# STONEY STATEMENTS

A monthly publication of the Clear Lake Gem & Mineral Society

VOLUME 44 MAY 2018 NUMBER 5

**NEXT MEETING:** **May 21, 2018**
TIME: **7:30 p.m.**
LOCATION: Clear Lake Park Building
5001 Nasa Parkway
Seabrook, Texas

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## MAY MONTHLY MEETING

## MAKING COIN RINGS

Rob Ellis program will be making a ring from a us half dollar at the **next meeting**. The process is the same for most any coin. The coin ring made during the presentation will be a door prize. This will be a talk for a general audience, http://www.clgms.org.

## PRESIDENT'S MESSAGE

**UPDATES AND PROGRAMS**

Members are invited to come to the May CLGMS Board meeting on May 7th at 7:00 in the clear lake park building to discuss scholarship awards. Note: Application deadline is 5/1/18, and we are still seeking applicants- so we would appreciate if you passed this along to students who may benefit from this and apply soon.

Very active month with the Bayou Montessori School program, Garage Sale, Battleground re-enactment, scout session, League City library program, and a Shark tooth hunt. The school program gem mine sold approximately 250 tickets for the school.

We are always looking for opportunities to grow the club, outreach, and give back to the community. I hope to give my best effort to help the CLGMS have continued success, and if there are any suggestions for improvement don't hesitate to say something.

Thank You;
Vincent Barrows
Clear Lake Gem and Mineral Society President
225-916-2258

## MINUTES OF THE APRIL 19, 2018 MONTHLY MEETING

Upcoming events

- We are looking forward to programs by CLGMS members Rob Ellis and Donna Nelson.
    - May 2018 highlights include: Rob Ellis Making Coin Rings and a Field trip to find petrified wood at Rob's near Lake Livingston.
    - June 2018 Program will be about Wire Wrap Jewelry by Donna Nelson, a wire wrap artist and both are exciting programs.
- Request for library display at Helen Hall in League City. Contact David if you would like to help with this. David will set this up if the others can provide labeled rocks.
- The AV spending and equipment repair/ upgrade budget will be reviewed at this month's board meeting.

## MINUTES OF THE APRIL 2, 2018, BOARD MEETING

- There is a great line up of programs and field trips this year!
- We made more copies of the keys for the locker
- Will award 3 $2000 scholarships this year
- Request for a projector and possibly a screen on the budget this year. Sheets to hang over the doors would also be appreciated

## Rhodochrosite and Dioptase

This specimen of Rhodochrosite (left) above is from the N'Chwaning Mine, in the Kalahari Manganese Field, on the Northern Cap Province of South Africa. The Dioptase (right) is

from Tsumeb, Namibia, and has a nice green crystal coloration, a rare occurrence as well. (Photo from CLGMS April 2018 garage sales)

From Wikipedia (free encyclopedia) Rhodochrosite is a manganese carbonate mineral with chemical composition MnCO3. In its (rare) pure form, it is typically a rose-red color, but impure specimens can be shades of pink to pale brown. It streaks white, and its Mohs hardness varies between 3.5 and 4. Its specific gravity is between 3.5 and 3.7. It crystallizes in the trigonal system, and cleaves with rhombohedral carbonate cleavage in three directions. Crystal twinning often is present. It is often confused with the manganese silicate, rhodonite, but is distinctly softer.

Rhodochrosite forms a complete solid solution series with iron carbonate (siderite). Calcium, (as well as magnesium and zinc, to a limited extent) frequently substitutes for manganese in the structure, leading to lighter shades of red and pink, depending on the degree of substitution. It is for this reason that the most common color encountered is pink.

## Rhodochrosite Occurrence and discovery

Rhodochrosite occurs as a hydrothermal vein mineral along with other manganese minerals in low temperature ore deposits as in the silver mines of Romania where it was first found. Banded rhodochrosite is mined in Capillitas, Argentina.

It was first described in 1813 in reference to a sample from Cavnic, Maramureş, present-day Romania. According to Dimitrescu and Radulescu, 1966 and to Papp, 1997, this mineral was described for the first time in Sacaramb, Romania, not in Cavnic, Romania. The name is derived from the Greek word ῥοδόχρως meaning rose-colored.

## Rhodochrosite Use

Its main use is as an ore of manganese, which is a key component of low-cost stainless steel formulations and certain aluminium alloys. Quality banded specimens are often used for decorative stones and jewelry. Due to its being relatively soft, and having perfect cleavage, it is very difficult to cut, and therefore rarely found faceted in jewelry

## Rhodochrosite and silver mining

Manganese carbonate is extremely destructive to the amalgamation process used in the concentration of silver ores, and so until quality mineral specimens became highly sought after by collectors, they were often Rhodochrosite is Argentina's "national gemstone". Colorado officially named rhodochrosite as its state mineral in 2002. Large specimens have been found in the Sweet Home Mine near Alma, Colorado.

It is sometimes called "Rosa del Inca", "Inca Rose" or Rosinca.

**Dioptase** (from Wikipedia, free encyclopedia)

An intense emerald-green to bluish-green copper cyclosilicate mineral. It is transparent to translucent. Its luster is vitreous to sub-adamantine. Its formula is $CuSiO_3 \cdot H_2O$ (also reported as $CuSiO_2(OH)_2$). It has a hardness of 5, the same as tooth enamel. Its specific gravity is 3.28–3.35, and it has two perfect and one very good cleavage directions. Additionally, dioptase is very fragile and specimens must be handled with great care. It is a trigonal mineral, forming 6-sided crystals that are terminated by rhombohedra.

## Dioptase History

Dioptase was used to highlight the edges of the eyes on the three Pre-Pottery Neolithic B lime plaster statues discovered at 'Ain Ghazal known as Micah, Heifa and Noah. These sculptures date back to about 7200 BC.

Late in the 18th century, copper miners at the Altyn-Tyube (Altyn-Tube) mine, Karagandy Province, Kazakhstan[2] thought they found the emerald deposit of their dreams. They found fantastic cavities in quartz veins in a limestone, filled with thousands of lustrous emerald-green transparent crystals. The crystals were dispatched to Moscow, Russia for analysis. However the mineral's inferior hardness of 5 compared with emerald's greater hardness of 8 easily distinguished it. Later Fr. René Just Haüy (the famed French mineralogist) in 1797 determined that the enigmatic Altyn-Tyube mineral was new to science and named it dioptase (Greek, dia, "through" and optos, "visible"), alluding to the mineral's two cleavage directions that are visible inside unbroken crystals.

## Dioptase Occurrence

Dioptase is an uncommon mineral found mostly in desert regions where it forms as a secondary mineral in the oxidized zone of copper sulfide mineral deposits. However, the process of its formation is not simple, the oxidation of copper sulfides should be insufficient to crystallize dioptase as silica is normally minutely soluble in water except at highly alkaline pH. The oxidation of sulfides will generate highly acidic fluids rich in sulfuric acid that should suppress silica solubility. However, in dry climates and with enough time, especially in areas of a mineral deposit where acids are buffered by carbonate, minute quantities of silica may react with dissolved copper forming dioptase and chrysocolla.

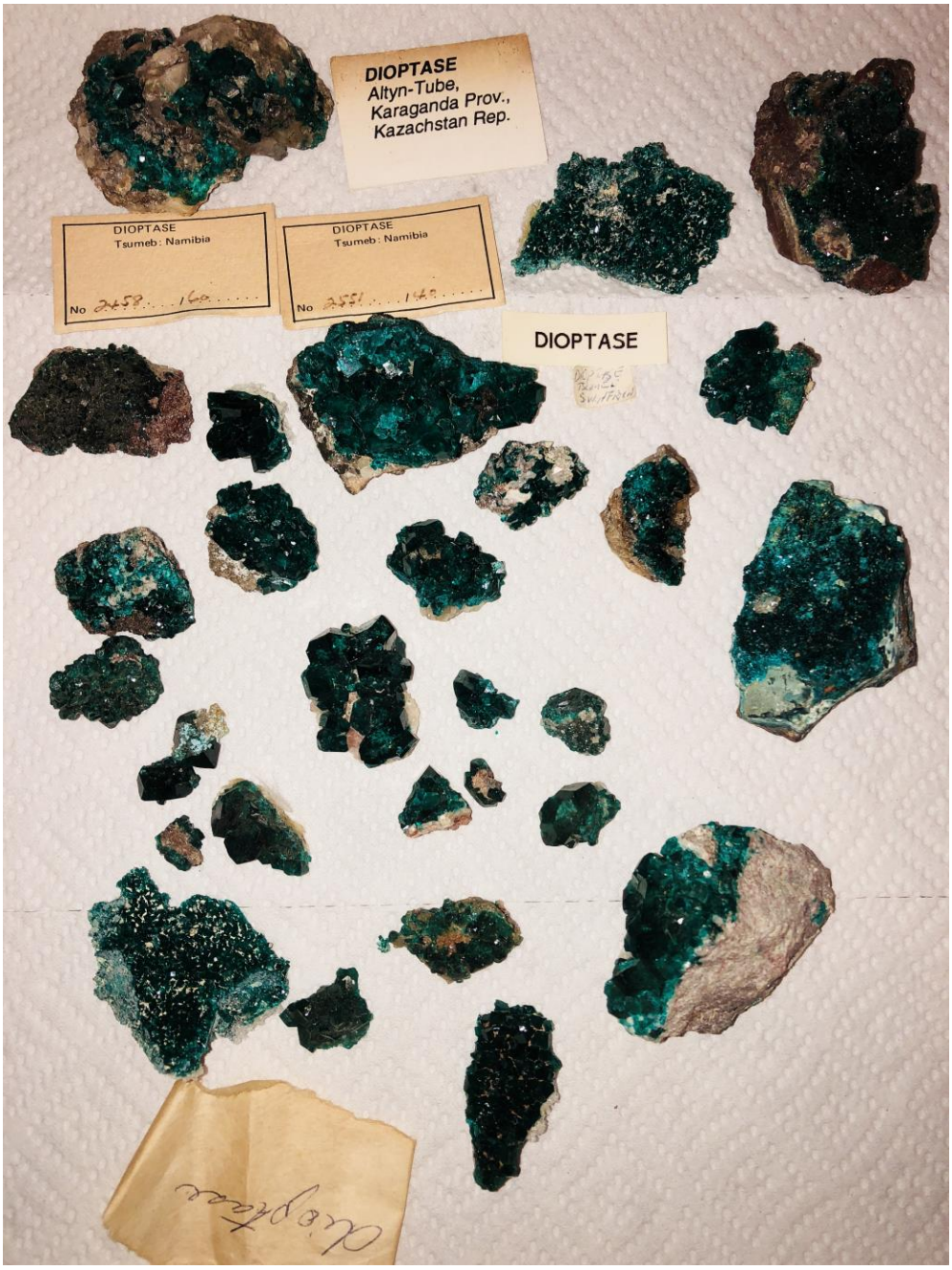
The Altyn Tube mine in Kazakhstan still provides handsome specimens; a brownish quartzite host distinguishes its specimens from other localities. The finest specimens of all were found at the Tsumeb Mine in Tsumeb, Namibia. Tsumeb dioptase is transparent and often highly sought after by collectors. Dioptase is also found in the deserts of the southwestern US. A notable occurrence is the old Mammoth-Saint Anthony Mine near Mammoth, Arizona where small crystals that make fine micromount specimens are found. In addition, many small, pale-green colored crystals of dioptase have come from the Christmas Mine near Hayden, Arizona. Another classic locality for fine specimens is Renéville, Congo-Brazzaville. Finally, an interesting occurrence is the Malpaso Quarry in and near Agua de Oro Argentina. Here tiny bluish-green dioptase is found on and in quartz.

It appears at this occurrence, dioptase is primary and has crystallized with quartz, native copper, and malachite.

## Dioptase Use

Dioptase is popular with mineral collectors and it is occasionally cut into small emerald-like gems. Dioptase and chrysocolla are the only relatively common copper silicate minerals. A dioptase gemstone should never be exposed to ultrasonic cleaning or the fragile gem will shatter. As a ground pigment, dioptase can be used in painting.

The most famous (and expensive) dioptase mineral locality is at Tsumeb, Namibia.



## May Birthstone: Emerald (from Wikipedia, free encyclopedia)

Emerald is a precious gemstone and a variety of the mineral beryl (Be3Al2(SiO3)6) colored green by trace amounts of chromium and sometimes vanadium. Beryl has a hardness of 7.5–8 on the Mohs scale. Most emeralds are highly included, so their toughness (resistance to breakage) is classified as generally poor. Emerald is a cyclosilicate.

## Emerald Etymology

The word "emerald" is derived (via Old French: esmeraude and Middle English: emeraude), from Vulgar Latin: esmaralda/esmaraldus, a variant of Latin smaragdus, which originated in Ancient Greek: σμάραγδος (smaragdos; "green gem").

## Cut emeralds

Emeralds, like all colored gemstones, are graded using four basic parameters–the four Cs of connoisseurship: color, clarity, cut and carat weight. Normally, in the grading of colored gemstones, color is by far the most important criterion. However, in the grading of emeralds, clarity is considered a close second. A fine emerald must possess not only a pure verdant green hue as described below, but also a high degree of transparency to be considered a top gem.

In the 1960s, the American jewelry industry changed the definition of emerald to include the green vanadium-bearing beryl. As a result, vanadium emeralds purchased as emeralds in the United States are not recognized as such in the UK and Europe. In America, the distinction between traditional emeralds and the new vanadium kind is often reflected in the use of terms such as "Colombian emerald".

## Emerald Color

In gemology, color is divided into three components: hue, saturation, and tone. Emeralds occur in hues ranging from yellow-green to blue-green, with the primary hue necessarily being green. Yellow and blue are the normal secondary hues found in emeralds. Only gems

that are medium to dark in tone are considered emeralds; light-toned gems are known instead by the species name green beryl. The finest emeralds are approximately 75% tone on a scale where 0% tone is colorless and 100% is opaque black. In addition, a fine emerald will be saturated and have a hue that is bright (vivid). Gray is the normal saturation modifier or mask found in emeralds; a grayish-green hue is a dull-green hue.

## Emerald Clarity

Brazilian emerald (grass-green variety of the mineral beryl) in a quartz-pegmatite matrix with typical hexagonal, prismatic crystals.

## Emerald Treatments

Most emeralds are oiled as part of the post-lapidary process, in order to fill in surface-reaching cracks so that clarity and stability are improved.

## Emerald mines

Emeralds in antiquity were mined in Egypt at locations on Mount Smaragdus since 1500 BCE, and India, and Austria since at least the 14th century CE.[14] The Egyptian mines were exploited on an industrial scale by the Roman and Byzantine Empires, and later by Islamic conquerors. Mining ceased with the discovery of the Columbian deposits, only ruins remain.

Rare "trapiche" emeralds are found in Colombia, distinguished by ray-like spokes of dark impurities.

Zambia is the world's second biggest producer, with its Kafubu River area deposits (Kagem Mines) about 45 km (28 mi) southwest of Kitwe responsible for 20% of the world's production of gem-quality stones in 2004. In the first half of 2011, the Kagem Mines produced 3.74 tons of emeralds.

## Emerald Origin determinations

Since the onset of concerns regarding diamond origins, research has been conducted to determine if the mining location could be determined for an emerald already in circulation. Traditional research used qualitative guidelines such as an emerald’s color, style and quality of cutting, type of fracture filling, and the anthropological origins of the artifacts bearing the mineral to determine the emerald's mine location. More recent studies using energy dispersive X-ray spectroscopy methods have uncovered trace chemical element differences between emeralds; even emeralds mined within close proximity to one another. American gemologist David Cronin and his colleagues have extensively examined the chemical signatures of emeralds resulting from fluid dynamics and subtle precipitation mechanisms, and their research demonstrated the chemical homogeneity of emeralds from the same mining location and the statistical differences that exist between emeralds from

different mining locations, including those between the three locations: Muzo, Coscuez, and Chivor, in Colombia, South America.

Emerald is regarded as the traditional birthstone for May as well as the traditional gemstone for the astrological signs of Cancer.

| SCFMS and MEMBER CLUB GEM SHOWS | | | |
|---|---|---|---|
| **March 5 – 6, Robstown, TX, Gulf Coast** | **Mar 8-11 Deming NM. Deming Rock & Rockhunts** | **Mar 10-11 San Antonio, TX** | **Mar 16-18 TEMPLE, TX Albuquerque, NM,** |
| **Big Bend G&MS, Richard M. Borchard Fairgrounds.** | **Gem Show and Field Trips. SWNM State Fairgrounds** | **Southwest G&MS, San Antonio Event Center** | **Albuquerque G&MS, Expo NM State Fairgrounds** |
| **Mar 30 – Apr 1, Alpine, TX Chihuahuan Desert G&MC, Alpine Civic Cntr** | **Apr 4 – 8 Raleigh, NC, AFMS Convention/Capital Area G&M Show, Tar Heel G&MC, Kerr Scott Bldg., NC Fairgrounds** | **May 5-6, Lubbock, TX, SCFMS Convention/Lubbock G&MC Show, Lubbock Memorial Civic Center** | **Jun 30 – Jul 1, Grapevine, TX, Arlington G&MC, Grapevine Convention Center.** |
| **Nov 17-18, Mesquite, TX, Dallas G&MS, Mesquite Rodeo Center Exhibit Hall** | **Nov 9-11 Houston, TX Houston G&MS Humble Civic Center 8233 Will Clayton Pkwy, Humble, TX** | | |
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PO BOX 891533
Houston, Texas 77289

Meeting 3rd Monday of the Month
7:30 P.M.
Clear Lake Park Building
5001 NASA Parkway, Seabrook, Texas

Member of

**Next Annual Show**
February 23-24, 2019
Pasadena Convention Center

CLGMS is on the Web:
**http://www.clgms.org**
2/23-24 2019

American Federation of Mineral Societies

South Central Federation of Mineral Societies

**Clear Lake Gem and Mineral Society, Inc**

MEMBER: American Federation of Mineralogical Societies and South Central Federation of Mineral Societies

PURPOSE: To promote education and popular interest in the various earth sciences; in particular in those hobbies dealing with the art of lapidaries and the earth sciences of minerals, fossils and their associated fields.

| 2017 OFFICERS: | | | |
|---|---|---|---|
| | President | Vince Barrows | 225-916-2258 |
| | Vice President | David Tjiok | 832-423-4802 |
| | Secretary | Trina Willoughby | 713-815-0275 |
| | Treasurer | Jerry Newberry | 281-333-2113 |
| | Program Director | Vince Barrows | |
| | Board of Directors: | Sandra Christiansen | |
| | | Mary Wells | |
| | Newsletter Editor | Annabel Brownfield | |

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|---|---|
| Annual Show 2018 ……...Vince Barrows | Library……Vacant |
| Constitution & Bylaws……..Sara Chelette | Membership……Mike Flannigan |
| Community Benefits……..Charlie Timme | WWW System Admin.. ……Mike Flannigan |
| Historian……David Tjiok | Refreshments……..John Caldyne |
| Publicity……Vacant | Education/Field Trips……Annabel Brownfield |
| Facebook……Trina Willoughby | |

Membership Dues Jan. to Dec. 2017: Adult $15:00, $5.00 per additional adult at same address, Junior $5.00, $5.00 per member with adult at same address, Family Dues $20.00 (4+) at same address. Send Dues to CLGMS, PO BOX 891533, Houston, TX, 77289

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