ROCK TRAILS

Newsletter of the StateLine Gem and Mineral Society

VOLUME 61
ISSUE V
MAY 2021

In This Issue:

2021 Officers and Directors

President: Glenda Gafner, 517 403-6310
Vice-President: Charlene Hacker, 517 270-8061
Secretary: Richard Brzezicki, 269 267-7666
Treasurer: Doris Brzezicki, 269 267-1123
Past President: Sherman Kardatzke, 517 673-5487
First Year Director: Heidi Storehalder, 517 403-7626
Second Year Director: Jan Hauter, 517 286-6971
Third Year Director: Bill Schultz, 419 335-6791
Show Chairman: Sherman Kardatzke, 517 673-5487
Co-Show Chair: Glenda Gafner, 517 451-2079
Publicity: Edmund Jarzembski, 419 237-2000
Sunshine & Membership: Jan Hauter, Judy Snyder, Shirley McGovern
Library: Curt and Linda Miller.
Education & Lapidary:
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Meetings are held the first Sunday of each month
at 2:00 PM
at 201 W. Main St., Morenci, MI 49256

Secretary's Scoop

The State Line Gem and Mineral Society meeting began at 2:17 PM. There were seven members present. Glenda had posted a notice of the meeting to be held at the Island Park in Adrian on Facebook.

Doris made a motion to accept the Secretary's report as printed in the newsletter, seconded by Sherm and passed with all in favor.

Treasurer's report – Doris presented a written accounting of the club's income and expenses since our last meeting in July, 2020 which was accepted and signed by members. Glenda requested that she receive a copy of the report which was e-mailed to her that evening. In addition to the regular monthly expenses for rent and electric, other items paid were for Scholarship, postage, State of Michigan non-profit status, Nexicom for our web page, newsletter expenses, Insurance, Midwest Federation dues , and the rent to Fulton County Fair Board for the Junior Fair Building for our annual show. Income received was from the sale of the club's last 2 T-shirts, dues, donations, dividends and transfer from Savings. Doris reported that she had also completed the Event information for Midwest Federation at Sherm Kardatzke's request and included it with the dues payment. Membership cards for the Midwest Federation are available for members. Doris filed the Sales and Use Tax Form with the state of Ohio which was required by the state of Ohio even though we had no earnings in 2020.She also filed Form 990N with IRS for our 501 (c) (3) status. She then passed out a Projected Budget for 2021, not a requirement of the Treasurer's responsibilities, but helpful for members to understand overall income and expenses.

Sherm made a motion to accept the treasurer's report, seconded by Henry and passed with all in favor.

Doris gave Glenda the 2020 Treasurer's Report of Income and Expenses including Monthly Credit Union Statements and receipts for expenses for audit.

Glenda noted that she had added her name to the club's account, but was later notified that she had been removed because she did not meet the requirements of the credit union to be added. There was some discussion about who should be on the club's bank account and it was decided that the whole club should vote on whether the president should have full access to the club's funds.

Sherm reported that he was getting checks from vendors, but had forgotten to bring them to the meeting. He said he would get them to the treasurer to be deposited. The venue is totally booked. Linda Weilfaert asked if we were still able to have a kitchen and Sherm said he was told that we could do hot dogs and sausages, maybe soup and basically what we have done in the past. We just shouldn't get too fancy. We will be limited to 300 people in the building at a time, which Sherman thought would not be a problem. We will not have any demonstrators or kids activities inside the building. Steve Laut will demonstrate Flint Knapping in a tent outside the building.

Sherm was asked about advertising, and he brought posters and post cards to advertise the show. He also plans to advertise on WLEN radio on their free community calendar of events for non-profits

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and has notified the Midwest Federation requesting they advertise our show. He noted that this year's posters were a little bit smaller than last year's to bring costs down from around $200.00 to $90.00. Bill Schultz will distribute posters and cards in the Wauseon, Ohio area. Linda Weilfaert will distribute them in the Ann Arbor area.

Glenda reported that she could get a boost on Facebook for $5.00 a week. There was some discussion about the value of such a boost. Glenda made a motion to boost the show on Facebook for six weeks at $5.00 per week. Doris seconded the motion, and the motion passed with all in favor.

Sherm will check with Judy about raffle tickets. She does not plan to attend the show due to Covid-19 concerns but perhaps she can print up the tickets.

Glenda reported that she has gotten two scholarship applications back. She plans to ask Kathy to send out more application.

Glenda asked about interest in field trips. Henry thought he might like to visit the U.P. to look for agates and/or uperlites.

Bill Schultz reported that he talked with Beverly Mulholland, and she said if the club would like to honor Carl's memory, we could donate to either St. Jude's Hospital or the Sierra Foundation. After some discussion, it was decided that St. Jude's would be our choice. Doris made a motion to have the club donate $50.00 to St. Jude's Hospital in honor of Carl, seconded by Linda and passed with all in favor.

Sherm reported that the Toledo Club will have a show this year but not at the Stranahan Theatre. The new location has not been revealed yet.

There was discussion about needing more volunteers. Doris noted that at the June 2019 meeting, the club voted to give $5.00 food vouchers to volunteers who help at the show. Perhaps we could entice some of the younger volunteers with the vouchers.

Bill was asked about the status of our geodes. He said we had plenty but wondered if we should up the price of the Mexican geodes we buy, since our price on them has gone up. It was decided that we should raise the price slightly. Bill reported that we had lots of Indiana geodes. Linda suggested that we not raise the price on the small Indiana geodes since it is a learning experience for kids and parents don't mind spending a buck on a geode for their kids. That gets them interested and usually results in return customers for larger geodes.
Bill reported that we had 301 small Mexican geodes, 101 large Mexican geodes and 37 buckets of the Moroccan geodes.

Sherm reported that the Artalicious festival is on but reduced to one day. He has also learned that the Clinton Fall Festival will be held, as well as the Apple-umpkin Festival.

Sherm made a motion to adjourn, seconded by Richard and passed with all in favor.
The May 02 Meeting will be held at Island Park in Adrian at 2:00 p.m. The address is 1090 Broad St, Adrian, MI.

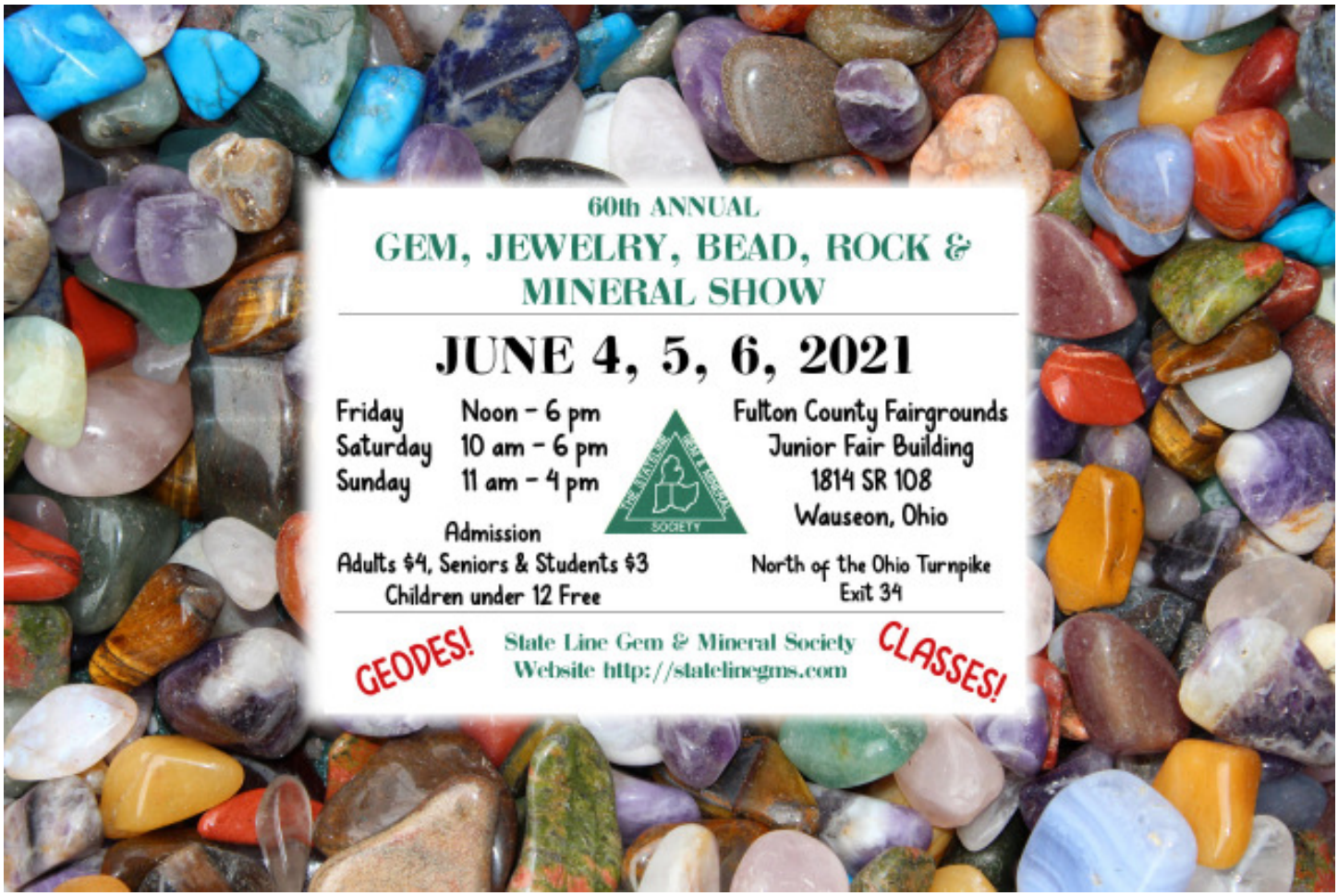
Respectfully submitted by Richard Brzezicki, Secretary

Treasurer's Statement

Please add this new member to your Membership List

Walt Koskowski
1977 N Erie St
Toledo, OH 43611
(419) 304-2176

Also, Linda Kardatzke's phone number is incorrect on the Membership List that was included in last month's newsletter. Her cell number is 734-718-8322. Please make the correction on your list.



Bench Tips

by Brad Smith

BEZEL PROBLEMS

When bezel setting a cab that has rather sharp corners, have you ever had problems pushing the metal down at the corners? It's a common problem often causing a wrinkle in your bezel and a grimace on your face.

In order for a bezel to capture the stone, the top edge of the bezel must be compressed and become shorter to lay down onto the stone. With a round or oval stone this naturally happens as you push and burnish the bezel. But when setting a stone with corners, the tendency is to push the long sides of the bezel down first. No compression occurs along the sides, and all excess metal is left at the corners. Compressing everything there is difficult. Often the only way to remove the extra metal at the corner is to make a saw cut and fold the two sides in to touch.

If you want a smooth bezel all around the corners, the simple solution is to set the corners of the bezel first. Then push in and burnish the sides. In this way the necessary compression is distributed along the length of all sides and not forced to occur at the corners. With the corners set first, the top edge of the bezel can easily be compressed along the sides.

CHEAPER & BETTER PICKLE

Most jewelers use a granular pickle mixed with water. The active ingredient is sodium bisulfate. This can be purchased online (http://amzn.to/2HkNTro) or from local stores as a common pool chemical used for adjusting the acidity of the water. It's sold under various names, so be sure to check the list of active ingredients for a brand that is 95% or more sodium bisulfate.

An added benefit is that the pool chemical is more pure in form than what is sold for jewelry use and does not cause the brown grime often found floating on the top of the pot.

Learn New Skills with Brad's "How To Do It" Books
Amazon.com/author/bradfordsmith

White Sands National Park

A curious white line on the horizon, White Sands has long sparked wonder in people passing through the Tularosa Basin. Standing on top of a dune overlooking this sea of sand, it can be difficult to imagine where all the brilliant white sand came from. To understand the origins of the world's largest gypsum dunefield, we must look back over millions of years during which just the right geologic and climatic processes took place in just the right order. Many of these processes continue today, allowing us to witness the formation of these unusual sands.

Long ago, an ancient sea covered most of the southwestern United States. It was during this time that layers of gypsum were deposited on the seafloor. The rise and fall of the sea level millions of years ago started the process of making the gypsum sand that covers the monument today. Many factors, including the latest ice age, had an effect on the formation of this magnificent landscape. The following journey through time shows the gradual transformation from sea to sand, and the amazing factors that allow this dune-field to exist.

280 to 250 million years ago
During this era, the earth's continents were joined together in one massive mega-continent, known as Pangaea. Part of the southwestern United States, including what is now southern New Mexico, was covered by a shallow sea, known as the Permian Sea. Over millions of years, rising and falling sea levels left behind thick layers of mineral gypsum and other dissolved minerals on the seafloor.

70 million years ago
As the earth's tectonic plates started to shift and collide, the pressure from these movements pushed up land, eventually creating many of our modern-day mountain ranges, including the Rocky Mountains and the mountains surrounding the area that is home to the park today.

30 million years ago
Eventually, the tectonic plates began to pull apart in opposite directions, causing the development of numerous fault zones. Large portions of mountain ranges were sometimes split apart, causing sections of the Earth's crust to drop thousands of feet, forming basins along these faults. Around this time the mountains in this area split into two distinct ranges; the San Andres Mountains to the west and the Sacramento Mountains to the east. Between these two mountain ranges the Tularosa basin formed.

About two to three million years ago the Rio Grande River flowed along the southern edge of the Tularosa basin. This river brought sediments and minerals downstream into the Tularosa Basin, and eventually blocked the basin's outlet to the sea. Water trapped by the blockage started to collect at the lowest point in the basin and eventually formed Lake Otero, an ancient 1,600-square mile lake that covered much of the basin.

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White Sands
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24,000-12,000 years ago
During the last Ice Age 40,000 to 12,000 years ago, the climate was much colder and wetter. As the climate started to warm around 11,000 years ago rain and snowmelt carried dissolved gypsum from the surrounding mountain ranges into the basin. The gypsum runoff settled in Lake Otero. With the ending of the last Ice Age, about 12,000 years ago, Lake Otero began to evaporate, becoming a playa, or dry lake bed.

10,000 years ago to present – formation of the dunefield
As the climate became warmer and drier, the effects of sun and wind slowly began transforming this area into the modern Chihuahuan Desert. Most of Lake Otero dried up. The dry portions of the lakebed became what we know today as Alkali Flat, while the smaller seasonal playa that remained formed modern Lake Lucero. As Lake Otero's water disappeared selenite crystals formed on Alkali Flat. Strong 17 mph winds carried the smaller pieces, further breaking down the crystals into small grains and polishing them into a brilliant white color.

Constantly pushed to the northeast by strong winds, the sand accumulated into larger dunes, which moved several feet over a windy day or night eventually forming the famous white dune field visitors see today.

Present Day
Presently, rain and snow-melt from the surrounding mountains and upwelling from deep water within the basin periodically filling Lake Lucero with water containing dissolved gypsum. When the lake water evaporates, small selenite crystals (2 cm to 3 cm) formed on the surface of Lake Lucero and Alkali Flat just as they have for thousands of years. Most of the crystal formation occurs when large floods concentrate the mineralized water every 10 to 14 years. Wind and water break down these crystals into progressively smaller and smaller particles until they are fine grains of white gypsum sand and eventually dust.

When it comes to sand, size is all that matters. That is because sand is defined as any mineral between .065 millimeters and 2 millimeters in diameter, which is about the width of a nickel. The fact that sand can be composed of any mineral provides endless combinations of sand!

There are two general types of sand: mineral sand and organic sand. Mineral sands are formed by geological forces. Most sand on earth is quartz. Quartz begins as a rock, such as granite, sandstone, or limestone. Weathering breaks apart granite's two major components: quartz and feldspar. When quartz, which is a silica-based mineral, reaches the correct size the quartz becomes sand. The feldspar part of granite breaks down over the ages to form the primary component of clay.

Sand can take on many different colors. For example, the pink sand at the Pink Coral Reef Dunes State Park in Southern Utah is quartz has been stained by rusting hematite (iron) when it was part of the Navajo Sandstone formation.

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White Sands
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There is even green sand, which is very rare! Some of it can be found on beaches in Hawaii and Guam. This sand gets its color from the mineral olivine, which eroded from basalt flows from nearby volcanos. There are even two kinds of black sand! One type of black sand is formed with heavy metals like gold. It contains minerals like hematite and magnetite. The second type of black sand can be found on beaches near volcanos and is composed of basalt.

The mineral that forms the dunes of White Sands National Park is about 98 percent pure gypsum sand. Gypsum sand is considered rare because gypsum is water soluble—it dissolves in water like sugar in iced tea. It is even rarer to find gypsum sand in the form of dunes, which are mounds of sand piled up by wind. The 275-square miles of dunes are comprised of over 4.5 billion tons of gypsum sand. It is one of the many things that make White Sands a unique and special place.

What is Gypsum?
Gypsum is a common mineral that is used in a variety of products. From drywall to toothpaste, this binding mineral is versatile in its many uses. Gypsum is a hydrous, soft sulfate mineral, specifically a calcium sulfate dihydrate, which means it has two molecules of water in its chemical composition. This is seen in its chemical formula is CaSO42H20. When gypsum is heated and the water within the mineral is evaporated out, gypsum turns into a chalk or plaster, known as plaster of Paris. When water is re-added to this chalky gypsum powder, it rehydrates and becomes gypsum again, forming a hard substance. Gypsum also happens to be an evaporate mineral. This means that it dissolves in water and will recrystallize during evaporation of liquid, much like salt. This interesting property is crucial to the formation of the largest gypsum dunefield of the world.

The dunefield is nested in the Tularosa Basin, which is surrounded by the San Andres and the Sacramento Mountains. These mountains are composed of layers of gypsum. Rainfall and snowmelt from these mountains dissolve the gypsum and wash it down to basin's floor. Here it has nowhere to go, much like a bathtub or sink with no drain. The water settles on the basin floor at its lowest point, called Lake Lucero. When weather conditions are optimal, the water evaporates. When this happens the dissolved minerals recrystallize and form selenite crystals. Selenite is the crystalline form of gypsum. These crystals are very brittle and fragile. Selenite can form large crystals—some as big as bicycle tires! Visitors to the park can see selenite crystals on hikes to Lake Lucero.

There are three other varieties of the mineral gypsum: satin spar, desert rose, and gypsum flower. These different names refer to the different internal structures and outer appearances that crystalline gypsum types can have, each with its unique beauty. The rare gypsum sand and the beautiful selenite crystals are the most abundant forms of the mineral gypsum found here, at White Sands National Park.

https://www.nps.gov/whsa/index.htm

Photos taken by Sandy Gerhart, Mar 2021

Hanni Nichols and Mike Gerhart climbing sand dune

Upcoming Events

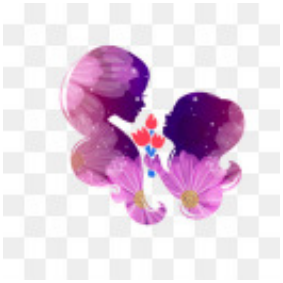
Meeting:

May 2, 2021
Island Park, Adrian
1090 Broad St.
2:00 PM

May 6-9
KALAMAZOO, MI
Kalamazoo Geological &
Mineral Society Annual Show
Kalamazoo Expo Center,
2900 Lake St.,
Kalamazoo

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.

June 12
QRAND RAPIDS, MI
Indian Mounds Rock & Mineral Club
Rock Swap
9-noon.
Woodland Drive-In Church,
2600 Breton SE,
Grand Rapids.



June 12 - 13
fv1ANSFIELD, OH
Mid-Ohio Mineral & Fossil Club
Rock Swap.
Sat 10-6; Sun 11-5
Mansfield Fairgrounds,
Fairhaven Hall,
750 Home Rd.,
Mansfield

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

Livingston County
has cancelled their Rock Show this year,
normally in September

Ongoing - Currently canceled
Richard Brzezicki is at the clubhouse on
Thursdays 1:00 pm - 6:00 pm. It is best to check with
him first before you go. Cell (269) 267-7666

Sherm Kardatzke will be holding cabbing classes on
Thursday evenings, 6:00 pm - 9 pm.

Wire Wrapping Sessions at Hobby Lobby in Adrian on
Fridays 11:00 am - 3:00 pm.
Linda Miller (419) 923-2090 and
Judy Snyder (517) 902-3990
(check to verify there will be someone there)

Rock Trails

Sandy Gerhart, Editor
704 W. US Hwy 223, #205
Adrian, MI 49221

Meetings are held the first Sunday of each month at 2:00 PM at 201 W. Main St., Morenci, MI 49256