



The Official Publication of the Lincoln Gem & Mineral Club, Inc.

THE PICK & SHOVEL

In association with



The Midwest Federation of
Mineralogical and
Geological Societies



The American
Federation of
Mineralogical Societies

The purpose of this corporation shall be to study, promote an interest in, and disseminate knowledge of lapidary and various Earth Sciences including but not necessarily limited to Geology, Paleontology and Mineralogy. It shall be a particular purpose of the corporation to provide education in these fields to its members and the general public, especially to youth and student groups.

Current club by-laws can be found at [www.lincolngemmineralclub.org/About/General Information](http://www.lincolngemmineralclub.org/About/General%20Information).

Follow us on Facebook:

<https://www.facebook.com/groups/223555904325876>

GENERAL MEETINGS

Third Thursday of the Month, except for January (3rd Sunday), December (1st Sunday), and summer break (June, July, August). Bethany Park Shelter House, 65th & Vine

Meeting Times: Juniors meet at 6:15 p.m.
Adults meet at 7:00 p.m.

Next meeting: **February 19, 2026**
Program: Shane Tucker on A Deep Dive Into the Western Interior Seaway. Shane will cover the different rock layers exposed at the surface deposited during the late Cretaceous and the fauna from them.

BOARD MEETINGS

Until further notice, Board Meetings will be held at 6:30 p.m. on the first Thursday of each month.

Next Board Meeting:
Friday, March 6, 2026 at 6:30 p.m.
Vera Lyman's Residence

Persons of general membership are invited to attend Board meetings and offer agenda items.

2026 BOARD OF DIRECTORS

President: Brett Jurgens, 402.850.3256, quartz89@aol.com

1st Vice-President: Jayne Beer, 402.890.3307, JBeer60070@aol.com

2nd Vice-President: Clyde Ogg, 402.326.8682, clydeogg55@gmail.com

Treasurer: Vera Lyman, 402.464.6089

Secretary: Sharon Marburger, 402.429.3323, lgmc.editor@outlook.com

Board Member: Corey Beer, 402.466.6628

Board Member: Sarahlynn Nichols, 402.419.3913, sarahlynn.nichols@gmail.com

Board Member: Mike Stiles, 402.890.1760, mcstiles72@outlook.com

Board Member: Charles Wooldridge, 402.975.0416, charles.wooldridgeii@gmail.com

ANNOUNCEMENTS & CLUB FUN

DATES TO REMEMBER

February 19, 2026 - General Meeting
 March 6, 2026 - Board Meeting
 March 19, 2026 - General Meeting
 April 2, 2026 - Board Meeting
 April 3, 2026 - Show Setup
 April 4 & 5, 2026 - Annual Gem & Mineral Show
 April 30, 2026 - General Meeting
 May 7, 2026 - Board Meeting
 May 20, 2026 - General Meeting
 June 4, 2026 - Board Meeting
 June 20 & 21, 2026 - Gem Fest

Membership Dues are now past due. Please make sure your membership is current in order to receive club perks.

FEBRUARY BIRTHDAYS

Allan Gossman
 Connie McCartney (29th)
 Sarah Nichols
 Donitte Stiles
 Charles Wooldridge



YOUR INPUT TO P&S CONTENT

Please send your hobby-related photos with captions or explanations for publication in the Pick & Shovel. Field trips, lapidary projects, fossil projects, metal projects, wire wrapping, tumbling, or any other activity of interest to the club. Your project may inspire someone else. Send via email (lgmc.editor@outlook.com) or via Facebook Messenger to Sharon Marburger (<https://www.facebook.com/mamamar7880>).

ADVERTISING INFORMATION

Advertising by rock / hobby business or interest is permitted with the approval of the Board of Directors. Contact the Editor with your proposed ad. The rate is set at \$20.00 per full page; \$10.00 per 1/2 page; \$5.00 per 1/4 page (minimum) per issue, paid in advance to the Club treasurer. Ads will be placed throughout the newsletter as space permits.

All articles, tidbits, and photos not individually identified as being contributed to this publication are provided by the Editor.

Lincoln Gem & Mineral Club Proudly Brings Its Sixth Annual

Summer Gem Fest

June 20 & 21, 2026

Saturday 9 a. m. – 6 p. m. / Sunday 10 a. m. to 4 p. m.

Held at the **Beer Family Farm**

18701 Ashland Road, Ashland, Nebraska

Admission: Adult \$3.00 / Kids 15 and under FREE

Gem Fest is open to the public, for both selling and buying.
 Everyone is welcome!

Jewelry

BUY
 SELL
 TRADE

Family
 Friendly

Fossils

Rocks
 &
 Minerals

Club Rock Pile

Lapidary Supplies
 &
 Equipment

If you are interested in being a vendor, go to
<https://www.lincolngemmineralclub.org/happenings/summer-gem-fest>
 for more information and to fill out the Advanced Reservation form.
 All Advanced Reservations must be made through the website.

LINCOLN GEM & MINERAL CLUB
 Box 5342
 Lincoln, NE 68505-0342

Contact Jayne Beer, 402.890.3307, or
 Sharon Marburger at 402.429.3323; lgmc.editor@outlook.com

Information and Registration (Reservations) go live on the LGMC website on March 31, 2026. Club members will be able to sign up at the March 19 meeting.



Happy
 Presidents'
 Day



PICK & SHOVEL STAFF

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 Sharon Marburger; 402.429.3323

DEADLINE:

Last Sunday of the month.

PRESIDENT’S MESSAGE

By Brett Jurgens, President

Hello LGMC.

We had a great Mid-Winter swap! A big thank you to all who helped put it together and help with clean up afterwards. A special thanks to Clyde Ogg, Sarah Nichols, Linda Hansen, and Sharon Marburger for staffing the admission table and club Rock Pile. We had the club display set up next to the Rock Pile table in the hallway and had lots of questions about the club.

A huge shout out to Jan Amberg and Judith Bay for helping with food prep for our member and vendor meal after the swap. This is the second year in a row that Jan has stepped up. And last, but not least, a big thanks to Jan and Lee Amberg, Barb and Clyde Ogg, and anyone else I am forgetting for helping with kitchen cleanup.

I heard nothing but compliments about the swap. We had great weather for the swap (not warm enough to want to spend the day outside but not cold enough to not want to venture out) which resulted in a good turnout. Lunch offered by World Plates was delicious as always and well received. I was able to talk with them some during the swap and they are superb people! They have agreed to have their food truck out at Gem Fest again this summer; be ready for more great food.

We are now rounding the corner for our Annual Show at the Event Center, only two months away! Friday, April 3 is our set up day and we will need lots of help getting tables covered and club display cases set up. We will also need help staffing the different areas during the show; admission gate, rock pile, fluorescent booth, club booth, and juniors’ area. At show close on Sunday we will need help tearing everything down and loading up the club trailer.

Starting at our February meeting I will have sign up forms; please do your part and help out the club. At the February meeting I will also have forms for show display cases. I have spoken with many of you and we do have a few cases still available.

Please don’t forget to pay your dues by the start of the February meeting; we will have a member raffle for all paid up club members. We now even have an online option to pay on our website.

A reminder that the Pick & Shovel is transitioning to digital delivery; make sure we have your email so you continue to receive your copy. The current issue, and back issues going back to the 1960s are always available on our website.

A reminder that I am looking for donations for the juniors for specimens and tumbled rock. We always can use smaller specimens to give our juniors to add to their collections. For the show we can use both tumbled rock and small specimens with known localities that we can bag up and use as prizes.

I look forward to seeing all of you at our February meeting.



JUNIORS

by Brett Jurgens, Junior Leader

Hello Juniors.

I was pleased to see quite a few of you at the swap.

We will have a quick lesson on Nebraska fossils at our February meeting. Please plan on staying for the main program after the general meeting. Shane Tucker always gives a great program and it will relate to our lesson. Also, bring your specimen box as I’ll have a Nebraska fossil for you to add to your collection. A reminder to only use your specimen box for specimens given during our lessons.

Our annual show is April 4 and 5. I will need your help with staffing our junior booth. A reminder that I heavily reward juniors for volunteering; we have a treasure chest with some wonderful specimens that you can pick from for volunteering. In the past few years we haven’t had many juniors helping out and that needs to change. I will have sign up sheets starting at our February meeting.

I’ll see you all on February 19!



Get your dues paid by the beginning of the February 19 meeting to be eligible for the prize drawings during the meeting. There will be some very nice items!

WELCOME NEW MEMBERS

Adults:

Jaiden Lobner



JANUARY BOARD MEETING MINUTES

January 5, 2026, at Vera Lyman's Residence
by Sharon Marburger, Secretary

Roll Call

President:	Brett Jurgens	Present
1st Vice Pres.:	Jayne Beer	Absent
2nd Vice Pres.:	Clyde Ogg	Present
Treasurer:	Vera Lyman	Present
Secretary:	Sharon Marburger	Present
Board:	Charles Wooldridge	Absent
	Mike Stiles	Present
	Sarah Nichols	Present
	Corey Beer	Absent

Visitors Donitte Stiles, Jim Marburger, Ed Ridge

Minutes were distributed. Clyde moved, 2nd by Mike, to accept the minutes with the correction that Sarah was a visitor at the December meeting. Passed.

Treasurer's Report was distributed. Clyde moved, 2nd by Mike, to accept the report. Passed.

OLD BUSINESS

Clyde has the new club business cards ready for members to disseminate.

The Show Postcards are in, ready for distribution.

Sharon has added an electronic membership application to the club website where new members may pay the dues via PayPal. The printable application is still available.

Corey has further researched where to get Genie grinding wheels replaced. He has located a possible vendor that will provide new wheels for approximately the same price as refurbished wheels. He will look into it further. The motion made at the December meeting has been revoked and a new motion made. Sharon moved to allow Corey up to \$1,000 to replace Genie grinding wheels, second by Clyde. Passed.

NEW BUSINESS

Brett saw a request from the Pioneers Park Nature Center asking if someone could identify specimens in a small collection. He is trying to find someone willing to do this, perhaps Eric. Brett also asked if the Center is bringing back Geology Day and, if so, would like the club to be involved in that.

Sharon notified persons with email addresses receiving the P&S via U.S. mail that they will receive only the electronic copy unless specifically requesting paper copy. The cost of one issue of the paper P&S is approximately \$4.

In relation to this, Brett and Sharon are preparing a cost analysis to see if purchasing a laser printer for Sharon to use for most club printing projects would be economically feasible. FedEx has gotten very expensive. We have reduced the number of paper copies of the P&S to about 20 each month. If feasible, publishing the newsletter ourselves would streamline circulation.

Additionally, Sharon was notified that Microsoft is

dropping their Publisher program. This program is used for most club publications. Once the program is dropped, access to any previously created documents will be lost. Fortunately, Sharon has made pdf copies of all club newsletters and other publications. Sharon is researching a new publishing program that would benefit the club. Suggestions were made by other Board members and they will be researched, also.

Distributing the P&S via text to juniors was also discussed. If we go that route, after checking on the ease of that, adult members might also be allowed to go that route. Several things must be checked out to see if it would be manageable.

Corey reported that Jayne asked if we could provide advertising covering the next two events at each event. It was discussed and determined doable.

SWAP BUSINESS

The Swap is fast approaching. There is an event posted on Facebook. Members are asked to share the event from the club Facebook page rather than someone else's share. That way it bumps up the event, causing it to trend.

All vendor spots are full with five on the waiting list.

On Swap day, we will need to sign the venue contract for the next 2 years, at the same price we rent now.

Sharon suggested that only club-related booths be allowed in the hallway until we see how it works. We must not block any of the hallways.

Corey will check to see if the yard signs are in the shop attic.

Pre-setup will be around 8:30. Sharon & Jim plan to be there at 8 a.m.

The supper following the Swap will not be a potluck due to the food truck requiring the use of refrigerators. Members may bring non-refrigerated dessert items only.

SHOW BUSINESS

Brett is assembling a list of persons wanting display cases.

Vera will contact Lincoln Police to line up security.

Since it has already been advertised this year, we will accept Food Bank food item donations. We will provide a free -will cash jar, but no admission discount will be applied. Advertising items and the food items will have \$1 discount on admission.

Brett will have paper sign-up sheets at the meetings. He will also be setting up an electronic sign-up system that will show all time slots, filled and empty.

It was suggested that we provide a QR code to the Show Program for the public to use on their devices upon entering the Show. This is for those not wanting a paper copy. It will provide vendor location information (as the paper one does).

Brett would like to have complimentary tickets made available to specific organizations that promote the show. The Event Center usually needs 20 tickets. Brett will be asking club members for suggestions.

Meeting adjourned at 8:38 on a motion by Sharon, Corey seconded. Adjourned.

JANUARY GENERAL MEETING MINUTES

By Sharon Marburger, Secretary
Lincoln Firefighters Reception Hall
January 18, 2026

Meeting called to order at 6:40 p.m. following the Mid-Winter Swap and pasta supper.

Brett announced that the 2025 adult Rockhound of the Year was Norm Boettcher. Norm attended the Swap but could not stay for the evening activities so he was awarded the plaque during the Swap.

Sharon handed out the remaining editor awards to those who had not attended the Christmas Party, and Sarah.

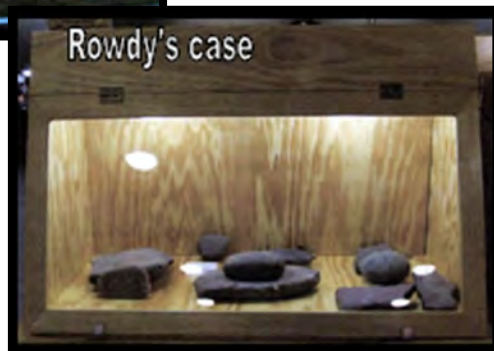
Jayne announced that the signup for the Summer Gem Fest will go live on the website on March 31. This is so anyone attending the Show would be able to sign up as a vendor at Gem Fest if they choose.

The Show is our next big event. Brett is still taking requests for display cases, and he will have volunteer signup sheets available. The Food Bank is requesting money instead of food items so the Show will be our last event that accepts food (because it has already been advertised that we will accept food). A free-will donation jar will be set up to accept money for the Food Bank.

The Pick & Shovel is changing its circulation to entirely electronic, unless people don't have email. In that case, they will continue to receive paper copies in the mail. The cost of each issue of the newsletter has risen to nearly \$4.00. Juniors will still receive a paper copy unless they prefer to have it sent via text. Once the viability of the text method is determined, that choice may be offered to adults also. (We have been told that most of the kids have phones and do not check email regularly, which is why texts are an option.)

Clyde has lined up Shane Tucker to present the February program on the Western Interior Seaway.

The meeting adjourned at 6:52 on a motion by Sharon, second by Clyde. Carried.



ROCKHOUND OF THE YEAR

Rockhound of the Year for 2025 is Norman Boettcher. Of the three contenders, he met the most long-time requirements suggested by the club. Congratulations Norm!

- ◇ Attends Lincoln Gem & Mineral Club meetings
- ◇ Brings hobby-related materials to display at monthly meetings
- ◇ Displays material at any Rock Show, Arts & Crafts Show, or Fair
- ◇ Brings items for door prize
- ◇ Donates items for Club Rock Pile
- ◇ Attends field trips sponsored by any Rock Club
- ◇ Submits articles to the Pick & Shovel
- ◇ Attends another Rock Club's meetings



IT'S TIME TO PREPARE FOR THE SHOW!

- ⇒ Promote the Show! Hand out postcards or show flyers. Talk about it with everyone you meet. Post on Facebook. Share event from Club Facebook page.
- ⇒ See Brett Jurgens to sign up for a 2-hour shift to work a booth or an area at the Show.
- ⇒ Calendar it! Friday, April 2 is Show setup. Plan to help. This is when you set up your display, too.
- ⇒ Let Brett Jurgens know which style of case you would like to reserve for your display. (See left.) Have a liner and identification cards for what you display. It would also be handy to have Windex, paper towels, and tools for case setup.
- ⇒ If you plan to use your own case, let Brett Jurgens know its dimensions so he can reserve a table space for you. Check your light bulbs!
- ⇒ Get out your T-shirts, vests, and club name tags.
- ⇒ Let's get ready to ROCK!

WHAT'S IN A NAME?

By Eric Fritsch



There is a weekend radio show on PBS called “A Way With Words” that I enjoy listening to if I have the time. The hosts are linguists who break down expressions, words, or phrases and their history. People often call in and say “my grandmother used to say.....” and they’ll break it down and explain the meaning or origins of the saying.

Minerals often have strange sounding names. Mineral species known before about 1859 were “grandfathered in”. These names are often from foreign languages and may describe the mineral. Garnet is from the Latin word for pomegranate, which garnet crystals often resemble. This name was used as far back as 300 BC. Other minerals like quartz were thought to be permanently frozen water and its name traces back as far and has undergone several variations through time.

In more modern times, minerals were discovered and had to be submitted through peer review. If you found a new mineral today, you would need to submit it to the International Mineralogical Association (“IMA”) for consideration. You’d present them with information showing that this mineral is a new species and has an unique chemistry for its structure, and report on other crystallographic and physical properties.

The IMA tables some new species submissions or rejects some. Sometimes the IMA discredits an old mineral name with evidence that it is something else. Percylite (1889) was often thought to be a unique species until it was found to be a mixture of boleite (1891) and other related minerals in the 1970s when analytical equipment was better at detection. The IMA also sometimes accepts proposal to rename minerals and groups based on new information or discoveries about minerals. The amphibole group went under a tumultuous renaming process that many find disheartening.

There are plenty of people who invent names, but they are not recognized species. These are often done for marketing and, unless they are approved by the IMA, they are not a species. A popular one these days is “yooperite”, which is a nickname for someone who lives in the UP (Upper Peninsula of Michigan). “Yooperite” is actually the mineral species sodalite, which was first described from Greenland in 1812 by Thomas Thomson, in reference to it containing sodium.

Michael Fleischer used to publish a book with all the mineral species. It would come out every few years from 1971 to 2022 (available from Mineralogical Record Magazine and elsewhere). I have several different years of this book from 1971 (very thin) to the 13th edition (2022) which lists 5,739 mineral species. Some people use this book to track and measure what mineral species they have and put a check by each species in their collection. There are other versions of this book including one by Nichols and Nickels, a German version I own, and various indexes such as the one by Hey. The current count of mineral species is around 6,190 which means about 451 species have been added to science since the 2022 edition of Fleischer’s Mineral Species was published. The online mineral database, Mindat.org, keeps a

good current running total of species and every month after the IMA publishes new species, they are added to the database.

So, where do the modern names come from? Many times, they are to honor a mineral scientist. The mineral will often have someone’s name with “-ite” attached to it. For instance, Paul Desautels was the curator at the Smithsonian in the 1970s-1980s. When scientist (Pete Dunn, Don Peacor, and Thomas Palmer) found a new mineral in Southern California, they figured out the chemical and physical properties of the mineral and named it for Paul Desautels, calling it desautelsite. You can read the short paper (3 pages) where they describe desautelsite at <https://www.mindat.org/reference.php?id=527179k> by clicking on the pdf (red box) symbol. The original description authors Pete Dunn and Don Peacor have mineral species named for them: petedunnite and donpeacorite. For Dunn, his first name was used because there is a rock made of olivine called dunite which would be confusing with a mineral species.

Another favorite mineral name of mine is the rare mineral ludlockite. This mineral was named for two people who first discovered it, but the namers used the discoverers middle names (Fredrick Ludlow Smith and Charles Locke Key). I used to buy minerals from the late Charles Locke Key and own a ludlockite from Tsumeb, Namibia.

Minerals are also named for geographic places, such as antarcticite, which is by no means surprising to be first found in Antarctica. Sometimes chemistry plays into the minerals name, such as umohoite, which is comprised of Uranium Molybdenum and Hydroxide. The mention of sodalite earlier was also in reference to its chemistry.

Richard Mitchell wrote an interesting book in 1979 about mineral names called “Mineral Names What Do They Mean?”. It’s a good read and I recently noted a hardcover, ex library copy in good condition on Abebooks.com for sale for \$3 (plus \$6.99 shipping) or another one for \$16.20 with free shipping. I’d encourage anyone to buy this book at this price as it’s a classic and fun to browse.

One last plug for Mindat.org is that if you go to the specific minerals’ webpage, there is often a recording of the pronunciation you can listen to. This is often very helpful with minerals with strange spellings like aeschynite. Mindat also generally has a brief etymology of mineral names often including a photograph or picture of the mineralogist they are named for.



A portion of the room during the Mid-Winter Swap

MID-WINTER SWAP REVIEW

By Sharon Marburger (photos by John Moss & Donitte Stiles)

The cold morning of January 18 found a group of us at the Lincoln Firefighters Reception Hall at 8:00 a.m. to lay out the floor plan of the Swap. Mike Stiles and Brian Beer measured out the booth spaces while Donitte Stiles placed tape on the floor to indicate booth boundaries. Sharon Marburger advised them of each booth size and provided Donitte sheets of paper indicating the person or business to occupy each space. Jayne Beer, as co-chairman, was there to answer questions and allow vendors in the building to set up – a half hour early.

Promptly at 11:00 a.m., the doors opened to the public. Sharon M. and Linda Hansen took the entry fees at the door. Of the 358 attendees, almost half arrived during the first hour. It was quite crowded in the building, a wonderful thing to see. The final count was 301 adults and 57 kids.

World Plates, a local food truck, provided lunch and snacks to everyone inside the building so no one had to stand out in the cold.

Brett Jurgens and his elves prepared a delicious pasta supper for vendors and club members. There were several different kinds of pasta with a marinara meat sauce, marinara lasagna, and an alfredo lasagna. Salad was also available, with some “finger food” desserts.

Following the meal, there was a short meeting where Brett announced that Norman Boettcher was awarded the 2025 Rockhound of the Year during the Swap since he couldn’t stay for supper and meeting. Sharon handed out the Editor Awards to those who had not attended the awards ceremony at the Christmas party.

The cleanup began immediately after the meeting. Many thanks to everyone who pitched in to help. A special thanks to Brett and his elves for staying after everyone else left, making sure the venue was clean and ready for the next party to use.



Tim Aulner



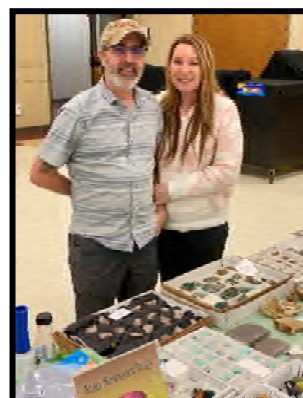
Greg Syslo



Donitte & Mike Stiles



Ed Ridge



Patrick & Barb Carey



The Jeannerets - Aerie



Afghan Silver



Steve May & Dick Hedges



Gene Mulinix



Rowdy Cropp



The Illians - Natural Collective

MID-WINTER SWAP REVIEW - CONTINUED



Brad Nielsen



Randy Kessler



The Joebgen



Dick & Donna Farlow



Jim Marburger



Jayne Beer & Corey Beer – Hidden Gems



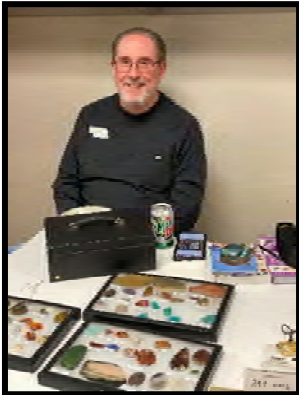
Eric & Carolyn Fritsch



Sharon Marburger & Linda Hansen working the entrance



Sharon thought this beautiful slice of an amethyst geode would make a great wall picture frame (or, in this case, a desk frame). Brad Nielsen was kind enough to pose to demonstrate the idea. Another million dollar idea from which Sharon will not benefit.



After setting up the club display, Clyde Ogg volunteers at the club rock pile



Kevin Schwartman & Sarah Nichols



Sheryl Olson & Hanif of Afghan Silver discuss a purchase



John loves this photo of Donitte shining the UV light on a specimen that refracts the light onto Mike's shirt



Left: John's pick of photos showing what was happening as Jan Amberg was putting things away. (Photo by John)
Right: Jan mopping "Dr." Lee Amberg's brow while washing dishes. Clyde & Barb Ogg helping. (Photo by Donitte)



Thanks to all of Brett's kitchen helpers. Not everyone is pictured or mentioned, but rest assured their help was absolutely needed and appreciated!

PHOSPHORUS

by Eric Fritzsch (Photos from Eric & Carolyn Fritzsch Collection, photographed by Eric Fritzsch)

More than 6 years ago I heard my favorite radio show (Planet Money) host a program on phosphorus called "P is for Phosphorus" (Episode 820 aired January 24, 2018). <https://www.npr.org/sections/money/2018/01/26/581156723/episode-820-p-is-for-phosphorus>

I liked that program so much I saved it on my phone and recently came across this episode while cleaning up files.

Phosphorus is one of my favorite elements and I was especially fond of looking for secondary phosphate minerals in the granitic pegmatites of South Dakota. These are minerals which have a one to four ratio of phosphorus to oxygen as an anion in the mineral. A good example is vivianite which is hydrous iron phosphate. In the Black Hills (and other places), primary minerals such as fluorapatite or triphylite would be altered by hydrothermal fluids often carrying metal cations which could make secondary minerals like vivianite, hureaulite, pahasapaite, etc. These were usually microscopic and required patience and detective work to determine the species based on crystal shape, striations, cleavage, luster, and other characteristics. There are over 750 mineral species in which phosphorus is an essential element, or about one in every eight minerals contains phosphorus in its formula.

Phosphorus is essential for life and it is especially useful for fertilizer. It is literally in everything from explosives to toothpaste. We mine about 20 million tons of phosphate rock in the United States from Florida, Idaho, North Carolina, and Utah, and 2,000 people work in the phosphate mining business (each person mines 10,000 tons on average). Idaho grows the best potatoes because the soil is rich in phosphorus.

Most of the phosphate rock mined in the United States is made into phosphoric acid, which is then produced in ammonium phosphate fertilizer, animal feed supplements, and other fertilizers. Some is even made into pesticides such as Roundup (a glyphosate).

Phosphate is an ingredient in cheese and people with kidney disease should avoid high phosphate cheeses such as hard cheese (Parmesan, Swiss, Cheddar, Provolone, Mozzarella, etc.), blue cheese, and processed cheese (Cheez Whiz, American, and Velveeta). Phosphate minerals are even produced in cheese and there are dozens of articles about the various minerals found in cheese.

People use to, and still do, mine bat or bird guano (a nice name for poop) for its phosphorus content. The idea of putting dead fish or fish bones in the ground to fertilize the soil is to seek its phosphorus content. If you grow roses and other plants, you know ground bone is a good fertilizer.

Your urine is high in phosphorus and there are even people who collect it to apply it to crops in the United States. If you listen to the radio program, they go into great detail on this practice in Vermont. You can green up your lawn peeing on it, if your neighbors don't see you.

When I visited Russia in 2017, we toured mines where fluorapatite was mined from nepheline syenite, carbonatite, and other igneous rocks to make phosphate fertilizer. These are hard igneous rocks and it is a heck of a labor/power intensive method of making plant food. In the town of Apatity we could hear underground mining and explosions all night in search of plant food.

One of the largest phosphorous mines is located in Morocco. About 70% of the world's phosphorus and phosphate rock comes from Upper Cretaceous-Paleogene rock where biological processes in shallow to deep seas precipitate phosphorus as fraconlite (a carbonate fluorapatite). These seas were rich with life and most of the Moroccan shark's teeth you see for sale at rock shows come from these deposits. Sometimes the shark's teeth are ground up with the francolite and become part of the phosphate rocks and phosphoric acid.

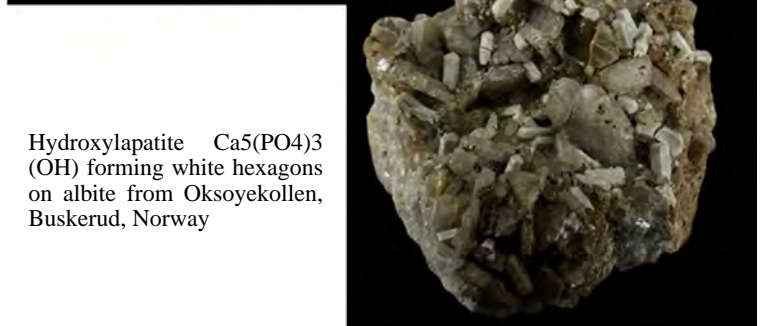
Whereas there are hundreds of uses for phosphorus, phosphate rock, and phosphoric acid, the last use is one of my favorites: Coca Cola. Coke, Diet Coke, and many soft drinks contain phosphoric acid. This goes back to the old Soda Shops where you would order a phosphate. It's almost irony that the phosphate in the soda dissolves your teeth (also phosphate) made from shark's teeth. It is partially absorbed, discharged, or passes through your body to help plants. Most kidney stones are calcium oxalate (whewellite), but some are phosphates such as fracolite.



Metaswitzerite $Mn_3(PO_4)_2 \cdot 4H_2O$ A phosphate mineral from the Foote Mine, Cleveland County, North Carolina



Kosnarite, a rare potassium zirconium phosphate ($KZr_2(PO_4)_3$) from the Jenipapo Pegmatite, Itinga, Minas Gerais, Brazil



Hydroxylapatite $Ca_5(PO_4)_3(OH)$ forming white hexagons on albite from Oksoyekollen, Buskerud, Norway

Allan & Tammy Jeanneret



Rough Rock, Slabs, Specimens, Gemstones,
Jewelry, Rock Paintings

By Appointment Only
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tjeanneret@hughes.net

Watch for **AerieRock** online rock auctions at
jbauctions.hibid.com
AerieRock.com
AerieArtwork on etsy
AerieRock on Facebook
We buy collections and estates

Lincoln Gem & Mineral Club's 66th Annual Show Discover Chalcedony



Photo by Corey Beer

April 4 & 5, 2026
Sandhills Global Event Center
Ag Society Hall
84th & Havelock
Lincoln, Nebraska

Saturday, 9 a.m. to 5 p.m.
Sunday, 10 a.m. to 4 p.m.

FUN FOR THE WHOLE FAMILY

Admission:
\$8 per adult
\$15 2-day pass
Children 11 and under
free with paid adult



\$1 off paid admission
with a food or cash
donation to the
Food Bank!

Youth Booth	Demonstrators	Exhibits	Dealers
Mineral	Nebraska	Fluorescent	Display
Identification	Gem Dig	(outside)	

<http://www.lincolngemmineralclub.org>

2026 MID-WINTER SWAP COMMITTEE

Chairman:Jayne Beer
 Advanced Reservations:Sharon Marburger
 Club Booth/Rock Pile Andrea Kolodziejczyk
 Finance & Admissions: Vera Lyman, Sharon Marburger
 Floor Chairman:Jayne Beer
 Insurance Vera Lyman, Jim Marburger
 Publicity & Promotion:Jayne Beer, Jim Marburger
 Web Master:Sharon Marburger
 Youth Activities: Brett Jurgens

2026 SHOW COMMITTEE

Theme:.....Discover Chalcedony

Chairman:Jayne Beer/Brett Jurgens
 Dealers & Demonstrators: Vera Lyman
 Displays:Brett Jurgens
 Event Center Liaison Vera Lyman
 Finance/Ticket Sales: Vera Lyman, Brett Jurgens
 Floor Chairman: Clyde Ogg
 Fluorescent Booth: Clyde Ogg
 Forms Sharon Marburger
 LGMC Club Booth: Barb & Clyde Ogg
 Outside Rock Pile Charles Wooldridge
 Plants:Ed Ridge
 Publicity & Promotion:Jim Marburger
 Raffle Gene Mulinix
 Ribbons & Recognitions: Sharon Marburger
 Rock Pile/Silent AuctionAndrea Kolodziejczyk
 Security: Vera Lyman
 Show Flyer & Printed Program Sharon Marburger
 Website Sharon Marburger
 Youth Activities:Brett Jurgens

MEMBERSHIP INFORMATION

Membership dues for the Lincoln Gem & Mineral Club are as follows:

- Adults (age 16 and over) - \$20 per year or \$30 per couple (within the same household)
- Juniors - \$3 per year (with a responsible adult)

All new memberships must be accompanied by a written application. Printable applications are available on the club website and should be mailed with appropriate dues to the address listed. Application may also be completed electronically through the website paying via PayPal.

<https://www.lincolngemmineralclub.org/>

STANDING COMMITTEES

Audio/Visual:
 Clyde Ogg
Audit:
 Jayne Beer, James Marburger, Clyde Ogg
Christmas Party:
 Edward Ridge
Club Rock Pile:
 Andrea Kolodziejczyk
Door Prizes:
 Corey Beer, Brett Jurgens, Charles Wooldridge
Facebook:
 James Marburger, Jayne Beer, Brett Jurgens
Field Trips:
 James Marburger
Historian:
 Sharon Marburger
Membership Record:
 Edward Ridge
Mid-Winter Swap
 Jayne Beer
MWF Liaison:
 Vera Lyman
Programs:
 Clyde Ogg
Property:
 James Marburger
Recognition/Awards:
 Vera Lyman, Sharon Marburger
Refreshments:
 Donitte Stiles
Show - 2026:
 Jayne Beer, Brett Jurgens
Summer Gem Fest:
 Jayne Beer
Website:
 Sharon Marburger
Youth Activities:
 Barb Ogg & Brett Jurgens

2025 LONG RANGE PLANNING & BY-LAWS COMMITTEE

Jayne Beer, Chairman
 1 year: Sharon Marburger & Clyde Ogg
 2 years: Vera Lyman & Jim Marburger
 3 years: Jayne Beer & Brett Jurgens

2025 NOMINATING COMMITTEE

Jayne Beer, Chairman
 1 year: Jayne Beer & Brett Jurgens
 2 years: Charles Wooldridge & Donitte Stiles
 3 years: Vera Lyman & Ed Ridge

Email Exchange Newsletters to:
lgmc.editor@outlook.com



A color version of the Pick & Shovel is available at:
<http://www.lincolngemmineralclub.org/index.php/newsletters/current>

The Pick & Shovel

Hidden Gems by The Jewelry Connection Ltd.

Indian Village Shopping Ctr.

3227 S. 13th St., Lincoln (next to LAUNDROMAT)

Corey Beer - Lapidary
402.890.9155

Jayne Beer - Jeweler
402.890.3307

2026 Schedule

Lapidary Classes

(Stone Cutting)

\$100 for 5 3-hour classes

Sundays 1:00 p.m. - 4:00 p.m.

Choice of session:

Open Shop to Jan 11 (\$20 per use)

Session 1: Feb 8 - Mar 15

Session 2: Mar 22 - May 3

Session 3: May 17 - Jul 5

Session 4: Jul 12 - Aug 16

Session 5: Aug 23 - Oct 11

Session 6: Oct 18 - Nov 22

Open Shop Nov 29 & Dec 6 (\$20 per use)

Silversmithing Classes

Tuition: \$160 plus \$30 supply deposit

7:00 p.m. - 10:00 p.m.

Choice of Tuesday or Wednesday session (8 classes):

Session 1: Tues, Jan 13 - Wed, Mar 18

Session 2: Tues, Mar 24 - Wed, May 20

Session 3: Tues, Jun 2 - Wed, Jul 29

Session 4: Tues, Aug 4 - Wed, Oct 7

Session 5: Tues, Oct 13 - Wed, Dec 2

Contact: Jayne Beer 402-890-3307 or look up "Hidden Gems by The Jewelry Connection LTD" in Facebook and send message