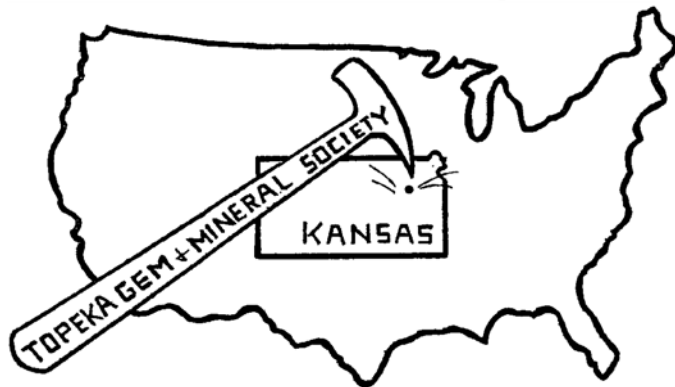


# THE GLACIAL DRIFTER



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

Facebook: Topeka Gem and Mineral Society Field Trips



The Glacial Drifter, Vol. 55, No. 10, November 2012  
 The Topeka Gem & Mineral Society, Inc.  
 Organized December 3, 1948

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

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; (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, except December, unless notified of a change, September – May, 7:30 pm, Stoffer Science Hall, Room 138, Washburn University. Picnic meetings held during summer months, June – August.

Dues: Individual, \$15.00; Husband and wife, \$20.00; Junior (under 18 years of age), \$5.00. Dues are due in December for the coming year; they are delinquent after the January meeting. Send dues to Millie Mowry, Treasurer 1934 SW 30<sup>th</sup> St., Topeka, KS 66611.

## 2012 OFFICERS AND CHAIRS

President	Mike Cote`	220-3272	Cab the Month	Debra Franz/Fred Zeferjohn	862-8876
1 <sup>st</sup> Vice Pres.	Dave Dillon	272-7804	Field Trip Coordinator	Larry Henderson	272-8444
2 <sup>nd</sup> Vic Pres.	Carolyn Brady	233-8305	Publicity	Christy Bien	608-1890
Secretary	Cinda Kunkler	286-1790	Welcome/Registration	Debra Franz	862-8876
Treasurer	Millie Mowry	267-2849	Property	M. Cote`/D. Dillon	220-3272
Directors	Jim Mowry	267-2849	AFMS Scholarship	Louellen Montgomery	354-1290
	Clyde Burton	478-4778	Editor/Exchange Editor	Millie Mowry	267-2849
	George Reed	836-9277	Show Chairman	Harold Merrifield	286-3548
Historian	Freda Tabor	273-0691	Show Dealer Chrm.	Dave Dillon	272-7804
Federation Rep	Harold Merrifield	286-3548	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849			
Librarian	Jim & Millie Mowry	267-2849			

Area Code for all numbers is 785.

## Meeting of the Topeka Gem and Mineral Society – October 26, 2012

Mike Cote` called the meeting to order.

There are 27 members (3 new) and 5 guests present. Guests were introduced and door prizes were awarded. Chuck Curtis made a motion to accept the minutes of our last meeting as printed in The Drifter and Millie Mowry 2nd, motion carried.

Millie Mowry gave the treasurers report. Cinda Kunkler motioned and Chuck Curtis 2nd to accept the report, motion carried. No bills were presented.

Correspondence: Millie is accepting dues – all are due in December. She had an email from Daniel Bontempo about purchasing rock, he needed to know by Saturday. Louellen received a flyer from the CL Docking Geological Society is having an auction in Raleigh MO Dec 1.

Committees & New Business:

Millie reported on our show, we had 776 attend, that's 128 more than last year. She is still waiting on some bills to come in. **BIG THANK YOU** to all of those who volunteered to help! We couldn't have done it with out you!

Millie awarded our new Jr Rockhound Members Thomas & Reese with their badges.

Mike reported that Christy Bien, Jackie Bolen & Mike Scott will be the nominating committee for the officers for 2013.

Our Christmas dinner for this year has not been set. Marion Brown will be selecting the Member of the Year.

Carolyn Brady reminded us the November meeting will be the third Friday – November 16th due to Thanksgiving. With no further business Harold moved and Chuck 2nd to adjourn to our program. The program this evening is our scholarship winner – Alex Hedgepath.

Fred Zeferjohn announced the winners are:

Member Cab: 3 way tie! Mike Scott – Malachite, Dave Dillon – Tiger Eye & Dendritic Opal

Jewelry winner: Dave Dillon – Druzy Quartz Necklace

Class Cab: George Reed - Jasper

Class Jewelry: George Reed – Opal & Silver Ring

Respectfully submitted by Cinda Kunkler, Secretary

The program for the November meeting will feature our own Mark Ellis on his latest dinosaur dig. You don't want to miss this program.

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### LESSONS

Lessons are going great! Classes are now being held at Mike Cote house. His mailing address is 4910 Clark Rd. Meriden, Kansas, 66512. He has a large Morton building that we are using. It is still on Tuesday night from 6-9. Do a map quest to get driving directions or call Mike at 220-3272.

Dave Dillon, [davidd5124@aol.com](mailto:davidd5124@aol.com) Mike Cote`, [mcote35@yahoo.com](mailto:mcote35@yahoo.com)

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### \*\*\* Attention Members \*\*\*

**To save some money we are going to start sending out the Drifter by email. To be sure you receive yours.....make sure we have the correct email address. If you do not receive your copy.....or can not open it...contact Millie at [rock2plate@aol.com](mailto:rock2plate@aol.com) or you can also go to the website to get a copy.**

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

### TLC Report

Jim Mowry has been in the hospital since October 23<sup>rd</sup> and will get to come home on November 7<sup>th</sup>.

## Dates to Remember



**Date Change** for the November Meeting at Stoffer Science Hall. It will be **NOVEMBER 16<sup>th</sup>** instead of the 23<sup>rd</sup> because of Thanksgiving.



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## Our Annual Christmas Dinner



**Will be at the Golden Coral, on Wanamaker Rd., on December 7<sup>th</sup> at 6 p.m.**

We will meet in the party room and everyone is responsible for their own dinner. The installation of the officers and the Member of the Year Award will be held after the dinner. Everyone is welcome, and if you wish to bring a spouse or friend, please do so.

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## 4-H COMPETITION AT OUR GEM SHOW

The 4-H youth brought their Geology boxes – 50 + of them, for a total of 36 exhibits to our annual Gem & Mineral Show this year. Clubs represented the following Counties: Johnson, Leavenworth, Lyon, Marshall, Miami, Pottawatomie, and Shawnee. Winning a Top Blue Ribbon and a Trophy were the following 4-H boys and girls: 15 Specimens, Emma Kasselmann, Pottawatomie CO.; 30 Specimens, Chancie Minden, Miami CO.; 45 Specimens, Rider Nettleton, Lyon CO.; 60 Specimens, Staci Lambrecht, Shawnee CO.; Lapidary, Amanda Miller, Shawnee CO.; Educational, Charles Minden, Miami CO.

Our grateful THANKS go to our Judge, Robert Pinker, from Olathe, and to Lois Bartley, Rob and Lesa Reeves, Clerks. They do an excellent job to make our Geology Fair a successful part of our show.

Louellen Montgomery

# Field Trips

Trips dates are tentative and subject to additions and change. Call or e-mail Larry if you have an interest in any of these trips 272-8444 or [LHenderson85@gmail.com](mailto:LHenderson85@gmail.com) We meet at McDonalds, 11<sup>th</sup> and Kansas Ave.

Tuesday night coffee, first and third Tuesday night, meets at Classic Bean, 7:00 p.m. We will discuss fossils and other collections. Come with show and tell.

Anyone interested in a trip to South Dakota, for Fairburn Agate, with a stop at Ashfall Fossil Beds Nebraska State Historical Park, contact me.

Call or e-mail Larry if you have an interest in any of these trips, 272-8444 [LHenderson85@gmail.com](mailto:LHenderson85@gmail.com)  
Larry Henderson, Field Trip Chairman

**Volunteers are needed** for the new Junior Rockhound program. If you are interested in helping, teaching, or leading, contact Larry Henderson.

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We need your **BEST CHOICE UPC Labels** --- Bring them to the monthly meeting.



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## ELECTION OF OFFICERS

For the up-coming year of 2013, the Nominating Committee has retained the current Officers for the up coming 2013 year. The only position that we will be voting on is that of Director, which Harold Merrifield has agreed to hold. If there is an office you think you would like to have or assist with, for the next year please volunteer, as nominations from the floor will be accepted at the November meeting.

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### From the President

I would like to say thanks for the attendance at the last meeting. I hope it will continue the same in the coming year. The November meeting will be an interesting one as our own member Mark Ellis, will be the speaker and will show pictures of his latest dinosaur dig. If you have not had the privilege to attend one of his programs you will not want to miss this one.  
Mike Cote` and his rock stash.

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### Slim Jim Tool

First I had to work late. Then I discovered that I'd locked my keys in the car. But the last straw was learning that roadside service couldn't get a locksmith to me for at least two hours. Finally the guy showed, looking exhausted. As he struggled with my door, I joked, "Do those Slim Jim tools come in purse-size?" "Yeah," he muttered. "They're called keys." Internet Humor.

# *Burning Rocks*

by Andrew A. Sicree

## **Working flint and chert**

Before ancient Man discovered metal, his weapons and tools were fashioned from wood, bone, or stone. Amorphous rocks like obsidian and cryptocrystalline rocks such as flint, chert, and chalcedony have the virtue of fracturing conchoidally producing razor-sharp edges, and thus they served as raw materials for tools and weapons. (Obsidian and other amorphous rocks have no crystalline components – they are natural glasses. Cryptocrystalline rocks are those in which the constituent minerals – typical quartz grains – occur as extremely fine individual crystals, so small that they cannot be differentiated with the naked eye.) Stone-Age peoples quarried and worked flint, chalcedony, and chert nodules, rendering them into spear points, knives, arrowheads, scrapers, drill points and other artifacts. Where these rocks were less abundant, rhyolite, felsite, or quartzite might have been pressed into service.

The major problem confronting the Paleolithic flint-knapper was the brittleness of stone. Flint or chert readily fractures when struck, but the direction and extent of the break is hard to control. Many flint-knappers employed the age-old technique of pressure flaking. Rather than strike the flint with a crisp blow from another rock, the knapper used a punch carved from a branch or an antler. By pressing the tip of the punch firmly against the edge of a block of flint, the knapper spalled off a small flake flint leaving behind a dish-shaped conchoidal surface. By controlling the pressure and the orientation of the punch, the knapper chipped out arrowheads, scrapers, or other objects. The punch made possible fine details and a razor-sharp edge.

Even with the pressure flaking method, flint and chert are still difficult to work. But somewhere back in the misty past, an early flint-knapper discovered that fire could “soften” the stone, making his work easier.

## **Benefits of fire**

Heat treatment of stone stretches back at least 72,000 years in the archaeological record, and extends to the present day. Until recently, the Kidja aborigines of northwestern Australia used fire to soften chalcedony in preparation for weapon-making, so their techniques are well-documented. First, they build a large fire in a one- to two-foot deep pit in sandy soil. After the fire is reduced to coals, they scrape out the coals and ash and set rough-worked blocks (blanks) of chalcedony in the hot sand. The blanks are covered with additional sand and the coals are shoveled back into the pit. When the fire cools after three or four days, the blanks are retrieved and used for pressure flaking.

Heat treatment dramatically reduces the fracture toughness of chert or flint. Treated stones fracture more consistently, more like untreated obsidian or other high-grade blade materials.

Color alteration can be another effect of heat treatment. For instance, after heating, some white or gray cherts may turn red. In some regions, much of the local “jasper” is really chert heat-treated by the paleo-Indians. The shift to red occurs as iron impurities in the chert form small crystallites of iron oxide minerals such as hematite scattered throughout the sample. Red is the streak color of hematite – the true color of the mineral, which is revealed when it is crushed. When hematite occurs as very small crystals, its color is that of the powder. Growth of these small iron oxide crystals weakens the bulk rock and makes it more amenable to working.

( **Ref:** Webb, J., and Domanski, M., 2009, “Fire and Stone,” *Science*, v. 325, 14 Aug 2009, p 820-821.

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## *Ye Olde Englishe Rocks*

The English language is replete with obsolete words and terms. Here are some that once applied to rocks and minerals:

**Bonksman:** The man who works at the mouth of a coal mine.

**Comet-wine:** Grapes growing during a year in which a comet appeared were thought to be better in flavor than those of other years, thus wine made during those years is thought to be superior in quality. Why? It was thought that comets could influence the weather, yielding a warmer growing season and better grapes.

**Eagle-stone:** Generally, an eagle-stone was a piece of iron ore. Eagles were believed to carry these stones up to their nests because the stones would prevent their eggs from rotting. Alternatively, an eagle-stone was a fossil that rattled when shaken because of a small loose fragment inside it. The eagle-stone was necessary for the eagle to raise healthy young. Eagle-stones also found use by pregnant women who wore them as a charm to prevent miscarriages.

**Old-man:** If underground miners broke into older, forgotten mine workings, they'd say that "the old-man has been here" or that they "got into an old-man."

**Puttingstone:** It was the custom among great houses in Scotland to keep a huge stone by their gates. Thrown from the shoulder, the stone was used for trials of strength. It was perhaps an ancestor to the shot put.

**Sand-knocker:** Sandstone was ground into grit, and the sand-knocker made it and sold it door-to-door for use in sanding down floors.

**Sea-dog:** Sailors viewed the sea-dog, a meteor seen on the horizon shortly before or after sunset, as a sign or portent of bad weather to come.

**Sloeking-stone:** To promote a mining scheme, investors might be shown a sloeking-stone, which was a very rich specimen of ore from the mine, as an inducement to buy.

**Surface-coal:** Another term for cow "chips" or cattle dung, which was widely used for burning.

**Thunderstone:** The thunderstone was a rock supposedly created by thunder. The belief in thunderstones might have its origin in the fulgerite, which is a fused rock created when lightning strikes sand or soil. Fulgerites may have a forked or branching structure; thus they were thought to be thunderbolts, or thunderstones.

**Verter-water:** Rainwater that collected in small hollows in rocks and tombstones was thought to work as a cure for warts.

**Warming-stone:** Warming-stones were pebbles used by bakers to indicate that their ovens were hot enough for baking. When the stone turned white, the oven was ready.

**Ref:** Kacirk, J., 2000, *The Word Museum*, Touchstone, Simon & Shuster, New York, NY. (Permission to reprint this article must be obtained from Andrew A. Sicree, Ph.D. at [sicree@verison.net](mailto:sicree@verison.net) or (814) 867-6263)

## **Ancient Hermits**

How long have hermit crabs walked the seafloors? While the origins of modern-day hermit crabs may be obscure, paleontologists have found early Holocene (about 10,000 years ago) trace fossil trackways of hermit crabs preserved in the Bahamas.

But "hermit" behavior pre-dates the hermit crab. Hermit crabs find the hollow shell of a dead snail or bivalve, and carry it around. When danger threatens, they withdraw backward into the shell. As it grows, the hermit crab will discard its borrowed seashell for another, larger shell. Apparently, throughout the fossil record, there were other arthropods, before the hermit crab, that carried around brachiopod or gastropod shells for protection. Researchers recently identified the trackways of hermit arthropods in Late Cambrian (about 500 million years old) rocks in Wisconsin. Trackways occur in sandstone that once was sand laid down between the high- and low-tide marks along an ancient ocean shore. Even though they have not yet found any fossils of the track-making arthropod, scientists deduced that these arthropods behaved like hermit crabs because their tracks were asymmetrical – as might be expected from an animal partially inside a shell. During the Cambrian, very few animals lived on land. Paleontologists speculate that hermit behavior may have helped ocean-dwelling arthropods safely make excursions up onto the beach.

**Ref:** Hagadorn, J. W., and Seilacher, A., 2009, "Hermit arthropods 500 million years ago?" *Geology*, v. 37, no. 4, p 295-298. ©2010, Andrew A. Sicree, Ph.D. Permission to reprint this article must be obtained from Andrew A. Sicree, Ph.D. at [sicree@verison.net](mailto:sicree@verison.net) or (814) 867-6263)

## Meteorite Field Trip to Admire, Kansas

By: Larry Henderson

September 29th, eighteen of us went into a field near Admire, Kansas, where Pallasite meteorites have been found before. We did not find any meteorites, just a lot of scape metal. Participants did learn more about their metal detectors and how to dig targets found by them. The weather was beautiful and we had a whole section of flint hills land to roam. At lunch a young man found a railroad spike in the driveway. After lunch we explored a pond spillway for fossils. Sandstone ripples from the inland sea were found. Also a burrowing trace fossil was found in fossilized limestone. Later in the afternoon the owner came by and gave part of us a tour around all the property. Then he gave two more a tour to the twenty-five foot sandstone cliffs there. The five left, met in Osage City at Buzzards Pizza for dinner, and to discuss the day.



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### Welcome to Our New Members

Alexander Hahl  
Judy Gooch  
Robert & Marilyn Timberlake  
Amy & \*Reese Lister (Reese is a Jr. Member)

# Junior Page

## Introduction to Minerals

# Topic 8: Density of Rocks and Minerals

### Things to Remember:

1. We sometimes say that a rock feels “light” or “heavy” when we really mean that it is “lighter than a typical rock of its same size” or “heavier than a typical rock of its same size.”
2. Density refers to the weight per unit of volume.
3. Some minerals are very dense because they are made up of heavy atoms such as copper, lead, or gold.
4. Some rocks may feel less dense if they have many air holes or vesicles in them.

### DEFINITIONS: SOME PROPERTIES OF MINERALS

**Density** – the weight of a substance per unit of volume.

**Specific Gravity** – the ratio of the density of a substance to the density of water. If specific gravity is less than one, the substance will float in water. If it is greater than one, the substance will sink.

**Weight** – the mass of a substance like a mineral – it may be measured in pounds or in grams.

**Volume** – the amount of space something occupies – it may be measured in cubic centimeters, liters, gallons, or cubic feet.

**Galena** – a mineral that is made of lead sulfide. It is very dense because lead is a heavy atom.

**Pumice** – a type of volcanic rock. It has many air pockets in it – it will usually float on water.

**Scoria** – a type of volcanic rock. It has air pockets in it – but not enough to make it float on water.

### DENSITY TEST

Examine a piece of each mineral or rock. Heft it in your hand. Does it feel heavier or lighter than the typical mineral or rock? What does the surface look like? Does it have any vesicles (air pockets) in it? Are there many vesicles or few? Do you think it will float in water? Test each piece in a cup of water.

<u>Mineral or Rock</u>	<u>Feels heavy? (heavy / light / normal)</u>	<u>Light? Normal? (yes/no)?</u>	<u>Has holes? Floats? (yes/no)?</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____