



The Apache Junction Rock & Gem Club, Inc.

SMOKE SIGNALS

October 2011

Officers of the Apache Junction Rock & Gem Club, Inc.

President:	Katy Tunnichiff	918-440-9152 katydidnt2007@gmail.com
Vice-President:	Jerry Gervais	480-252-2456
Secretary:	Mattie Gadd	503-705-3933 mmpdg16@msn.com
Treasurer:	Patricia Wallace	480-598-8709 rosebud116@aol.com
Trustee:	Jack Pawlowski	480-288-2642 j6ac5k@calcon.net
Trustee:	Brent Staker	480-298-1359 gbstaker@yahoo.com
Trustee:	Tom Sundling	402-432-9790

The Club meets on the second Thursday of every month October thru April at 7:00 pm at the Carefree Manor RV Park, at the corner of Tepee & Delaware, Apache Junction, AZ

Club Dues - \$24 a year per member prorated to first of month of joining. This may be paid at the general meeting or by mail to Ron Ginn, 691 N. Veleró St., Chandler, AZ 85225.

In This Issue

General meeting minutes – page 1
 Article of the Month – page 2
 Field trips Planned – page 4
 Rock Shows in Apr & May – page 5

Next Meeting – Nov 10, 2011

At the Carefree Manor RV Park, at the corner of Tepee & Delaware, Apache Junction, AZ.

General Meeting Minutes

Apache Junction Rock Club General Meeting
 Minutes for October 13, 2011

1. Meeting was called to order at 7:05 pm

2. Pledge of Allegiance was performed
3. President's comments: Katy welcomed everyone back. Katy met with Ernie from Dreams & Legends regarding our Rock Art Show. The first show will be October 29 & 30. Ernie will be charging 15% commission on all sales and \$5.00 per day for each vendor. The club needs a nominating committee of 3 or 4 members for the upcoming elections.
4. The winner for the 50/50 ticket drawing was Jon Cazeé, he won \$46.50.
5. There were no door prizes this month, however, we will have one next meeting.

Committees:

Treasurer- Pat Wallace
 Pat was not present.

Publicity- Wally Frlich
 Wally was not present.

Membership and Website- Ron Ginn
 We now have a total of 383 active members, there were 53 members present at the meeting and we had 15 new members sign up at the meeting.

Field Trip- Bill Bachmann volunteered to take a group of members to Payson for sandstone, peach and zebra agate on Saturday, October 15, 2011.

Lapidary Shop- Phil Gadd

Katy introduced Phil as the new shop manager. Phil reported there are 2 new 14" saws, all grinders have new wheels and all other equipment has been serviced and is ready to go for this season. We now have 1-24" saw; 1-18" saw; 3-14" saws; 2 trim saws and several grinders. He thanked the monitors that we have back so far this season Tom Sundling, Jerry Gervais, De Wright, Brian Fermoye, and Margie Lavigne. Once the rest of the regular monitors are back I plan on having extended hours one or two days per week, so the members will have a chance to come in the late afternoons.

Hospitality- Natalie Kirmiel thanked everyone for their continued contributions.

Silent Auction- Mattie Gadd

Thank you everyone for the donations. We are always in need of more donations. Last season we averaged \$200 in sales per meeting. Tonight we sold \$79.

Building chairperson- Sally Stone

Sally was not present.

Jewelry & Arts- Dorrie Kapki

Dorrie was not present.

Katy made the motion to adjourn the meeting, Jerry seconded the motion. Meeting was adjourned at 7:30 pm.

Article of the Month

Anomalous Diamonds in the Eastern United States

by Andrew A. Sicree

Sources of diamonds

The great diamond fields of the world are well known. South Africa, India, Botswana, Namibia, Siberia, northern Canada, Australia, Brazil, – we all know that these areas produce diamonds. And most of us are aware that diamonds are found in Arkansas at the Crater of Diamonds State Park near Murfreesboro. Diamonds were even produced commercially for a short while from the Kelsey Lake deposit in northern Colorado near the Wyoming state

line. But few are aware that states east of the Mississippi have also been the site of diamond finds.

During the 1800s and the early 1900s, a few diamonds were found in Ohio, Indiana, and Michigan. Stones were also reported from states such as Tennessee, Kentucky, Alabama, Georgia, South and North Carolina, and Virginia and West Virginia.

Why were most of these eastern diamonds found more than 100 years ago rather than more recently? Many of the finds appear to have been the result of the search for gold. People were optimistic that gold might be found anywhere so they sampled and panned their way across the country. After all, the first strike of gold in the United States was at the Reed Mine in North Carolina. Also, a century ago, people were closer to the soil. Most digging was done by hand not by steam shovel or backhoe. If a diamond is to be found in a stream or a field, a farmer with a shovel will most likely be the one to find it.

In South Africa, or northern Canada, many diamonds come from kimberlite pipes. Kimberlites and lamproites are the principal source rocks for diamonds. In Brazil or Namibia, diamonds are sifted out of gravels and sands. The diamonds found among the beach sands of Namibia's coast were washed down the Orange River from the diamond fields of South Africa. But from where do the eastern U.S. diamonds come? Where are their source rocks?

Continental glaciation

In states north of the Ohio River, such as Michigan, Indiana, and Ohio, the occasional diamond is explained by continental glaciation. Dragged out of Canada by Ice Age glaciers, these diamonds were deposited in beds of gravel and sand when the glaciers retreated. The sources of these diamonds are thought to be as yet undiscovered diamond pipes hidden under lakes in Canada.

Glaciation may explain Midwest diamonds but it cannot account for stones found in the South. This region was never glaciated. Diamonds found in southeastern states must have more local sources. This is where, as Sherlock Holmes might say, "the game is afoot." No one has yet discovered a diamond-bearing source rock in this region.

Kimberlites

Kimberlites are known to occur in the eastern United States. Two dozen or so kimberlites have been reported from Kentucky, at least three have been found in Pennsylvania, and others are known in New York. At least one kimberlite has been reported to be a possible source for diamonds. This is the Mount Horeb kimberlite in Rockbridge County, Virginia. Other kimberlites, such as the peridotite dike in Front Royal, Warren County, Virginia, are also candidates. And lamproites, which can also be diamond sources, have been reported from near Charlotte, North Carolina. But none of these has yet been confirmed to be diamondiferous.

One should note that a kimberlite dike can be quite narrow. The dike found in the Tanoma Coal Mine in Indiana County Pennsylvania, for instance, is only about one foot wide where it cuts through shale. Such a thin dike can be very difficult to detect. Although the Tanoma dike could be easily found underground where it cut through the coal, it has not yet been located on the surface, only a few hundred feet above the coal. This is because kimberlites tend to weather quite rapidly. Thus, a thin dike could easily be lost in the soil horizon.

Healthy skepticism

Any report of a diamond find should be approached with caution. Diamonds are rare enough that even most geologists have never seen an uncut stone. Many a "diamond" turns out to be quartz, a "Herkimer Diamond," or even glass.

Documentation is also a problem. Exactly where was a diamond found, how big was it, and what happened to it? The fact that some of these reported diamonds have faded in the mists of time, with no record of them having been cut or sold, leads the skeptic to suspect that they weren't really diamonds after all. However, there have been verified diamonds found in Georgia, Tennessee, West Virginia, and Virginia. One criterion for verification is cost. If an expert in gems is willing to put up a significant amount of money to purchase a stone, you can be confident that the stone is a real diamond.

Verified diamond finds

One example is the "Dewey Diamond" or "Manchester Diamond" which was found in

1854 by a workman named Benjamin Moore. The location is what is now the southwest corner of Ninth and Perry Streets in the Manchester section of the city of Richmond, Virginia. The diamond was a 23.75-carat, lightly greenish-white octahedron with rounded faces and a large flaw on one side. Moore sold the diamond for \$1500 to Samuel W. Dewey, a mineralogist from Philadelphia. Dewey had the stone cut to produce an 11.15-carat gem. Although the stone was far from perfect, the cut stone later sold for \$6000. The present location of the gem is unknown.

A jeweler purchased two diamonds found in 1899 at Luttrell, near Knoxville, Tennessee; he had them cut and reported that good-quality stones resulted.

In 1901, a boy found a diamond in a rocky farm field near Columbus, Georgia. The stone was sent to New York City for the famous gem expert, George F. Kunz, to examine. Kunz declared the stone legitimate and paid the owner, B. F. Hudson, \$80 for it. News of the find kicked off a minor diamond rush to the Columbus area but, in spite of a great deal of digging, no other stones were discovered.

Other authenticated diamonds include a four-and-one-half-carat stone from Dysortville, North Carolina, and a four-carat stone from Shelby County, Alabama. Both of these stones were sent to New York and verified by gem experts.

The most famous eastern diamond is the "Punch" Jones Diamond found along Rich Creek, in Peterstown, West Virginia, immediately adjacent to the Virginia state line. The story behind this diamond is that William P. "Punch" Jones and his father, Grover Jones, found it in 1928 while they were playing horseshoes. Punch Jones noticed the stone in the sandpit when a horseshoe struck it. He joked that he'd found a diamond, but he saved the stone. In 1943, he sent it to Dr. Roy J. Holden, a geology professor at Virginia Polytechnic Institute. Holden confirmed that the 12-sided, greenish-gray 34.46-carat stone was a diamond. The stone was sent to the Smithsonian for safekeeping. Unfortunately, Jones was killed during World War II; ownership of the stone passed to his father. In 1964, the Jones family retrieved the stone from the Smithsonian and, in 1984, it sold at a Sotheby's auction for \$74,250!

Thus, we can see that there is indeed hard evidence that diamonds can be found in the eastern United States. In spite of their rarity, perhaps one day someone will find their source.

Some of the Dangers of Abandoned Underground Mines

Every mineral collector has looked wistfully into the dark entrance of an old, abandoned underground mine and wondered what mineralogical masterpieces awaited him if he could only screw up the courage to go in. Are the minerals worth the risk? The real question is "What dangers are there down below?"

First, you must realize that unlike caves, abandoned underground mines are unstable. All underground mines are unstable to a degree, but constant care and monitoring by miners makes them safe enough for mining. Once the mine closes, however, it begins to decay rapidly. Just walking through an old mine can create enough vibration to cause a roof collapse. But the whole tunnel doesn't have to collapse to kill you. All it takes is one fist-sized piece of rock falling from high enough above your head.

A mine shaft is a vertical opening. The term "adit" is used for a horizontal opening. Shafts are particularly dangerous; they can be hundreds of feet deep and be filled with water at the bottom. The "collar" around the top of the shaft can be loose. If you stand too close to look into the shaft, it may collapse, pitching you into the shaft.

It is difficult to assess the depth of a shaft because of the darkness. It can be clogged with debris, too. Old ladders descending into shafts can look strong enough, but dry rot can weaken rungs or rust may have corroded the bolts holding the ladder in place. Mine shafts are the number one cause of death and injury in abandoned mines.

Maybe you'll find some old dynamite. Explosives become highly unstable with time and exposure to humidity. Old dynamite contains nitroglycerine, which can explode with the slightest disturbance. Blasting caps can also be dangerous. If rats get into a box of blasting caps, they can scatter them about. If you step on one, it can go off.

Air may not be circulating in an abandoned mine. You may descend into an area where there is little oxygen. Once you pass out due to lack of oxygen, your chances of survival are miniscule. Explosive or poisonous gases are also possible. Pockets of methane may build up and a spark from use of a metal tool or a flashlight can cause a gas explosion.

Supporting structures in an abandoned mine can collapse. What may appear to be a solid rock floor could really be a mud-cover rotten wood roof concealing the top of a winze (a shaft that doesn't go to the surface). Walk across it and you may fall through. Likewise, pools of water can also conceal drop offs or sharp objects such as old nails.

The minerals aren't worth the risk. Every experienced collector knows that you can usually safely find acceptable specimens on the dumps outside anyway. So stay out and stay alive!

©2008, Andrew A. Sicree, Ph.D.

*Dr. Andrew A. Sicree is a professional mineralogist and geochemist residing in Boalsburg, PA.. **Popular Mineralogy** provides technical answers to your general mineral questions. If you have a question you'd like to have answered, please send email to sicree@verizon.net*

What is Moissanite?

Moissanite is sold today as a diamond substitute. With a hardness of greater than 9 on the Mohs scale, a specific gravity of 3.22, and refractive indices of 2.691 and 2.648, moissanite makes a better imitation diamond than cubic zirconia or other substitutes.

Moissanite, naturally occurring silicon carbide (SiC), is a mineral that is found only rarely in nature. It is found in some meteorites such as the Canyon Diablo iron meteorites, for instance. Several polytypes (meaning that the basic unit cell of the crystal contains various numbers of SiC units), predominantly hexagonal or rhombohedral, are known.

We know silicon carbide more familiarly by its trade name, Carborundum. Synthetic moissanite or silicon carbide is sold in large quantities as Carborundum for use as an abrasive (in powder form, grinding wheels, and cut-off blades). Synthetic moissanite for abrasive use is always black or dark in color.

Although reported in 1948, early efforts to make clear, colorless moissanite failed. In the 1990s, however, gem-grade moissanite began to appear on the gem markets, typically at prices between 10% and 25% of the cost of same-sized diamonds of comparable appearance.

One interesting problem arose immediately: synthetic moissanite would spoof the thermal conductivity-based diamond testers that most jewelers commonly relied upon. Diamond testers reported that moissanite was "diamond." Thus, the arrival of large quantities of gem moissanite on the market forced jewelers world-wide to buy new detectors capable of distinguishing between diamonds and moissanite.

- A.A.S.

Rock Shows in November

4 – 6 Black Canyon City, AZ
19001 E. Jacie Ln.
623-374-0202

12 – 13 Lake Havasu City, AZ
LHC Community Center, 100 Park Ave.
928-846-0927

19 – 20 Payson, AZ
Matazal Hotel & Casino Event Center,
928-476-3513

26 – 27 Wickenburg, AZ
Wickenburg Community Center, 160 N.
Vasentine St.
480-540-2318 / 928-684-0380



Presents
ROCK ART SHOW
Saturday and Sunday
October 29-30
November 12-13 and 26-27
9 am to dusk
Hosted by
***Dreams and Legends
Of the Superstitions Gallery***
2260 N Apache Trail/Hwy 88
*Artist Displays and Sales
Beautiful one of a kind jewelry*
**A portion of the proceeds go to
kid's art programs in Apache Junction**
Free Admission
Come enjoy the fun, rain or shine
Shows will continue every two
Weeks through April 2012