Hello my dear Rock Hound members.

I hope that you are all well and happy or as well as can be. Well here we are going into the month of July. I hope that all of the fathers had a Great Father’s Day. Weather has been cool and not too hot.

In July the Society has no meeting but we do have a Picnic. I made a call for where we were last year, the place is sort of closed. If you want to walk or ride a bike through it, that’s alright. Groups of 10 or more people are not welcomed unless they are all related otherwise they’d not allowed. Sorry to say that we won’t be holding a Picnic this year. Sorry.

Have any of you been doing any rock stuff? I'm still working on my alabaster carving and it’s becoming a little lighter. Remember, John is still having his field trips so please do call and let him know if you want to go on one. Just think of those open spaces and all those lonely and lovely rocks just waiting to be picked up.

Talking about rocks, have any of you ever heard of Suiseki? That’s what the Japanese call for rock appreciation. Displaying rocks in miniature setting also a rock appreciation. You find a rock that looks like miniature mountain scene or something like that and surround it send or earth that is placed in a shallow dish. The rock can’t be worked or changed in any way. No plants or anything goes with it, otherwise it’s not Suiseki. Now to make it more interesting let’s make it into a contest. Let’s have one for the juniors and us big people. John has the instructions for the contest. We’ll hold this later on in the year. So start looking, have fun. Any rock will do.

The Fourth of July is right around the corner so let’s fly our red, white and blue. I’ll do it but you do what you want, I don’t want to step on someone’s toes' by getting political.

Cancer is the Crab, June 22 - 22 July, stone is Moon stone with Ruby and Emerald. Leo is the Lion, July 23- August 23, Ruby with Peridot and Topaz. Hmm, we have a Surf and Turf here. Surf = Crab and Turf = Leo the Lion. Get it? Surf andTurf. No? Oh well, what’d you expect, I’ve been in lockdown.

Lucky you, I'm at the end of my letter. I don’t know when we’ll all be able to get back together. Sending positive feelings and elbow bumps,

- Edwina, President

p.s. I just remembered to mention that we need a replacement for the now vacant MEMBERSHIP CHAIR PERSON.
2020 Earth’s Treasures Show

As you are all aware in the current national health climate, many gem shows have had to cancel or reschedule their dates. Since our show is in October, the current crisis may have subsided enabling our Earths Treasures Show to be staged. Planning for the 2020 show continues to happen. However, a slower approach may have to be taken. This topic will be discussed in detail with the show co-chair Dan Chaplin and the Board at the next board meeting.

-Submitted by Frank Van Hecke, Show Co-Chair

Editor’s notes

Normally there is not a newsletter in July (or so I have been told) but with all of us still mostly laying low and no July potluck, I felt it was important to at least get some sort of update and connection made for the month. While this newsletter is somewhat abbreviated, any news of shows, field trips, etc. have been made to keep you abreast of current events.

News:

The Roseville Show is BACK ON!! This will be July 4-5. Please note that they have a new access point and parking lot different from the past, but otherwise it is still the same venue. Also, they have greatly increased parking costs – it is now $10. Gwen Fissel mentioned that they are looking for volunteers, please contact the Roseville Rockrollers (see show details below) if you would like to volunteer.

Gwen also noted that she saw a drawing for free cab in editor’s field notes page 6 of Rock and Gem Magazine. Requirement is to sign up for weekly rock and gem newsletter. Cab prize is Apache gold.

Suiseki Contest: John Dolman is looking to have a Suiseki contest at a fall meeting with prizes, so start looking for that winner now. Besides it is a good safe/solo activity! And (hint hint) he is looking to maybe do another similar for naturally-found heart shaped rocks – maybe for February meeting – who knows!

Updates:

Field Trips: John Dolman has added a trip to Crystal Peak north of Verdi NV, there is ALWAYS something to find there. See the Field trip section below for that and many other opportunities to get some fresh air and nice specimens or lapidary materials.

We now have a vacancy in the Membership Chair - among others. Please take time to volunteer, step in to fill a role, if even for just one year or on a committee. If we all pitch in a little, it is not too much burden for a small few, and the club will benefit from your unique perspective and experience.
NCGMS 2020 Field Trips (please double check before the trip to ensure it is still planned):

<table>
<thead>
<tr>
<th>Trip</th>
<th>Trip Leader/Contact/Notes</th>
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<tbody>
<tr>
<td>June 5-6-7-8 - Nevada: Lapis, Quartz Crystals. Dry camping. <strong>Trip notes below</strong></td>
<td>John Dolman - Call by June 4th to confirm.</td>
</tr>
<tr>
<td>June 20-23 – Chinese Camp: Opalite, Mariposite, Quartz. Crystals, Jade</td>
<td>John Dolman – multi-day/camping</td>
</tr>
<tr>
<td>July 5 to July 12: R.F.T.F trip planed digging for opal, pet., wood, agate, geodes, and more. Nor-cal &amp; S Or areas</td>
<td>Call Kris Rowe-(559) 250-5057: RFTF is Rockhound Field Trip Fanatics</td>
</tr>
<tr>
<td>July 12 - Placer County/Ford point: Quartz. crystals</td>
<td>John Dolman</td>
</tr>
<tr>
<td>Aug 15-17 - Nevada: Tuledad agate, Pet.wood</td>
<td>John Dolman – multi-day/camping</td>
</tr>
<tr>
<td>Aug 23-24 - Near Washington CA: Argillite</td>
<td>John Dolman</td>
</tr>
<tr>
<td>Sep 5-6 – Crystal Peak (Verdi) NV: Quartz Crystals, some quite large</td>
<td>John Dolman - (overnight camping possible)</td>
</tr>
<tr>
<td>Sep 19, 20 - So. Markleeville, Ca: Crystals in Rhyolite,</td>
<td>John Dolman – multi-day/camping</td>
</tr>
<tr>
<td>Sep 25-28 – Davis Creek CA, Geodes, Petrified Wood, Crystals</td>
<td>John Dolman – multi-day/dry camping or hotels in Alturas CA or Lakeview OR</td>
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</tbody>
</table>

Field Trip Report – By John Dolman

My Wellington, NN. field trip: Two members from Nevada county Gem and Mineral Society showed: B. & K. Taylor. I myself found 30 plus smokeys and a few clear crystals over 4 day's digging. Sure, we were seeing that it was going to snow on us Sunday afternoon, so we bugged out for home. HWY-50 had some 2" of snow on the ground up from Carson City and none on the road, the road was clear all the way home. I was unsure of Tioga Pass, so I did not go that way over to Bagby, Ca., La Grange and Chowchilla. It would have been farther than leaving from home, so that and the snowing, and the intermittent 40 mph wind we decided to leave.

California Federation of Mineralogical Societies Updates

Please keep clipping any used stamps from your mail. Long time CFMS member Dick Panky, Contra Costa Gem and Mineral Society, collects bags of stamps from member societies at the annual CFMS Directors meeting, in November. These stamps are donated to the Easter Seal Society, which sells them to dealers and collectors as a fund raiser for Easter Seals. Please bring your stamps to any future meeting and give them to Frank Van Hecke, NCG&MS CFMS Director.

Camp Paradise Lapidary Camp is once again being held in La Porte, CA, with two sessions, late August and early September. Many of our members have attended this superb camp, with many of them being repeat attendees. Application forms will be available soon. For more information go to [www.cfmsinc.org](http://www.cfmsinc.org).

- Submitted by Frank Van Hecke, CFMS Director
## CFMS SHOWS 2020 (https://www.cfmsinc.org/)

All cancelled club shows removed. Those listed were still planned as of 20 May.

### Summer

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Details</th>
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<tbody>
<tr>
<td>July 4-5</td>
<td>Roseville CA</td>
<td>Roseville Rock Rollers at the Grounds 700 Event Center Drive Hours: Sat 10-5; Sun 10-4 Contact: James Hutchings, 916-995-7380 Email: <a href="mailto:jhutchings22@hotmail.com">jhutchings22@hotmail.com</a> Website: <a href="http://www.rockrollers.com">www.rockrollers.com</a></td>
</tr>
<tr>
<td>August 15-16</td>
<td>TEHACHAPI, CA</td>
<td>Tehachapi Valley Gem and Mineral Society 500 East “F” Street, Tehachapi Hours: 9 am – 5 pm Contact: (661) 972-1117 Web site: <a href="http://www.tvgms">http://www.tvgms</a> Annual gem, mineral and jewelry show. We have a wide variety gems, minerals and jewelry plus kids activities and much more.</td>
</tr>
<tr>
<td>September 10-11</td>
<td>TRONA, CA</td>
<td>Searles Lake Gem and Mineral Society 13337 Main St., Trona Gem-O-Rama Hours: Sat 7:30 am – 5 pm, Su 7:30 am – 3 pm Contact: Jim &amp; Bonnie Fairchild, (760) 372-5356 email: <a href="mailto:sigms@iwvisp.com">sigms@iwvisp.com</a> Web site: <a href="http://www1.iwvisp.com/tronagemclub/">http://www1.iwvisp.com/tronagemclub/</a> Check websites or call to ensure shows and field trips are still planned during the 2020 CORVID-19 crisis</td>
</tr>
<tr>
<td>September 26-27</td>
<td>LODI, CA</td>
<td>Stockton Lapidary and Mineral Club Lodi Grape Festival Grounds 413 East Lockeford Street, Lodi CA 95240 Hours: 10 am – 5 pm daily Earth’s Treasures; Gems, Minerals and Jewelry show Web site: <a href="http://stocktonlapidary.org">http://stocktonlapidary.org</a></td>
</tr>
<tr>
<td>September 26-27</td>
<td>LONG BEACH</td>
<td>Long Beach Mineral &amp; Gem Society Long Beach Expo Arts Center 4321 Atlantic Ave., Long Beach 90807 Sat. 10 am – 5 pm, Sun 10 am – 4 pm Gems by the Beach: Activities including Gold panning, displays, children’s activities, demonstrators, door prizes, food trucks, free admission free parking. Dealers will be selling a variety of gems, jewelry, rocks, fossils, beads, books &amp; lapidary supplies. Contact: Carol Kron and Karin Alvarez, (562) 577-9044 Website: <a href="http://www.facebook.com/LBMGS">http://www.facebook.com/LBMGS</a></td>
</tr>
<tr>
<td>September 26-27</td>
<td>Lancaster, CA</td>
<td>Palmdale Gem &amp; Mineral Club Antelope Valley Fairgrounds 2551 West Ave H Hours: 10-5 Daily Contact: Allison McClung; 661-839-7403 Email: <a href="mailto:ali_cares@aol.com">ali_cares@aol.com</a> Website: palmdalegemandmineral.org</td>
</tr>
<tr>
<td>October 11</td>
<td>Fallbrook, CA</td>
<td>Fallbrook Gem and Mineral Society 123 W Alvarado St Hours: 9-4 Contact: Michelle Shearer; 760-805-2184 Email: <a href="mailto:info@fgms.org">info@fgms.org</a> Website: <a href="http://www.fgms.org">www.fgms.org</a></td>
</tr>
<tr>
<td>October 24-25</td>
<td>SACRAMENTO, CA</td>
<td>Sacramento Gem &amp; Mineral Society Scottish Rites Center 6151 H Street, Sacramento, CA 95819-2604 84th Annual Sacramento Gem, Mineral and Jewelry Show Hours: Sat 10 am – 5 pm, Sun 10 am – 4 pm Contact: (916) 662-5819, <a href="mailto:gemshow@sacramentomineralsociety.org">gemshow@sacramentomineralsociety.org</a> Website: <a href="http://sacramentomineralsociety.org">http://sacramentomineralsociety.org</a></td>
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### Fall

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<tr>
<th>Date</th>
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<th>Details</th>
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<tbody>
<tr>
<td>September 12-13</td>
<td>ARROYO GRANDE, CA</td>
<td>San Luis Obispo Gem and Mineral Club South County Regional Center 800 W. Branch St., Arroyo Grande Hours: 10 am – 5 pm Admission: $5, children 12 and under free Email: <a href="mailto:show@slogem.org">show@slogem.org</a> ‘Gems By The Sea’ – The show will feature dealers selling a fantastic array of gems, minerals, fossils, carvings, jewelry, beads, jade, crystals, meteorites, lapidary and metaphysical items. The dealers will include local artisans and vendors. There will be demonstrations of jewelry-making and lapidary crafts.</td>
</tr>
<tr>
<td>October 10th and 11th</td>
<td>Nevada County Gem and Mineral Society Nevada County Fairgrounds 11228 McCourtney Road, Grass Valley, CA 95945 Sat 10 am – 5 pm, Sun 10 am – 4 pm 2020 Earth’s Treasurers Show: Dinosaurs Rule – Come see a life size T-Rex skull, plus other fossil displays. 25+ vendors, gold panning activity, lapidary demonstrations, kids crystal dig, a Kids Korner with lots of educational activities, as well as 30 exhibitors. Lazy Dog ice cream, Top Dog hot dog cart, and our 16-1 Mine 1/4 ounce of gold raffle. Website: <a href="http://www.nrcgms.org">http://www.nrcgms.org</a></td>
<td></td>
</tr>
<tr>
<td>October 17-18</td>
<td>SANTA ROSA, CA</td>
<td>Santa Rosa Gem &amp; Mineral Society 1351 Maple Ave., Santa Rosa, CA 95404 Hours: Sat 10 am – 6 pm, Sun 10 am – 5 pm Agates Abound — Our show will feature agates this our 44th year. In addition there will be Minerals, Crystals, Fossils and Gemstones finished jewelry and Beads Contact: 1 707 849-9551, <a href="mailto:santarosarockshow@hotmail.com">santarosarockshow@hotmail.com</a> Website: <a href="http://SRMSG.org">http://SRMSG.org</a> Flyer: agate-one.jpg</td>
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Deep Sea Bonanza: Race to the Arctic

Vivien Gornitz (New York Mineralogical Club, adapted from parts IV and V)

This article investigates the geopolitical fallout as the five major Arctic nations race to stake a claim to their piece of the seafloor and takes a closer look at the potential ecological disruptions arising from sea bed mining activities. As the Arctic thaws, the competition for control of its natural resources intensifies. On August 2, 2007, Russia planted a flag 4,300 meters (14,110 ft) deep on the seafloor, under thick sea ice at the North Pole. A symbolic gesture that marks the beginning of the race for control of the Arctic Ocean’s great potential mineral wealth.

The United Nations Convention on the Law of the Sea (UNCLOS) gives a country a 10-year period following ratification of the Convention in which to file a claim to an extended continental shelf beyond the 200 nautical mile (230 mi) exclusive economic zone (EEZ). The nation holds all rights to resources in and under the water within its EEZ. Russia presented its original claim to UNCLOS in 2001, followed by Norway in 2006, and Denmark in 2014. It laid claim to 895,000 km² (345,600 mi²) going from Greenland, past the North Pole, up to the limits of the Russian EEZ. In 2013, Canada declared its intent to file a claim and in May, 2019, it submitted a 2100-page report, including detailed scientific data, to the Convention on the Limits to the Continental Shelf (CLCS), claiming 1.1 million km² of seabed. Parts of this territory overlaps competing claims by Russia and Denmark. The United States, although it abides by UNCLOS, has yet to ratify the Convention and therefore, in principle, still has time to submit its claim. Meanwhile, the U.S. has conducted extensive research to map the extent of the continental shelf north of Alaska, which should help strengthen its case in future negotiations.

The UNCLOS contains several loopholes: to obtain an extension beyond the EEZ limit, the country must prove that its continental shelf extends beyond the EEZ. Article 76 provides a complex, somewhat ambiguous formula for determining the outer boundary of this extension. Furthermore, a nation can claim a broad swath of seabed around a submerged ridge, without precisely defining what is meant by “ridge.” The greatest bone of contention has been the Lomonosov Ridge, which extends some 1,800 km across the Arctic Ocean from Russia to near Ellesmere Island in Canada. Once thought to be an inactive mid-ocean ridge, it is now recognized as an ancient piece of continent crust formed tens of millions of years ago when parts of the North American and Eurasian plates separated, opening up the Arctic Ocean floor. Denmark (through Greenland), Russia, and Canada all claim parts of the Lomonosov Ridge, believed to be rich in oil and gas deposits.

The Lomonosov Ridge roughly divides the Arctic Ocean into two distinct basins: an older Amerasian Basin of late Mesozoic age and a younger Eurasian Basin formed during the Cenozoic Era. The Eurasian Basin margin consists of a suite of rotated fault blocks that step down to the basin. Earlier studies on the origin of the Amerasian Basin were inconclusive, but more recent detailed mapping suggests a somewhat analogous origin for the American Basin. Unresolved ambiguities in the language of Article 76 and in ridge geology are not slowing down Russia, Canada, and Denmark in mapping out their respective (and sometimes overlapping) claimed sections of the ridge.

To complicate matters further, political tensions between the U.S. and Russia only serve to underscore the growing strategic importance of the Arctic, particularly as climate warming makes the Arctic Ocean more accessible to shipping and mineral extraction. Furthermore, Greenland, already a semi-autonomous part of Denmark, may eventually gain full independence, with complete control over its natural resources on land and under water. And China, which is already building multiple giant development projects around the globe, is eyeing a “Polar Silk Road” to enhance its trade and shipping routes across the Arctic.
Climate change and advanced technology are rapidly opening up the North and the ocean depths to increased mining and natural resource exploitation, but these emerging opportunities are also fraught with environmental hazards.

In 1989, scientists devised a simple experiment to access the impacts of deep-sea mining. The DISCOL experiment consisted of scraping a roughly 11 km² (4.25 mi²) area of the Pacific Ocean floor with an 8 m (26 ft) rake. The activity stirred up a plume of ocean sediment that rained down and smothered most bottom-dwelling creatures over the test area that couldn’t crawl or swim away, without even removing any rocks off the sea bed. Several repeat visits, the latest in 2015, showed that site had still not recovered. Scars of the ploughing still remained and the former sea life—sponges, sea anemones, soft corals—had not yet returned.

DISCOL is still considered the largest, most extensive test of deep-sea environmental impacts to date. Other more recent attempts have been stymied by technical or financial difficulties. Nautilus Minerals, based in Toronto, Canada, had conducted some environmental assessments on its planned mining site—Solwara I, off Papua New Guinea—and was all set to begin mining in spring 2019. But financial reversals and local opposition forced last-minute cancellation of the operation.

Unlike Solwara I—a deep sea hydrothermal site—the Clarion-Clipperton Zone (CCZ) on the ocean floor in the Pacific Ocean is littered with millions of tons of Fe-Mn nodules. These metal-rich mineral concretions of Fe oxyhydroxides and Mn oxides are rich in metals such as Ni, Cu, Co, Mo, Zr and rare earth elements. The CCZ is estimated to hold greater reserves of certain metals, such as cobalt, nickel, manganese, and thallium, than on land. However, the potato-sized concretions grow extremely slowly around a hard nucleus on the sea floor over millions of years. Unlike some deep-sea hydrothermal vents which can continue to build up metal sulfide-rich mounds as long as the vent remains active, Fe-Mn are not a renewable resource. In this ink-black, quiet ocean realm, fine sediment settles down at a leisurely rate of 1 mm per century and nodules grow very much slower.

Nevertheless, the CCZ abyssal plain hosts a surprisingly varied ecosystem. Larger creatures include corals, sea urchins, starfish, anemones, sponges; also crustaceans, sea cucumbers, and fishes. Other organisms live on the nodules themselves and on the abyssal sediments—nematodes, worms, starfish, and single-celled foraminifera. Although CCZ biodiversity is high, overall population densities are low. Disturbance of the sedimentary substrate by mining could severely upset the stable but delicate biogeochemical equilibrium and harm the smaller or slower creatures that could not escape in time. Furthermore, deep-sea mining would generate large clouds of sediment that would spread out over broad swaths of ocean before gradually re-settling. Clearly, much more information on the ecological impacts would be needed before large-scale mining begins.

However, as of 2019, the United Nations-sponsored International Seabed Authority (ISA), which both promotes and regulates sea floor mining, has granted 29 exploration licenses and is rushing to complete its regulatory framework by 2020. Although scientists’ advice is taken into consideration, the final decisions are made behind closed doors. Once mining begins, the ISA claims, so will monitoring. Standards can be tightened as needed, they argue. The problem lies in the contradictory roles played by the ISA. It is like letting the wolf guard the henhouse. ISA faces a tough battle in even persuading its 168-nation membership to agree on a draft mining code that would include environmental as well as mining regulations. Meanwhile the race to the sea bed continues and we still have much to learn of how best to balance the competing needs of sea floor mining and environmental protection.

Further reading
Maps: https://origins.osu.edu/article/824/maps
2020 Elected Officers

PRESIDENT
Edwina Swenson
VICE PRESIDENT
Keven Clark
SECRETARY
Vacant
TREASURER
Frank Van Hecke
DIRECTORS
Christie Harris
Eric Trygg
Christy Busch

2020 Committee Chairpersons

FEDERATION DIRECTOR
Frank Van Hecke
TREK LEADER
John Dolman
HISTORIAN
Beverly Glenn
HOSPITALITY
Vacant
LIBRARIAN
Beverly Glenn
MEMBERSHIP
Vacant
JUNIOR PROGRAM
Vacant
CLUB PICNIC
Lori Woodhall
REFRESHMENTS
Birthday Honorees
SUNSHINE
Lori Woodhall
NEWSLETTER EDITOR
Blaze Baker (acting)
WEBMASTER
Charles Lindquist
2020 SHOW ORGANIZER
Frank Van Hecke
Dan Chaplin
SCHOLARSHIP
Joyce Emerson

* Call if sending email

Nevada County Gem & Mineral Society Meetings

The Nevada County Gem and Mineral Society meets monthly with few exceptions. Membership is informed of exceptions at meetings and through Rock Writings. You are welcome to attend any meeting.

General Membership Meeting: First Tuesday of the month, 7:00 p.m.
Executive Committee Meeting: First Tuesday of the month, 6:00 p.m.
Golden Empire Grange Building, 11363 Grange Ct., Grass Valley, CA

NCG&MS is a non-profit organization with the following objectives:

• To promote the study of mineralogy, geology & fossils
• To encourage the collection of minerals and gems
• To foster the study and practice of the lapidary arts
• To provide field trips to mineral localities
• To promote good fellowship, education and recreation

Membership Information

Yearly membership dues for NCG&MS are $25.00 for singles and $30.00 for families. *Deduct $5.00 if you receive your newsletter via email* For information or an application, email our Membership Chairperson Edwina Swenson (temp) at edwina.m.swenson@hotmail.com

Check out our website at: http://www.ncgms.org
Program: July Picnic - Cancelled

First Tuesdays Monthly at 7:00 p.m.
(no meeting in July)
Golden Empire Grange Guild
11363 Grange Ct., Grass Valley

** Bring a Friend! **