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

THE GLACIAL DRIFTER

www.TopekaGMS or
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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. 62, No. 09,
Sept. 2019

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

2019 OFFICERS AND CHAIRS

President	Mike Cote	220-3272
1st Vice Pres.	Dave Dillon	272-7804
2nd Vice Pres.	Cinda Kunkler	286-1790
Secretary	Carolyn Brady	233-8305
Treasurer	Millie Mowry	267-2849
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	Chuck Curtis	286-1790
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Field Trip Coord.	Will Gilliland	286-0905
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Show Chairman	Dave Dillon	272-7804
Show Dealer Chairman	Dave Dillon	272-7804
Show Secretary	Cinda Kunkler	286-1790
Jr. Rockhound Leader	Jason Schulz	640-6617
Show Case Coordinator	Cinda Kunkler	286-1790

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 Top Rock!

Lessons at the Barn are OPEN and if you Are not coming….you are missing out!

The last Club picnics are over and at the August one we filled over 400 grab bags for the show. Plans are in full swing for the show and sign-up sheets will be available at the September meeting.
The Sertoma Duck Race will soon be over and we want to thank everyone that adopted a few ducks. This is a money maker for us.
Elections are coming up, and the Nomination Committee will be calling on some of you to see if you are Willing to serve as an Officer or on a committee. This is your Club also and you have good ideas that we could use.

Mike Cote`

The program for the September 27th meeting will be a Silent Auction. Cinda said that everyone should bring something for the Club to sell. This is a fun way to clean out the shed!

Also she will report on the RMFMS Convention.

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

JR ROCKHOUND Classes & Reminders

Here are reminders of the next few 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…

https://www.facebook.com/TopekaGMSJuniorRockhounds
To register for the Junior Rockhounds or any of the classes, email:
Jason Schulz at: Fleetcommander@att.net

- Oct. 3, 6 – 8:45 p.m., Marvin Auditorium Room 101A, Earth Resources, Will Gilliland
- Nov. 7, 6 – 8:45 p.m., Marvin Auditorium 101C, TBA
- Dec, 5, 6 - 8:45 p.m., Marvin Auditorium 101C, TBA

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

A new class schedule will be emailed out soon.

Pat Gilliland teaching the Showmanship Class to the Topeka Junior Rockhounds.

TGMS Event Calendar

Sept. 2019		Oct. 2019	
1S		1T	
2M		2W	
3T		3T	Jr Rockhounds TSCPL rm 101A Wire Wrap Class @ Millie's 1-3 p.m.
4W		4F	Family First Friday Brookwood 5 p.m.
5T		5S	
6F		6S	
7S		7M	
8S		8T	Barn Open 6 p.m. for lessons
9M		9W	
10T		10T	Wire Wrap Class @ Millie's 1-3 p.m.
11W		11F	
12T	Wire Wrap Class @ Millie's 1-3 p.m.	12S	
13F	BOARD MTG., 7 P.M. Millie's	13S	
14S		14M	
15S		15T	Barn Open 6 p.m. for lessons
16M		16W	
17T	Barn Open 6 p.m. for lessons	17T	Wire Wrap Class @ Millie's 1-3 p.m.
18W		18F	
19T	Wire Wrap Class @ Millie's 1-3 p.m.	19S	
20F		20S	
21S		21M	
22S		22T	Barn Open 6 p.m. for lessons
23M		23W	
24T	Barn Open 6 p.m. for lessons	24T	Wire Wrap Class @ Millie's 1-3 p.m.
25W		25F	
26T	Wire Wrap Class @ Millie's 1-3 p.m.	26S	
27F	General Meeting Washburn Stauffer Hall rm 138, 7:30 p.m. Silent Auction – bring something & a report on RMFMS Convention	27S	
28S		28M	
29S		29T	Barn Open 6 p.m. for lessons
30M		30W	
		31T	Wire Wrap Class @ Millie's 1-3 p.m.

If you are interested in Wire Wrap Classes, contact Millie, 267-2849 or rock2plate@aol.com

LESSONS AT THE BARN ARE WEATHER PERMITTING – Watch for emails

FIELD TRIP COMING UP IN OCTOBER.

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

Our annual Show is just around the corner. **We need everyone's help** during the show and sign-up sheets are available now if you want to 'Pick Your Time' you want to work a shift. Call Millie to get on the lists or come to the August picnic, or the Sept meeting. Remember if you do not work the show, you will have to pay to get in.

Our Grab Bag stuffing after the August picnic. It didn't take long to fill 408 bags with everyone's help.

Thank you everyone.

About 'Needles' of Obsidian

The term 'needles of obsidian' refers to a naturally occurring fragment of obsidian that is basically rod like in shape. Needles can be anywhere from the size of a pencil lead to that of a three-foot section of four-by-four. As obsidian cools beyond the threshold of crystallization, it contracts and fractures. Usually the pattern of shattering is pretty random, creating pieces of varying size and shape. In any large obsidian flow there may be a few long thin pieces just because of chance. In a few flows, however, the entire formation has an overall tendency to produce needles. No one has ever seen this occur, so theories as to the origin of needles are only that: theories. The one that I favor, which was developed by an actual geologist from Humboldt University some twenty-five years ago, is that the needles formed in an already existing obsidian flow when it was bisected by a fault line. The resulting earth movement flaked the rock along parallel axis at 90 degrees, the result being needles. At every site where I have found more than random needles, there seems to be a general matrix with needle sizes ranging from hair-like to honkers of up to thirty inches; but please, feel free to come up with a theory of your own. Perhaps they were left by aliens or are some kind of weird communist plot. At any rate the needles are the second key to the wonderful and amazing tones that our chimes produce. The shapes allow the sympathetic vibrations to build up and emote.

Needles of obsidian are relatively rare and little known. Over the years, we have found several places in Oregon and California where we are permitted to dig them, and we enjoy primitive camping, hiking and digging for six to eight weeks per year.

Source: http://www.obsidianwindchimes.com/ , via WGMS The Rockhounder Jan 2013

BENITOITE

Benitoite *(Barium titanium silicate)* is yet another new gemstone. It was first discovered in 1906 in San Benito County, California (can you see how it got its name?!) by James M. Couch who was camping in the hills. The story goes that he woke up to find the sunshine bouncing off of the faces of benitoite crystals that were on the ground around his campsite. Not only is benitoite a rare mineral but gem-quality crystals are even rarer. It is only found at this locality in California - it has never been found anywhere else in the world. Because of this fact, California adopted **benitoite** as its official state gem on October 1, 1985.
Via Ore-Cutts, 7/16, via WGMS the Rockhounder Sept 2016

A single benitoite crystal from **San Benito County, California**.

Barite

Barite from Rosh Pinah, Namibia.

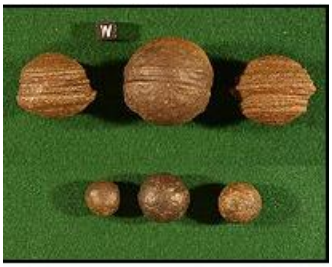
± 20 cm X 13 cm X 13 cm Specimen and photos – J de Jongh

Crystal system: Orthorhombic Hardness: 2.5 - 3.5
Density: 4.5 average Cleavage: very good **Streak: white**
Colour: Colourless, white, blue, red, yellow, orange, pink, purple, brown gray, black and green. May also be multi-coloured and banded.
Occurrence: It most often occurs in hydrothermal veins, lead-zinc veins in limestones and with hematite ore.
Habitat: It is usually found as colourless or massive mineral, but may form prismatic or tabular crystals as well as fibrous masses and granular aggregates.
Composition: sulfate $BaSO_4$

There is a well-known song of which the lyrics go something like "He ain't heavy he's my brother". The mineral of the month, however, is in fact very heavy and it is my barite.
The barite group consists of barite, celestine, anglesite and anhydrite. Barite itself is generally white or colourless, and is the main source of barium. The name barite is derived from the Greek word "baryos" meaning heavy. It fluoresces in a variety of colours and sometimes it is also phosphorescent.
Barite is the main ore of the element barium. It is used in the manufacturing of paints, paper and rubber and also as added-value
applications which include the motor industry, electronics, TV screens, etc. Also as radiation shielding and medical applications (for example, a barium meal before a contrast CAT scan). When crushed, it is added to mud to form barium mud, which is poured into an oil well during drilling. These high density muds are circulated down the drill stem and returned to the surface between the drill stem and the wall of the well. The action effectively flushes the cuttings produced by the drill and carries them to the surface.
Historically barite was used for the production of barium hydroxide for sugar refining and as white pigment for textiles and paint.
Although barite contains a "heavy" metal, it is not considered to be a toxic chemical by most governments because of its extreme insolubility.
Barite is well-known for its great range of colours and varied crystals forms. It is an immensely popular mineral among collectors. Barite is easily identified by its heavy weight, since most similar minerals are much lighter. It often replaces other minerals, and may even replace organic materials such as wood, shells and fossils. It sometimes even forms mounds from deposition of hot, barium-rich springs. It has also been identified in meteorites.
Barite specimens from certain localities are brown from sand inclusions and may occur in beautiful rosette aggregates that strikingly resemble a flower. These are known as barite "desert roses". The mineral gypsum also forms similar desert roses, but they are much lighter in weight, and are more brittle and thin.
Barite is a very common mineral and is found in thousands of localities in too many countries to mention. Southern Africa localities include South Africa, Namibia, Zimbabwe, Botswana, and Swaziland.
The largest barite crystals in the world came from the Elandsrand gold mine near Carletonville in Gauteng. These attractive, amber-coloured crystals were discovered in 1997 in a cavity 2600 m below the surface, associated with quartz, galena, carbon and pyrite. The largest known crystal from this locality and, therefore, most probably also in the world, is 70 cm x 30 cm and weighs 64 kg and is on display in the mine office. A picture of this huge crystal can be seen on page 45 of Bruce Cairncross's book, "Field Guide to Rocks & Minerals of Southern Africa".
Barite has also been found in other Witwatersrand gold mines such as the Kopanong mine.
Barite is also relatively common mineral in the Kalahari manganese fields. The barite is white or colourless, but may be pale yellow. Finds of large barite crystals up to 16 cm long have been reported from the Wessels mine.
The famous Tsumeb mine also produced chocolate-brown tabular crystals, some up to 10 cm long.
In my opinion the premier locality for aesthetic barite crystals are strangely enough not from either of the latter two world famous localities, but from the Rosh Pinah mine in the Luderitz district, 20 km north of the Orange River, Namibia. The sulfate deposit has been mined since 1969. The colour of the best specimens is a rich golden orange and large crystals over 4 cm long are arranged in radiating sprays up to 30 cm in diameter and were found in 1989. Some "floater" specimens are composed of complete 360^0 discs resembling Aztec suns. The finest specimens have the barites crystals on matrix - JDJ.

References : Cairncross, Bruce, (2004) – Field Guide to Rocks & Minerals of Southern Africa., Cairncross, Bruce, (1997) – The Manganese Adventure. http://www.geology.com/; http://www.minerals.net/ ; http://www.webmineral.com/ ; http://www.wikipedia.org/; *http://ctminsoc.org.za/articles.php; Via WGMS 4/2019*

Moqui Marbles



Moqui Marbles, hematite concretions, from the Navajo Sandstone of southeast Utah. Scale cube, with "W", is one centimeter square.

The Navajo Sandstone is also well known among rockhounds for its hundreds of thousands of iron oxide concretions. They are believed to represent an extension of Hopi Native American traditions regarding ancestor worship ("moqui" translates to "the dead" in the Hopi language). Informally, they are called "Moqui marbles" after the local proposed Moqui native American tribe. Thousands of these concretions weather out of outcrops of the Navajo Sandstone within south-central and southeastern Utah within an area extending from Zion National Park eastward to Arches and Canyonland national parks. They are quite abundant within Grand Staircase-Escalante National Monument.[4][5]

Interior of a Moqui Marble

The iron oxide concretions found in the Navajo Sandstone exhibit a wide variety of sizes and shapes. Their shape ranges from spheres to discs; buttons; spiked balls; cylindrical hollow pipe-like forms; and other odd shapes. Although many of these concretions are fused together like soap bubbles, many more also occur as isolated concretions, which range in diameter from the size of peas to baseballs. The surface of these spherical concretions can range from being very rough to quite smooth. Some of the concretions are grooved spheres with ridges around their circumference.[4][5]

The abundant concretions found in the Navajo Sandstone consist of sandstone cemented together by hematite (Fe_2O_3), and goethite (FeOOH). The iron forming these concretions came from the breakdown of iron-bearing silicate minerals by weathering to form iron oxide coatings on other grains. During later diagenesis of the Navajo Sandstone while deeply buried, reducing fluids, likely hydrocarbons, dissolved these coatings. When the reducing fluids containing dissolved iron mixed with oxidizing groundwater, they and the dissolved iron were oxidized. This caused the iron to precipitate out as hematite and goethite to form the innumerable concretions found in the Navajo Sand-stone. Evidence suggests that microbial metabolism may have contributed to the formation of some of these concretions.[15] These concretions are regarded as terrestrial analogues of the hematite spherules, called alternately Martian "blueberries" or more technically Martian spherules, which the Opportunity rover found at Meridiani Planum on Mars.[4][5]

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