Diablo Diggins

Monthly Newsletter of the Contra Costa Mineral & Gem Society

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General Meeting

Monday, Sept 11 th 6:30 PM Endeavor Hall Hoyer Hall Clayton, CA.

Speaker Mike Weber Topic Jade

Snacks .....Those asked to bring snacks in Sept are.... Diane Skibel,Victoria Stevenson, Caryl Tarlakson, Rudy Traunter, and Kathleen Trent.

Remember.... Everyone is invited, bring a neighbor,

"We Dig Rocks"
1. **Since 1950**

Opportunities Abound

We are all part of a mutual interest club, the Contra Costa Mineral and Gem Society. Our club is a great place to learn and grow, and our current Board of Directors has worked very hard to keep up that opportunity available. This year we have explored a number of topics from local collectors to wire wrapping and gold panning. We have partnered with other clubs with similar interests and with the City of Clayton. We have seen our club grow in membership for the first time in years, and we have seen our members branch out with new interests and skills. It is the time of the year when we both look back and look forward. As a club, we need you…both to offer ideas for future subjects of interest and to be a part of the governance and operation of our club. To put it bluntly **WE NEED YOU**…to volunteer. We need people will to take on tasks like hospitality and display and to assist and learn board positions like secretary and president. It is time to get involved. Please let Mike, or me know what you can do, what you want to learn, and what topics interest you. Thanks for this moment.

Green Stone

This month our speaker will be talking about jade. So what is jade? Jade, specifically jadeite and nephrite, forms through different geological processes. Here's an overview of the geological formation of jade:

- **Jadeite Formation**: Jadeite is primarily formed in subduction zones where tectonic plates converge. It originates from the metamorphism of rocks rich in aluminum, such as serpentinite and basaltic rocks. During subduction, these rocks are subjected to high temperatures and pressures deep within the Earth's crust, causing the minerals within them to undergo chemical changes. The process of metasomatism occurs, where fluids rich in silica and other elements infiltrate the rock, leading to the formation of jadeite. The presence of sodium-rich fluids is crucial for the formation of jadeite.


Jadeite

- **Nephrite Formation**: Nephrite forms through a different geological process. It is commonly found in metamorphic rock formations, such as serpentinite, amphibolite, or greenschist. Nephrite is a product of the alteration of other minerals, particularly actinolite and tremolite, which are part of the amphibole mineral group. These minerals undergo recrystallization and transformation under intense pressure and temperature conditions, resulting in the formation of nephrite.


Nephrite

The composition and structure of jade differ depending on whether it is jadeite or nephrite.

1. **Jadeite Composition and Structure**: Jadeite is a pyroxene mineral with a complex chemical composition. Its chemical formula is NaAlSi2O6. This formula indicates that

jadeite contains sodium (Na), aluminum (Al), silicon (Si), and oxygen (O). However, jadeite can also contain traces of other elements, such as iron, chromium, and manganese, which contribute to its color variations.

Jadeite has a crystalline structure, specifically belonging to the monoclinic crystal system. Its crystal structure consists of chains of linked silicon-oxygen tetrahedra. These chains are interconnected by aluminum and sodium ions, creating a three-dimensional framework. The arrangement of atoms within the crystal lattice gives jadeite its characteristic physical and optical properties.

2. **Nephrite Composition and Structure**: Nephrite is a type of amphibole mineral. Its chemical composition is more variable than jadeite but is generally represented by the formula $Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$. This formula indicates that nephrite contains calcium (Ca), magnesium (Mg), iron (Fe), silicon (Si), oxygen (O), and hydroxyl (OH) groups.

Nephrite has a fibrous or felted structure, composed of interlocking mineral fibers. These fibers are primarily composed of calcium, magnesium, and silicon. The fibrous nature of nephrite gives it a characteristic toughness and durability.

Serpentine is another lovely green translucent, waxy silicate of magnesium. it is often mistaken for various types of nephrite jade, and some stones called "jade" are actually types of serpentine. A major difference between the two semi- precious stones is that serpentine is softer and less dense than most real jade. Jade is harder and takes finer polish.

Both jadeite and nephrite are silicate minerals, meaning they are composed primarily of silicon and oxygen. They have dense and tightly packed atomic structures, contributing to their durability and resistance to breakage. The specific chemical compositions and crystal structures of jadeite and nephrite contribute to their unique physical properties, such as color, translucency, hardness, and toughness, which make them highly valued in jewelry and ornamental.

So what do you do with Jade?

Jade's aesthetic appeal, cultural symbolism, and versatility make it a favored material for artists and craftsmen worldwide. Its use in art and craftsmanship spans various forms, allowing for the creation of unique, visually striking, and culturally significant pieces. Here are some ways in which jade is utilized in art and craftsmanship:

1. Carvings and Sculptures: Jade is highly sought after for its carving properties. Skilled craftsmen carve jade into intricate and detailed sculptures, figurines, and decorative objects. These carvings often depict animals, mythical creatures, deities, or symbols with cultural or spiritual significance. Jade's smooth texture and vibrant colors make it ideal for capturing fine details and creating visually stunning works of art.
2. Jewelry Making: Jade is a popular material for jewelry due to its luster, translucency, and durability. Craftsmen create exquisite jewelry pieces such as pendants, beads, earrings, bracelets, and rings using jade. They may incorporate carving, engraving, or

inlay techniques to enhance the beauty of the jade and create unique designs. Jade jewelry is treasured for its elegance, cultural symbolism, and timeless appeal.

3. Vessels and Decorative Objects: Jade is used to create a variety of vessels and decorative objects, including vases, bowls, plates, boxes, and ornamental pieces. Craftsmen shape and polish jade to bring out its natural beauty and create functional and visually appealing objects. These objects often display intricate designs, patterns, or motifs that highlight the craftsmanship involved in working with jade.
4. Inlay and Mosaic Work: Jade can be used in inlay or mosaic work to embellish various surfaces, such as furniture, architectural elements, or art pieces. Craftsmen cut jade into small tiles or shapes and carefully arrange them to create intricate patterns or designs. Jade inlay work adds a touch of luxury and sophistication to the finished pieces.
5. Lapidary Art: Lapidary art involves cutting, shaping, and polishing gemstones to create artistic pieces. Jade is a favored gemstone for lapidary artists due to its unique properties. They skillfully cut and facet jade to enhance its brilliance and create gemstone cuts like cabochons or faceted stones for use in jewelry or standalone art pieces.
6. Artistic Installations: Jade is occasionally used in large-scale art installations, where it can be showcased in public spaces, museums, or galleries. These installations may feature carved jade panels, sculptures, or architectural elements that serve as focal points, blending aesthetics and cultural significance.

Where do you find Jade?

Jade is found in various regions around the world, but some areas are particularly renowned for their jade deposits and production. Here are some of the major jade-producing regions worldwide:

1. Myanmar (Burma): Myanmar has a long history of jade mining and is known for its high-quality jadeite. The region of Kachin State, specifically the area around Hpakant, produces some of the world's finest jadeite, including the highly prized Imperial Jade.
2. China: China has been a significant producer and consumer of jade for centuries. The region of Xinjiang, particularly the Hotan area, is known for producing nephrite jade, including the renowned Hetian Jade. Other notable jade-producing regions in China include Guangxi, Liaoning, and Inner Mongolia.
3. Guatemala: The Motagua River Valley in Guatemala is a notable source of jadeite. The country is known for its vibrant green jadeite, often referred to as "Guatemalan Jade," which is highly valued in the international market.
4. Russia: Russia has substantial deposits of nephrite jade, particularly in the region of Siberia. The Sayan Mountains in eastern Siberia are known for their nephrite deposits, and the region produces a significant amount of high-quality nephrite jade.
5. Canada: Canada is a notable producer of nephrite jade, particularly in British Columbia. The province's Jade City is famous for its nephrite jade deposits, and Canadian jade is known for its beautiful green color and quality.
6. New Zealand: New Zealand has significant nephrite jade deposits, known locally as pounamu or greenstone. The South Island of New Zealand, specifically the West Coast and the Arahura River, is renowned for its pounamu production.

7. United States: The United States has jade deposits in various regions. Notable sources include California, Wyoming, and Alaska. In California, the Big Sur region is known for its nephrite jade, while Wyoming is recognized for its jadeite.

These regions have a long history of jade mining and are known for producing high-quality jade in different colors and varieties. The jade from these regions often carries unique characteristics and is highly sought after by collectors, jewelry makers, and enthusiasts worldwide.

Jade In California? (where is the closest jade to me?) In California the major Northern California sites are, Big Sur and Jade Cove, Happy Camp, Pulga, Mendocino, and Eel River.

Big Sur Jade

Big Sur is one of the most famous locations for finding jade in California.

The rugged coastline offers beautiful scenery and a wealth of jade deposits, especially within the Jade Cove area. The underwater deposits of nephrite jade found here are some of the highest quality in the world. Collectors and divers have been exploring these jade-rich beaches since the 1960s, and many unique and rare jade specimens have been recovered from the area.

Jade Cove is a part of the Big Sur region and is known for its high-quality jade deposits. The cove is a popular destination for jade hunters who comb the beaches and dive underwater to find the precious stones. It is important to note that there are rules and regulations governing jade collection in the area, and visitors should familiarize themselves with these rules before attempting to collect jade. Additionally, the trails leading to Jade Cove can be steep and dangerous, so caution and proper planning are essential when visiting the area.

Happy Camp

Happy Camp, in Siskiyou County is a favorite site for this club. Nephrite jade found in Happy Camp is often green or black, and many collectors search the riverbed and surrounding areas for these beautiful stones. Found along the banks of the Klamath River, High quality jade has been found at this site.

Pulga

Pulga Jade is found in the North Fork of the Feather River, located in Northern California. The Feather River area is also popular among gold prospectors, making it a great place to explore for both jade and gold!

Mendocino The coastal cliffs and beaches of Mendocino are known for their jade deposits, which can be found both on land and underwater. The jade from this region is often green, blue-green, or white, and can exhibit a unique botryoidal or "bubble" texture.

Eel River
The Eel River in Northern California is known for its Placer Jade deposits.
Placer Jade is a type of nephrite jade that has been naturally eroded from the surrounding rock and carried downstream by the river.

The jade found in the Eel River often comes in a range of colors, including green, white, and black. Collectors typically search the riverbanks and sandbars for these beautiful stones.

References and Resources

https://www.californiajade.com/aboutjade
https://www.metmuseum.org/toah/hd/jade/hd_jade.htm

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Big Sur Jade

CFMS Report by Kelly Plumb

The California Federation of Mineralogical Societies, which we are a member of, will be holding it's business meeting on November 10th through the 12th in Visalia California. I will probably attend if Dick Pankey is not able. I will also be running for Federation Director next year. If anyone wants to run against me feel free to. There is plenty of work for all of us, and we have plenty of positions open.

Among the things that we, as a club should be looking at this year will be nominating a rock hound of the year. This should be someone who has contributed a great deal to the club and the hobby. If you have suggestions please speak to any board member.

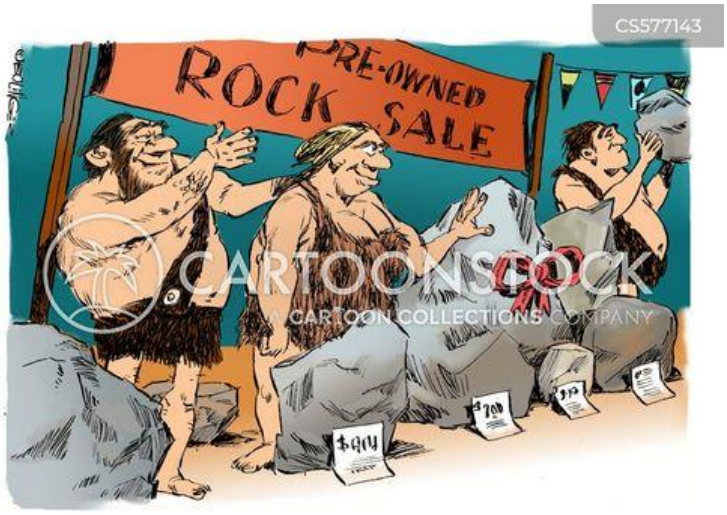
This year our President talked me into keeping a club History Book. I will be entering it in the CFMS contest so if anyone has pictures or articles about things club members have done please send them to me so I can include them. The more we have the more likely we are to show well. The more we give Cheryl for our Newsletter, the better chance our Newsletter has of showing well also.

The American Federation of Mineralogical Societies has a special promotion flyer that will give you a 61% discount off of the cover price and give AFMS a commission. The flyer should be on the CFMS website. Include the promotional code P73RNG01.

There will be a field trip at the end of September to Topaz Mountain and the Dugway Geodes. I will get more information as it becomes available.

I am disappointed that I will be missing the next few meetings, but I need to be in Reno taking care of my partner who has been ill. I will see you all at the show in November!

American Federation Website https://www.amfed.org/



The meeting in October is our auction of pre owned rocks.