

The Topeka Gem and Mineral Society, Inc.
 1934 SW 30th St. Topeka, KS 66611
 Rock2Plate@aol.com

THE GLACIAL DRIFTER



www.TopekaGMS or
 Facebook: Topeka Gem and Mineral Society Field Trips

The Topeka Gem & Mineral Society, Inc.
 Organized December 3, 1948

Member of Rocky Mountain Federation of
 Mineralogical Societies American Federation of
 Mineralogical Societies



The Glacial Drifter, Vol. 60, No. 6, June, 2017

The Purpose of the Topeka Gem & Mineral Society shall be exclusively educational and scientific: (1) to promote interest in geology and the lapidary arts; (2) to encourage the collection and display of rocks, gems, and minerals; (3) to encourage field trips and excursions of a geological, or lapidary nature; and (4) to encourage greater public interest and education in gems and minerals, cooperating with the established institutions in such matters.

Meetings: 4th Friday of each month, September to May, 7:30 pm, Stoffer Science Hall, Room 138, Washburn University. No meeting in December unless notified of a change. Picnic meetings are held June, July and August.

Dues: Individual, \$15.00; Couple, \$20.00; Junior (under 18 years of age), \$5.00. Dues are collected in December for the following year. Send dues to: **Millie Mowry, Treasurer, 1934 SW 30th St, Topeka, KS 66611.**

www.TopekaGMS.org

2017 OFFICERS AND CHAIRS

President	Mike Cote	220-3272	Cab of the Month	Debra Frantz/Fred Zeferjohn	862-8876
1 st Vice Pres.	Dave Dillon	272-7804	Field Trip Coord.	Leslie Hartman	380-6016
2 nd Vice Pres.	Carolyn Brady	233-8305	Publicity	TGMS Board	-----
Secretary	Cinda Kunkler	286-1790	Welcome/Registration	Russ & Rhonda Miller	272-6408
Treasurer	Millie Mowry	267-2849	Property	M. Cote/D. Dillon	220-3272
Directors	Harold Merrifield	633-9745	AFMS Scholarship	Cinda Kunkler	286-1790
	Chuck Curtis	286-1790	Editor/Exchange Editor	Millie Mowry	267-2849
	Brad Davenport	379-8700	Show Chairman	Harold Merrifield	633-9745
Historian	Deborah Scanland	273-3034	Show Dealer Chairman	Dave Dillon	272-7804
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Corporation Agent	Millie Mowry	267-2849	Jr. Rockhound Leader	Jason Schulz	640-6617
Librarian	open	-----	Show Case Coordinator	Francis Stockton	913-645-1131
Web Master	Jason Schulz	640-6617			

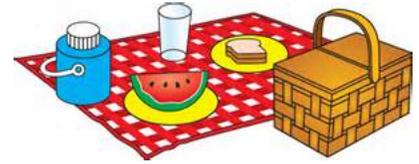
Area Code for all numbers is (785).

EXCHANGE BULLETINS WELCOME

For exchange newsletters contact the club via mailing address listed above or email at rock2plate@aol.com .
Permission is granted to reprint articles only if proper credit is given to the author, Glacial Drifter and the date.

Words from Our President

For the months of June July and August, we have pot luck picnics instead of the general meeting. They are held at Millie's house, where we eat inside where it is cool. So bring your table service and your favorite picnic food to share. Oh yes, and your spouses are welcome also. More on the calendar at www.TopekaGMS.org



Mike and his Rock Stash

AS A REMINDER:

Classes will be the barn from 6:00 to 9:00. **There will be no classes the month of July** this year. Whenever we have bad weather on the night of classes there will be no classes. This will include heavy rains and any time there are storms in the area. On Holidays whenever there is a holiday during week of class there will no class that night. Also whenever Mike or I go on vacations there will be no classes. Dave



Publicity

The t-shirts and hats are here. If you have not picked up yours, contact Millie as to when you will do so.

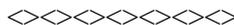
The garage sale this year was a huge success and we all owe Leslie a **BIG THANK YOU** for rounding up everything for it. We made more this year than last year and Leslie has plans for next year that the garage sale will be even greater.

We still have several activities coming up to get our name out in the public eye and will need help to man them. Keep an eye on the calendar in the newsletter and on the web site for more details.

We will be taking part in the Forest Park Retreat Center, activity on June 16th, so will need help with manning our booth. This will be inside and in the morning. More information will be coming. Please volunteer to help us out. Their address is 3158 SE 10th St. Topeka, KS 66607.

We also have been approved to have a booth at the Shawnee County Fair, July 19 thru 23rd.with different hours. **WE NEED A LOT OF HELP HERE** so let's all chip in and help out a few hours. This will be inside also.

For more information on these activities, watch for emails, or call Millie or Leslie.



New Members
Steve Mumert--rejoined
Crickett Johnston
Cassie Johnston
Maranda Haile
Kelsey Haile
Kathryn, Levi*, Ezekiel*, & Adalyssa* Peoples



Visitors are always WELCOME at our meetings!

Event Calendar

June 2017

1T	
2F	
3S	
4S	
5M	
6T	Lessons at the Barn 6 pm – 9 pm
7W	
8T	Wire Wrap Class Millie's 1-3 p.m 7-9 pm
9F	
10S	
11S	
12M	
13T	Lessons at the Barn 6 pm – 9 pm
14W	
15T	Wire Wrap Class Millie's 1-3 p.m 7-9 pm
16F	Forest Park Retreat Cntr
17S	
18S	
19M	
20T	Lessons at the Barn 6 pm – 9 pm
21W	
22T	Wire Wrap Class Millie's 1-3 p.m 7-9 pm
23F	Club Picnic-Pot Luck- @ Millie's 6:30pm rock auction afterwards
24S	
25S	
26M	
27T	Lessons at the Barn 6 pm – 9 pm
28W	
29T	Wire Wrap Class Millie's 1-3 p.m 7-9 pm
30F	

July 2017

1S	
2S	
3M	
4T	***NO BARN LESSONS IN JULY
5W	Advisory Meeting at Millie's 7 p.m.
6T	Jr Rkhd's @ TSCPL rm 202 Wire Wrap Class Millie's 1-3 p.m
7F	
8S	
9S	
10M	
11T	***NO BARN LESSONS IN JULY
12W	
13T	Wire Wrap Class Millie's 1-3 p.m 7-9 p.m.
14F	
15S	
16S	
17M	
18T	***NO BARN LESSONS IN JULY
19W	Set Up for SN CO Fair 4-8 p.m.
20T	NO-Wire Wrap Class SN CO FAIR 8 m-10 pm
21F	SN CO FAIR 8 m-10 pm
22S	SN CO FAIR 8 m-10 pm
23S	SN CO FAIR 9 am-5 pm
24M	
25T	***NO BARN LESSONS IN JULY
26W	
27T	Wire Wrap Class Millie's 1-3 p.m 7-9 p.m.
28F	Club Pot Luck Picnic @ Millie's 6:30
29S	
30S	
31M	***NO BARN LESSONS IN JULY

Any questions ask Millie at rock2plate@aol.com

Check out the new calendar on our web site
www.TopekaGMS.org

Volunteering is the heart  beat of YOUR club

TOPEKA JUNIOR ROCKHOUNDS

<https://www.facebook.com/TopekaGMSJuniorRockhounds>

To register for the Junior Rockhounds or any of the classes, email: Leslie Hartman at: Hartman.12345@hotmail.com



JR ROCKHOUND CLASSES

Here are reminders of the next 3 months of classes: Topeka Shawnee CO Public Library sign in starting at 6:00pm and classes starting at 6:30pm. 1st Thursday of each month...

July 6th Earth Processes instructor Brad Davenport Anton Room 202 (homework was already sent to Jr Rockhounds) Remember homework from previous classes to bring to get credit.

August 3rd World in Miniature Cinda Kunkler Anton Room 202

September 7th Showmanship Pat Gilliland Anton Room 202



Mineral of the Month



Garnets are a group of silicate minerals that have been used since the Bronze Age as gemstones and abrasives. All species of garnets possess similar physical properties and crystal forms, but differ in chemical composition. The different species are pyrope, almandine, spessartine, grossular (varieties of which are hessonite or cinnamon-stone and tsavorite), uvarovite and andradite. The garnets make up two solid solution series: pyrope-almandine-spessartine and uvarovite-grossular-andradite. Garnet species are found in many colors including red, orange, yellow, green, purple, brown, blue, black, pink, and colorless, with reddish shades most common. Garnet species' light transmission properties can range from the gemstone-quality transparent specimens to the opaque varieties used for industrial purposes as abrasives. The mineral's luster is categorized as vitreous (glass-like) or resinous (amber-like).

<https://en.wikipedia.org/wiki/Garnet>

Picture from Wikipedia



Future Field Trips

A special request was given by a TGMS member to visit Lardner Monuments to see the process from start to finish of making grave stones. So Friday, June 30th, we will be going to Lardner Monuments 612 NW Highway 24 Topeka, KS 66608 at 10:00am. Just meet me at 10:00am at Dickey's BBQ Pit parking lot just off the highway and we will go from there to Lardner Monument. Hartman.12345@hotmail.com let me know if you are coming.

Keep an eye on the drifter and emails because we will be going to Calhoun Bluffs and other locations the summer.

TGMS and Jr Rockhounds Activities

July 19-23 Shawnee County Fair at Expocentre Exhibition Hall, we have 2 tables inside. TGMS will need volunteers to come to show their rocks, fossils, and minerals they have to the public. Wednesday July 19th, 4pm-8pm set up, Thursday July 20th 8am to 10pm, Friday July 21st 8am-10pm, Saturday July 22 8am-10pm, and Sunday July 23rd 9am-5pm. We need volunteers for each day but we do not need to be there the entire time. Email Hartman.12345@hotmail.com and let me know days and times you can help.

If you have any of the following and willing to donate, we could use them for our activities that we are planning. Contact Leslie or Millie.

Polished rocks (small to medium size)

Shells-any size

Acrylic paints-any color

Rocks to paint on-- or

Money to purchase these items

Vanadinite

From Wikipedia, the free encyclopedia

Vanadinite is a mineral belonging to the apatite group of phosphates, with the chemical formula $\text{Pb}_5(\text{VO}_4)_3\text{Cl}$. It is one of the main industrial ores of the metal vanadium and a minor source of lead. A dense, brittle mineral, it is usually found in the form of red hexagonal crystals. It is an uncommon mineral, formed by the oxidation of lead ore deposits such as galena. First discovered in 1801 in Mexico, vanadinite deposits have since been unearthed in South America, Europe, Africa, and North America.

Vanadinite is an uncommon mineral, only occurring as the result of chemical alterations to a pre-existing material. It is therefore known as a secondary mineral. It is found in arid climates and forms by oxidation of primary lead minerals. Vanadinite is especially found in association with the lead sulfide, galena. Other associated minerals include wulfenite, limonite, and barite.^{[2][4]}



Picture from Wikipedia

It was originally discovered in Mexico by the Spanish mineralogist Andrés Manuel del Río in 1801. He called the mineral "brown lead" and asserted that it contained a new element, which he first named pancromium and later, erythronium. However, he was later led to believe that this was not a new element but merely an impure form of chromium. In 1830, Nils Gabriel Sefström discovered a new element, which he named vanadium. It was later revealed that this was identical to the metal discovered earlier by Andrés Manuel del Río. Del Río's "brown lead" was also rediscovered, in 1838 in Zimapán, Hidalgo, Mexico, and was named vanadinite because of its high vanadium content. Other names that have since been given to vanadinite are johnstonite and lead vanadate.^[5]

Crystals of vanadinite conform to a hexagonal system of symmetry. This internal structure is often reflected in the hexagonal external shape of the crystals. The crystals are usually in the form of short hexagonal prisms, but can also be found as hexagonal pyramids, rounded masses or crusts

Along with carnotite and roscoelite, vanadinite is one of the main industrial ores of the element vanadium, which can be extracted by roasting and smelting. Vanadinite is also occasionally used as a source of lead.

(References: • 3 Anthony, John W.; Bideaux, Richard A.; Bladh, Kenneth W.; Nichols, Monte C., eds. (2000). "Vanadinite". *Handbook of Mineralogy (PDF)*. IV (Arsenates, Phosphates, Vanadates). Chantilly, VA, US: Mineralogical Society of America. ISBN 0962209732.

4• • *Treasures of the Earth: The Minerals and Gemstone Collection – Vanadinite factsheet*. Orbis Publishing Ltd. 1995.

5• J. A. Pérez-Bustamante de Monasterio (1990). "Highlights of Spanish chemistry at the time of the chemical revolution of the 18th century". *Fresenius' Journal of Analytical Chemistry*. 337 (2): 225–228. doi:10.1007/BF00322401.)

Mexican Opal

Queretaro, Mexico is where the legendary opal mines are located. It is located in central Mexico. Most of the precious opal comes from eight states located in the central volcanic belt. The majority of these mines are small, open pits, in remote areas. The opal is found as amygdules, veinlets, and irregular masses in volcanic rocks, usually in pink to red rhyolite flows, unless the rocks are deeply weathered and decomposed, the opal is difficult to remove and many are blasted or hammered out.

Mexican opals can be carved in most cases, with the matrix, to add to their durability, cut into cabochons, or faceted. There are many varieties of Mexican opals. Some of the best know are:

1. Abanderado (Flame Opal) Transparent or translucent red, orange, or amber yellow precious fire Opal with bands or ribbons of fire.
2. Azules (Blue Opal) Transparent pale blue precious opal with red, orange, and green fire.
3. Cerezo (Cherry Opal) Translucent to near opaque common opal, cherry-red color.
4. Claros (Water Opal) Transparent precious opal colorless or pale tint, with play of colors.
5. Contra Luz transparent or translucent precious opal which show colors best held against light.
6. Girasol (Sunflower Opal) very transparent fire opal red, orange or yellow with fire emanating from central area that appears to float.
7. Hialita (Hyalite, Jelly Opal) Colorless, transparent with no play of colors.
8. Lechosos (Milk Opal) Translucent to near opaque milk-white with vivid fire.
9. Lloviznandos (Rain-Fire Opal) Transparent precious opal, yellow or blue with tiny spots or streaks of fire.
10. Opal de Fuego (Fire Opal) Transparent or translucent red-brown, red, orange, yellow opals with or without fire.
11. Opalo Fino (Precious Opal) Any color, transparent or translucent that displays spectral play of colors.

Mexican Opal has a 8 to 12% water content. It should not be subjected to extreme temperature changes too quickly. Cutting with a diamond blade, cold dopping is advised. Large quantities of water should be used as coolant. Do not use coarse wheels to grind, 220 to start is recommended. Cerium Oxide, tin oxide or Tripoli followed by Linde A are some favored polishes.

(Sources: Simon & Schuster's Guide to Gems and Precious Stones, by Curzio Ciprainai and Zlessandro Borelli, 1986; Opal and the World Supply by Wayne D. Hadley, Rock and Gem Magazine, August 1984; Opal - Rainbow in a Gemstone by Bob Jones, Rock and Gem Magazine, August 1984; Varieties of Mexican Opal by Edgar B. Heylmun, PhD., Lapidary Journal, August 1984; Via: AFMS Bulletin Editors Articles 1998 reprint pg12-13.)



POISONOUS MINERALS—ONE OF THE TOP TEN

Phenacite crystals come from Mount Ikaka, Madagascar. Phenacite is a fairly rare nesosilicate mineral consisting of beryllium orthosilicate, Be_2SiO_4 . Phenacite is mined both as a gemstone and for its valuable beryllium content. Beryllium was once a precursor for many ceramic materials, until people figured out that inhaling beryllium dust caused berylliosis – aka chronic beryllium disease. It's like silicosis but much more severe and also chronic. You don't recover from CBD simply by minimizing your beryllium exposure. Once you have it, you have it for life. Basically what happens is the lungs become hyper-sensitive to beryllium, which causes an allergic reaction wherein the lungs form little nodules called granulomas. These granulomas make breathing extremely difficult and can go on to instigate diseases like tuberculosis.



You can read more at: <http://geologyin.com/2015/01/killer-minerals-worlds-10-most-deadly.html>

(Source: Central Iowa Mineral Society News Nuggets, 2/2017; The Gemrock, 6/2017 IGMS)

Rock of the Month – Hemimorphite

By Dennis Schwantes, from The Post Rock, 11/97
Honorable Mention in 1997 AFMS Adult Article Contest)

Hemimorphite, sometimes called calamine, is a silicate of zinc containing water. The name comes from the Greek prefix “hemi” which means “half” and “morph” meaning “form” because of the fact that opposite ends of the hemimorphite crystal display different crystal forms.

It is white, colorless, yellowish, bluish, or brownish in color. Hemimorphite’s luster can be vitreous (glassy), adamantine (gemlike) or dull. It streaks colorless and fractures uneven to subconchoidal. Hemimorphite has a hardness of 4.5 to 5, which means it can be scratched by a knife but not by a penny. It has a **Hemimorphite, from** Wikipedia gravity of 3.4 to 3.5. It is fragile with perfect cleavage.



Hemimorphite crystals are orthorhombic. They are usually thin, fan shaped aggregates of platy crystals, but they also form a variety of coxcomb groups. Large crystals of hemimorphite are rare. The best field marks to help you identify hemimorphite are its bladed crystals and radiation aggregates. It is also common as botryoidal blue-green specimens. Hemimorphite is heavier than prehnite and lighter than smithsonite.

Hemimorphite can be found in oxidation areas of zinc and lead sulfide deposits, and is associated with smithsonite, cerussite, anglesite, spahalerite and galena. Nice specimens are found at Chihuahua (Mexico), Moresnet (Belgium), Carinthia (Austria), Cumberland and Derbyshire (England), Algeria, and Granby and Leadville (Colorado, USA). Hemimorphite concretions are also found at Raibl (Udine), in the Bergamo mines of Val del Riso, Gomo, Oneta, Dossena, and San Pietro d’Orzio (Italy) in the Iglesias mines of Sardinia.

When hemimorphite is heated, it becomes strongly pyro-electric (the crystal develops electric dipoles, or two even, but opposite electric charges). It is soluble in strong acids, forming a silica gel.

Here in Kansas, hemimorphite is a white mineral found in radiating crystal groups and in globular forms. It is fairly common in the upper parts of the sphalerite deposits of the Tri-State mining area of Cherokee County.

(Resources: Kansas Rock & Minerals by Laura Tolsted and Ada Swineford, p. 46; Simon and Schusters Guide to Rocks and Minerals, 1978) via; AFMS Bulletin Editors Articles 1998, p 13)



Brad & Barb teaching
The TGMS Jr Rockhounds



Dave & Brad going over safety
rules for lapidary class



Barb teaching the Gem Stone class

Bench Tips by Brad

See all Brad's jewelry books at Amazon.com/author/bradfordsmith

FANCY RIVET HEADS

For a nice looking rivet head, use brass escutcheon pins. You'll have perfectly rounded heads that are all the same size and shape. The pins are a little hard to find, so try the best hardware stores first. Be sure to get solid brass pins, not brass plated steel. If unsure, test them with a magnet.

The pins are readily available online. Lee Valley Tools has them in 14 - 18 gauge and lengths from 1/4 inch to 1 inch. Go to <http://www.LeeValley.com> and do an item search on "brass escutcheon pin"

For best results, select a drill that gives you a hole with a close fit to the rivet. Trim the rivet to a leave a little less than one diameter sticking out the back side. Place the head on a scrap of hard plastic on the anvil so as to not flatten the head. I prefer a ball peen hammer (with a small 3/8 inch ball) for setting the rivet.

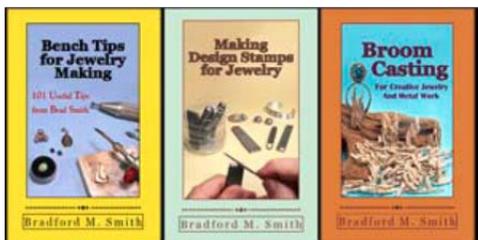


EASIER PRONG SETTING

When setting stones in a prong mount, the tool is less likely to slip off the prong if you grind a groove into its face or rough up the face a bit with sandpaper. Some folks prefer a prong pusher for doing this, and others like a set of pliers.

The easiest way to create a slot on the pusher is with a file, and the easiest way to create a slot on one jaw of your pliers is with a cutoff wheel. Then rough polish the slot with a medium grit, knife-edge silicone wheel.

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See all Brad's jewelry books at Amazon.com/author/bradfordsmith



Breccia

Breccia is a rock composed of broken fragments of minerals or rock cemented together by a fine-grained matrix that can be similar to or different from the composition of the fragments. The word has its origins in the Italian language, in which it means either "loose gravel: or "stone made by cemented gravel". A breccias may have a variety of different origins, as indicated by the named types including sedimentary breccias, tectonic breccias, igneous breccias, impact breccias, and hydrothermal breccias.

Breccia forms where broken angular, fragments of rock or mineral debris accumulate. One possible location for breccias formation is at the base of an outcrop where mechanical weathering debris accumulates. Another would be in stream deposits. The angular particle shape reveals that they have not been transported very far (transport wears the sharp points and edges of angular particles into rounded shapes). After deposition the fragments are bound together by a mineral cement or by a matrix of smaller particles that filled the spaces between the fragments.

Breccia and conglomerate are very similar rocks. They are both elastic sedimentary rocks composed of particles larger than two millimeters in diameter. The difference is in the shape of the large particles. In breccias the large particles are angular in shape but in conglomerate the particles are rounded. This reveals a difference in how far the particles were transported. Near the outcrop where the fragments were produced by mechanical weathering the shape is angular. However, during transport by water away from the outcrop the sharp points and edges of those angular fragments are rounded. The rounded particles would form a conglomerate.

(Source: the Quarry, 4/2016; via geology.com article by Angela Brown, via The Conglomerate, 5/2016; via; The Gemrock 6/2017)