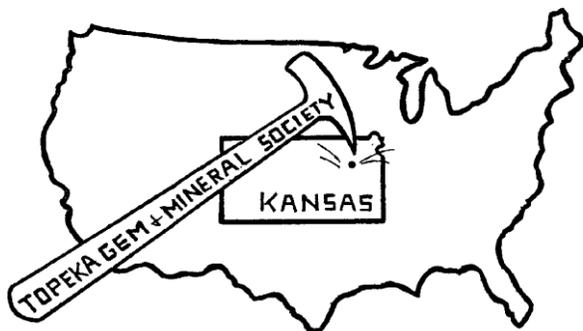


The Topeka Gem and Mineral Society, Inc.  
 1934 SW 30<sup>th</sup> St. Topeka, KS 66611  
 Rock2Plate@aol.com

# THE GLACIAL DRIFTER



[www.TopekaGMS.org](http://www.TopekaGMS.org) 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. 68, No. 9  
 September 2025



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, 7:15 pm, First Congregational Church, 1701 SW Collins Ave, Topeka, KS 66604. 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.**

[www.TopekaGMS.org](http://www.TopekaGMS.org)

## 2025 OFFICERS AND CHAIRS

President	Cinda Kunkler	286-1790	Cab of the Month	Donna Hedge	620-660-1651
1 <sup>st</sup> Vice Pres.	David Dillon	221-4315	Field Trip Coord.	Chuck Curtis	286-1790
2 <sup>nd</sup> Vice Pres.	Desiree Gardner	221-8862	Publicity	Donna Hedge	620-660-1651
Secretary	Stacy Haug	1-857-3350	Welcome/Registration	Harold Merrifield	633-9745
Treasurer	Millie Mowry	267-2849	Property	Chuck Curtis	286-1790
Directors	Doria Skinner	231-9347	AFMS Scholarship	Cinda Kunkler	286-1790
	Jim Baer	785-256-2432	Editor/Exchange Editor	Millie Mowry	267-2849
	Shirley Schulz	n/a	Show Chairman	Millie Mowry	267-2849
Historian	Cinda Kunkler	286-1790	Show Dealer Chairman	Dave Dillon	221-4315
Federation Rep	Chuck Curtis	286-1790	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849	Jr. Rockhound Leader	Dennis Hippe	230-6729
Librarian	Cinda Kunkler	286-1790	Show Case Coordinator	Cinda Kunkler	286-1790
Web Master	Chad Skinner	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](mailto:rock2plate@aol.com) .  
Permission is granted to reprint articles only if proper credit is given to the author, Glacial Drifter and the date.

### HELLO FELLOW ROCK ENTHUSIASTS!

HELP IS NEEDED FOR THE SHOW OCT 10, 11 & 12. PLEASE MAKE SURE TO SIGN UP TO WORK AT THE MEETING SEPT 26 OR AT WEEKLY CLASSES AT BRAD'S. Several things we need to talk about at the next meeting: Annual Show, Cleaning at Brad's shop, Saturday, October 18th 10 am, plan's for Christmas dinner - restaurant or should we have a pot-luck? Elections will be coming up, we are always looking for help teaching classes for Juniors, ideas for programs, field trips and opportunities to share with groups (home schooling, Boy/Girl scouts, schools). We can use help in distributing coupons for the show - please take a bundle of coupons to give to friends at school, club meetings, beauty shop, barber shop, bank tellers, church, neighbors, 1<sup>st</sup> Friday's, any gathering of people you are around. Keep an eye out for our billboards - they should be up soon.

Thanks to all for your help in getting our show off to a good start for this year!

Cinda Kunkler, TTGMS President

Have a great day!

### *September 2025 Program*

The program for the September monthly meeting will be a silent auction. The proceeds will benefit the Club.

-Desiree, 2nd Vice President TGMS



WORKING TOGETHER WORKS!

# TTGMS Event Calendar

SEP 2025			OCT 2025		
1	M		1	W	
2	T		2	T	Jr RHD's Gather at 6 Meeting at 6:30p
3	W		3	F	
4	T		4	S	<b>NO BOARD MEETING</b>
5	F		5	S	
6	S		6	M	
7	S		7	T	Shop Classes are open 6-10pm at Brad's
8	M		8	W	
9	T		9	T	NO-Wire Wrap Class at Millie's 6:30p
10	W		10	F	TTGMS SHOW – Set up day
11	T		11	S	SHOW
12	F		12	S	Show & TAKE DOWN
13	S		13	M	
14	S		14	T	Shop Classes are open 6-10pm at Brad's
15	M		15	W	
16	T	Shop Classes are open 6-10pm at Brad's	16	T	NO-Wire Wrap Class at Millie's 6:30p
17	W		17	F	
18	T	Wire Wrap Class at Millie's 6:30p	18	S	Shop Clean up Day 10 AM
19	F		19	S	
20	S		20	M	
21	S		21	T	Shop Classes are open 6-10pm at Brad's
22	M		22	W	
23	T	Shop Classes are open 6-10pm at Brad's	23	T	Wire Wrap Class at Millie's 6:30p
24	W		24	F	Regular Mtg - Mtg. Gather 7:15 p.m. Meeting at 7:30 pm FC Church 1701 SW Collins
25	T	Wire Wrap Class at Millie's 6:30p	25	S	
26	F	Regular Mtg - Mtg. Gather at 7:15 Meeting at 7:30pm FC Church 1701 SW Collins	26	S	
27	S		27	M	
28	S		28	T	Shop Classes are open 6-10pm at Brad's
29	M		29	W	
30	T	Shop Classes are open 6-10pm at Brad's	30	T	Wire Wrap Class at Millie's 6:30p
			31	F	

## As A Reminder!

If you are wanting to take a class in Silversmithing or wire wrapping you are to call either Jim Baer at 785-256-2432 or email him at [jimbaer73@gmail.com](mailto:jimbaer73@gmail.com), the Monday before class to let Jim know you will be there. For wire wrapping contact Millie Mowry at 785-267-2849 or email [rock2plate@aol.com](mailto:rock2plate@aol.com), as she holds class at her house.

## JR ROCKHOUND Classes & Reminders

Here are reminders of the next months of classes: **First Congregational Church, 1701 SW Collins Ave., Topeka, KS.** Sign in starting at 6:00 pm and classes starting at 6:30 pm. 1st Thursday of each month.

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

To register for the Junior Rockhounds or any of the classes, email:

Dennis Hippe at: [go.purple@hotmail.com](mailto:go.purple@hotmail.com)



Next Class: October 2, 2025 Collecting, Doria Skinner

Reminder: If you want to earn the patches from the classes that you have attended you need to turn in your homework assignments.

### Rocks for Juniors

Reminder to bring any extra rocks you might have that you would like to donate to the Junior Rockhound Club. We are trying to let the kids go on a "field trip" after class. Some of them really don't have much of a chance to add to their collection. We will have a table set up at the back of the room that they can come to and let them each pick out four rocks that you have graciously donated. This way they can add to their collection. Thank you so much for your contributions. This wouldn't be possible without you.

Dennis Hippe

### All About Rubies

(by Sawyer J., Henry J., and Henry T., Junior Rockhounds)

Rubies are red fluorescent gems commonly used in jewelry. Natural ones are rare, with the most valuable one selling for \$34.8 million. It sits at 9.0 on Moh's Scale of Hardness. It is one of the traditional Cardinal gems (along with amethyst, sapphire, emerald, and diamond). It is the birthstone for July, reflecting the fiery heat of days. They are mostly found in southern Africa and Asia, but can be found in Montana and North Carolina.



## The TTGMS Library

In the TTGMS Library there are well over 100 books to choose from That cover a vast array of subjects of lapidary art and geology. The library has currently moved to the church storage area, contact Cinda if interested in checking out a book.



### URGENT EMERGENCY - State Fair Thefts

All Leaders & Junior Leaders,

There have been thefts of fossil and mineral specimens from geology exhibits at the state fair. Shannon Crouch has identified exhibits from Sedgwick, Pottawatomie and Riley Counties that have been affected thus far and she is currently examining all exhibits. 4-H families need to go to the state fair 4-H building as soon as possible to file a police report. Those of you on Facebook, please post this information on our page and any other pages that would be useful for notification to families in counties without leadership. You may contact Shannon Crouch at (316) 393-8458 for more details. Please be aware that her phone service may not be sufficient at times.

Dave Goldak

Greeting Fellow Field Trippers,



Your Club will be having a Field Trip to Mike's sandbar on Saturday Sept. 27. We will meet at Tecumseh Park at 9:00am. We will leave the Park at 9:30 sharp and convoy to Mike's after Sign-In and Group Photo. Hope to see you all there.

Chuck Curtis, Field Trip Coordinator



We have an opening for the next year to head our Publicity Committee. If anyone would care to take over this position, or if you know of anyone who would, please let me know.  
Chuck Curtis

### Dillons Community Reward Program

The Topeka Gem & Mineral Society has enrolled with the Community Rewards with Dillon's Store. You can enroll your shopper's card at: [www.dillons.com/communityrewards](http://www.dillons.com/communityrewards) once you sign up it will take about 7 to 10 days to be activated and our Club to start earning the rewards. At the bottom of your Kroger receipt, you will notice "At your request, Kroger is donating to 'your organization name'".

1. You will have to re-register each year.

If you have any other questions email [DCR@dillonstores.com](mailto:DCR@dillonstores.com)

**(You do not lose your fuel points).**

[1<sup>st</sup> Quarter 2025](#) 14 households [TTGMS Rebate \\$39.40](#)

[2<sup>nd</sup> Quarter 2025](#) 13 households [TTGMS Rebate \\$33.78](#)



To our new members:

Debbie Drexler & Edward T. Nutt

Janel Huninghake

Vickey & Robert (Bob) Johnson

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Borrowed from the 11/2016 Cedar Valley Gems newsletter.  
Opalized Dinosaur Bones and Pine Cones from Lightning Ridge

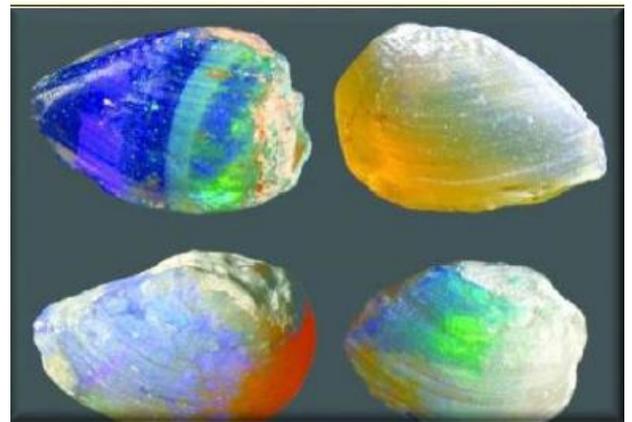
Only one place on Earth produces black opal fossils, Lightning Ridge in northern New South Wales, Australia. Lightning Ridge is the only opal field in Australia with fossils of diverse land-living Cretaceous organisms - pinecones and platypuses, microscopic protozoans and gigantic dinosaurs. The fossils are usually exact replicas of plant, shell or bone material, and at times they are comprised of gem quality black opal, which is as valuable as diamonds and more beautiful Black opal fossils which may be found at Lightning Ridge include remnants of ancient plants, mussels, snails, crustaceans, fish, turtles, plesiosaurs, crocodiles, pterosaurs, dinosaurs, birds, and mammals. 110 million years ago the supercontinent Gondwana was a wilderness of forests of pines, ferns and palms separated by tracts of shallow sea. Dinosaurs and their relatives dominated this landscape, as well as our rare and tiny mammal ancestors.

Near the edge of this ancient continent, fragments of the remains of these animals accumulated in the sands of the inland sea. Opalized pine cone Lightning Ridge fossils are three-dimensional replicas of ancient organic objects, transposed into non-precious potch (colorless opal) or precious opalized dinosaur tooth opal. In those that are pseudomorphs, the silica has filled a simple cavity or void, like jelly in a mold, so that only the basic shape and perhaps the surface texture is preserved. However, many specimens are replacement fossils, in which intricate internal structures have been preserved by chemical alteration before the cavity was filled by the silica solution.

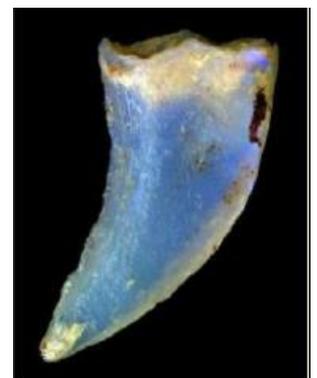
Most specimens at the Ridge are a combination of pseudomorphs and replacement fossils. Although the transformation to silica has destroyed bio-molecular evidence, marrow tissue, blood vessels, capillaries opalized fresh water mussel shells and nerve channels may be perfectly preserved. If the potch is transparent, these features are clearly visible below the surface in opalized bones. A surprising aspect is the opalization of delicate materials like leaves and even dinosaur skin. Many pieces resemble coprolites, reptilian armor scutes or heavy scales; very occasionally, bone specimens seem to show remnants of tendons or cartilage.

This outstanding quality of preservation is partly because the opal-dirt is extremely fine-grained and an ideal casting medium. Kaolinite, smectite, and illite clays produce the putty-like properties of the opal clay, the smectite making it plastic and malleable. Most opal fossils found at the Ridge consist of potch, therefore any fossils with color are rare and valuable. Many fossils are damaged by machinery during excavation, as pick and shovel based operations are giving way to machine-driven excavations. Removing fossil specimens can be a delicate operation, and colorless fossil specimens are largely ignored by miners searching for color.

(Source: Stoney Statements Aug 2025)



opalized fresh water mussel shells



opalized dinosaur tooth



opalized ammonite

## Ken's Chemistry Corner: All About Calcium Carbonate

-Calcium carbonate ( $\text{CaCO}_3$ ) has a variety of geological names. Its most common polymorph, or crystal structure, is known as calcite. The name calcite comes from the German word 'calcit', which is derived from the Latin 'calx', meaning lime. This is because calcium carbonate in sedimentary form is also called limestone.

-Calcite crystallizes in the trigonal crystal system, but can ultimately form over 1000 different shapes of crystals, from perfect cubes to prisms to bipyramids. Pure calcite is colorless and transparent, but impurities can make it nearly any color. These properties make it very desirable to the mineral collector, even though it is otherwise a very humble and common mineral.

-Calcium carbonate can also crystallize as orthorhombic crystals. This mineral is called aragonite. One of the most common habits of aragonite is to have crystals with multiple twinning resulting in a neat hexagonal form. Aragonite is unstable at high temperatures (over 200 degrees C) and changes into calcite over time. There is a third crystal form of calcium carbonate as well. It is called vaterite and forms true hexagonal crystals. It is even less stable and exposure to water or temperatures over 60 degrees C quickly convert it to calcite.

-Limestone is formed when calcium carbonate precipitates out of water. It is usually a mixture of calcite and aragonite, and can form from non-biological or biological processes. Coral and shells in the ocean result from biological processes, for example, and are also made of limestone. About 20-25% of all sedimentary rock is made up of carbonate as either limestone or dolomite, which also contains magnesium as well as calcium. Thus, calcite makes up massive formations across the globe, and often contains fossils and pockets of other minerals.

-Last month we called ornamental gypsum by the term 'alabaster'. While this is generally accepted, alabaster can also refer to calcite, which can be similarly carved and fashioned into art objects. Alabaster artifacts have been found dating back to ancient Egypt, for example in Tutankhamun's tomb. Egyptian alabaster is actually indeed calcite. Alabaster was named for the fact that many of these objects were carved in tribute to the goddess Bast. Although calcite and gypsum alabaster generally look alike, it is quite easy to tell them apart. Calcite fizzes if dilute acid is dripped on it and gypsum does not. Also, gypsum alabaster is softer, with a Mohs hardness of 1.5-2 and can be scratched with a fingernail. Calcite alabaster has a hardness of 3 and requires a knife to scratch it.

-Pure calcite can form perfectly clear crystals, sometimes known as "Iceland spar". Such crystals have an interesting property termed birefringence. Scientifically, this property means that the crystal has a different refractive index for different vectors of polarized light passing through it. If a beam of unpolarized light enters the crystal, it is divided into two rays of perpendicularly polarized light. The visual result of this is that if you place a crystal of Iceland spar over some printed text, the text will appear doubled. The Vikings learned to use this property in a "sunstone", which their navigators at sea used to find the position of the sun even on overcast days. The polarization of light was first discovered in Iceland spar, and Huygens, Newton, and Stokes developed the 'wave theory of light' based on this property. Iceland spar can be found across the world, including in New Mexico, but the Helgustadir mine in Iceland still produces the largest and clearest specimens. The largest calcite crystal ever found comes from Iceland and is 23 ft x 23 ft x 6.6 ft, weighing in at 250 tons.

-Before the advent of modern glass technologies, calcite was used for other optical applications, such as gunsights and bomb sights during World War II. Marble is the metamorphic product of limestone, after being exposed to intense heat and pressure. The carbonate crystals in marble form an interlocking mosaic, making it a much 'tougher' material than limestone. Although much more difficult to carve than alabaster, sculptors have long preferred marble, particularly for human forms, because it has a characteristic waxy look that gives a lifelike luster to the stone, and it holds up better to the elements.

(Source: The Sooner Rockologist Aug 25)

Jami's Oklahoma Calcite Specimens, Pictures by Jami Poor



These calcite specimens are from Martin Marietta quarry near Davis, Oklahoma

Jami's Oklahoma Calcite Specimens  
Pictures by Jami Poor

Specimens from this site consist of unique 'cubes' of transparent calcite, with interesting inclusions on the surface and inside the crystals. They could be petroleum inclusions or iron minerals that also can be found here, such as pyrite and marcasite.



## Tanzanite

Discovered in the late 1960s in Tanzania, and found exclusively in this tiny area of the world, *tanzanite* exhibits a rich violet-blue color for which the gemstone is treasured; often it is heat-treated to achieve this color. Colors range from blue to purple, and tanzanites that are medium dark in tone, vivid in saturation, and slightly violet blue command premium prices. As tanzanite can be less expensive than sapphire, it often was purchased as an alternative. However, it has increased in popularity and now is valued more for its own beauty and brilliance than as a sapphire substitute. (Source: The Slate, Dec 2015)

