

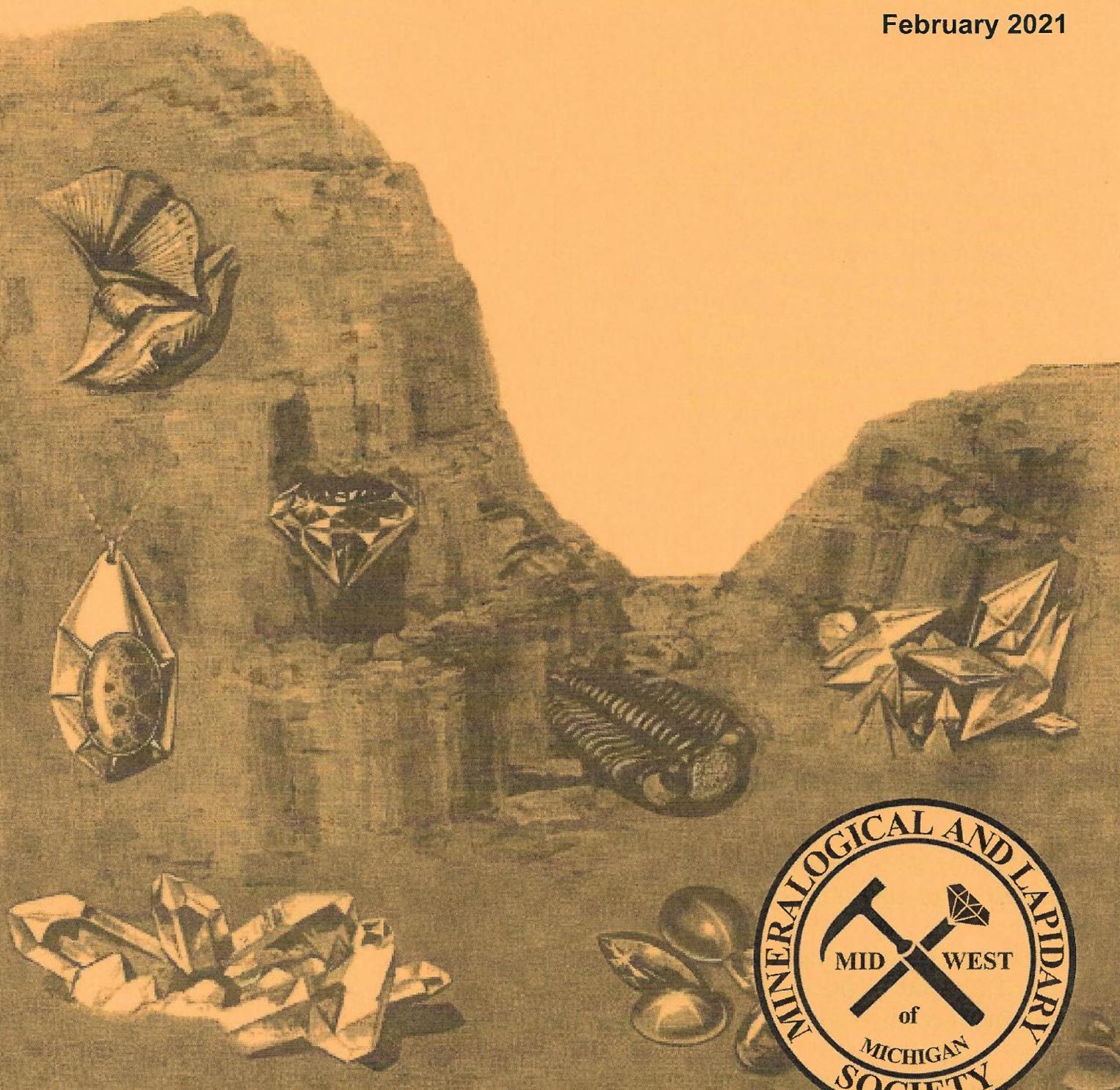
THE

ROCKPILE

Official Publication of the Midwest Mineralogical and Lapidary Society

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

February 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



From The President's Desk:

Hello Rockhounds. It's Feb. 2021 and I would hope all of you are in ok health and disposition . In other words being stubborn and courageous and creative! I encourage you to find time to de clutter and do what good you can for yourselves and our hobby. We will notify you when

changes happen that will allow us to meet again.

Take care ! Happy Valentine's Day also!

Accountability time ! Dues are still due!!! Ok! Let's

Due it! Thanks

Dan



HELP WASH OUT COVID

There was an incorrect phone number listed for the Lapidary Workshop in the January issue. The correct telephone number for the Lapidary Work Shop is 734-323-2218.

February 12, 2021 Board Meeting at the Kuzara's home at 7:30 pm. Please wear your mask.

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**.

Michigan Mineral Beginning with the Letter U: Uraninite UO₂



The Mineral uraninite is the most important radioactive mineral, and was once thought to be worthless. When the discovery of its useful uranium content was unveiled, it became extremely significant. It is the most common and widespread uranium mineral, making it the best known uranium ore.

Composition: Uranium dioxide, sometimes with small amounts of thorium

Color: Greenish to brownish-black, steel-black, black

Hardness: 5 - 6 on the mohs scale

Occurrences: Dickson and Iron Counties

From the internet Mineral net and The Mineralogy of Michigan by E. Wm. Heinrich

Virginia State Gemstone:

Amazonite



Although Virginia does not have an official state gemstone, amazonite represents the state well. Amazonite from Amelia County, Virginia, sets the world standard for quality.

From the Internet

February, 2021

Hot Rock Rising Beneath Central Greenland Is Melting The Ice From Below

Melting of ice in central Greenland is being accelerated by the heat of molten rocks rising from the core–mantle boundary, adding to sea-level rise, a study has found. Researchers from Japan mapped out the extent and branches of the so-called 'Greenland plume' — the rising flow of molten rock ascending beneath the island.

Geothermal activity is abundant in the North Atlantic region. Iceland and the Norwegian island of Jan Mayen have active volcanoes with their own mantle plumes. A team of researchers understands more about the melting of the Greenland ice sheet. They discovered a flow of hot rocks, known as a mantle plume, rising from the core-mantle boundary beneath central Greenland that melts the ice from below.

"Knowledge about the Greenland plume will bolster our understanding of volcanic activities in these regions and the problematic issue of global sea-level rising caused by the melting of the Greenland ice sheet," said Dr. Genti Toyokuni, co-author of the studies.

The North Atlantic region is awash with geothermal activity. Iceland and Jan Mayen contain active volcanoes with their own distinct mantle plumes, whilst Svalbard -- a Norwegian archipelago in the Arctic Ocean -- is a geothermal area. However, the origin of these activities and their interconnectedness has largely been unexplored.

The research team discovered that the Greenland plume rose from the core-mantle boundary to the mantle transition zone beneath Greenland. The plume also has two branches in the lower mantle that feed into other plumes in the region, supplying heat to active regions in Iceland and Jan Mayen and the geothermal area in Svalbard.

Their findings were based on measurements of the 3-D seismic velocity structure of the crust and whole mantle beneath these regions. To obtain the measurements, they used seismic topography. Numerous seismic wave arrival times were inverted to obtain 3-D images of the underground structure. The method works similarly

to a CT scan of the human body.

Toyokuni was able to utilize seismographs he installed on the Greenland ice sheet as part of the Greenland Ice Sheet Monitoring Network. Set up in 2009, the project sees the collaboration of researchers from 11 countries. The US-Japan joint team is primarily responsible for the construction and maintenance of the three seismic stations on the ice sheet.

Looking ahead, Toyokuni hopes to explore the thermal process in more detail. "This study revealed the larger picture, so examining the plumes at a more localized level will reveal more information."

The above story is based on Materials provided by Tohoku University.
From the internet GeologyIn

Tips For Rock Hunting In Northern Michigan

By Carly Simpson on July 17, 2015

The Great Lakes shoreline is decorated with vibrant stones in every shade. In particular, Northern Michigan's beaches are a known paradise for rock hunters. We talked with rock hound Amy Hites, the co-administrator of the Facebook community Michigan Rockhounding, for insider tips on the best beaches, weather and seasons for rock hunting. Hint: Build in some time on your Northern Michigan fall color tour since fall is the best time of all as autumn winds bring fresh crops of rocks constantly. And be sure to check out these additional tips for rock hunting in Northern Michigan.

What supplies should people bring when rock hunting? "Personally, I carry a utility tray with a handle like you would keep your cleaning supplies in. It has a few separate compartments so I can sort the rocks. A spray bottle is a must. The rocks must be wet to see them clearly. They all look like clumps of limestone until they are wet. You would be amazed at what is in front of you and you would never know it. I put a sifter, used by metal detectors, inside of that to sift small pebbles. A pick or garden tool for pulling up large rocks sunken in the sand, and a knee pad. If I plan to stay on the beach for the entire day and if it's hot I take my rock wagon to carry it all. Then I can

February, 2021

have a chair, a cooler and a beach bag. Almost forgot—my pocket rock guide.”

Are certain times or weather conditions better? “Summer is great so you don’t have to bundle up and it’s fine to get soaking wet. Winter is even better. I have dug under ice sheets for great finds. The beaches are empty. Fall is the best time of all as the winds of November bring fresh crops of rocks constantly and the ice isn’t on yet. Beaches are best right after a storm. Cloudy days are easier to see the stones. You can’t see patterns with sunglasses on either.”

Why was the Facebook community Michigan Rockhounding created? “The site was created to share information, from where to go to trying to ID and share our findings. We discourage bulk collecting for the sake of selling. The site is very successful. It went from 15 members to hundreds. We even had a producer from National Geographic contact us looking for members that could participate in a reality series for collecting in the UP.”

What can people do with the rocks they collect? “I make everything from paperweights to picture frames to wearable jewelry. Not to mention my photography that includes my rock subjects. My daughter makes lovely hand-poured beachscape candles. My personal favorites are my beach stone kleenex boxes.”

What do you like about rock hunting? “It is a free activity that anyone can partake in. You can take it as far as you want to. When you hold a fossil in your hand that is millions of years old, brought to the surface for us to do something special with or even leaving it on a desk to be a conversation piece, it does something to you. It changes how you look at things. It tells a story. It’s like opening a book. You want to get to the next chapter. So you research it, but you can’t stop there.”

<https://mynorth.com/2015/07/tips-for-rock-hunting-in-northern-michigan/>

From Rock Trails 1/21

Luminescence in Fossils

by Chase Jennings

Member of the Houston Gem & Mineral Society

With the increased availability and constantly decreasing costs of ultraviolet lights (better known as black lights), fluorescent minerals have steadily risen in popularity among collectors. For as little as \$20, you can buy a decent long-wave (395 nm) flashlight from eBay, which can be used to make more sensitive minerals, such as hackmanite, to fluoresce beautifully. You can also invest a couple hundred dollars for a nice 365 nm (optimal) long-wave light or a 251 nm short wave light. It is not commonly known that fossils also fluoresce and UV lights can be equally as useful in paleontology as they are in mineralogy. In experimenting with different lights and different fossils, I found that far more fossils fluoresce than one would expect, some so beautifully that I believe they would be better displayed under a UV light.

Before beginning an in-depth description of how and why fossils luminesce, it's important to understand what is meant by luminescence. Luminous simply means to give off light. Luminescent things give off light with little or no heat after being exposed to UV light. The atoms of the fluorescent material become excited, or energized, and emit light both during the energizing process and for some time afterwards as the atoms emit energy and return to their normal state. The different colors are caused by atoms emitting different wavelengths from low energy (reds, yellows, and oranges) to high energy (green, blue, or purple) depending on the mineral composition and structure. Luminescence is really a broader term to describe phosphorescence and fluorescence, as both give off light. Fluorescence is when an excited material emits light instantly in the form of tiny particles called photons. The material returns to its normal state instantly according to our eyes--within as little as a thousandth of a second.

Phosphorescence is when the atoms remain excited for some time after being energized, creating the "glow effect" as the material continues to emit photons for as little as seconds to hours after energization.

With luminescence being defined, many will then ask why these fossils luminesce. It's as simple as looking back at luminescent minerals. Fossils were once living organisms composed of and eventually

replaced by minerals. The mineral composition of a fossil determines what color it will glow under a UV light. Fossils absorb the minerals within the surrounding soils and sediments such as calcite, fluorite, uranium, phosphate, silica, and aragonite, causing the fossils to take on the same luminescent properties as the minerals of which they are composed. In some localities where the soils are rich in radioactive isotopes, such as Uranium (U235 and U238), Potassium (K40) and Rubidium (Rb87), all of which have half lives in the billion years, it has been found that fossil dinosaur bone actually acts as a sink for these isotopes, causing the bones themselves to become radioactive and to luminesce. This is why the real dinosaur bones you see displayed in museums are coated with a heavy lead-based paint—to protect both the public and museum staff from radiation exposure.

Now armed with knowledge of why fossils fluoresce, it's worth mentioning the tools used to make them do so. With constantly advancing technology, we now have both long-wave and short-wave LED flashlights that can cause fossils up to 30 feet away to luminesce (along with minerals and scorpions). True UV LEDs are becoming more affordable, although long-wave is most common. Short-wave UV LED lights are rare and expensive, but they do give more contrast when searching for fossils. If you are looking to purchase a UV light, I will suggest higher end LED UV lights over older technology simply because of the greater range you can search with these lights, which will make fossil hunting more practical and will often illuminate your fossils more brilliantly.

One may now ask what you can do with a UV light besides making fossils fluoresce so you can stare at the pretty colors. While not all fossils luminesce, in many localities you can find shark teeth, shells, eggshell, bones, trilobites, etc. that luminesce significantly compared to their surroundings, making them vastly easier to spot during the night than during the day, and opening an entirely new way of fossil collecting. UV lights can also be used when buying fossils to help to avoid fakes. Often times you will see fossils that may be questionable due to the extent of

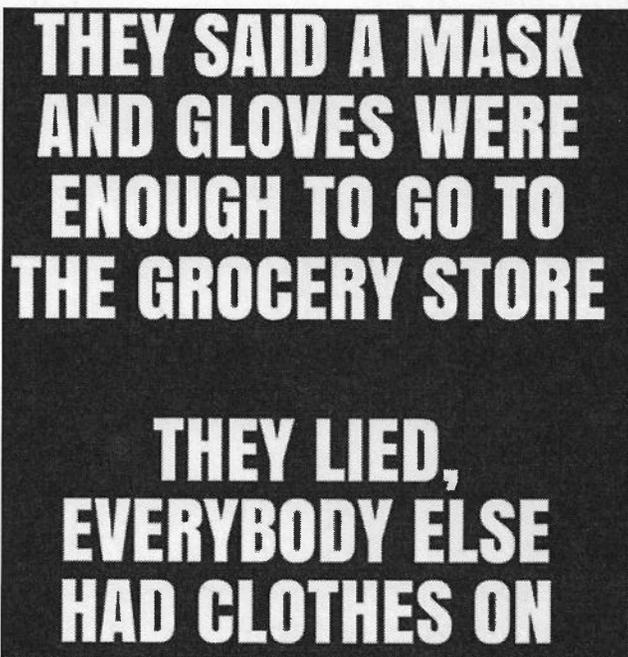
restoration or that may be partial or complete fabrications. Fossils from China and Morocco are especially notorious. While some fossils are complete fabrications made of epoxy, others may be a composite of pieces from different fossils or may have restoration where none is disclosed. For example, authentic Moroccan trilobites are found by first breaking them in half and gluing them back together before preparation, so all trilobites from Morocco will have at least some restoration. All Russian trilobites (except in a few extreme cases) also have restoration to varying degrees. Some restoration is OK and desirable with many fossils as long as it is disclosed and professionally done, but it is always good to know the extent and areas of restoration.

Most resins, epoxys, and glues fluoresce under UV light, making these restored areas often easy to differentiate. Butvar-76 and glyptal used in most professional restoration will fluoresce. Only polyester resin has been found not to fluoresce, but its availability and uses are limited. When looking at authentic restored fossils, the fossil material will not fluoresce—or will fluoresce orange, yellow, or green. Resins, epoxy, glue, etc. will fluoresce blue under UV light, making the distinction between fossil material and restored material quite obvious. If you prepare your own fossils, then you're in luck because UV lights can be useful in that field as well. When preparing fossils, sometimes the fossil is of similar coloration as its surrounding matrix, making matrix and fossil material difficult to distinguish. Using a UV light can help to guide a preparator so they do not damage the specimen on which they are working. Some fossils are nearly invisible in their matrix, meaning there is a large risk of damaging them without the use of a UV light. For instance, many shrimp and crab fossils from the Solnhofen limestone of Germany are practically invisible without the use of enhancing paints and staining, but they show brilliantly under UV light.

Scientists are constantly finding more novel ways to use these lights such as in the case of being able to reconstruct patterns and colors of seashells

found in Florida that once had bright and colorful patterns millions of years ago. These shells now look uniformly white and dull; however, under UV light these colors and patterns can still be seen, allowing us to reconstruct what these shells once looked like. Lastly, looking for particularly small fossils such as microfossils can prove much easier by using a UV light to make them fluoresce against otherwise similarly colored matrix, making them easier to sort such as in the case of matrix from shark tooth hill.

THE BACKBENDER'S GAZETTE
DECEMBER 2016



From the internet

Slumgullion Earthflow
Lake City, Colorado

Designated as a National Natural Landmark in 1983, this relatively young and still active slide is one of the best examples of a rare geologic phenomenon known as “mass wasting” in the world.



Centuries ago, a portion of the Lake City caldera broke off of

Mesa Seco and started moving down the steep slopes of the Lake Branch of the Gunnison River. Unlike many other slides, this was a slow-moving mass of materials known as mass flow or earth flow. The flow is about four miles long. Around 700 years ago, the flow dammed the Gunnison River’s Lake Fork to form Lake San Christobal. Soon after the damming of the river, the flow stopped.

Around three centuries ago, another slide from the same headwall started moving downhill. It has undergone active movement ever since at a rate of about 20 feet per year. Active areas of the flow can be seen in the assortment of tilted trees. The more trees that are tilted, the more active the flow.

The name Slumgullion comes from two sources. It’s often used by miners when describing the clay and mud left in the sluice when separating gold from ore. It’s also the name of stew.

Because of its uniqueness, the mass flow has been thoroughly studied throughout the years. The flow is faster in the summer when water is available and slower during the winter. The flow rate is related to tidal forces from the moon as well as air pressure. Pressure decreases at night, slowing the flow, and increases during the day, increasing the flow. Even climate change has had an impact on the geological wonder. Higher temperatures have slowed the flow and may even cause the newer flow to stop in the future.

Cannibal Mesa and Deadman Gulch, both named after the Packer Massacre, sit on the edge of the mass flow. The slide itself was first identified by Alferd Packer when he described the massacre site as, “being on the side of a large landslide.”

The mass flow can be viewed from the top of Slumgullion Pass to just outside Lake City on Colorado 149. Numerous pullouts exist along the west side of the pass with information on the flow. The flow has a high concentration of aspens making fall the best time to view the flow. Traffic is increased during this time and extra caution should be taken.

<https://www.atlasobscura.com/places/slumgullion-earthflow>

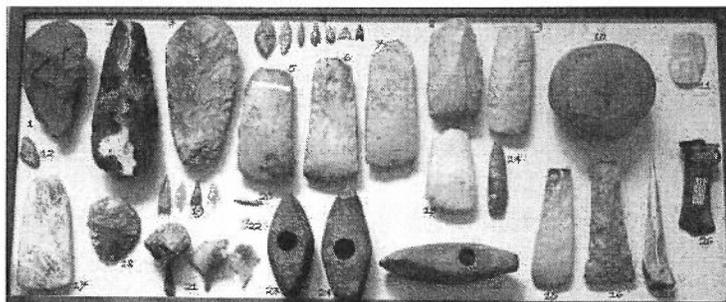
From Rock Trails 1/21

Why Are Rocks and Minerals

Important? by Kat Koch

For millions of years, rocks and minerals have been very useful

to humans. Throughout history, rocks like jade and obsidian were used to make tools and weapons like knives, hammers, axes, and hooks for catching fish.



Historically rocks and minerals have also been used as jewelry or body adornments. Before humans had matches, rocks were used to create different tools meant for starting fires. Minerals and rocks are found in batteries, soap, paper, detergent, toothpaste, makeup, sports equipment, dishes, pencils, cement and more. Rocks are used in all kinds of construction like ships, cars, roads, planes, buildings, homes, cellphones, televisions, radios and appliances. Some types of rocks like granite are used to make statues, counter tops, and gravestones. Imagine if we didn't have any of the products listed above. Wow! Where would we be without rocks and minerals? 95% of the Earth's crust is made of igneous rock (formed when lava from volcanoes or magma cools). Of the over 4000 minerals on planet Earth, only about 30 of them can be commonly found in Earth's crust. It is estimated that the average person on the Earth will use over one million pounds of rocks, minerals, and metals in a lifetime! That's the equivalent of approximately 50 Orca whales. Hard to believe isn't it?

Source: *The Tumbler*, June 2020, from Wikipedia, Science for Kids Club, Science Trek, USGS, Britannica

From the Conglomerate 9/20

Polishing Rhodochrosite

from the late Ed Wengerd's Notebook
via Chippers' Chatter 11/2015

When cutting Rhodochrosite, it is important that only water be used in the saw. An oil-based product will be absorbed, and the stone's color will be deadened.

After you've shaped the stone to its desired form, first sand on a 220 wheel, then move through the various mesh wheels. Use plenty of water, and don't apply too much pressure.

Check the stone carefully with a loupe or magnifying glass between wheels to be sure you've removed all the sanding marks and flat spots.

The best polishing agent for Rhodochrosite still is to use a felt wheel with tin oxide mixed with a small amount of vinegar.

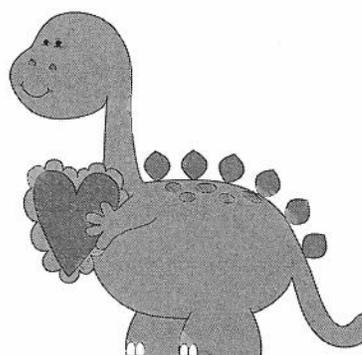
From The BackBenders Gazette 3/16

YOU WANT GEOLOGY
PUNS?



GIVE ME A MINUTE, I'LL DIG
SOME UP.

namegenerator.net



HAPPY
VALENTINES
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 - \$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.

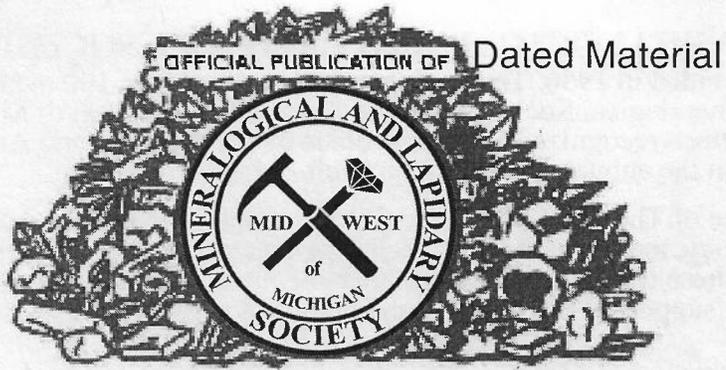
Thou shall protect thine eyes, hands & feet, so that they mayst enjoy many future field trips.

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
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48183



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

