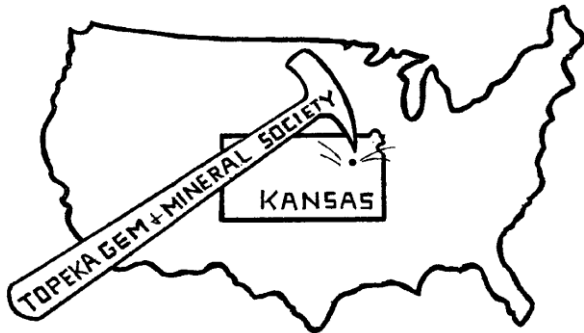


The Topeka Gem and Mineral Society, Inc.  
 1934 SW 30<sup>th</sup> St. Topeka, KS 66611  
 Rock2Plate@aol.com

# 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. 63, No. 8,  
 Aug 2020



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, University United Methodist Church, 1621 SW College, 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)

## 2020 OFFICERS AND CHAIRS

President	Brad Davenport	379-8700	Cab of the Month	Debra Frantz/Fred Zeferjohm	862-8876
1 <sup>st</sup> Vice Pres.	Will Gilliland	286-0905	Field Trip Coord.	Will Gilliland	286-0905
2 <sup>nd</sup> Vice Pres.	Cinda Kunkler	286-1790	Publicity	TGMS Board	
Secretary	Stacy Haug	1-857-3350	Welcome/Registration	Harold Merrifield	633-9745
Treasurer	Millie Mowry	267-2849	Property	M. Cote/D. Dillon	220-3272
Directors	Chuck Curtis	286-1790	AFMS Scholarship	Cinda Kunkler	286-1790
	Francis Stockton	913-645-7677	Editor/Exchange Editor	Millie Mowry	267-2849
	George Reed	836-9277	Show Chairman	Millie Mowry	267-2849
Historian	Open		Show Dealer Chairman	Millie Mowry	267-2849
Federation Rep	Harold Merrifield	633-9745	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849	Jr. Rockhound Leader	Jason Schulz	640-6617
Librarian	Millie Mowry	267-2849	Show Case Coordinator	Cinda Kunkler	286-1790
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](mailto: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

Good day to all of you.

As the summer quickly passes, we are all faced with decisions that need to be rationally addressed. Whether it is kids in school, friends in need or are we ready to face the world as it is. Some are being told what to do and others have to make up their own minds.

We as a club are venturing out in a few directions that seem prudent and reasonable. We have held two picnics at Miss Millie's in lieu of our regular monthly meetings. We have always done this in the summer and we will do this again on Aug 8<sup>th</sup>. Instead of pot luck everyone brings their own dinner. We have plenty of nice shaded space to enjoy the evening together.

For the last three weeks, we have been holding open lapidary shop time and informal classes for those that need some direction. We have been seeing some real pretty gems coming off the wheels. We have been accumulating the tools, equipment and supplies to begin holding Silversmithing classes. We are not quite there yet. Hopefully next Tuesday we can start. That will be Aug. 18<sup>th</sup>. I hope more of you will be joining us soon.

Next month on Sept. 3<sup>rd</sup> we intend to resume classes for the Junior Rockhound program. We will be meeting at the library within their parameters of distancing, masks and total numbers of participants. If we have a good turnout, some of the parents may have to spend their time in the library itself so we can accommodate all the youth that show up. I am particularly excited to get this show back on track.

On a side note, I am very pleased to hear that Dave Dillon will be rejoining us. I welcome back his experience, expertise, humor and wit. I know many of us have missed him in his absence.

With a lot of forethought, the Officers made the decision to move the general meeting to a location that would be more accessible to those who are handicapped and for those who have difficulty climbing stairs and ramps. Starting with our September 25<sup>th</sup> meeting, we will meet at the University United Methodist Church, 1621 SW College Ave, Topeka, 66604. It is directly across the street north from Washburn University. Entry to the building will be from the north door only. Once in the building the Fellowship Hall is straight in front of you. We hope to see more members at the meetings.

Brad



### Last chance to purchase your ducks!

## Topeka Gem & Mineral Society

Has joined the Sertoma Great Topeka Duck Race for 2020-----Go to [www.topekaduckrace.org](http://www.topekaduckrace.org) To adopt a duck for \$5.00 each, A family of 5 for \$20, A flock or 12 for \$50 and A 'oodle' of ducks (27ducks) for \$100.00. The race is September 19, 2020 at Lake Shawnee.

Our Team name is **“Topeka Gem & Mineral Society”**

THIS OUR YEARLY FUND RAISER FOR THE YEAR  
GO ONLINE AND NOW & ADOPT YOUR DUCKS



**YES**, we are moving the TGMS General Meeting to the University United Methodist Church at 1621 SW College Ave, 66604, starting with the September 25, 2020 meeting. We will meet in the Fellowship Hall.

The September program will be a silent auction for the Club, so if you have anything you wish to donate, please bring it at that time.

## TGMS CLUB PICNIC for August

For the month of Aug 2020, our Club Picnic will be held at Millie's on the drive way and yard. You are to bring your own **BOX DINNER**, as we will not be sharing food.

If you have a folding table, or card table to use and chair it would be best so that we can spread out.

**This is what to bring this time:**

1. **Your own box dinner, drink, eating utensils, & napkins.**
2. **Table & Chair unless you want to sit on the ground.**

We feel it is important to get together as a Club, but if you feel uncomfortable yet, we understand. We thought by eating outside and spread out that at least we could be together for a while. We start at 6:30 p.m. at 1934 SW 30<sup>th</sup> St Topeka. Park in the street so we can use the driveway. Thank you.



We need your **BEST CHOICE UPC Labels** --  
Bring them to the monthly meeting, and give them to Cinda Kunkler.

# TGMS Event Calendar

AUG 2020			SEPT 2020		
1	S		1	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.
2	S		2	W	
3	M		3	T	Jr Rockhounds, TSCPL Rm 101B Wire wrap class at Millie's 1 p.m.
4	T		4	F	
5	W		5	S	
6	T		6	S	
7	F		7	M	
8	S		8	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.
9	S		9	W	
10	M		10	T	Wire wrap class at Millie's 1 p.m.
11	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.	11	F	BOARD MEETING 7 p. m.
12	W		12	S	
13	T	Wire wrap class at Millie's 1 p.m.	13	S	
14	F		14	M	
15	S		15	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.
16	S		16	W	
17	M		17	T	Wire wrap class at Millie's 1 p.m.
18	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.	18	F	
19	W		19	S	
20	T	Wire wrap class at Millie's 1 p.m.	20	S	
21	F	.	21	M	
22	S		22	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.
23	S		23	W	
24	M		24	T	Wire wrap class at Millie's 1 p.m.
25	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.	25	F	General Meeting @ U.U.M. Church 1621 SW College Ave 7:30 p.m.
26	W		26	S	
27	T	Wire wrap class at Millie's 1 p.m.	27	S	
28	F	Club picnic—At Millie's on the Driveway 6:30 p.m. Box dinners NO Sharing of food	28	M	
29	S		29	T	Lapidary & Wire W rap Class @ Brad's, 6 p.m.
30	S	Wire wrap class at Millie's 1 p.m.	30	W	
31	M				

**If you are interested in Wire Wrap Classes, contact Millie, 267-2849 or [rock2plate@aol.com](mailto:rock2plate@aol.com)**

Check out the calendar on our web site

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

## JR ROCKHOUND Classes & Reminders

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



<https://www.facebook.com/TopekaGMSJuniorRockhounds>  
To register for the Junior Rockhounds or any of the classes, email:  
Jason Schulz at: [Fleetcommander@att.net](mailto:Fleetcommander@att.net)



**The Library is open again---everyone must wear masks!**

Next Class Sept 3<sup>rd</sup>. 2020 Fossils, Pat Gilliland

(Parents may have to spend this time in the Library as we are limited on how many people can be in a room.)

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



Make Welcome Our New Member

Shirley Hardesty

## Prairie Agates

Designated as the Nebraska State rock by the 1967 State Legislature, the prairie agate is not a true agate. This rock grades into banded or layered chert rather than agate.

Prairie agates are found in northwest Nebraska, southwest South Dakota, and northeast Wyoming. Since these are the same areas where the much sought after Fairburn agates are found, many rockhounds mistake some of the banded prairie agates for Fairburn's. These are referred to as "Nearburn's" by the more knowledgeable.

Although ignored by many of the natives of the area where they are found, prairie agates lend themselves very well to lapidary. Because of the coloration of these nodules, which runs from bright yellows and reds to subdued pastel shades of pink, lavender, blue, tan and grey, many beautiful specimens can be cut and polished. The fascinating blend of colors also can be captured in cabochons to make attractive and novel jewelry pieces.

Using the same procedure as used when working true agate, the lapidary is rewarded with a brilliant polish on any piece of prairie agate he works with.

(Source: Reprinted from the Glacial Drifter, Jan 1991)

This is the last part of a series that Will Gilliland has put together so that you as an individual can go on a self-guided trip around Kansas to look for fossils and other items.

## **Taking A Field Trip through the Nodaway Coal Fields to Melvern Reservoir**

By William Gilliland

The Nodaway Coal was named for exposures near Nodaway, Andrew County, Missouri. In Topeka the Nodaway Coal Bed of the Aarde Shale Member of the Howard Limestone Formation was mined at several locations within the present city, however, these deposits were thin. When the Atchison and Topeka Railroad was first formed, they needed to lay the first rails to Osage County where deposits up to 36 inches thick were being mined. The railroad was constructed in 1868 to Carbondale.

If we start our trip from the parking lot of the old White Lakes Mall on south Topeka Boulevard, we will be near a Nodaway Coal strip mine that was west of this location. Due to the need for housing for Forbes Air Base, houses were built over the abandoned strip mine. Take Topeka Avenue south along old US-75. When you cross under the Kansas Turnpike you will be not far from an exposure of the Nodaway Coal in a north roadcut at mile post 178. on the Turnpike. The thin coal bed is exposed just under the Church Limestone Member of the Howard Formation. Do not try to stop along the Turnpike at this location.

Follow Topeka Ave. south to US-75 and take the 4-lane highway south. About 0.6 mile south of the Carbondale exit the highway was constructed through an abandoned Nodaway Coal strip mine. From the junction of US- 75 and 56 you can take one of two routes to Melvern Reservoir.

**Route 1** Follow US-75 south through Lyndon to K-278. turn west. About 3.3 miles you will cross a high ridge capped with high terrace deposits from when rivers flowed eastward across the Flint Hills. Much of the chert gravels are weathered a rich brown color. It is estimated it takes at least a million years of weathering in soils to produce this color. About 2.5 miles west the road turns south. The gravels in the south road cut are terrace deposits from when the Marais Des Cygnes River flowed at a higher level. A half mile south you are passing through a roadcut in the Topeka Limestone Formation. At the entry road to Turkey Point Park you have reached the outcrop of the Severy Shale.

**Route 2** Turn west on US-56. This route takes you through the area of the many former coal mines. Historic mapping has found that Osage County had at least 302 mines for the Nodaway Coal. The next coal town is Scranton followed by Burlingame. You use to be able to tell the locations of the mines by the dump piles. However, almost all of those piles have been hauled away to be used as fill material. The Schuyler Museum at 117 S. Dacotah has coal mining and railroad exhibits. Open afternoons Wednesday – Saturday phone 785-654-3170. Follow US-56 south of Burlingame, one mile, to pass the location of the Bell #4 mine east of the highway. In 1964 it closed as the last operating coal mine in Osage County. From here south to Osage City most of the mines were located east of the highway. Take K-170 south through Osage City. I was told that a new home owner in town was called, at work, by his wife because the old junk pile in the backyard had fallen into an old mine shaft. Osage City Railroad and Mining Museum 507 Market in old Santa Fe Station. Call 785-219-2510 for information on when open. Follow K-170 south to the corner where it turns west. Take the gravel road 2 miles east to the Turkey Point Park entry and the Severy Shale outcrop.

This road cut exposes the Severy Shale Formation. This is a site that has produced as many as 27 different marine fossils over the years and has been heavily hunted. As a result, it is best to explore it after heavy rains that may expose new material.

(Cont. on next page)

There are two eroded shale areas on the south side of the road. The northeast one is currently the most productive of brachiopods. The small *Neochonetes* are very abundant here. Place a pair of these shells together and note how thin the animal was. In most cases you will find the large *Reticulata* shells have been shattered by freeze thaw when they are near the surface. Closely scan the surface for other fossils. Look for a strip of different colored shale going southeast to northwest across the surface of the shale. This is the trace of a fault that allowed water to circulate and change the color of the shale. Now look northward along the trace of the fault. Can you see where the fault cuts across the slope on the north side? Can you see a small displacement of layers across the fault? A very long time ago a small earthquake was generated when the rocks moved along this fault.

The slope north of road is the most productive area to search. Many different fossils of marine invertebrate animals have been found here. You can also collect shale and fine-grained sandstone here. The tan colored limestone from the very top of the cut is in the Howard Limestone Formation and may contain echinoid spines.

While you are in the area you might explore the parks and facilities around Melvern Lake. South at the junction of US-75 and I-35 is Beto Junction. It was once known for plate size cinnamon rolls. The junction was named with the initials of four cities: Burlington, Emporia, Topeka & Ottawa.

An aid in the identification of the marine fossils found at this site are the drawings of common eastern Kansas fossils by R.C. Moore. These drawings are available as a pdf download from the Kansas Geological Survey at <http://www.kgs.ku.edu/Publications/Bulletins/169/moore/supplemental.pdf>.

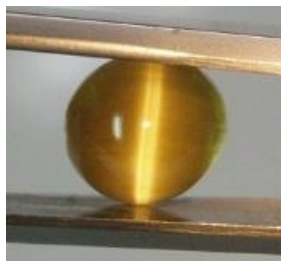
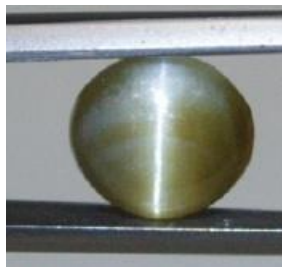
For additional information about the coal deposits see Coal Resources of the Wabaunsee Group in Eastern Kansas by Walter H. Schoewe at [http://www.kgs.ku.edu/Publications/Bulletins/63/04\\_coals.html](http://www.kgs.ku.edu/Publications/Bulletins/63/04_coals.html).



### Chrysoberyl and its varieties.



Left is artificial light. Right is sunlight.  
Credit: Photos by Donna Rhoads –  
Courtesy of D & J Rare Gems



## Chrysoberyl

Lawrence H. Skelton Wichita Gem & Mineral Society, May 2020

Not too popular of a gemstone in its common form, chrysoberyl demands high prices in its varieties of Alexandrite and Cat's Eye. It originates in granitic pegmatites and their peripheral mica schists and often is found in the weathering alluvia of pegmatites. It is a beryllium aluminum silicate,  $\text{BeAl}_2\text{O}_3$ , that crystallizes in tabular forms in the orthorhombic crystal system. Crystals may twin and frequently triple for form hexagon-shaped, "notched" shapes named "trillings." Chrysoberyl possesses an unusually high hardness of 8.5 (between topaz and corundum). Its specific gravity ranges from 3.65 to 3.8 (heavier than quartz and beryl but less than corundum). It is brittle and possesses a conchoidal fracture. The usual colors of chrysoberyl (excepting varieties Alexandrite and cymophane (Cat's Eye) are yellow, green and brown or mixtures thereof. Faceted gems may be confused with other yellow/yellow-green gems and I have seen chrysoberyls mixed with a parcel of peridot. Internet scans indicate that a 2.5 carat, golden yellow, Tanzanian chrysoberyl retails at approximately \$300.00. Larger stones, of course, demand a higher per carat price. For example, a 4.2 carat gem of equal quality is priced at \$1000.00 or approximately \$250.00 per carat.

Chrysoberyl was first identified as a mineral in 1790 by the famous German geologist, Abraham Gottlob Werner (1749 – 1817). The rare alexandrite variety was discovered and identified supposedly on 17 April 1834 by Finnish mineralogist Nils Gustaf Nordensköld (1792 – 1866) from a deposit in Russia's Ural Mountains. The discovery date coincided with the sixteenth birthday of the Tsarevich (Crown Prince) Alexander II (1818 – 1881). Nordensköld seems to have been employed by Count Lev Perovskii who may have named the find and presented it to the Royal Court to honor the prince. Owing to impurities of chromium, alexandrite is strongly dichroic and displays purple/red and green colors depending on the kind of light; red in artificial (incandescent) light and green in natural daylight. That these were the colors of Imperial Russia was not lost on the Count and may have pleased the Tsar and Prince Alexander. Royal pleasure, as usual, enhanced the value and popularity of the gem.

Since its discovery about 200 years ago, alexandrite has been found elsewhere: Brazil (probably the major producer), Sri Lanka (Ceylon), India, Myanmar (Burma), Madagascar and Zimbabwe. In the U.S., chrysoberyl (not alexandrite) is found in pegmatites in Maine and New York. Like other gem varieties, the value of alexandrite is based on rarity, color, clarity and cut. Price-wise, a top quality alexandrite exceeds both diamond and ruby; reaching \$15,000.00 for a one carat gem and rising to \$50,000.00 to \$75,000.00 for larger gems. An internet scan finds a 0.26 carat stone at \$546.00 and a 0.47 carat for \$1,245.00. One site lists a 2.3 carat for \$11,960.00.

Another variety of gem chrysoberyl is cymophane (from two Greek words meaning "to appear" and "to wave"); better known as cat's eye. It is a chatoyant gem, cut in cabochon, that displays a sharp white eye centered in a darker, translucent to transparent background. The preferred background is honey-colored but the gem may be shades of yellow to green, gray or whitish. Rarely, the chatoyant effect is seen in alexandrite and is still considered to be cat's eye. The eye seems to shift position as the stone is rotated. This effect is caused by inclusion of minute, needle-like rutile crystals parallel to the crystal's C (long) axis. The eye is obtained by orienting the stone so that its main axis is at 90° to the crystal's C axis.

Long revered in Asia, cat's eye jumped in popularity in the western world in 1879 when the Duke of Connaught (governor-general of Canada and Queen Victoria's third son) presented a cat's eye to Princess Louise Margaret of Prussia as an engagement ring. That alone was sufficient to stir interest in the gem among the aristocracy of Europe and the elite of North and South America. Cat's eye is distributed much in the manner of alexandrite but Sri Lanka (Ceylon) and India are important historical producers. Internet scanning shows cat's eye prices over a broad range from \$150.00 for a 0.5 carat gem to \$5,900.00 for 6.42 carat to \$33,000.00 for an 18 carat alexandrite cat's eye. In Thailand during the 1970s, high quality, honey-colored, Sri Lankan cat's eye in the 2.5 carat size was available at around \$750.00 (author's experience).

In summary, although not as well-known as some other gems, chrysoberyl is a beautiful gem in all its colors and varieties.

**References:** Bauer, M., 1969, *Precious Stones*: Tokyo, Chas. Tuttle & Co., 647p.

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[www.minerals.net/chrysoberyl\\_gemstone](http://www.minerals.net/chrysoberyl_gemstone): The

Gemstone chrysoberyl. Accessed 16 Apr. 2020.

