Dan Gumina (313)766-8944
Vice President: Diane Kuzara (734)675-5237
Recording Secretary: Julie Knechtges (734)444-9151
Treasurer: Doris Snyder (313)291-2133
Corresponding Secretary: Julie Knechtges (734)444-9151
Liaison Officer: Peter Kuzara (734)675-5237

COMMITTEE CHAIRPERSONS

Club Services: Ana Ferguson
Door Prizes: Mike Bomba
AFMS Scholarship: Pat Rutkowski
Local Field Trips - Mike Bomba/Gary Slominski
Summer Field Trips - Bill Barr
Education: Dave Hendershot
Insurance:
Historian: Tom Morris
Michigan Material: Tom Morris
Club Publicity:
Membership: Ana Ferguson
MMLS Scholarship: Velma Bradley
Program Coordinator: Mike Bomba
Property - Storage: Leonard Swisher
Property - Meetings: Leonard Swisher
Sunshine Reporter: Velma Bradley
Refreshments:
Web Site: Stacey Harper

ACTIVITIES

2017 Banquet:
2017 Swap: Lou and Cindy Talley
2017 Super Swap: Bill Barr / Tom Morris
2017 Auction:

The Rockpile Staff : Editor Peter Kuzara,
email: Kuzara1126@gmail.com 734-675-5237

MMLS website - www.mmls.us
Email - rockhounds@mmls.us

General Club meetings are held at 7:30 p.m. on every
third Tuesday of the month (except July and August) at
the Democratic Club of Taylor, 23400 Wick Rd., Taylor,
MI 48180

GUESTS ARE ALWAYS WELCOME

STUDY GROUPS

Advance Lapidary:
Basic Lapidary:
Bead Study: Diane Kuzara
Faceting:
Mineralogy: Dave Esch
Paleontology:
Wire Study: John Lindsay
Silversmithing:

PAST PRESIDENTS

Robert Ellison (interim) 1956
Louis Cox 1957
Robert Heldenbrand 1958-59
Ralph Gamble 1959-60
Fred Miller 1960-61
Bert Smart 1961-62
Leo Nieman 1963
Nicholas Rothenthaler 1964-65
Robert Fedoruk 1966-67
John Good 1968-69
Cecilia Duluk 1970
Stanley Franczak 1971-72
E. Donald Stinnett 1973-74
Ralph Goniea 1975-76
Norman Hanschu 1977-78
Thomas Gibbs 1979-80
Harry Nagy 1981-82
Elspeth Gibbs 1983-84
Loretta Franczak 1985-86
Roland Snyder 1987-88
Jay Ross 1989-90
Tom Morris Jr. 1991-92
Diane Kuzara 1993-94
Bill Orban 1995-96
Glenn Swain 1997-98
Bill Peach 1999-2000
Diane Kuzara 2001-02
Cecilia Duluk 2003-04
Russ Ranker 2005-06
Dick DePodesta 2007-08
Rich Williams 2009-10
Leonard Swisher 2011-12
Mike Bomba 2013 - 14
Diane Kuzara 2015 - 16

THE PREZ SEZ: Hello Rockhounds

March is now upon us and so far we have seen more lambs than lions....be that as it may, we are marching into spring. So we have our annual spring swap next on our agenda. I encourage all club members to make sure their tables have been selected and all monies owed go to Lou Talley paid in full. I would welcome all members available to assist in working the club's sales table. Let's have a good swap. Club attendance is always a plus!! Dan

*Death leaves a heartache no one can heal,
Love leaves a memory no one can steal!
Condolences to our President, Dan Gumina, on the
passing of his father, Charles, and to his family.
All the members of MMLS.*

March Program: The second half of Rock Hounds the Movie by O. Dennie and T. Kent. Intro into some of the aspects of the Earth Science hobby-collecting rocks and minerals. Mike

Board Meeting Summary for January 13, 2017 Meeting called to order at 7:43 PM.

A motion was made to accept the November 11, 2016 meeting minutes as corrected, motion carried. Treasurer's report December 31, 2016 motion to accept was made and carried. February program is from "The Lizzadro Museum of Lapidary Art" as long as it is received. March Swap flyers are available (at general meeting) to hand out. 56 members have renewed membership, and for those who do not renew in March before the April issue goes out, March will be the last issue received. Thank you for your support! February field trip scheduled to Cranbrook Mineral Hall for more information see the February Rockpile for details. Still looking for refreshment and auction chairpersons. 2017 Budget was discussed, motion was made and carried. Next Board Meeting February 17 at Gumina or Kuzara house 7:30 pm. Meeting adjourned at 8:48 PM as Submitted by Julie Knechtges Secretary.

General Meeting Summary January 17, 2017 Motion was made to accept the January 17, 2017 meeting minutes as printed motion carried. Treasurer's report for December 20, 2016 motion was made to accept and carried. January program is the 40th Rochester Mineralogical Symposium April 18-21, 2013 titled "Big Fish River in Rapid Creek" by Ian Niklin. New auction and refreshment chairpersons are needed for 2017. New government rules were proposed for collection on federal land. Motion was made and carried to support the California Clubs letter about this issue, a letter will be sent advising MMLS support. 2 Visitors were welcomed. February field trip scheduled to Cranbrook Mineral Hall for more information see the February Rockpile for details. A donation was accepted and thanked for Historical purposes of past Rockpiles. Metro Rock Swap will be March 25th, a few tables left for rental, if you reserved a table please make your payment. During the March show reservations and payment will be accepted for October SuperSwap. The 2017 Budget approval motion was made and carried. A class will be held for mine safety and first aid certification. A motion was made to adjourn meeting at 8:15 pm, motion carried. Summarized by Secretary Julie Knechtges.

Remember The 45th Annual MMLSSwap

March 25th 2017 10:00am to 5:00pm
St. John's Lutheran Church
13115 Telegraph Road
Taylor, Michigan
For Table Reservations and information call
734-837-8920
PUBLIC INVITED
FREE ADMISSION
FREE PARKING
REFRESHMENTS AVAILABLE
SWAP SELL BUY
MINERALS, FOSSILS, JEWELRY, BEADS,
CRYSTALS, SLABS, LAPIDARY AND RELATED
BOOKS

THE ROCKPILE

Volume LXI

Issue 3

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Welcome New Member!

Adrienne Wallace- Povirk

394 Kings Hwy.

Wyandotte, MI 48192

Tel 989-551-9106

Email: aewallace14@gmail.com

Address Update

Stacey Harper

15312 Elwell Road

Belleville, MI 48111

Cell Phone 734-828-7253

Mine Safety Class

Will be taught by John Lindsay. The class will be held in April. If interested contact John Lindsay for date, time and cost.

WIRE WRAP CLASSES

Anyone interested in a study group for wire wrap please contact John Lindsay for dates, time and more information

NOTICE TO STUDY GROUPS IF THERE IS CHANGE IN YOUR MEETINGS PLEASE LET THE EDITOR KNOW!!!!

Dates to Remember

Contacts for study groups

Bead study, Diane Kuzara, 734-675-5237

Mineral study, David Esch, 734-665-5574

Wirewrap, John Lindsay, 734-604-8561

Lapidary work shop, Frank Konieczki

734-323-2218

ATTENTION MEMBERS: The study groups with more than one night in the month, dates will be listed together.

March 2nd & 16th Bead study group will meet at the Kuzara's, 20281 Thomas, Brownstown, MI at 7pm.

March 6th, 15th & 20th Lapidary work shop
2009 W. Michigan Ave., Ypsilanti, MI., 7pm to 10pm. Fee is \$2.50 for each evening.

March 16th Mineral Study group will meet at Dave Esch's house, 227 Barton Shore Dr., Ann Arbor MI., at 7:30pm.

March 17th Board Meeting and Rockpile Deadline at Mike Bomba's at 7:30pm.

March 21st General meeting will be held at the DEMOCRATIC CLUB OF TAYLOR, 23400 WICK RD., TAYLOR at 7:30pm.

March 25, 2017 45th Annual Metro Rock Swap Hosted by the Midwest Mineralogical & Lapidary Society. At St. Johns Lutheran Church, 13115 Telegraph Road, Taylor, MI. For table reservations and information call 734-837-8920

April 3rd, 17th & 19th Lapidary work shop
2009 W. Michigan Ave., Ypsilanti, MI., 7pm to 10pm. Fee is \$2.50 for each evening.

April 6th & 20th Bead study group will meet at the Kuzara's, 20281 Thomas, Brownstown, MI at 7pm.

April 14th Board Meeting and Rockpile Deadline TBA

April 18th General meeting will be held at the DEMOCRATIC CLUB OF TAYLOR, 23400 WICK RD., TAYLOR at 7:30pm.

April 20th Mineral Study group will meet at Dave Esch's house, 227 Barton Shore Dr., Ann Arbor MI., at 7:30pm.

Sister Club Events

March 3 - 5 Eastern Indiana Gem & Geological Society, Wayne County Fairgrounds, 861 N. Salisbury, Richmond, Indiana For information Judy Burton jleeburton@woh.it.com

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March 4 -5 The Roamin Club Silent Auction.
Schoolcraft College, 18600 Haggerty Road, Livonia,
MI, Clarence Sterling, cw.sterling@sbcglobal.net

April 6 -8 Indian Mounds Rock and Mineral Club.
Roger's Plaza Town Center, 28th St. at Clyde Park.
For information Kreigh Tomaszewski
kreigh@gmail.com

April 8- 9 Columbus Rock and Mineral Society,
Northland Performing Arts Center, 4411 Tamarack
Blvd., Columbus,OH., For information Craig
Kramer, craig.kramer@wowway.com

From The Editor: My Two Cents.

It is that time of the year when the gem and mineral shows start appearing on the calendar. I stated in the past that if at all possible we should make an effort to attend some of these shows. Our sister clubs need and appreciate our support. Our swap is coming up and we need their support. I still recommend attending our sister club's events. I always find some thing of interest there, it might be a display or what a new dealer is offering. PETE

Kid's Corner

MICHIGAN MINERALS A- Z ...Continued

By JohnPetersMMSEducationChair

In Michigan, you can find a mineral that starts with every letter of the alphabet. Continuing from the list in the November issue, here are the minerals covering the *second half* of the alphabet from N-Z.
Neotocite - A hydroous silicate of manganese and iron with an uncertain composition. Found in Gogebic and Iron counties.

Olivine - Used in gemstones, in bricks, and in refractory sand. Found in Houghton, Iron, Keweenaw, and Marquette counties.

Pyrite -Also known as "fool's gold". Used in explosives, fertilizers, and insecticides. Found in Alger, Alpena, Antrim, Baraga, Branch, Calhoun, Clare, Dickinson, Eaton, Gogebic, Gratiot,

Houghton, Huron, Iron, Jackson, Keweenaw, Marquette, Monroe, Newaygo, Ogemaw, Ontonagon, Presque Isle, Saginaw, Washtenaw, and Wayne counties.

Quartz - Used to make glass, also used as an abrasive in some sandpapers. Found in Alger, Antrim, Arenac, Charlevoix, Chippewa, Dickinson, Gogebic, Houghton, Huron, Iron, Keweenaw, Luce, Marquette, Monroe, Ontonagon, Schoolcraft, Van Buren, and Wayne counties.

Rutile - Used as a coating on welding rods. Also used in pigments for paints. Found in Iron and Marquette counties.

Silver - Used to take a picture with cameras, in chemistry, jewelry, and electronics. Found in Baraga, Dickinson, Houghton, Iron, Keweenaw, Livingston, Marquette, and Ontonagon counties.

Talc - Used in baby powder, facial makeup, ceramics, and paints. Found in Dickinson, Gogebic, Iron, and Marquette counties.

Uraninite - Used to prepare fuel for nuclear reactors. Found in Dickinson and Iron counties.

Vladimirite - A rare calcium arsenate mineral. Found in Keweenaw County.

Wollastonite - Used in asbestos, siding, roofing tile, and ceramics. Found in Dickinson and Keweenaw counties.

Xonotlite - A calcium hydroxide silicate. Found in Keweenaw County.

Yttrifluorite - Variety of fluorite where the element, yttrium, partially replaces the calcium in its crystal structure. Found in Dickinson, Houghton, Keweenaw, and Marquette counties.

Zircon- Used in fabricating metal, and gemstones. Found in Dickinson, Houghton, Keweenaw, Marquette, and Ontonagon counties.

Source: WMU-MGRRE Core Kids. Adapted from Michigan Dept. of Environmental Quality, Geology.com
From MMS Conglomerate 12/2016

Pyrite Mirrors

by Andrew A. Sicree

The first mirrors

If you lived during the Stone Age, how did you know what you looked like? In modern life we take mirrors for granted. Indeed, mirrors are everywhere: in the bathroom, over the dresser, by the front door, hanging from the windshield of your car. Most of these mirrors are glass with a silvered backing. Some might be metals such as polished chrome-plated steel. But if you lived in a culture that didn't have glass and had metallurgy limited to copper and goldsmithing, what could you use for a mirror? You could, of course, examine your reflection in a pool of still water, but the reflection isn't very bright and you can't hang a pool of water on your wall. Some ancient cultures had metallurgical technologies sufficient to make mirrors of polished brass or bronze. One classical account reports that, as Rome laid siege to Syracuse during the Second Punic War (214-212 BC), the Greek scientist Archimedes used bronze mirrors to reflect sunlight, focusing it on the attacking Roman fleet setting their ships on fire. Bronze is an alloy of copper and tin (brass is copper and zinc). But what does a pre-Bronze Age culture use for a mirror? The oldest known mirrors were manufactured from polished obsidian. Many of these mirrors were simply obsidian cobbles, one side of which was ground to a flat surface and then polished. Such a mirror would reflect light but any image would appear against a black background. Obsidian mirrors found in Anatolia (in Turkey) range back in age to 6000 BC. Obsidian mirrors were also used in Central and South America beginning at about 2000 BC. Mirrors made from polished anthracite coal have also been found in South America. The ancient Egyptians used mirrors of polished copper beginning approximately at 3000 BC. Metal-coated glass mirrors were invented in the first century AD.

Olmec mineral mirrors

Other ancient cultures solved the mirror problem in an ingenious manner: they created mirrors of polished minerals such as pyrite (FeS_2 , cubic) or iron oxide minerals such as magnetite (Fe_3O_4 , cubic), hematite (Fe_2O_3 , trigonal), and ilmenite (FeTiO_3 , trigonal). The Mesoamerican Olmec culture (1500 -

400 BC) produced note-worthy numbers of mineral mirrors. Many Olmec mirrors were made from pyrite. Others were made from iron oxide minerals such as hematite, magnetite, and ilmenite. One extraordinary Olmec mirror from Las Bocas, Mexico, is a mosaic of several hundred faceted fragments of pyrite. Another Olmec mirror was made from a large nodule of pyrite - a flat surface was ground into one side. Experienced mineral collectors may be surprised to hear that pyrite mirrors survive to be found in archaeological sites. After all, it is not unusual for pyrite specimens in mineral collections to decompose in a few decades or even a few months. Some pyrites oxidize rapidly, releasing sulfuric acid, and some pyrite mirrors uncovered at Mayan or Olmec sites are indeed corroded. The fact that many are found unoxidized may be attributable to the fact that when buried in a grave, the pyrite is sealed in an anoxic (oxygen-free) reducing environment. Also some pyrites are much more stable than others - it is likely that Mesoamerican artisans knew this and chose their raw materials from sites known to produce more stable pyrites. Large numbers of concave mirrors of hematite, ilmenite, and magnetite have been unearthed in Guerrero, Mexico, and are attributable to cultures akin faceted hematite mirror worn as pendant (hole at top); Southern Veracruz, Mexico, AD 200-500 to the Olmec. Massive hematite was sliced and ground to a convex shape with an unfinished back. A round or oval convex mirror was cut into the center of the front and finely polished. The optical quality of these mirrors attests to the extraordinary skill of the lapidaries who manufactured them. Many mineral mirrors have holes drilled in their edges and were hung around the neck by a cord. Such a mirror was not used as an ordinary "looking glass," but rather it probably was thought to possess magical properties. Close up, a convex mirror would distort and magnify one's image. Then as one drew back from the mirror, your image would flip upside down. Convex mirrors may also have been used for fire-starting.

Mirrors among the Maya and Aztecs

Mineral mirrors were popular among the ancient Maya (whose Classical period ranged approximately 250 AD to 900 AD). Mayans can be seen primping

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themselves in front of mineral mirrors in Classical Mayan artworks such as pottery decorated with scenes from life in the royal court. Like the Olmec, the Maya cut mirrors from blocks of massive hematite and pyrite. These "uniform" mirrors undoubtedly took many hours to cut and polish and were thus quite valuable. The Maya also manufactured less expensive "composite" mirrors that have a stone base, a clay binding layer, and a reflective surface made from pyrite grains. Mayan mirrors were used for more than checking one's hair and makeup. They were imbued with mystical and magical powers and used for divination. The name of Tezcatlipoca, a major deity in the Aztec pantheon, translates from Nahuatl as "Smoking Mirror," a title that alludes to his connection with the obsidian used by the Mesoamericans to make mineral mirrors. Tezcatlipoca is often depicted with his right foot replaced by an obsidian mirror - an allusion to Aztec creation myths in which he loses his foot in a battle with the Earth Monster. Other depictions of Tezcatlipoca place the obsidian mirror on his chest and some have smoke emanating from the mirror. An extraordinarily well-made Aztec mosaic mask preserved in the British Museum shows another use for pyrite. Made in the 15th or 16th Century, this mask is based on a human skull and is covered with alternating bands of black lignite and bright blue turquoise. The whites of the eyes are made from white conch shell. But the pupils are orbs of polished pyrite.

Reflectivities of minerals

How reflective are these mineral mirrors? Some minerals are shinier than others. Finely polished surfaces of magnetite have *average* reflectivities of 21% while hematite surfaces have reflectivities of about 28%. Pyrite has a much higher reflectivity of up to 57%. This means that a highly polished pyrite surface will reflect back as much as 57% of the light that hits it. (Modern mirrors are much more reflective than pyrite - astronomical mirrors, for instance, reflect 95-99% of incident light.) But the story on reflectivity is a bit more complicated because the amount of light reflected depends upon the color (or wavelength) of the incident light. Hematite, for instance, reflects 34.5% of purple light

(wavelength= 400nm), but less than 23% of red light (wavelength= 700 nm).

Magnetite is less reflective but more consistent reflecting 22.3% of purple light (400 nm), 21% of red light (700 nm). Ilmenite is even less reflective, reflecting 21.2% of purple light (400 nm), and 18.6% of red light (700 nm). Not only is pyrite more reflective than these other iron minerals, its range is reversed. Pyrite reflects 38.2% of purple light and 57.0% of red light. The brassy yellow color of pyrite results from the fact that the mineral is much more reflective in the yellow, orange, and red portions of the spectrum than it is in the purple and blue end. For comparison, a gold surface reflects 24.9% of purple light (400 nm) and 83.6% of red light (700 nm) and polished silver reflects 69.8% of purple light and 86.5% of red light.

Refs.: • Nelson, Z., et al., 2009, "*Composite Mirrors of the Ancient Maya: Ostentatious Production and Pre-Columbian Fraud*,"

The PARI Journal, 9(4), p. 1-7.

• Stirling, M. W., 1981, *The Olmec & Their Neighbors*, Dumbarton Oaks, Washington DC. 351 p.

©2010, Andrew A. Sicree, Ph.D.

From Rocky Trails Nov. 2015

Ammonoite Trivia:

During medieval times ammonites were believed to be petrified snakes. They were fitted with carved heads and sold to pilgrims.

The original discus used by the ancient Greeks in their Olympics was a fossilized ammonite!

In India, ammonite fossils are identified with the god Vishnu and are used in various religious ceremonies.

Ammonite fossils are found all over the world and are used in many cultures as artifacts of wealth, luck and often have odd stories attached to them.

The Navajo and Indians of the North American Plains carried ammonites in their medicine bags for health and good hunting.

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They called the ammonites buffalo stones because of their resemblance to the North American bison.

Ammonite shells are among the most perfect geometric shapes in the natural world and have been studied for their strength and versatility as an architectural structure. The shape of the nautili's shell is used universally as an archetype of sacred geometry (the golden mean), mathematical precision and the wonder of nature across the world.

Squids and Octopi (cephalopods) are distant relatives of ammonites and are among the most intelligent animals on the planet.

The world's largest ammonite is 6.5 feet in diameter and is housed at Seppenrade near Munster in Germany. From MMS The Conglomerate 1/ 2016

Did You Know?

1. Your shoes are the first thing people subconsciously notice about you. Wear nice shoes.
2. If you sit for more than 11 hours a day, there's a 50% chance you'll die within the next 3 years.
3. There are at least 6 people in the world who look exactly like you. There's a 9% chance that you'll meet one of them in your lifetime.
4. Sleeping without a pillow reduces back pain and keeps your spine stronger.
5. A person's height is determined by their father, and their weight is determined by their mother.
6. If a part of your body "falls asleep," you can almost always "wake it up" by shaking your head.
7. There are three things the human brain cannot resist noticing-food, attractive people, and danger.

8. Right-handed people tend to chew food on their right side.

9. Putting dry tea bags in gym bags or smelly shoes will absorb the unpleasant odor.

BENCH TIPS BY BRAD SMITH

From the Backbenders Gazette 8/16
SHEET & WIRE STORAGE

The more you work with jewelry, the more problems you have finding the piece of metal you need. My pieces of sheet were generally stored in various plastic bags, and the wire was in separate coils. Few were marked, so it often took me a while to locate that piece of 26 ga fine sheet I bought last year, especially since I usually take my supplies back and forth to classes.

A tip from a friend helped me organize everything. I bought an expanding file folder from the office supplies store (the kind that has 13 slots and a folding cover) and marked the tabs for each gauge of metal I use. Then I marked all my pieces of sheet with their gauge, put them in plastic bags, marked the gauge on the bag, and popped them into the folder. I usually store coils of wire loose in the folder, but they can also be bagged if you prefer. I use one tab for bezel wire and one for the odd, miscellaneous items.

The resulting folder is really convenient when I want to take my metal out to a class or workshop, and it's colorful enough for me to easily find in the clutter of the shop!

All eyes were on the radiant bride as her father escorted her down the aisle. They reached the altar and the waiting groom. The bride kissed her father and placed something in his hand. The guest in the front pews responded with ripples of laughter. Even the priest smiled broadly. As her father gave her away in marriage, the bride gave him back his credit card. From the internet

*Wishing Everyone A
Happy St Patrick's Day!!*

THE MIDWEST MINERALOGICAL AND LAPIDARY SOCIETY (MMLS) is an educational non-profit organization founded in 1956. The Society now has more than 100 members and is affiliated with the Midwest Federation of Mineralogical Societies and the American Federation of Mineralogical Societies. Significantly, MMLS has been recognized numerous times by the Midwest and American Federations with first place (gold level) awards in the annual All American Club Awards Program.

PURPOSE: The purpose of The MMLS shall be (1) to promote interest in and increase knowledge in the fields of mineralogy, geology, and paleontology, including lapidary and related arts; (2) to publish articles and information pertaining to these fields; (3) to encourage collections and to display specimens in these fields; and (4) to arrange field trips in support of the interests and activities specified.

GENERAL MEETINGS: the third Tuesday of each month, September through June, 7:30 p.m. at the Democratic Club of Taylor, 23400 Wick Rd., Taylor, MI 48180 **GUESTS ARE ALWAYS WELCOME.**

MEMBERSHIP: Applications for membership can be obtained at any general meeting or from any MMLS member. **DUES:** Entrance fee - \$3.00; annual dues - \$15.00 (adult), \$1.00 (junior) on a year basis. Membership expires each Dec. 31.

ANNUAL EVENTS:

March - Rock Swap and Sale November - Auction Coming is October 2016 our second Rock Swap and Sale!!

STUDY GROUPS: Special-interest study groups meet monthly, September through June. No additional fees are involved. Currently the following groups are active:

Basic Lapidary Advanced Lapidary Wire Study Bead Study Mineralogy Silversmithing (Silversmithing is now on hold until further notice.)

FIELD TRIPS: Several one day field trips and one longer (one to two weeks) field trips are conducted each year. Mostly, these field trips focus on the collection of mineral and fossil specimens at quarries, mines, and other known collecting sites in the United States and Canada. Field trips are restricted to MMLS members.

SCHOLARSHIP FUND: MMLS has established a scholarship Endowment Fund which provides scholarships to qualified students enrolled in an accredited college or university in southeastern Michigan who have completed at least their junior year and have a major in geology, mineralogy, paleontology or lapidary and related arts.

SEAMAN MINERAL MUSEUM: MMLS has designated the A.E. SEAMAN Mineral Museum at Michigan Technological University, Houghton, Michigan, as it's "adoptive" museum, pledging to support it with gifts to the museum's endowment fund and the donation of mineral specimens and services.

INTERNET WEB SITES OF INTEREST:

Midwest Federation: www.amfed.org/mw/index.html

American Federation: www.amfed.org

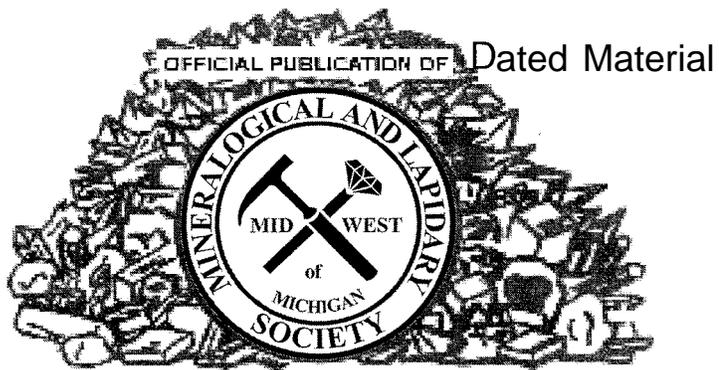
American Lands Access Association: <http://amlands.org>

The Rockhound's 10 Commandments:

1. Thou shall not touch thy neighbor's minerals unless he places them in thy hands.
2. Thou shall not test the strength of crystals by pushing, squeezing or biting.
3. Thou shall not drop thy neighbor's fossils, for many do not bounce properly.
4. Thou shall not place thy neighbor's specimens in thine own pocket.
5. Thou shall not collect at a neighbor's land unless unless thy neighbor knowst he's there.
6. Thou shall not argue names of minerals too violently; for sometimes thou couldst be wrong.
7. Thou shall not climb above thy neighbor's head when on a field trip, Jestthou art willing to spend the rest of the day digging him out.
8. Thou shall protect thine eyes, hands & feet, so that they mayst enjoy many future field trips.
9. Thou shall not encroach upon thy neighbor's diggin's, lest thy neighbor's hammer be dropped upon thee.
10. Thou shall not break uncollectable specimens.

Midwest
Mineralogical and
Lapidary
Society of
Michigan

.EDITOR
20281 THOMAS
BROWNSTOWN, MI
48183



The ROCKPILE

Bulletin Editor Contest Awards



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1993-1st Place (Large Bulletin) AFMS
1991-1st Place (Large Bulletin) MWF
1990-1st Place (New Editor) AFMS
1990-1st Place (New Editor) MWF