

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

April 2021



SOUTHEASTERN - MICHIGAN

Midwest Mineralogical & Lapidary Society

2021 OFFICERS

President: Dan Gumina (313) 766-8944
Vice President: Mike Bomba (313) 381-8455
Recording Secretary: Lori Haam (313) 562-5097
Diane Kuzara (734) 675-5237
Treasurer: Doris Snyder (313) 291-2133
Corresponding Secretary: Diane Kuzara (734) 675-5237
Liaison Officer: Peter Kuzara (734) 675-5237

COMMITTEE CHAIRPERSONS

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

ACTIVITIES

2021 Banquet: Dan Gumina
2021 Club Picnic: Stacey Harper
2021 Swap: Lou and Cindy Talley
2021 Super Swap: Bill Barr
2021 Auction: Dwayne Ferguson

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

Lapidary: Workshop at Frank Konieczki's
Bead Study: Diane Kuzara
Mineralogy: Bill Barr at David Esch's

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
Dan Gumina 2017 - 18
Diane Kuzara 2019 -2020

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**From The President's Desk:**

President Dan has scheduled a Board Meeting on Friday, April 16th at 7:30pm at the Kuzara's. Please wear a mask.

We have been informed by Bill Barr that Margaret Campbell is now under Hospice care.

We have been informed that Marve Starbuck passed away on March 1st from Covid. Marve is a past member of MMLS. Our condolences to the Starbuck family.

Lapidary Workshop

Reservations are required to attend. Please contact Frank Konieczki to make arrangements, 2009 West Michigan Avenue, Ypsilanti 48197, 734-323-2218.

If temperature falls to 20 or below the lapidary workshop will be closed.

Sister Club Events

The Tri County Rocks and Mineral Society Show Is **CANCELED**.

April 8-10: WYOMING, MI Indian Mounds Rock & Mineral Club Annual Show. Thurs./Fri 9:30-9; Sat 9:30-7. Rogers Plaza Town Center, 972 - 28th St. SW, Wyoming. Contact: Kreigh Tomaszewski, (616) 243-5851 **CANCELED**

April 24-25: TROY, OH Miami County Gem & Mineral Club Annual Club. Sat 10-6; Sun 10-4. Miami County Fairgrounds, 650 N. Co. Rd. 25A, Troy. Contact: Dewey Buck, (937) 308-3012; deweybuck12@gmail.com

April 24-25: CUYAHUGO FALLS, OH Summit Lapidary Club Annual Show. **CANCELED**

May 6-9: KALAMAZOO, MI Kalamazoo Geological & Mineral Society Annual

Show. Kalamazoo Expo Center, 2900 Lake St., Kalamazoo. Contact: Wrifton Graham, (269) 615-7073; wrifton@greatlakesgeneralstore.com

June 4-6: WAUSEON, OH State Line Gem & Mineral Society Annual Show. Fri Noon-6; Sat 10-6; Sun 11-4. Fulton County Fairgrounds, Junior Fair Building, 8514 SR 108, Wauseon. Contact: Sherman Kaedatzke, (517) 673-5487; sakardatzke@gmail.com

June 12: GRAND RAPIDS, MI Indian Mounds Rock & Mineral Club Rock Swap 9-noon. Woodland Drive-In Church, 2600 Breton SE, Grand Rapids. Contact: Kreigh Tomaszewski, (616) 243-5851; kreigh@gmail.com

June 12-13: MANSFIELD, OH Mid-Ohio Mineral & Fossil Club Rock Swap. Sat 10-6; Sun 11-5. Mansfield Fairgrounds, Fairhaven Hall, 750 Home Rd., Mansfield. Contact: Tom Kottyan, (419) 562-1152; themineralhouse@netzero.net

June 25-27: BEDFORD, IN Lawrence County Rock Club Annual Show. Fri 10-6:30; Sat 9-6:30; Sun 10-4. Lawrence County Fairgrounds, US Highway 50, Bedford. Contact: Michael Tweedate, (573) 466-9093.



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Michigan Mineral Beginning with the Letter W: Wollastonite



Wollastonite is a calcium inosilicate mineral (CaSiO₃) that may contain small amounts of iron, magnesium, and manganese substituting for calcium. It is usually white. It forms

when impure limestone or dolomite is subjected to high temperature and pressure, which sometimes occurs in the presence of silica-bearing fluids as in skarns or in contact with metamorphic rocks

Color: White, colorless or gray

Hardness: 4.5 to 5 on mohs scale

Occurrence: Dickinson and Keweenaw Counties

From the Internet Wikipedia

West Virginia State Gemstone:

Lithostrotionella

Silicified Lithostrotionella, so designated by House Concurrent Resolution No. 39 adopted on March 10, 1990, is technically not a gemstone but the fossilized Late Mississippian coral Lithostrotionella, preserved by the siliceous mineral chalcedony. It is found in the Hillsdale Limestone of the Greenbrier Group in portions of Greenbrier and Pocahontas counties in West Virginia ...

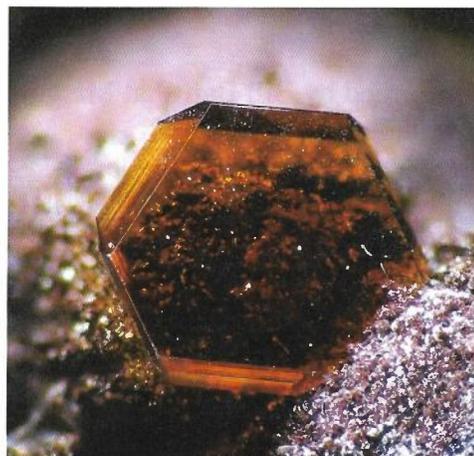


From the Internet

Mineral Often Found on Mars Discovered Deep in Antarctic Ice

Martian mineral, rare on Earth, found locked in Antarctic ice.

Scientists boring more than a



Jarosite crystal photo by Christian Rewitzer

mile deep into Antarctic ice have unearthed a mineral that's rarely seen on Earth but found in abundance on Mars, Science Magazine reported.

An international team of researchers has found evidence of the mineral jarosite in ice cores extracted from Antarctica. In their paper published in the journal Nature Communications, the researchers describe how the discovery came about and why they believe it could bolster theories regarding the presence of the same mineral on the surface of Mars.

Jarosite is very rarely found on Earth—it is generally seen in mining waste that has been exposed to air and rain. The researchers with this new effort were not looking for it in their ice cores—they were focused on minerals in deep ice cores that might help to better understand ice age cycles. But when they came across the yellow-brown mineral, their interest was piqued. X-ray absorption testing and electron microscopy showed it be jarosite.

The researchers suggest the mineral formed in ice pockets that also held small amounts of dust. Under the ice, they had eroded,

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the researchers noted. The finding brought to mind another site where jarosite is found—the surface of Mars.

It was found there by the Opportunity rover back in 2004 and has been found to be abundant. Finding jarosite on Mars created a lot of excitement at NASA and around the world, because prior research had shown that water must be present for jarosite formation.

The discovery of jarosite on Mars led scientists to come up with theories to explain how it might have originated. Some suggested it might have been left behind as salty water evaporated. Others suggested that Mars might have been covered by a massive ice blanket billions of years ago. They further suggested that jarosite could have formed in ice pockets.

That would have been possible, they noted, if the ice blanket grew slowly with dust blowing onto it. At the time the theory was formulated, it was difficult to test because it had never been found to form that way anywhere else, including Earth.

Now that jarosite has been found deep in Antarctic ice, the latter theory will likely become the most prominent. The researchers note that the theory still has one glitch—the ice in Antarctica contains very small amounts of jarosite—on Mars, the mineral is found in large slabs. The researchers suggest that the difference might be explained by the huge amounts of dust on the Martian surface.

The study was published in the journal Nature Communications. From the Internet Geologyin

The La Brea Tar Pits

When this photograph was taken around 1910, the location depicted was described as “the Salt Creek oilfields, 7 miles west of Los Angeles.” Today, this spot is in the middle of downtown Los Angeles, eloquent testimony to urban sprawl, but the pools and deposits of asphalt still remain. For these are the La Brea tar pits, containing one of the richest, best preserved, and best studied assemblages of



Picture from Internet

Pleistocene vertebrates, including at least 59 species of mammal and over 135 species of bird. The tar pit fossils bear eloquent witness to life in southern California from 40,000 to 8,000 years ago; aside from vertebrates, they include plants, mollusks, and insects — over 660 species of organisms in all.

Tar pits form when crude oil seeps to the surface through fissures in the Earth’s crust; the light fraction of the oil evaporates, leaving behind the heavy tar, or asphalt, in sticky pools. Tar from the La Brea tar pits was used for thousands of years by local native Americans, as a glue and as waterproof caulking for baskets and canoes. After the arrival of Westerners, the tar from these pits was mined and used for roofing by the inhabitants of the nearby town of Pueblo de Nuestra Señora la Reina de Los Angeles.

The bones occasionally found in the tar were first thought to be those of unlucky cattle. It was not until 1901 that the first scientific excavation of the pits were carried out. Scientists from the University of California at Berkeley, notably Professor John C. Merriam and his students, were among the first researchers to work on the La Brea fossils. Today, the George C. Page Museum of La Brea Discoveries, right next door to the tar pits themselves, displays huge numbers of La Brea fossils. The Page Museum is part of the Natural History Museum of Los Angeles County.

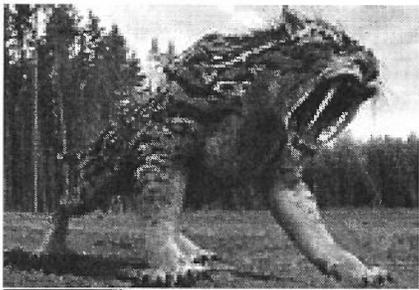
Life in Los Angeles was somewhat cooler and moister 40,000 years ago than it is today, as we can tell by examining the plant fossils from La Brea. Many of the plants and animals found in La Brea are identical or almost identical with species that still live in the area — or that would be living in the area had

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Los Angeles not gotten in the way. Yet a number of the large animal species found at La Brea are no longer found in North America: native horses, camels, mammoths and mastodons, longhorned bison, and sabre-toothed cats.

In today's ecosystems herbivores are much more abundant than carnivores. It is therefore curious that at La Brea about 90% of the mammal fossils found represent carnivores. Most of the bird fossils are also predators or scavengers, including vultures, condors, eagles, and giant, extinct, stork like birds known as teratorns. Why is this the case? If a pack of carnivorous mammals were to chase a lone prey animal into the tar pits, both predators and prey would become trapped. This would not have to be a frequent occurrence — an average of one major entrapment every ten years, over a period of 30,000 years, would be sufficient to account for the number of fossils found at La Brea. Scavenging animals, drawn to feed on trapped animals, would have a chance of getting trapped themselves. This would explain the preponderance of carnivores and scavengers.

Smilodon californicus



Picture from internet

Smilodon, the most famous of the sabre-toothed cats, is the second most common fossil at La Brea.

Literally hundreds of thousands of its bones have been found, representing thousands of individuals. It was first described by Professor John C. Merriam and his student Chester Stock in 1932. Today, it is the California state fossil. But Smilodon was not restricted to California; it ranged over much of North and South America.

From Rock Trails 12/19

Factors determining the value of all types of Opals

The Brilliance of colours is of paramount importance – the brightness of an opal is directly related to price.

The Patterns of colours when combined with brilliance may increase value many times.

Colours: the number of different colours affects price, although this rule should be used with great care. An opal with all the colours of the spectrum is not always more valuable than one displaying red/blue or green/blue alone, because the major determination of value is brilliance and pattern.

Shape: usually cut en cabochon; a stone with a domed surface will be more valuable than a similar stone with a flat surface. Opal which is too thin could fracture on impact. While oval stones may show a great demand, boulder opals often cut in free shapes can lend themselves to more distinctive designs.

Marks: most opals, particularly black, have sand in the back of the stones. This usually does not affect value. However, marks or cracks that are fairly noticeable in the face of the stone will drastically affect value.

Looking after your opal Although opals are a magnificent and unique gem, they do not have the resistance to breaking or scratching that diamonds or sapphires have. If you protect the stone from heavy blows, and abrasive materials, and don't subject it to extreme sudden heat changes, your opal should last forever.

If you have an opal doublet or triplet, never immerse it in detergent (and preferably not even water), as this may break down the adhesive quality of the glues that have been used and cause separation (or 'lifting').

Opal – an investment Opal production has decreased over the last decade. Demand has risen. More people are working the opal fields with greater mechanisation. Opal is like other resources – we are exhausting the existing known supplies and hoping new strikes will be found. The mining of opal is done by individuals or syndicates – no large companies are mining at any of the fields. Stockpiling of the gem therefore cannot occur; this means that prices are a true reflection of market demand.

From the Internet Lapidary world

April, 2021

Opal is a hydrated amorphous form of silica ($\text{SiO}_2 \cdot n\text{H}_2\text{O}$); its water content may range from 3 to 21% by weight, but is usually between 6 and 10%. Because of its amorphous character, it is classed as a mineraloid, unlike crystalline forms of silica, which are classed as minerals. It is deposited at a relatively low temperature and may occur in the fissures of almost any kind of rock, being most commonly found

with limonite, sandstone, rhyolite, marl, and basalt.

There are two broad classes of opal: precious and common. Precious opal displays play-of-color (iridescence), common opal does not.[4] Play-of-color is defined as "a pseudo chromatic optical effect resulting in flashes of colored light from certain minerals, as they are turned in white light." [5] The internal structure of precious opal causes it to diffract light, resulting in play-of-color. Depending on the conditions in which it formed, opal may be transparent, translucent, or opaque and the background color may be white, black, or nearly any color of the visual spectrum. Black opal is considered to be the rarest, whereas white, gray, and green are the most common.

From the Internet Wikipedia

From a Good Cab to "Wow"

Some stones that make pretty cabs can be turned into spectacular cabs with a little planning, effort, and extra work. The secret is to form layers of the slab material with something else.

First, let's talk about plume agates. Often, these beautiful agates contain plumes that are really something when you light a slab from behind. But when a cab is made they're rather blah. This occurs because there is no contrast to bring out the plumes. A wonderful solution is to cut the plume cab one half as thick and then make a doublet with a contrasting stone which is also cut half the normal slab thickness. For example, I had some Friday plume agate which made outstanding cabs when backed with either black obsidian or white glass slag. Other agates become outstanding when backed with red jasper. Other colors may work too. We all have great color no-pattern slabs. To test, put water

between them and look. If you decide they make a good pair, a careful gluing with water-clear 330 epoxy makes your doublet. Let dry at least two full days. Then treat it as any slab - with your templates, hunt for a good cab, mark it and trim it into a cab rough, then grind and polish as usual. The only change you must make is to make the cab somewhat flatter on top with steep curves into the edge. This keeps the bottom stone from showing separately when the cab is mounted.

A second way to enhance some materials into something spectacular is useful on some rocks with clear or nearly clear portions. It involves a technique which has grown to mean shoddy to a lot of people. The trick is gluing aluminum foil on the back of the finished cab. It can be beautiful when used to enhance natural materials instead of the infamous cheapo cabs whose only beauty lies in the foil. As an example of good use, let's consider Montana agate. Some Montana agate has within the clear-to-translucent portions a beautiful golden color which you cannot see until you view the cab with aluminum foil behind. Then a beautiful glowing gold-yellow appears. To use foil, you hunt for a pretty pattern within the agate as you normally would. Then make a cab just as normal. Then, using 330 epoxy again, glue the shiny side of the foil to the back of the cab. Let dry at least a day. Then carefully trim the edges and polish off any glue you got on top of the cab. The foil will peel off if you're not careful. The colorful array of aluminum foils available for gifts - gold, red, green, blue - can enhance the beauty of other stones just as the doublet in the method above. If you do this, your finding *must* be solid backed because the foil will scratch off if not protected. Give one or both methods a try. I guarantee you that the right combination will indeed make everyone say "Wow." - Mel Albright, Osage Hills Gems, Nov. 1991, via Rock Rustler's News, March 1993
From The Rockpile How To Book

The City of Chicago Is Sinking.

Here's Why Ice sheets that receded 10,000 years ago are responsible for the Windy City dropping at least four inches over the last century
By Jason Daley smithsonianmag.com

April, 2021

March 6, 2019

The city of Chicago is sinking, geologically speaking. Tony Briscoe at The Chicago Tribune reports that the Windy City and all of the towering structures built on its iconic skyline are at least four inches lower than they were a century ago. In the next 100 years, the city will continue sinking at the same rate.

While that might seem like a small drop compared to the height of the city's skyline, it's enough to redraw flood plains and interfere with the flow of sewer lines, among other issues. The sinking amounts to just a fraction of an inch per year, but eventually, that adds up. In fact, Chicago is sinking at the same rate as the city of Venice, Italy, which has concerned city planners there for years.

"Over a decade that's a centimeter. Over 50 years, now, you're talking several inches," Daniel Roman, chief geodesist at NOAA, tells Briscoe. "It's a slow process, but it's a persistent one."

So why exactly is the Windy City also the Sinking City? Blame it on the glaciers. The sinking is a belated effect from the massive ice sheets that once covered much of North America, the last of which, a two-mile thick monster, receded 10,000 years ago. The Earth's crust isn't quite as rigid as one might infer. Resting on layer of molten mantle, extra weight, like a lake, ocean or megatons of ice, can warp the crust. When that weight is lifted, the crust springs back and reorients itself in a process that can take thousands of years.

Soon after the ice sheets lifted, the geographic area that is now Chicago experienced a rebound. But more recently, the land is sinking as the subterranean mantle flows back to parts of Canada, where the ice sheet was heaviest and the mantle thinned out the most. This has created a line across the northern portion of North America. North of that line, the land is rising. South of that line, the land is sinking.

That line passes through the northern third of Lake Michigan and Lake Erie. meaning the northern lake beds are slowly rising and therefore, getting shallower, while the southern parts are sinking,

giving the lakes a tilt that make water levels rise. Because of this, Milwaukee is expected to see lake levels rise 5.5 inches over the next century and Cleveland could experience 4.4 more inches along its lakefront.

Chicago is not alone in having that sinking feeling. The post-glacial rising and falling of the Earth's crust, called isostatic adjustment, is happening along huge swathes of the Midwest and Eastern United States, especially along what was once the southern edge of those massive, heavy glaciers. That's due to something called the forebulge. By the latest estimates, Washington, D.C. and the Chesapeake Bay are expected to subside about six inches due to this forebulge collapse.

As glaciers in some parts of the world melt, this is playing out in real time and that's causing parts of Alaska, Russia, Iceland and Sweden to lift up as well, reports Jenny Chen for Smithsonian.com. It's also possible, Chen reports, that the shifting caused by the long-gone ice sheets could lead to more volcanic activity and earthquakes in some parts of the world.

For Chicago, there's not much the city can do to stop the Earth's crust from doing its thing. But if any city can engineer its way out of trouble it's Chi-Town, which was built on land just a few feet above the water table. In the 1850s and 1860s, city planners literally jacked it up by about 4 to 14 feet to make a new street level that would allow builders to add storm water drains and a sewage system. Ironically, that sewage system, which was cutting edge in its day, led to another massive project. Beginning in 1900, the city reversed the flow of the Chicago River so that it would carry the city's wastewater away from the Lake Michigan shore and its drinking supply, a project that some people now recognize as an environmental boondoggle. And then there's the Tunnel and Reservoir project, which has been ongoing since 1975 and has created 109 miles of massive sewers beneath the region to deal with billions of gallons of waste and floodwaters.

<https://www.smithsonianmag.com/smart-news/chicago-can-blame-glaciers-sinking-city-180971643/>
From Rock Trails 7/20

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 - \$20.00 (adult), \$2.00 (junior) on a year basis. Membership expires each Dec. 31.

ANNUAL EVENTS:

March - Spring Rock Swap and Sale, Banquet Fall- 2 Day SuperSwap and Sale November Annual Auction
Yearly Picnic

STUDY GROUPS: Special-interest study groups meet monthly, September through June. Currently the following groups are active: Bead Study, Mineralogy, Wire Study is conducted on individual basis.

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 collecting 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, 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/mw11index.html American
Lands Access Association: <http://amlands.org>

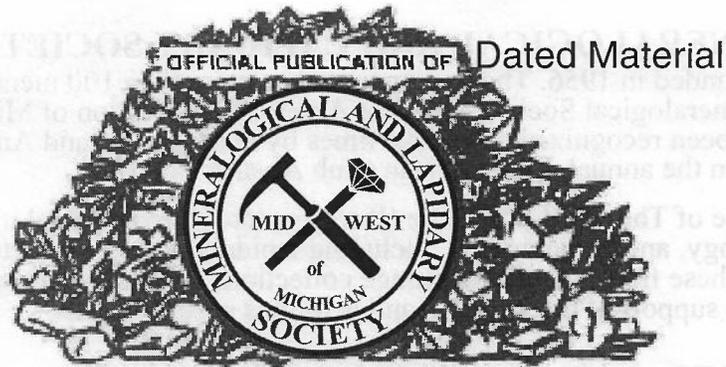
American Federation:
www.amfed.org

The Rockhound's 10 Commandments:

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

Midwest
Mineralogical and
Lapidary
Society of
Michigan

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The ROCKPILE

Bulletin Editor Contest Awards



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