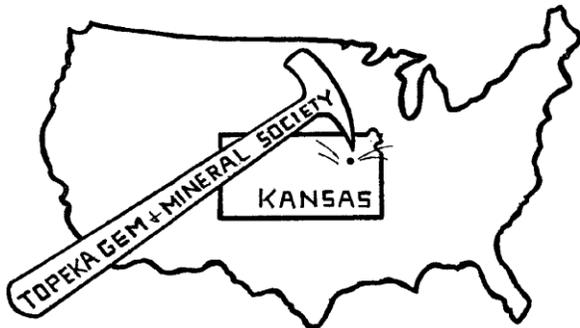


The Topeka Gem and Mineral Society, Inc.  
 1934 SW 30<sup>th</sup> St. Topeka, KS 66611  
 Rock2Plate@aol.com

# THE GLACIAL DRIFTER



[www.topekagemandmineral.org](http://www.topekagemandmineral.org)  
 Facebook: Topeka Gem and Mineral Society Field Trip

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. 57, No. 10, Oct. 2014

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: 4<sup>th</sup> 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 30<sup>th</sup> St, Topeka, KS 66611.**

## 2014 OFFICERS AND CHAIRS

President	Mike Cote	220-3272	Cab of the Month	Debra Frantz/Fred Zeferjohn	862-8876
1 <sup>st</sup> Vice Pres.	Dave Dillon	272-7804	Field Trip Coord.	Larry Henderson	-----
2 <sup>nd</sup> Vice Pres.	Carolyn Brady	233-8305	Publicity	Donna Stockton	913-645-7677
Secretary	Cinda Kunkler	286-1790	Welcome/Registration	Jason Schulz	379-5538
Treasurer	Millie Mowry	267-2849	Property	M. Cote/D. Dillon	379-5538
Directors	George Reed	836-9277	AFMS Scholarship	Cinda Kunkler	286-1790
	Harold Merrifield	286-3548	Editor/Exchange Editor	Millie Mowry	267-2849
	Chuck Curtis	286-1790	Show Chairman	Harold Merrifield	286-3548
Historian	Deborah Scanland	273-3034	Show Dealer Chairman	Dave Dillon	272-7804
Federation Rep	Harold Merrifield	286-3548	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849	Jr. Rockhound Leader	Larry Henderson	-----
Librarian	Lucy Hrenchir	267-3325	Show Case Coordinator	Francis Stockton	913-645-7677
Web Master	Jason Schulz	379-5538			

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](mailto:rock2plate@aol.com) . Permission is granted to reprint articles only if proper credit is given to the author, Glacial Drifter and the date.



We still need **300** Best Choice UPS Labels before Cinda can turn them in.  
Bring them in at the next meeting.



Make Welcome Our

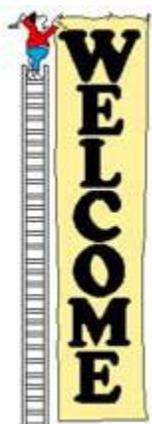
New Members!

Karl Tindall & Laura Mahrle  
Kiamoni Tindall\* & Codi Tindall\*

David & Yolanda Turner

Pamela Roseman

Alisa Gardiner  
Aaron Gardiner\*



Pam Mortensen

Alexis & Brandon Combs  
Mason Combs\* & Jadyn Combs\*

Junior Member \*

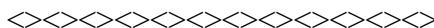


### Words From the President.....

Members. Many thanks to all who helped with the show. A big thanks to Chuck who donated his trailer for hauling club stuff. Many thanks the members who ran the tables Thanks to all who helped. Club elections are coming up and if you would like to hold an office let the committee know when they call to see if you would like to run for an office.

The speaker at the October 24<sup>th</sup> meeting will be Ron Wooley, from Park City, UT. He is the opal dealer from Australia that was at our show. You will not want to miss this meeting!

Mike and His Rock Stash!



### Words from our V. P.

I would like to thank everyone for helping on all the days at our show. Everything went real well with no problems. Thanks to all that help unload and reload the storage bin. All of our dealers were very happy with the outcome of our show but one. He has not had much success at several shows he has been in so he is going to drop out and only do shows in his area. But I do have backups to come to our show. Not a problem. I would like for our members that were at the show to please voice your opinions on what you did or did not like about the show and to also give us any new ideas on how to improve the show. Remember that this is your club and we do want to do whatever it will take to improve and make new members for our club. I had several members at the show give me some really good ideas on what to do during our show to attract the public during the show and on how to draw attention to our special demo areas as well as the other club tables that we maintained. Again thanks to all. It is not possible to have a great show without you!!!! Remember to bring in your cabs and jewelry that you have made for our monthly cab and jewelry contest at the meetings. I will see you all at our regular meeting on the 24th!!!

Dave





## WORKING FIRE AGATES

Excerpted from <http://agatadefuego.com> (Fire Agate)

Fire Agate can be intimidating to the professional and amateur cutter alike. Fire agate ranging in color from clear to dark brown and the layers of the iron oxide minerals limonite or goethite that interact with white light to create the “fire” or iridescence. There is usually a milky translucent chalcedony that marks the stone’s top. The characteristics of rough fire agate can vary considerably, depending on the mine and source material.

Fire agate is deposited in botryoidal form, meaning the structure resembles bunches of grapes, commonly called “bubbles” or “bubbly.” Most pieces of fire agate rough are twisted and deposited in a variety of angles. This creates a challenge for gem cutters because the sought after color layers follow highly irregular contours in the underlying brown agate. The art of cutting fire agate lies in finding the brightest, best colored layer and following its contours wherever they lead and not cut through the iridescent layer itself. Sometimes a slip in cutting reveals an even better color layer, but more often, the stone is completely ruined. With one light pass of a diamond grinder you can lose an entire layer of fire, so patience is a must. The “bubbles” in fire agate vary tremendously in size, from almost microscopic to single large bubbles that can be in the 15mm range or larger, and in some rare cases, a lot larger. Generally speaking, the kind of rough displaying larger “bubbles” is best suited for cutting on standard lapidary equipment, because these shapes are easier to work on flat grinding and sanding surfaces. Fire agate with intricately contoured, irregular or “bubbly” color can only adequately be shaped using gem carving techniques. Standard lapidary equipment is suitable for cutting most types of fire agate, be careful and take the time to carefully study how each stone is laid out by mother nature. The gemmy layers vary in thickness, with the brightest and best layer often at the point between the chalcedony and the brown agate material. Sometimes these layers are only a 1000th of an inch thick, and they are best cut by leaving a slight amount of clear chalcedony over the top as protection if possible. If you sand right down to the color layer, there is a good chance that sanding and polishing can destroy it. In better quality rough, the color layers are arranged successively so that cutting through one layer reveals another. Or there may be multiple bands of layers ranging from very thin to reasonably thick. The gamble is deciding which is the brightest and most desirable color layer and to make it the top of your stone. Color layers usually run in succession from bronze to gold to red and then green, with the rarer blues and purple colors to follow (if they exist). With some multicolor agate there is a 2nd layer of even stronger colors, but it is a gamble to venture past the original layers of fire in hopes of a second more colorful layer.

### CUTTING

Wet and inspect your rough under magnification in bright sunlight. Look it over as closely as possible. If you can see through the chalcedony, try to find flashes that indicate color layers. Don’t be disappointed if you don’t see any color, it may still be there but you’ll have to work harder to get to it. Next, carefully examine the edges of the brown agate at various angles in the light, searching for layers or flashes of color.

Some rough comes without the chalcedony “cap,” so it’s easier to evaluate. But usually the first step in cutting is to eliminate the chalcedony. If it’s thick, some careful trim-sawing can save a lot of grinding. But never cut into the dark agate layer! Removing this “cap” is hard work, tough on equipment and sometimes fruitless: lots of good looking rough turns out to be your basic garden rock. But there’s no way to tell for sure until enough of the cap material has been reduced to allow any colors from underneath to be seen. Direct sunshine makes it possible to do some very accurate grinding; indoor lighting, including quartz halogen floodlights, despite their intensity usually lie about the location and brightness of color planes within the rough. Being able to really see what you’re doing is the single most important factor in cutting this stone.

It’s the nature of most fire agate cabs to require some contouring to follow the color layers, and flat grinding wheels are designed to cut convex or flat surfaces. One of the toughest jobs is to grind into the chalcedony crevices and valleys between the larger individual bubbles areas. Unless you decide to invest in specialized diamond wheels shaped for this job, the only way I know to do it is to use the edge of the grinding wheel. Begin grinding one hillside first, then change to the other edge of the wheel to do the opposite one. You’ll discover that, with care, the face of the wheel does all the work and the edge gets very little wear.

Cont. on next page.

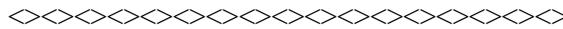
**CAUTION:** This type of cutting can be very dangerous as well. The wheel can grab the piece of rough (and your fingers). Work very cautiously, bearing in mind also that putting pressure on the edges of most standard diamond wheels can quickly ruin the wheel. Work carefully, and never use excessive pressure. When grinding has preceded far enough that vague brown shapes can be seen through the chalcedony, iridescence should be visible as well. Grind a little, sand and inspect carefully in good light or sunlight. Repeat until the desired fire colors are fully revealed. The color layers are thicker on top of the bubbles and thin down on the slopes and edges, so do most of your initial sanding on the top.

### YOUR FIRE AGATE TELLS YOU HOW IT SHOULD BE CUT

Don't try to force it into any particular shape – if you are uncomfortable with anything but symmetrical shapes or intend to cut only calibrated sizes for standard mountings, you may find fire agate very frustrating. It doesn't adapt easily to this style of cutting unless you don't mind wasting a lot of color and being satisfied with what some call "browndeges" or "deadspots"; a pool of shimmering fire surrounded by an ugly dead area of plain brown agate.

Sometimes this style of cutting is unavoidable, but if you let the patch of bright color define the edges of the finished stone, you will end up with a much more pleasing and higher value stone. Have the patience to stick with the sanding. There is no feeling more exciting than having a boring bronze stone suddenly start showing amazing colors of green, purple and blue, mixed together with reds, yellows and oranges. Sometimes you win, but more often you lose... if you have reason to suspect that multiple or brighter color layers could be present in the underlying layers it is well worth the gamble. You usually end up with more boring or golden stones than you ever wanted anyway, so sometimes it is better to try for the reds and greens and purples!

(Source: Pick & Shovel Oct 2014)



## SPHENODISCUS

Sphenodiscus is an extinct genus of acanthoceratacean ammonite. The genus has been found from many continents and is thought to have had a large global distribution during the Maastrichtian stage of the Late Cretaceous. It was one of the last ammonoids to have evolved before the entire subclass went extinct at the end of the period during the Cretaceous–Paleogene extinction event.



Opalized specimen



Suture pattern of *Sphenodiscus*



*Sphenodiscus lenticularis*

Fossils have been found throughout North America from localities in South Carolina, South Dakota, Maryland, New Jersey and Mexico. There is also evidence of the genus being present from the island of Trinidad, although the material found from here cannot be classified at the species level. Common species found in North America include *S. lobatus*, *S. lenticularis*, and *S. pleurisepta*. New species have been found from localities outside of North America such as *S. binkhorsti* from the Maastricht Formation in the Netherlands, *S. siva* from the Valudavur Formation in India and *S. brasiliensis* from the beds along the banks of the Rio Gramame in Brazil. Many specimens of *S. lobatus* have also been found from the Nkporo Shale in Nigeria.

The shell of *Sphenodiscus* was streamlined and lateromedially compressed with overlapping whorls and a small umbilicus. The ventral edge of the shell tends to be sharply angled. The outer surface is generally smooth in fossil specimens, although certain species at different stages of ontogenic development may possess many small tubercles along their surfaces. *Sphenodiscus* had a complex suture pattern with many small branching lobes and saddles.

(Source: Wikipedia, the free encyclopedia)

## Hairy Gems

We think of rocks as hard, strong and boring. Then, all of a sudden, we are faced with something unearthly, almost unnatural. How could anything like this exist in the harsh, natural world? Unfortunately, many of these crystal oddities are extremely delicate. They are seldom displayed because of the great possibility of destroying their fragile beauty. So, I have taken the idea of introducing you to some wonderful hairy gems.

Natrolite is a common and popular zeolite mineral. Its radiating sprays of ice clear acicular crystals are a hall-mark of this mineral and makes a fine specimen.



Cyanotrichite is a wonderfully colored Mineral. Its bright azure to sky blue color is very impressive. Cyanotrichite typically forms acicular or hair like crystals aggregated into radial clusters, tufts and sprays. The color is very impressive for such tiny crystals. It is an aptly named mineral since cyano and trick are derived from the Greek for blue and hair,

respectively. It is formed from the oxidation of copper ore minerals along with other oxidation zone minerals.

Millerite is one of a few sulfide minerals that form fine acicular crystals that appear as hair-like fibers aggregated into sprays. It is a real bonus to quartz geode collectors from Indiana to Kansas to open up a geode and find a spray of brassy millerite crystals tucked inside. Millerite is also called "Capillary Pyrite" since it has a brassy yellow color that is close to the color of pyrite. When found as brassy sprays inside of sparkling clear quartz geodes, millerite can make a wonderfully attractive and interesting mineral.



Tremolite is a relatively common mineral in some metamorphic rocks. One variety is composed of micro-scopically fibrous crystals called asbestos. Other minerals also form asbestos such as serpentine. Another variety of tremolite is called "mountain leather" or "mountain cork" and is an oddity in the mineral world. The tremolite fibers form a felted mass that has all the appearances and feel of a piece of cloth.



Rutile is an interesting, varied and important mineral. Rutile is a major ore of titanium, a metal used for high tech alloys because of its light weight, high strength and resistance to corrosion. Rutile is also unwittingly of major importance to the gemstone markets. It forms its own interesting and beautiful mineral specimens. Micro-scopic inclusions of rutile in quartz, tourmaline, ruby, sapphire and other gemstones, produces light effects such as cat's eye and asterisms (stars). A beautiful stone produced by large inclusions of golden rutile needles in clear quartz is called rutilated quartz.

Fragile, ethereal crystals, nature always surprises us with something new and delightful. Keep your eyes open, you never know what nature will show you next.



[Ed. Note: There are of course others including this 1 mm crystal of Mullite. (Source Via Port Moody Rock & Gem 11/06; Chipper's Chatter 9/14; The Rockhouser 10/14)

## WOW! The Schulz boys are at it again.

Here is how the boys did at the Kansas State Fair.  
All told 58 hours of volunteer work over 3 days with the Geology and Photography competitions.

### Thomas

Photography Senior Judging Team Member  
Photography – Blue  
Dog Showmanship - Purple  
Geology 60 Specimen Box Blue  
Fox Medallion Special Display

### Robert

Photography Red  
Dog Showmanship Purple

### Ian

Photography Blue  
Dog Showmanship Blue  
Geology 45 Specimens White  
Foods White

\*\*\*\*\*

Here is how the boys did at the Shawnee County Fair.  
Projects with an \* in front indicate they qualified to attend the Kansas State Fair

### Thomas

\* Photography Senior Judging Team Member  
\* Photography – 10 Purples  
Dog  
\* Showmanship - Purple  
Rally-Obedience White  
Agility – Off Lead (1st time) White  
Arts & Crafts  
\* Fox Medallion Purple,  
Reserve Champion,  
Reserve Grand Champion  
Sword Letter Opener Blue  
Klingon Key Ring Blue  
Geology  
\* 60 Specimen Box  
Purple, Reserve Champion  
Special Exhibit Blue  
Woodworking 3 Reds  
(Bed, Candle Sticks, Bows)  
Construction Zone

Building Blue  
Motorized Purple, Champion, Grand  
Champion  
Public Speaking Red  
Talent Show 2 Reds

### Robert

\* Photography – 4 Purples, 6 Blues  
Dog  
\* Showmanship - Purple  
Agility Red  
Construction Zone Blue  
Fine Art Blue  
Clothing Buymanship  
Casual Outfit Blue  
Dressy Outfit Blue  
Fashion Revue  
Casual Outfit Purple  
Dressy Outfit Red  
Talent Show 2 Reds

### Ian

\* Photography – 10 Purples, Reserve Champion Digital  
Composition  
Dog  
\* Showmanship - Purple, Champion  
Rally-Obedience White  
Agility Blue  
Clothing Buymanship  
Casual Outfit Purple  
Dressy Outfit Blue  
Fashion Revue  
Casual Outfit Blue  
Dressy Outfit Blue  
Space Technology – Robot Blue  
Construction Zone 2 Blues  
Geology  
\* 45 Specimens Purple  
Lapidary Blue  
Jeopardy Board  
Marine Biology Blue  
\* Foods 3 Purples  
Arts & Crafts Blue, 2 Reds

# Way to go boy's!

## TOPEKA JUNIOR ROCKHOUNDS



Facebook: <http://www.facebook.com/TopekaJuniorRockhounds>  
To register for the Junior Rockhounds or any of the classes, email Shirley Schulz, Program Secretary [sschulz@kdheks.gov](mailto:sschulz@kdheks.gov).

Call Dave Dillon 272-7804, or email [davidd5124@aol.com](mailto:davidd5124@aol.com) for information on lapidary classes.

### Junior Rockhounds Upcoming classes

November 6 Stone Age Tools & Art- Julie Bremenkamp

December 4 Across Generations-Larry Henderson Advance work advised.

Before classes, we will have a "Rock Swap" at 6:00 pm.

Attendance at the Junior Rockhound Roundup was good. We have many prospects we are contacting. We welcome the new Junior Rockhounds that signed up at the show.



Andrew got his Junior Rockhound Badge at the September 26,2014 meeting.