



# PICK & SHOVEL

October 2018, Volume 61, Issue 2

Editor: Sharon Marburger

## 2018 MEETINGS AND ACTIVITIES

### General Meetings:

Regular monthly meetings are held at 7:00 p.m. at the Bethany Park Shelter House. Youth activities begin at 6:00 p.m.

- October 18
- November 15
- December 2 (Christmas Party)

January 26, 2019: Mid-Winter Rock Swap, 1:00-4:00  
 Pizza Supper 6:00-7:00  
 Meeting: 7:00-9:00

### Board Meetings:

Board Meetings, unless otherwise stated, begin at 6:30 p.m. on the first Wednesday of the month, at the home of Vera Lyman.

- October 31, 2018 (November meeting)
- December 5, 2018

### 2019 Board Meetings—TENTATIVE

- January 2
- February 6
- March 6
- April 3
- May 1

### Activities:

October Rock Party  
 Saturday, October 13, 2018 @ 5:00 p.m.  
 Hosted by Wooly and Jackie  
 Fire food (brats, marshmallows, anything else you can cook on a stick)  
 Bring your projects and equipment!

## PRESIDENT'S MESSAGE

by Jayne Beer

Greetings fellow rocksters (look that word up in the urban dictionary!). I am looking forward to seeing all of you at the meeting on October 18th at the Bethany Park Shelter. As always, bring some show and tell for us to see.



Brian and Corey went rock collecting on a Saturday in mid-September. They went to one location looking for shark teeth, but their search was uneventful. However, a few miles west down the same road, they found one on the surface. They spent the rest of the day on the Little Blue River, mostly finding fossils, with a few pieces of petrified wood and agate here and there. Some of the best finds were two artifacts and a piece of pottery, a couple fossilized antlers, and some very interesting pieces of driftwood.

I thank all of the members who showed up to the September Rock Party at The Jewelry Connection. We enjoyed several special guests that joined us. The October Rock Party will be Saturday, October 13th at Wooly's house. It will start around 5:00 p.m. and we will plan to eat around 5:30. He will provide brats to share; bring a side dish.

As I mentioned, the general meeting is Thursday, October 18th. Come dressed as your favorite rock or mineral specimen. Also, Dr. Robert Diffendahl, Emeritus Professor at UN-L, will be our guest speaker. He will be talking about his book, "Geology of the Great Plains." He is always an interesting speaker! We look forward to learning about his book.

Don't forget that our annual business meeting will be next month (November). That is when we hold our annual election of officers and board members. Ed Dvorak, Chairman of the Nominating Committee, will accept nominations at any time, up to when the ballots are handed out. Let him know if you think someone would be a good fit on our Board of Directors.

I hope you all have a safe and fun October! Happy Halloween and CHEERS!



# Happy Birthday!



**Judith Bay**

SEPTEMBER GENERAL MEETING MINUTES

By James Marburger, Secretary

**General Meeting September 20, 2018, Bethany Park Shelter**

Meeting called to order at 7:00 p.m. by President Jayne Beer. 25 adult members, 2 guests; 7 youth members, 1 guest.

Minutes were published in the Pick & Shovel. Motion to accept by Jim Marburger, second by Bruce Sturgis. Passed.

The May Treasurer’s Report was read by Jim M. Motion to accept the report by Susy McMahan, second by Gene Mulinex. Passed.

The June, July, and August Treasurer’s Report was read by Jim M. Motion to accept the report by Susy McMahan, second by Gene Mulinex. Passed.

**Old Business:**

The Audit Committee completed the Audit and has approved the Treasurer’s books for 2016 and 2017. Copies of the Audit Reports are available upon request from Vera Lyman.

Nominating Committee Chairman Ed Dvorak asked for nominations for all positions of the Board of Directors. No nominations were received. Contact Ed D. or a member of the committee to suggest someone or make a nomination. Nominations will be asked for immediately prior to the election at the November meeting.

Jim M. made a motion to discontinue the Roadside Clean-up because it is difficult to get volunteers under the age of 50. Also, the Department of Transportation has increased the speed limit on our stretch of highway to 70 mph. It was suggested that the increased speed limit combined with inattentive drivers reduces the safety of our volunteers. Second by Pat Dvorak. Motion Passed.

Show announcements: Omaha, October 6 and 7; Topeka, Kansas, October 13 and 14, Des Moines, Iowa, October 20 and 21.

The October Rock Party will be hosted by Charles Wooldridge; the November Rock Party will be at The Jewelry Connection; and the December Rock Party will be hosted by the Marburgers.

**New Business:**

Summer field trip reports were given.

Bruce Sturgis invited the club to the Omaha Show and requested possible help with their show for displays and such. This would help both clubs with interaction and promotion of the hobby and both shows.

Motion by Jim Marburger to adjourn, second by Ed Dvorak. Passed.

Meeting adjourned to refreshments and to Show and Tell of summer finds.

MAY BOARD MEETING MINUTES

By James Marburger, Secretary

Lincoln Gem and Mineral Club, Inc. Board of Directors Meeting, September 5, 2018. Meeting held at the Lyman residence.

Meeting Called to order by President Jayne Beer at 6:40 p.m.

Jayne Beer	President	Present
Charles Wooldridge	1 VP	Absent
Ed Ridge	2 VP	Present
Vera Lyman	Treasurer	Present
James Marburger	Secretary	Present
Carolyn Ashmore	Board	Absent
Paul Ashmore	Board	Present
Corey Beer	Board	Present
Ed Dvorak	Board	Present

In attendance: Sharon Marburger and Pat Dvorak.

Minutes of last meeting were handed out. Motion to accept the minutes by Vera, second by Ed D. Passed 6 yes.

Treasurer report given out. Motion to accept by Ed. D. second by Paul. Passed 6 yes.

**Old Business:**

The MWF Fall convention is Oct 6 and 7 in Springfield, IL and we need delegates to represent the club. Jim and Sharon are not going. No volunteers from the board. The club does not have a delegate for this meeting.

Nominating Committee will have a slate to present to the general meeting for next year’s board of directors.

The Audit committee is present and will convene after the board meeting to do the Audit for 2016 and 2017.

Reports from the South Dakota Show from Ed D. and the Crawford Swap by the Marburgers.

**New Business:**

We have been assigned space 22 at the Firth Storage for the Club’s trailer. Jim will make sure it is in the correct space.

Show businesses: The theme this year is Nebraska’s Hidden Treasures.

Motion to adjourn by Ed R., second by Jim M. Passed 6 yes.

Meeting adjourned at 8:00 p.m.

## ELECTIONS ARE COMING!

Nominating Committee Chairman, Ed Dvorak, wants to remind you that Club elections are coming up in November. He will take nominations at any time (but not at the October meeting) and from the floor at the November 15 meeting, immediately before the election. Nominate someone (including yourself) if there is interest in being on the Board of Directors. Remember, more than one person can be nominated for any position.

The following have agreed to nominations to date:

President:	Charles Wooldridge
1st Vice:	Corey Beer
2nd Vice:	Carolyn Ashmore
Secretary:	James Marburger
Treasurer:	Vera Lyman
Board Members:	Jayne Beer
	Ed Dvorak
	Brett Jurgens
	Ed Ridge

## MINERAL MONKEYS

By Carolyn Ashmore

Greetings Juniors!

At the October meeting, we will be looking at Unit 2, EARTH RESOURCES and how minerals are used in our everyday lives. Every time you turn on a light, use a pencil, or buy your favorite candy bar, you're using minerals. We will look at the many ways minerals are also used in the



home, like when you brush your teeth, or eat breakfast cereal, or even take a vitamin/mineral daily supplement. In fact, we just couldn't live without minerals. So, if you happen to have a mineral or two in your collection, bring them to this meeting to share with the group. You will need to know what type of mineral it is, and what types of common items they are used in (like the mineral copper is used in coins, wire, and so forth). You will probably need to do a little research to discover ways we use minerals. I think it is fascinating just how many minerals we actually use daily and not even think about it.

REMINDER: This is our Halloween meeting so don't forget to come dressed as your favorite Rock, Mineral, or Fossil. We will have an early Halloween Night Celebration and a chance to win some prizes for your Dino-mite costumes!

SEE YOU SOON!

## Silversmithing classes

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

**The Jewelry Connection Ltd.**  
**Indian Village Shopping Ctr.**  
**13th & Arapahoe, Lincoln**

Tuition: \$130 plus \$30 supply deposit

### Schedule for 2018

**Session 5: Oct 9 - Nov 27, 2018**

### Schedule for 2019

**Session 1: Jan 8 - Feb 26, 2019**

Contact: Jayne Beer 402-890-3307  
Judith Bay 402-423-7058  
jbeer60070@aol.com

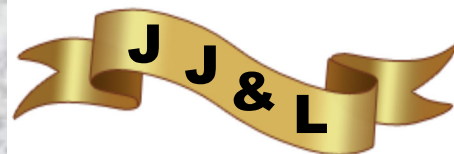
## J J & L Rocks & Minerals

P.O. Box 68  
Hickman, NE 68372

**Lee Harrison**  
**Eric Harrison**  
**402.792.2337**

330 Locust  
Hickman, NE 68372

**James Marburger**  
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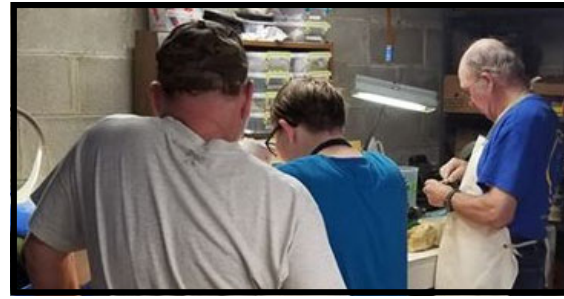
## SEPTEMBER ROCK PARTY

By Jayne Beer

The September Rock Party was held on the 23rd at The Jewelry Connection. We had a great time with so much delicious food that all of you bought to share. We had taco meat and all the fixins for tacos and nachos. We also made an apple crisp for dessert. One highlight was that Carolyn and Paul brought an anniversary cake and celebrated their 13th anniversary with us. There were so many good dips and salads. I think everyone went home quite full.

We had several first time rock party guests. Mike and Matt were there and Matt polished his first rock on a Genie with Corey's help and teaching. Matt has been using a tumbler and doing quite well getting a great polish. He was, however, very excited to learn to use the Genie polishing machine. Steve, Lynn, and Debbie also joined us. They are students in my silversmithing class and they also take lessons at the Southeast Community College lapidary class that our club helps to support. Corey and Eddie did some polishing but I don't know who else got a chance to work on the machines. Most of the rest of us just ate and talked about rocks.

Hosts have already claimed the October, November, and December Rock Parties. If you are interested in throwing your own little party in 2019, please let us know. And make sure to attend every Rock Party we have, as you never know who might be there or what might be taught!



## THE MANY FACES OF QUARTZ

Excerpted from several articles on quartz written by Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas, published in Chips and Chatter, Volume 52, Issues 5, 6, 7, 8, and 9.

Quartz, also known as silica, is composed of one silicon atom and two oxygen atoms – SiO<sub>2</sub>. It is the defining mineral for Mohs hardness of seven. Silicon is the second most abundant element in the earth's crust (around 27% of the earth's crust by weight). Oxygen is the most abundant element in the earth's crust. Most of the silicon and oxygen do not form as quartz; rather they form a silicate radical that has a tetrahedral shape. One such radical is the neosilicate where the tetrahedral shapes are isolated. Examples of neosilicates are the Olivine, Zircon, and Garnet Groups which includes the minerals Forsterite (Peridot), Spessartine, Almandine, Zircon, Kyanite, and Topaz. Sorosilicates are double tetrahedral groups that include the minerals Axinite, Zoisite, and Vesuvianite. Another variation of the silicate radical named Cyclosilicates where the tetrahedral shapes form rings that will join with other elements to form minerals such as Benitoite, Beryl, Sugilite, and Tourmaline. Still other variations of the silicate radical called Inosilicates where the tetrahedral shapes form chains that form with other elements to form minerals such as Diopside, Jadeite, Spodumene, and Rhodonite. Still another variation called

Phyllosilicates where the tetrahedral form sheets and includes minerals such as Chrysotile (a serpentine), Talc, Biotite, Muscovite, and Chlorite. Finally, we have Tectosilicates that includes the Quartz group. Other Tectosilicates include the Feldspar family and the Zeolite family. The Tectosilicates compose about 75% of the earth's crust.

It took a while, but we finally got back to Quartz. Earlier we indicated its chemical composition was SiO<sub>2</sub>, but if you picked any random silicon atom and looked at the surrounding atoms, it would appear that the silicon atom was attached to a silicate radical. Then if you looked at the silicon atom in the radical, it would look as though it was attached to a silicate radical. Everywhere it would look like silicon silicate!

Not all members of the Quartz group are Quartz. All the members of the Quartz group have the same chemical composition, but slightly different crystalline structures (polymorphs). Quartz is the most common member of the Quartz group and forms in the trigonal crystal system. Other members of the group include the high temperature

## QUARTZ - CONTINUED

polymorphs Tridymite and Cristobalite, a high pressure and moderate temperature polymorph Coesite, the polymorph Stishovite which has a very dense tetrahedral, the polymorph Moganite that forms in the monoclinic crystal system, and finally the polymorph Chalcedony that is a combination of Quartz and Moganite.

Quartz can be clear, but it also comes in a variety of colors. Generally, when you talk about quartz crystals you are referring to the clear variety. Amethyst is the purple variety of quartz. The purple color comes from trace amounts of iron impurities in the matrix that have been irradiated (natural radiation). Citrine is the yellow to brown variety of quartz. It also owes its color due to trace amounts of iron impurities. Natural citrine is rare; most commercial items sold as citrine are actually amethyst that has been heat-treated. Ametrine is a variety of quartz with zoned areas of amethyst and citrine in the same crystal. Ametrine is often simulated by heat-treating amethyst while keeping a portion of the crystal cool (i.e., heat-treating half the crystal). Smoky quartz is a transparent to translucent variety of quartz with a grey to brown to black interior. Smoky quartz gets its color from free silicon atoms in the matrix. The silicon comes from irradiation of the SiO<sub>2</sub> to form silicon and oxygen atoms. Some Smoky quartz also has iron and aluminum impurities in trace amounts in the crystalline matrix, but still requires irradiation to become smoky in appearance. Milky or white quartz has crystal shapes like all quartz, but during the formation process the crystalline structure incorporated inclusions of air and water. Rose quartz generally is found as a massive quartz formation. This variety of rose quartz gets its color from trace amounts of titanium, iron, and manganese in the quartz crystalline structure. However, some crystalline rose quartz has been found in Maine and Brazil. This variety tends to fade in color when exposed to sunlight. The color is likely the result of trace quantities of phosphate and aluminum in the crystalline structure. Parsiolite is a green variety of quartz. The green color is caused by trace amounts of iron in the crystalline matrix. Natural parsiolite is very rare; most parsiolite on the market is actually heat treated and irradiated amethyst or pale citrine. Blue quartz is yet another variety. It derives its color from the inclusion of magnesio-riebeckite or crocidolite. Rutilated quartz can be clear or smoky quartz with inclusions of rutile needles in the crystal. The rutile needles are often golden in color, but they can also be black, silver, or reddish. It is interesting that inclusions in a crystal generally detract from the value of the specimen, but rutile inclusions in quartz add to the value of the specimen. Another variety of quartz that is often called blue quartz is actually Dumotierite quartz. It has a silky blue color that is derived from inclusion of dumotierite in the crystal.

Lest we forget, there is a whole world of microcrystalline quartz out there too. These are agate, jasper, and flint. We generally do not think of them as being a variety of quartz, but being microcrystalline quartz they are truly a variety of quartz. Most agate, jasper, and flint have other inclusions that cause the color that can be virtually any visible color. Quartz and its numerous

varieties are found virtually anywhere and everywhere in the world. The Minas Gerais district of Brazil is noted for the number of gem minerals to be found. It has a prolific production of many varieties of quartz. Arkansas is also noted for the mining of quartz crystals (clear and milky). Despite the abundance of quartz and the various varieties of quartz in nature, many varieties of quartz can be man-made - all of the transparent varieties of quartz can be artificially produced.

Very pure natural quartz was used in the production of early semi-conductor electronic items. However, it did require very pure quartz and it was found that it could be more economically produced rather than mined. Virtually all quartz in today's electronics is artificial (man-made) quartz.

Quartz is the second most common mineral in the Earth's crust. To reach this distinction, one must include all varieties of quartz, including the cryptocrystalline members that includes agates and jaspers. The crystal structure of cryptocrystalline rocks and minerals is, by definition, microscopic crystals that are generally only visible in thin sections using a polarized light source. Although agates and jaspers are composed of the same materials, agates are transparent or translucent while jaspers are opaque. Thus, a rock that is composed of crypto-crystalline quartz but does not let light pass through it would be jasper; if it lets some light pass through, it is classified as an agate.

Most agates are banded and form in nodules. Agates are often formed in volcanic materials such as basalt, rhyolite, and andesite, but can form in sedimentary rocks such as limestone. It is thought that silica-rich gels with other minerals in the mix are deposited layer by layer on the inside of the voids left by gas bubbles in the original volcanic flow. As a layer is deposited, it depletes the concentration of the other minerals so that an area of the band is clear or more translucent than the initially deposited material. The question that is yet to be answered is whether the bands are deposited slowly over thousands of years or if they are deposited much more rapidly, perhaps in a matter of minutes. This question is one that geologists are trying to solve. It is interesting to note that quartz macro-crystals varieties (quartz, amethyst, citrine, etc.) can be made in a lab or on a production line, but they have not yet been able to produce a cryptocrystalline quartz such as agate or jasper. At least for now, you can rest assured that your agate formed naturally. However, agate can be dyed. When you see the pink, neon blue, and bright purple agates from Brazil and other locations, they are likely colored by a dye.

Agates can be found in most parts of the world. Many agates from Brazil and Mexico are noted for their brightly colored banding. Agates can form without bands and often have mineral inclusions such referred to as dendrites or moss.

Jasper, as microcrystalline quartz, should have a Mohs hardness of 7, but due to the impurities in the stone that gives it color and patterns, most jasper is a little softer, ranging from 6 to 7. Jasper is generally in massive form but

## QUARTZ - CONTINUED

can also be found in botryoidal or as nodules of small pebbles. Most beaches that claim to have agate generally have more jasper than agate, but the beach does give you a head start if you plan to tumble the stones. Jasper comes in spotted and speckled forms, as well as banded, brecciated (breccia are rocks formed of fragments and cemented back together), solid, picture, or just about any other way a rock can look. The common colors for jasper are red, yellow, and brown. Less common colors are green and blue. Some of the most highly prized jaspers are orbicular jaspers. They contain spherical inclusions of differing colors. Two sought after varieties are Poppy Jasper from Morgan Hill in Santa Clara County, California and Ocean Jasper from northeast Madagascar. Poppy jasper typically has a red, brown, black, or yellow background with red or red and yellow spherical inclusions. Unfortunately, Poppy Jasper is no longer being mined; only previously mined material is available at a premium price. Ocean Jasper comes in many differing colors; the spherical inclusions being green, white, pink orange and yellow with white, green, black, red, and grey backgrounds. Ocean Jasper is still being mined, but still commands a premium price. In the Picture Jasper category, the favorites are Biggs and Bruneau. These could also be classified as Banded Jasper. They are named after the areas they are found in: Biggs Junction, Oregon and Bruneau Canyon, Owyhee County, Idaho. Both are still available, but are hard to find. One of the favorite Brecciated Jaspers would be the Australian Mookaite. It comes in a variety of colors, generally several colors mixed in one stone. Colors include brown, yellow, orange, red, pink and white. Some of the other Australian brecciated jaspers are also popular including Black Jasper Conglomerate, Outback and Noreena Jasper.

Blue quartz, as a member of the quartz family, will have a Moh's hardness of 6.5 to 7.0. It exhibits a conchoidal fracture. The Moh's hardness may be less than 7.0 due to inclusions. Blue quartz can gain its color from one of two methods. The first way is called Tyndall scattering. Tyndall scattering is caused by particles that are approximately the size of the wavelength of the light being scattered. In the case of blue quartz, much like our sky, the blue light is scattered while the remaining frequencies of light pass through relatively unaffected. The second way blue quartz acquires its color is through inclusions caught up in the quartz. The minerals that cause the blue color are magnesloriebeckite, crocidolite, tourmaline or ilmenite. The Rayleigh scattering (scattering by particles much smaller than the wavelength of the light being scattered) takes over and scatters the blue light from the included minerals throughout the quartz. One place to find blue quartz is Texas, in a very popular stone for cabbing, Llanite. It is the blue quartz crystals in the pink rhyolite that makes Llanite unique to Texas. The blue color in the quartz crystals is caused by Rayleigh scattering, and the scattering source is ilmenite inclusions and ilmenite growing on the faces of the quartz crystal. Ilmenite is Iron Titanium Oxide.

Both amethyst and citrine have the same physical characteristics as quartz, including formation in the trigonal crystal system, the typical quartz six sided crystals

terminated in a six-sided pyramid, Moh's hardness of 7, and conchoidal fracture. Most amethyst derives its color from inclusion of trace quantities of iron with a plus three valance (Fe+3) replacing some of the silicon (Si) atoms in the crystal matrix. The ratio of the number of iron atoms to the number of silicon atoms is about ten to one hundred parts per million; less than 0.01% of the silicon atoms are replaced by iron. Color intensity depends on concentration of the trace iron, and is generally variable throughout the stone. If the concentration is near the crystal faces, the color will be deeper. In many cases, the color is banded with alternating dark and light bands.

Citrine's source of color is still being studied with a number of possible answers. One type of citrine derives its color from trace amounts of aluminum replacing some of the silicon atoms, and then subjected to natural radiation. Smoky quartz also gets its color from trace amounts of irradiated aluminum. Some citrine actually has phantom crystals of lightly colored smoky quartz inclusions. A study of Brazilian citrine indicates that the color of fine Brazilian citrine comes from trace amounts of aluminum and lithium, and the ratio of aluminum to lithium determines the color. When the ratio is near 1 to 1, the material is very dark or black. When the ratio is near 0.5 the stone is the color of honey. When the ratio is less than 0.3, the color is yellow. The concentration of aluminum and lithium determine the depth of the color. Yet another cause of the yellow color in citrine can be trace amounts of iron and heat treated. This can and does occur naturally, but most citrine on the market today is actually heat-treated amethyst; natural citrine is quite rare.

### References:

Gemdat.org

<https://www.gemdat.org>

Wikipedia

<https://en.wikipedia.org/>

Geology In, How Do Agates Form,

<http://www.geologyin.com/>

Mineral.net

<http://www.minerals.net/>

Australian Outback Mining,

<http://www.outbackmining.com/>

Mindat.org

Zolensky, Michael E., Sylvester, Paul J., and Paces, James B., Origin and significance of blue coloration in quartz from Llano rhyolite (llanite), north-central Llano County, Texas, *American Mineralogist*, Vol. 73, [http://ruff.info/doclib/am/vol73/AM73\\_313.pdf](http://ruff.info/doclib/am/vol73/AM73_313.pdf)

American Gem Society,

<https://www.americangemsociety.org>

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- 2 years: Vera Lyman  
Jim Marburger
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**Swap—2019:**

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- Youth Activities: ..... Carolyn Ashmore,  
..... Cindy Ramey

**ADVERTISING, SUBSCRIPTION, AND MEMBERSHIP 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.

Subscription to the Pick & Shovel is \$20.00 per year for mailed copy.

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. Prospective members must gain Board approval and attend one regular meeting before being approved for membership. Applications are available on the website: <https://www.lincolngemmineralclub.org/about/membership>.

Mail Exchange Newsletters to:

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

# PICK & SHOVEL

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**Coming Soon!**

**LGMC's Two Largest Events!**



**40th Annual Mid-Winter Rock Swap  
January 26, 2019**



**This Editor is  
a member of  
Special Congress  
Representing Involved  
Bulletin Editors**

**61st Annual Show**

**Nebraska's Hidden Treasures  
April 6-7, 2019**

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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.