

WHITTIER

# ROCKHOUNDER

GEM & MINERAL  
SOCIETY



A MERRY  
CHRISTMAS

December 2003

# ROCKHOUNDER

## THE PREZ SEZ:

**H**ard to believe, but another year is coming to a close. Also coming to a close is my two years of service as President of your Club. This is, consequently the last Rockhounder President's column that I will be writing.

The success of our Club, can be, and is, only as good as those members who step forward to "do the work.". We have an organization that we can all be proud of not because of chance, but because time and again, individual Club members come together to form the critical mass that is responsible for moving us forward.

Before I leave office, I must express my sincere gratitude and say Thank You to each and every one of the many hard-working Board members who have served with me during these past two years. I have done no more than any other member of the Board during the last two years to promote the Club's success.

For two years I have been surrounded by competent, dedicated individuals that made up a Board that I believe have collectively been good stewards of the Club. I have also been pleased during this period to see so many other club members step forward at times of need, in support of the Club's success. This was most recently exhibited during our Annual Show.

With our membership continuing to support the new Board and our club when called upon, I know that the WGMS will continue to enjoy the rewards of great activities and quality fellowship.

Keep those gems polished, and have a great holiday season and new year.

*Art*



Ode to a Cabber

With extra care, I chose the stone,
I sawed. preformed and dopped it,
Next sanded it to a mirror sheen
And Then...
By dang.....
I dropped it !!!

(Copied from a show case at Lubbock,
via Chips and Chatter 93)

Minerals, Fractured Facts and Rock Humor
http://www.ghgcorp.com/gpenning/errant.htm

Regular Meeting Schedule for 2004

Regular meeting are held on the 4th Thursday of each month, except for
November and December when we meet on the 3rd Thursday because
of the Holidays. No meetings are held in July and August. The June and
December meetings are potlucks and start an hour early.

Table with 2 columns: Date and Time. Rows include January 22 (7:30 to 9:30 PM), February 26 (7:30 to 9:30 PM), March 25 (7:30 to 9:30 PM), April 22 (7:30 to 9:30 PM), May 27 (7:30 to 9:30 PM), June 24 (Potluck - early start) (6:30 to 8:30 PM), July (NO MEETING), August (NO MEETING), September 23 (7:30 to 9:30 PM), October 28 (7:30 to 9:30 PM), November 18 (7:30 to 9:30 PM), December 16 (Potluck - early start) (6:30 to 8:30 PM).

**What is a pegmatite?  
Why do I care? Big Crystals!**

**A** pegmatite is a coarse grained igneous rock (formed deep within the earth) having a grain size of 3 cm or more. Mostly pegmatites are granitic in origin, that is, they are composed of granite and its constituents like quartz, feldspar and mica. In addition to these basic minerals there are also generally rare earth elements.

Pegmatites are known to contain aquamarine, tourmaline, beryl, topaz, cassiterite, fluorite, apatite, tin and tungsten plus a host of other minerals. Minerals formed in pegmatites literally had the time to enjoy the benefits of a slow crystallization process from a rich chemical stew.

One of the most common indicators of a potential pegmatite is the presence of an aplite dike. The pegmatite bodies occur as lenses within the aplite dike structures. Where other minerals such as garnet occur, they are the result of a secondary metamorphic process, i.e. one where temperature and pressure have altered the original deposit. [An aplite dike is "Aplite", a fine-grained granite with a sugary texture and not much biotite. "Dike" is used for a planar crack in rock, typically vertical or near vertical, into which molten rock (magma) has been injected.]

Pegmatites are most famous for their large, high quality mineral specimens. The first gem tourmaline discovered in California goes back to 1872 when Henry Hamilton found and recognized the mineral during a collecting trip to the southeast slope of Thomas Mountain in Riverside County. This fact was unrecorded for several years since the occurrence was not made public even to the California State Mining Bureau. The major pegmatite districts of California are the Mesa Grande District, Pala District, Ramona District, Coahuilla District, Rincon District, Ramona District, and Jacumba District.

In tourmaline mines when finding pockets, there are some key indicators that will aid you in the event that you ever get the opportunity to collect inside. Generally speaking the country rock does not contain tourmaline or the other minerals one typically seeks. There is a relatively lesser known formation called a chimney. These chimneys are effectively veins of fluids that contain

all the required elements to form albite, feldspar, lepidolite, mica, montmorillonite, stibiotantalite, purpurite, spessartite, tourmaline, etc. The chimneys had pulsating fluids that formed small to large pods bounded by an external shell composed of albite and schorl crystals and garnet crystals; going inward the next mineralization encountered is lepidolite and purple montmorillonite clay in which gemmy fragments known as nodules may be found; further in are the better crystals including tourmaline and quartz.

In typical quartz/feldspar pegmatites one of the key indicators is to look for float crystal shards with good euhedral (having a regular crystallographic structure) crystal faces. Trace them up to the source and start digging to find the hidden crystals. Another indicator is when you are collecting at deposits with large quartz seams, look for any plants or vegetation growing out of the rock. Generally vugs and cavities fill with water and allow plants to survive and thrive in their own little water supply especially if some earth has entered the cavity upon collapse in the past. You need to verify the geology around you to determine what type of minerals may be available nearby.

There are phosphate granitic pegmatites, boron granitic pegmatites, lithia pegmatites, and finally boron/lithia pegmatites. The composition of each pegmatite determines to a large extent the types of minerals that you can find there.

There are three basic theories as to the formation of the formation of granite pegmatites.

1. They occur in carbonate rich areas,
2. Granitic magma intrudes subterranean aquifers and sedimentary deposits resulting in a phreatic reaction,
3. Granitic magma is basically kept in a "loose" state disallowing any covalent bonding to occur due to the presence of depolymerizers such as fluorine, boron, lithium etc which basically keep the silica slurry from forming until these depolymerizers have been depleted. Crystallization of large quartz crystals usually occurs at 900°C whereas in granitic pegmatites the temperature of crystallization is dropped to 550°C or so resulting in large megascopic crystals as typically seen at the classic

(Continued on Page 8)

mines like the Stewart Lithia Mine in Pala, CA, and the Himalaya Mine in Mesa Grande, CA.

**Some interesting pegmatite sites:**

- Himalaya Mine, Mesa Grande, California
- Pikes Peak Region, Colorado
- Blue Lady Mine, Riverside County, California
- Katrina Mine, Pala, California
- The Little Three Mine, Ramona, California
- Hallelujah Junction, California/Nevada
- Mont St. Hilaire, Quebec, Canada
- Stewart Lithia Mine, California
- Minerals of the Stewart Lithia Mine, California
- Nuevo, Lakeview Mtns, Riverside County (California)
- The Sacatone Springs Pegmatite, San Diego County (California)
- Big Horn Crags, Lemhi County, (Idaho)
- Byrud Pegmatite, Norway
- Pegmatite Field Finland
- Coahuilla Mtn Pegmatites, Riverside Cty, California
- Godkarra Pegmatite, Sweden
- Kaatiala Pegmatite, Finland
- Haapaluoma Pegmatite, Finland
- Crabtree Mine Pegmatite, Spruce Pine, NC
- Selsvitberget Pegmatite, Sweden
- Tourmaline Queen Mine, Pala, San Diego County, California
- Dayton Road District, South Glastonbury, Connecticut
- Barringer Hills, Texas Pegmatite
- Orchard and GE Quarries, Oxford County, Maine
- Bikita Pegmatite, Zimbabwe
- The Harding Pegmatite, Dixon, New Mexico
- Bernic Lake Pegmatite, Manitoba, Canada

*Reference: www.gemandmineral.com, via Breccia 05/03*

## **Virgin Valley Opal Field Geology**

**N**early 14 million years ago, Virgin Valley, in the northwest corner of Humboldt County, was covered by lakes and forests. Today, what we see is simply bare hills. The entire area was several thousand feet lower and more like the coastal mountain ranges of today. However, the earth was not quiet; volcanoes periodically erupted, blasting the forests apart and burying them under hundreds of feet of ash. This cycle was repeated many times over the next million years. Magma later pushed to the surface and repeatedly lowered over the region. The layers of ash and blasted trees were buried more than 1500 feet deep.

Under millions of tons of rock and ash, one of the miracles of nature was taking place, transforming common silica into Fire Opal. The pieces of the buried forests were disintegrating and the ash surrounding them was compressed into clay. From deep underground, super-heated water flowed upward through the cracks and faults in the silicon rich ash layer.

Current thought on how opals are created, is that as the super-heated water moved through the ash layers, it dissolved some of the silica from the ash. When the water encountered a cavity left by the disintegrated wood, the water slowed, allowing some of the dissolved silica to be deposited.

Over the centuries, this process was repeated again and again, forming opals in the cavities left by the decayed wood. Above ground, the climate and land form slowly changed into what we see today - a high, arid desert, cut by rugged mountain ranges. But the opals have not changed.

### **Field History**

It wasn't until the 1800's, as the westward expansion of the United States reached this remote section of Humboldt County, that the Virgin Valley opals became known to western civilization. Buckaroos working cattle and sheep in the area picked up a few opals on the surface as curiosities to trade later for a Saturday night beer in town.

Serious prospecting began around the turn of the century as the world demand for quality opals began to climb. The first workings in Virgin Valley

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## **Suicide/Murder with a Twist**

**A true story contributed by Alicia Catalano**

**A**t the 1994 annual awards dinner given for Forensic Science, AAFS president Dr. Don Harper Mills astounded his audience with the legal implications of a bizarre death. Here is the story:

On March 23, 1994, the medical examiner viewed the body of Ronald Opus and concluded that he died from a shotgun wound to the head. Mr. Opus had jumped from the top of a ten-story building intending to commit suicide. He left a note to that effect indicating his despondency. As he fell past the ninth floor, his life was interrupted by a shotgun blast passing through a window, which killed him instantly. Neither the shooter nor the decedent was aware that a safety net had been installed just below at the eighth floor level to protect some building workers and that Ronald Opus would not have been able to complete his suicide the way he had planned.

"Ordinarily," Dr. Mills continued, "A person who sets out to commit suicide and ultimately succeeds, even though the mechanism might not be what he intended, it is still defined as committing suicide. That Mr. Opus was shot on the way to certain death, but probably would not have been successful because of a safety net, caused the medical examiner to feel that he had a homicide on his hands.

"The room on the ninth floor where the shotgun blast emanated was occupied by an elderly man and his wife. They were arguing vigorously and he was threatening her with a shotgun. The man was so upset that when he pulled the trigger, he completely missed his wife and the pellets went through the window, striking Mr. Opus. When one intends to kill Subject 'A' but kills Subject 'B' in the attempt, one is guilty of the murder of Subject 'B'. When confronted with the murder charge the old man and his wife were both adamant. They both said they thought the shotgun was unloaded. The old man said it was his longstanding habit to threaten his wife with an unloaded shotgun. He had no intention to murder her. Therefore, the killing of Mr. Opus appeared to be an accident - that is, the gun had been accidentally loaded.

"The continuing investigation turned up a witness who saw the old couple's son loading the shotgun about six weeks prior to the fatal accident. It transpired that the old lady had cut off her son's financial support, and the son, knowing the propensity of his father to use the shotgun threateningly, loaded the gun with the expectation that his father would shoot his mother.

Since the loader of the gun was aware of this, he was guilty of the murder, even though he didn't actually pull the trigger. The case now becomes one of murder on the part of the son for the death of Ronald Opus.

"Now comes the exquisite twist. Further investigation revealed that the son was, in fact, Ronald Opus. He had become increasingly despondent over the failure of his attempt to engineer his mother's murder. This led him to jump off the ten-story building on March 23rd, only to be killed by shotgun blast passing through the ninth story building. The son had actually murdered himself, so the medical examiner closed the case as a suicide."

*AFMS Newsletter 12/03*

### **Questioning Reality...**

**I**'ve never known ANYONE who was stranded on an island, or had ten beautiful women throwing themselves at him, or was forced to eat a bucket of worms. Why do they call them REALITY shows?

*From Bizarro in the funny papers*

### **Virgin Valley Opal**

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were started in 1905, beginning a period of increasing activity that has only been interrupted by two world wars.

Today, several commercial mining operations and more than 200 private claims are working the Virgin Valley opal deposits, producing not only the prized Black Opal, but also Fire Opals of many hues, with the brilliant fire unique to the valley's gem.

Millions of dollars in opals have been taken from Virgin Valley since 1905. The most famous of these, the Robeling Opal, and 14 other spectacular examples are on permanent display in the Smithsonian in Washington D.C.

BLACK OPAL from Virgin Valley, Nevada is the Nevada State Precious Gem Stone

*From www.Royalpeacock.com*

## **Birthstones**

<b>Birth Month</b>	<b>Modern Birthstones</b>	<b>Traditional Birthstones</b>	<b>Other Birthstones</b>
Jan.	Garnet	Garnet	Rose Quartz
Feb.	Amethyst	Amethyst	Onyx, Moonstone
Mar.	Aquamarine	Bloodstone	Rock Crystal
Apr.	Diamond	Diamond	Quartz, White Sapphire
May	Emerald	Emerald	Chrysoprase, Beryl
June	Pearl, Moonstone	Alexandrite	Opal
July	Ruby	Ruby	Carnelian
Aug.	Peridot	Sardonyx	Jade
Sept.	Sapphire	Sapphire	Lapis Lazuli, Diamond, Chrsolite
Oct.	Opal, Tourmaline	Tourmaline	Pink Tourmaline, Zircon, Aquamarine
Nov.	Yellow Topaz, Citrine	Citrine	Diamond
Dec.	Blue Topaz, Turquoise	Zircon, Turquoise, Lapis Lazuli	

The Modern Birthstone list contains the official birthstone list from the American National Association of Jewelers, Jewelers of America. These gemstones were officially adopted in 1912. In the US, this is the accepted list.

The Traditional Birthstone list contains older birthstones and is sometimes combined with the modern birthstone list. These stones reflect societal birthstone traditions, heralding back to the 15th century. (Many jewelers have differing lists of traditional birthstones.)

Stones listed in the "other" column were correlated by Dave Thompson and others participating on the usenet newsgroup rec.crafts.jewelry as alternative birthstones for each month. The Curious Lore of Precious Stones by George Frederick Kunz has a wonderful list of birthstones from different cultures.

*From <http://www.gems4friends.com/birthstones.html>*

**Upcoming CFMS Gem Shows**

- Jan 10-11 Exeter, CA.** Tule Mineral Society  
"Gemboree 2004"  
Veterans Memorial Bldg. Highway 65  
Hours: 10 - 5 both days
- Jan 30-31 Redlands, CA.** 39th Annual Pacific Micromount Conference,  
- Feb 1 Southern California Micro-Mineralogists  
San Bernardino County Museum  
2024 Orange Tree Lane, Redlands, CA
- Feb 13-22 Indio, CA.** San Gorgonio Mineral & Gem Society  
"Riverside County Fair & National Date Festival"  
Gem & Mineral Bldg. Fairgrounds; @ 46-350 Arabia St.  
Hours: 10 - 10
- Mar 6-7 Arcadia, CA.** Monrovia Rockhounds  
Los Angeles County Botanical Gardens  
301 N. Baldwin Avenue  
Hours: 9-4:30 both days
- Mar 6-7 Ventura, CA.** Ventura Gem & Mineral Society  
Seaside Park - Ventura Co. Fairgrounds  
10 W. Harbor Blvd.  
Hours: Sat 10-5 Sun 10-4
- Mar 13-14 San Marino, CA.** Pasadena Lapidary Society  
San Marino Masonic Center  
3130 Huntington Dr.  
Hours: Sat. 10 - 6; Sun. 10 - 5
- Apr 3-4 Torrance, CA.** South Bay Lap & Mineral Society  
Torrance Recreational Center  
3341 Torrance Blvd.  
Hours: 10-5 both days
- May 1-2 Anaheim, CA.** Searchers Gem & Mineral Society  
48th Annual Gem, Mineral, and Jewelry Show  
Brookhurst Community Center  
2271 W. Crescent Ave.  
Hours: Sat 10 - 5 Sun. 10 - 4:30

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**Affiliations**



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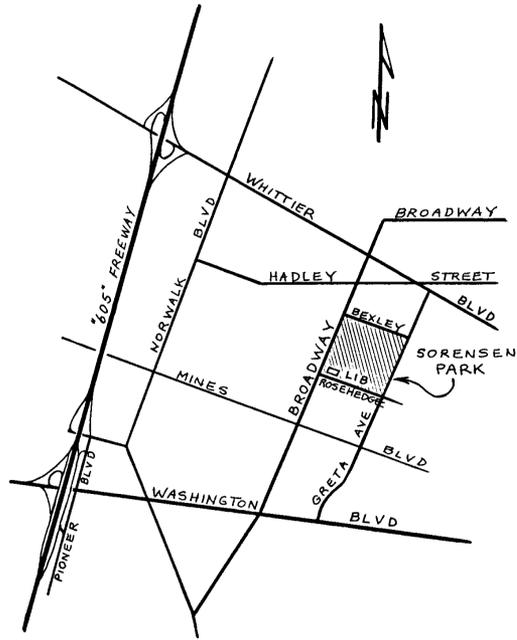
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Meeting Date: **December 18 at 6:30 PM**  
Location: **Sorenson Park**