



## Meet Michigans Gemstone!

Please note that this month, and this month only, we will be meeting on **THURSDAY** instead of Wednesday. The meeting room was simply not available on Wednesday. I apologize for any difficulty this may cause.

This month we will learn about our state Gem: Chlorastrolite. Chlorastrolite is a variety of the mineral pumpellyite. We know it fondly as Greenstone.

*(This beautiful Greenstone was polished by Gary Katt and posted on Facebook)*



Two of our Members, Gary Katt and Chris Cooper have been collecting and polishing this beautiful gem for many years and have agreed to talk to us about it. They will show you what Greenstone looks like in the rough, how beautiful it is when polished, and discuss where to look, and where it is illegal to look. Whenever Gary and Chris get together it is always a good time!



There also is a possibility that a couple of our members might have a chance to win one....

Come out to the meeting and check it out!

Most of the Greenstones that you find will be pea-sized, or a bit bigger...

*(then there is this picture that Chris Cooper posted a few years ago on facebook...)*

- you should ask him about this!



# Events



## FOR OUR CLUB AND BEYOND!

### 2022 TCG&M Board

**President - Michael B. Larson**  
mblarson300@yahoo.com

**Vice President - Shari Luttkhuizen**  
sluttikh@oaisd.org

**Secretary - Teresa DeMol**  
t.demol@yahoo.com

**Treasurer - Kurt Brinks**  
kdbrinks1@gmail.com

**Field Trips - Peter Riemersma**  
riemersp@gvsu.edu

**Historian - Betty Hoekstra**  
kbhoek@att.net

**Junior Club - Linda Winkelmann**  
lindawinkelmann@att.net

**Liaison - Mary Johnson**  
maryjohnson299@gmail.com

**Membership - Rhonda Gehringer**  
rgehringer@homeoftheshamrocks.org

**Newsletter Editor - Jon Mull**  
solace247@yahoo.com

**Social Media - Julia Sherwood**  
bobandjulia@accn.org

**Show Coordinator - < OPEN >**

**Social Coordinator - Michelle Lanting**  
michlyngal@gmail.com

**Dir. at Large - Tom DeMol**  
t.demol@yahoo.com

**Dir. at Large - Greta Fochtman**  
gretefoch@charter.net

**Past President - C.H. Falstad**  
cfalstad@ameritech.net

**1/22 Bruce Dice Museum Tour @ Calvin University (Sat. 1pm)**  
*Geology Dept. basement of North Hall - Enter from Burton & park in Lot 5*  
*Contact Jack Cooley (cooley28@hotmail.com) - Indian Mounds Club*

**1/27 Tulip City January General Meeting - THURSDAY, 7pm**  
*Howard Miller Library, Zeeland*

**2/9 Tulip City Board Meeting - Wednesday, 7pm**  
*Howard Miller Library, Zeeland*

**2/18 Geofest - Indiana State Museum Mineral Show**  
*Indianapolis, IN (www.indianamuseum.org)*

**2/23 Tulip City February General Meeting - Wednesday, 7pm**  
*Howard Miller Library, Zeeland*

**2/26 GVSU Geology Department Visit - Saturday, 10am - 12pm**  
*See field trip section for more details!*

**YES - Our meeting this month is**

**THURSDAY , 01/27/22**

**7 pm at Howard Miller Community Center, 14 S Church St, Zeeland**

A **CRITICAL** vacancy exists in our board! We still do not have a Show Coordinator for 2022. Our show last year was so successful and felt like a great emergence from the cold hibernation of 2020. The Tulip City Show provides an opportunity for us to share our hobby with our community and to raise funds that support our club and specifically scholarships that go to up and coming GVSU and Hope College students. It is also a wonderful time of fellowship for us and every party needs a great host or hostess. There is a willing group of folks that have served in various aspects of our show and I hope many of them will be returning to support the show again this year. Could you be center point we are looking for? Talk to Mike Larson or any board member if you think you might be willing. **We really need you!**

Welcome to all the new board members who are joining us for the first time and thank you to all those who are returning! You make our club shine !

*Thank you*



*Polished Greenstone  
- Chris Cooper*

*~ A note from President Mike ~*

**HAPPY NEW YEARS!** I hope this is finding you and your family healthy. Yes, the new year brings new hopes and promises, but the truth is little changes unless there is a driving force behind that change. Here within your club there are changes to the Board of Directors that will conduct an exciting year of 2022! With those changes, your active participation is needed. Remember a club like ours only functions through the volunteer efforts of our membership. So first get your 2022 memberships paid and second, please step in and participate in the many events held throughout the year and donate some of your time and energy to the positions needed to be filled during the year. Any reward is directly proportional to your efforts.

With the cold weather upon us, it is time to clean and prep our treasures from last year and make room for new treasures. Not sure what to do with extra material? Look for club sponsored Silent Auctions and Tailgate Sales. Consider donating some to the club for club sales and if you do, remember to share any pictures or stories about them with us. We would love to include those in a future newsletter.

***Stay safe, be well, and we hope to see you in 2022!***

Michael B. Larson, President

*...A reminder about your membership...*

**Happy New Year Fellow Rockhounds!**

It's that time of year again for membership renewals. If you have not renewed your TCGMC membership for 2022, this is your reminder. Don't miss an issue of our TCGMC Newsletter filled with information about upcoming events.

Memberships are \$15 for Individuals and \$20 for Families. Please add \$5 if you would like a paper copy mailed to you. Remember, if you joined the club at the 2021 show you are covered for 2022

Please mail form and payment to:

TCGM c/o Rhonda Gehringer  
1980 Driftwood Dr, Holland, MI 49424

***A copy of the membership form is included below in this newsletter***



*"Keokuk" geode including Calcite rhombs and a splash of pale pink Dolomite - Hamilton, IL geode is about 2" across  
- Jon Mull*

**Tulip City Gem & Mineral Club  
Howard Miller Community Center Zeeland  
December 1, 2021, 7:00 PM; Board Meeting Minutes**

7:10 PM – Board Meeting

Mike Larson, president, called the meeting to order.

Approval of Agenda -Julia made a motion, seconded by Jon to approve the agenda. All in favor.

Approval of Minutes – Shari made a motion, seconded by Kurt, to approve the minutes of the November 3, 2021, Board meeting. All in favor. Mike made a motion, seconded by Betty, to approve the November 17, 2021, General meeting as corrected. All in favor.

Vice President-Shari Luttikhuizen lead a discussion on the safety of having meetings with the resurgence of COVID. The consensus was to suggest wearing masks and stress not coming if sick in the newsletter. The program for the general meeting will have a game. Shari has topics for workshops but will need to look for instructors.

Treasurer-Kurt Brinks gave a brief treasurers report. It was noted if board members need additional funding for their position or want a new scholarship to submit the request to the treasurer to consider for the budget.

Newsletter-Mike needs submissions by Saturday night.

Juniors-Linda Winkleman shared Robin will lead arrowhead and shark tooth wraps with the juniors.

Field Trip-A February field trip is being considered to GVSU.

Social Coordinator-Mike Larson nominated Michelle Lanting for the position of social coordinator. All in favor.

Social Media-Julia shared the website will be maintained but she will not be available in person January, February, and March. Call her cellphone as provided for website requests.

Rance Westover will have a limited number of juniors and their families to his home for a workshop.

Showchair and secretary positions are available. Board members try to come up with new names.

The board needs to think about getting a committee for spring banquet. There will be a raffle. It is held the last Wednesday in April which will be April 27<sup>th</sup>. There needs to be a theme.

Jon moved and Robin seconded, to adjourn meeting by 8:09 pm. All in favor.

Respectfully submitted, Brenda Olson

***No minutes were recorded for the General Meeting on December 15, 2021 due to busy schedules.***



*Calcite cluster from the  
Pleasant Ridge Quarry near  
Rensselaer, IN*

*Dark color and etching  
is due to light oil inclusions  
- Jon Mull*

The new "Masthead Mascot"  
Seen on the front page is a  
nodule of gypsum collected by  
me in the Grand Rapids Natural  
Storage Gypsum Mine many  
years ago. It is a mixture of  
pencil and alabaster with fine  
solution lines and in the classic  
peach color for that mine.  
It is 11" tall and 7" wide  
- Jon Mull

## Field Trips

### GVSU Geology Department Visit

**OFF TO COLLEGE – No tests or Grades!**

*Examine rocks in a comfortable, enclosed warm environment*



**Saturday February 26<sup>th</sup> from 10 AM – Noon**

Peter Riemersma and Greg Wilson will be our guides to the mineral, rock and fossil collections, Department classrooms and rock prep room. Also hear a few students introduce the research they are working on. Address: Google [www.gvsu.edu/maps](http://www.gvsu.edu/maps) then go to the Allendale campus. The Geology Department is in Padnos Hall of Science (PAD). There will be signage to the Geology Department once you are at the Padnos building. We will meet initially in Padnos room 110.

*Did you know I'm an alumni?*  
**GO LAKERS !!**

### Save the Dates

Spring break will be April 1 through 8 this year. Tentative plans are to head to Arkansas for quartz and then up into Missouri for Druzy quartz on the way home. More info to follow.

### ~ GPS Gem ~

Use satellite mode in google maps

**38.360425, -111.124148**

Type the above coordinates into google maps and enjoy the beautiful natural pattern of the area!

At the meeting identify the location from a lineup of pictures to earn an additional door prize ticket!

*See Jon Mull to prove your mettle!*



*Polished "Petoskey"  
- Jon Mull*

### NEWS FROM THE RAFFLE CORNER

In addition to this month's selection of fabulous raffle treasures, January will be the first month you will be able to buy tickets for the wonderful raffle fossil plate, to be drawn for and awarded at the April Banquet.

Tickets for this special raffle drawing are \$5 each, or 5 for \$20.

As always, raffle earnings go to support the scholarships the club awards to college geology students. See you Thursday the 27th!

Mary Johnson



~ Editor Feature ~

## State of the Month



Well, it's January and the state of this month so far has been cold! I am pretty sure we have had a couple of days in the single digits and we have had plenty of snow here in the Holland area. The kids and I even got a chance to do some sledding which is a family favorite.

It just so happens though that the other state of this month is New York! That's right, **New York**. The birthstone for January is the *garnet* and New York, specifically in the Adirondack mountains, is the home of one of the largest garnet deposits in the country. It also happens that the garnets in this deposit are some of the largest in size even reaching up to a meter in diameter. Although not from this specific deposit, do a



Piece of Gore Mountain Garnet Deposit

quick search for "The Subway Garnet" if you want an example. Just a hint, it takes two hands... The Gore Mountain Garnet outcrop can be found in the south central Adirondack mountains. This garnet bearing deposit is approximately 50 meters by 600 meters and is composed of mostly Amphibolite. Amphibolite is a metamorphic rock that in this case was determined to have endured rather high temperatures and pressures, as well as various growth and reabsorption phases. Such were the

conditions that produced the garnets found there today. Wikipedia has a bit more extensive explanation of these events and of the chemistry involved. I encourage you to do a search for this deposit if you like those kinds of details. Almandine and Pyrope make up the bulk of the garnets found there at around 40% each with Grossular, Andradite, and Spessartine (the rarest) filling in the rest.



Spessartine Garnets in schist  
(one of my favorite garnets)



Almandine Garnets



Photo credits - Mindat, Wikipedia, etsy

### **State of the Month - cont.**

You may recognize the name Almandine from some of our past trips to the UP of Michigan. There were Almandine garnets there as well, sort of. They were replaced by Chlorite and are just pseudomorphs now. The Almandine from Gore Mt. are a classic deep wine red and often have a very defined rhombic dodecahedron shape. That's 12 sided with diamond shaped faces. Pyrope appears to be very similar in color.

Gore Mountain Garnet has been mined in the Adirondacks since 1878 by Barton Mines. Garnet makes an excellent abrasive and was initially used to make sandpaper for the woodworking industry. Barton eventually expanded their business to provide garnet for glass grinding during WW1 and 2. I once toured a business here in Zeeland that provides a wide variety of material cutting services and I learned that the water-jet cutting process often uses a garnet abrasive medium. Perhaps you have heard that obsidian cutting implements can be sharper than steel. It just so happens that the water-jet cutting process behaves in much the same way with certain materials providing a level of cut precision unequaled to a laser, plasma, or steel cutting method. All thanks to garnet abrasives.

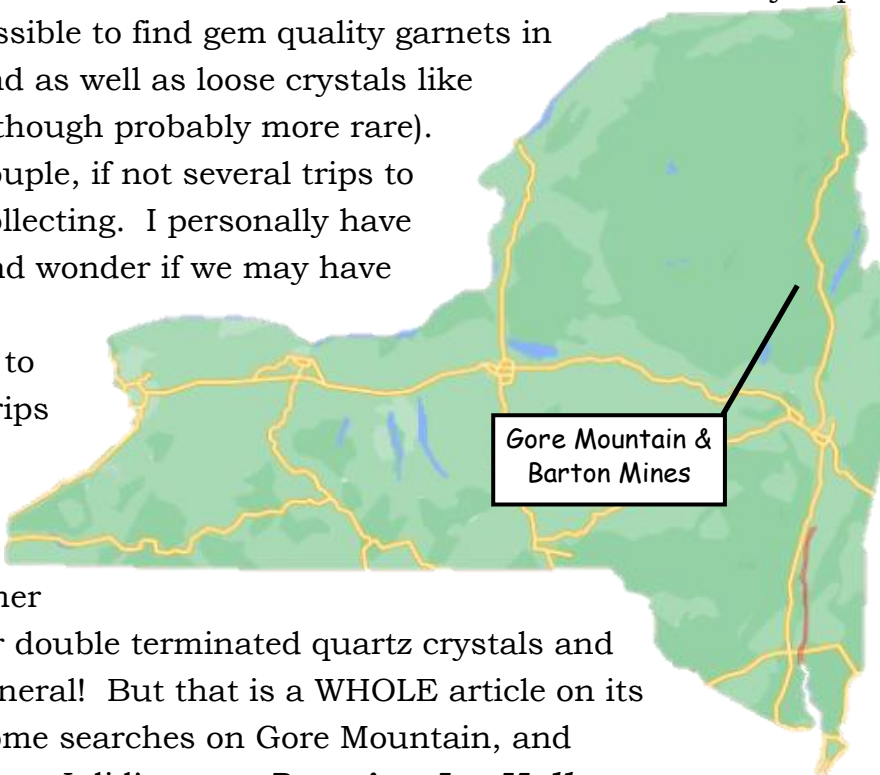


Barton mines have also historically been open to the public for tours and collecting at reasonable rates. Current conditions have them closed at the moment but they hope to reopen in the future. It is possible to find gem quality garnets in this area just lying on the ground as well as loose crystals like those in the previous photos (although probably more rare).

Our club has taken at least a couple, if not several trips to upstate New York for mineral collecting. I personally have not been able to attend those and wonder if we may have visited this location in the past?

Maybe spend some time talking to Bob Sherwood about our past trips or speak with Peter Riemersma about planning a future trip. Don't forget that New York is also home to the famous Herkimer

Diamonds which are water clear double terminated quartz crystals and also happen to be their state mineral! But that is a WHOLE article on its own. Take some time and do some searches on Gore Mountain, and hopefully you'll enjoy it as much as I did!



**Peace! - Jon Mull**

## - Junior Page -

Very Interesting THURSDAY Program

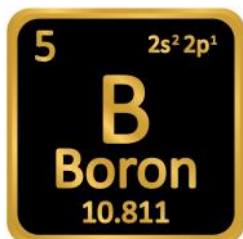
### "Mining Borates in California's Death Valley"

A HUGE deposit of Borate minerals was discovered in 1872 – located 165 miles from the nearest railroad in one of the hottest places on earth. HOW would they recover and transport these riches in such a remote location? Miners used 20 Mules hitched to ONE wagon to pull the heavy, white-grey chunks. Today, the open pit mine is 850 feet deep, 1.5 miles wide, and 2 miles long! The Rio Tinto Mining Company uses enormous machines (no pick-axes) to dig the important Borate (and Lithium) natural resources. Sixteen different products are transported by rail, truck and ship to ports around the world. The Visitor Center includes a life-size replica of the 20 Mule Team Wagon.



“Boron” itself is element #5 of the Periodic Table. It was concentrated by evaporation (think dry desert air) into an ore deposit and is always mixed with other elemental chemicals. “Borax” was a popular brand of laundry whitener. Boron compounds are still ingredients in Tide, All, Wisk and Dip-It products. It’s an agricultural micronutrient. Its heat resistant qualities improve the making of ceramics, computers, fiberglass, flame retardants and wood treatments.

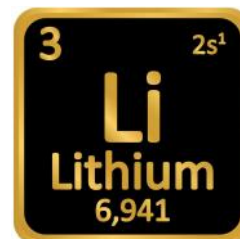
<https://www.livescience.com/28674-boron.html>



Borax Crystals



Lepidolite



*Juniors will receive Borate Mineral Samples from California's Rio Tinto mine, compliments of Club members Ken & Betty Hoekstra. The group will also look at two special minerals with boron: Datolite and Ulexite (TV stone). In addition, Juniors will receive a baggie with 3 Tablespoons Borax powder to be added to ½ c boiling water, so they can “grow their own borate crystals”. P.S. Just imagine... what would happen if it rained in Death Valley!?*

# Tulip City Gem and Mineral Club

## Membership Application / Renewal for 20\_\_

**Paid for:** \_\_\_ Individual (\$15.00) \_\_\_ Family (\$20.00)  
**Newsletter Delivery:** \_\_\_ Email (FREE) \_\_\_ U.S. Mail (\$5.00)



**PLEASE PRINT LEGIBLY** (*Must have a postal mailing address*)

**Adult Name:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**2nd Adult Name (if applicable):** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Primary Phone:** \_\_\_\_\_ *Home or Cell*

**Secondary Phone:** \_\_\_\_\_ *Home or Cell*

**Primary E-Mail address:** \_\_\_\_\_

**Secondary E-Mail address:** \_\_\_\_\_

**Please make check payable to :**  
**Tulip City Gem & Mineral Club**

**Mail to:**  
 Rhonda Gehringer  
 1980 Driftwood Dr,  
 Holland, MI 49424

**Questions can be e-mailed to:**  
 tcgmc.news@gmail.com

**If this is a family membership\*\*, please list ALL participating family members' names and birthdays.**

**\*\* Family membership include parents/guardian and all unmarried children under the age seventeen and living at home.**

**Name:** \_\_\_\_\_ **Birthday:** \_\_\_\_\_

**Name:** \_\_\_\_\_ **Birthday:** \_\_\_\_\_

**Name:** \_\_\_\_\_ **Birthday:** \_\_\_\_\_

**Name:** \_\_\_\_\_ **Birthday:** \_\_\_\_\_

**Additional children information may be written on the back of this paper.**  
**We need this for MWF insurance purposes.**

**CHECK interest(s) in club:**

- \_\_\_ Faceting
- \_\_\_ Metal Craft
- \_\_\_ Beading / Wire Wrap
- \_\_\_ Lapidary
- \_\_\_ Tumbling
- \_\_\_ Rock / Minerals
- \_\_\_ MicroMounts
- \_\_\_ Fossils
- \_\_\_ Juniors
- \_\_\_ Field Trips
- \_\_\_ Collecting

**TCG&MC PRIVACY POLICY:** For purposes of planning field trips and other TCG&MC Social activities, the club will annually distribute a listing of adult member names, addresses, telephone numbers and email addresses to all club members. The TCG&MC officers will never knowingly distribute your address information to any other group or organization.

As a condition of membership, and in consideration of any mineral collecting, use of facilities, equipment, and other educational opportunities available to me as a club member, I hereby agree to hold the Club and its officers, Directors, committee members and agents harmless, and to indemnify them against any loss and claims arising from me or my family's participation in Club activities:

**Adult Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**IMPORTANT NOTE:** We must have a SIGNED copy of your application/renewal form on file.

**Term of Membership and Dues.** TCG&MC memberships run January – December. NEW members joining after September 1st will have their dues credited through the end of the following year. Memberships must be renewed by December 31st to be in good standing.



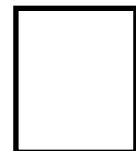
Meetings are held monthly on the last Wednesday of the month at the Howard Miller Community Center 14 S. Church Street, Zeeland, MI at 7pm, unless otherwise noted in the **TULIP CITY CONGLOMERATE**.

Our Junior Club welcomes and encourages young rockhounds and meets separately during the meeting. To become a member, complete the form at [www.tulipcity.org](http://www.tulipcity.org)

Advertising rates for club members are: \$5 for business card size, \$10 for 1/4 page, \$15 for 1/2 page, \$30 for full page. non-member rates are double. Make check payable To: TCG&M with ad copy to Editor.

Our club is a non-profit organization sponsored by the Holland Recreation Department. it is a member of the Midwest Federation and the American Federation of Mineralogical Societies. The general purpose of this club is to develop interest in and increase knowledge of minerals, rocks, gems, fossils, and the lapidary arts. The objectives of this club shall be promoted whenever possible, through family participation.

**Tulip City Conglomerate**  
Jon Mull, Editor  
14325 Essenburg Dr  
Holland, MI 49424



**! VERY IMPORTANT !**

Our General Meeting is on **THURSDAY** Jan. **27** this month