Place:
Arden Community Hall
636 Hall Rd
Arden, WA

Club Meetings:

Third Tuesday of the Month at 6:00 PM

The Panorama Prospector

May 2025

PANORAMA GEM AND MINERAL CLUB

Minutes for the April 15, 2025
General Meeting

Lynne opened the meeting at 6:00 PM.

The financial report was read. The newsletter needs to mention Lynne will have signatory authorization on the bank account and the newsletter needs to be signed by the Secretary. Lynne needs to go to the bank with the newsletter in a timely manner.

Discussed news from Regional & National level Newsletters. AFMS – The Northwest federation convention is Sep 5-7, 2025 in Walla Walla, WA. Junior rockhounds s can submit activities and pictures. BLM issued an Environmental Assessment on lithium mining in the McDermitt Caldera in Oregon. Comment period ends April 25th. The project has been delayed due to concerns raised by Native Americans.

We discussed trips. It's too early to plan trips at higher elevations. Lynne will try to get tickets for the Emerald Creek Star Garnet area. Update: The reservations started April 15th (today). Lynne contacted the Forest Service Reservations after our meeting. She was only able to get four tickets for the 5th of June at 8:30 AM. Sheila raised her hand first so the Stratton's and Calvert's plan to go.

Scholarships –Ginger is working on getting a representative from the organization that

Minutes cont.

administers scholarships to speak at one of our meetings. The representative can clarify the purpose of the initial $5,000 cost and answer other questions.
We discussed the thunderegg hunt. It is April 26th at 11:30 at the Pitmans' house. A sign-up sheet was passed around for food and beverages. There will be a bonnet decorating contest for the ladies. It was suggested to bring outdoor games (kites, corn hole, etc.)
Presentation. Glynis did a great job with the presentation of her fabulous trip to Iceland.
Lynne had activities for the children. They made necklaces for prizes at next year's gem show. They also built structures with magnetic geometric shapes.
The meeting was adjourned at 7:45.

From Johnie: I have 45 pounds of rough grit (80) that the club bought, I'll bring it to the next meeting. If you do tumbling and need some 80 grit bring a container and we will weigh you out how ever much you need.

Johnie

North Idaho Mineral Club

The NIMC show is May 31st and June 1st, 9 am both days!

The Speggtacular Thunderegg Hunt!

By Lynne Calvert

As quoted by Gene, “A good time was had by all!” Ginger and Johnie graciously hosted this egg-cellent event at their beautiful place. They had to really scramble to put it together as they had a broken pipe the day before. Audrey helped them make preparations and hide hundreds of thundereggs. Our utmost gratitude for their hard work is egg-tended to them. The weather was perfect and the food was delicious. Everyone enjoyed seeing the decorated bonnets that made it more colorful and festive. Ginger and Betty tied for first place for their egg-centric bonnets and received prizes. Betty brought special gifts and lollipops for the children. Johnie gave a talk on geology of rocks he had on display. Ginger brought out a cornhole game. Roger and Johnie hatched a plan to hide plastic eggs filled with small change for the children. Much egg-citement ensued as they raced around finding them but they were really anticipating the main event – **Thundereggs**! I was cracking up watching young and old alike whisking around to find them, especially, the coveted golden one. It was eggs-traordinary and a flurry of fun. They were all egg-hausted and my brain is scrambled so that’s all yolks.

Zayven Parasoo found the golden egg at the Pitman’s Easter egg hunt. Everyone had a good time, especially the kids were really excited.

Diamonds from the Deep: How Do Diamonds Form in the Deep Earth?

(https://join1440.com/topics/science-technology/r/diamonds-from-the-deep-how-do-diamonds-form-in-the-deep-earth-gems-and-gemology?utm_source=join1440&utm_medium=discover_share&utm_placement=email)

Carbon is one of the most important elements on our planet, which led the Geological Society of London to name 2019 the Year of Carbon. Diamonds are a main host for carbon in the deep earth and also have a deeper origin than all other gemstones. Whereas ruby, sapphire, and emerald form in the earth's crust, diamonds form many hundreds of kilometers deep in the earth's mantle. Colored gemstones tell scientists about the crust; gem diamonds tell scientists about the mantle. This makes diamonds unique among gemstones: Not only do they have great beauty, but they can also help scientists understand carbon processes deep in the earth. Indeed, diamonds are some of the only direct samples we have of the earth's mantle.

But how do diamonds grow in the mantle? While Hollywood's depiction of Superman squeezing coal captured the public's imagination, in reality this does not work. Coal is a crustal compound and is not found at mantle pressures. Also, we now know that diamond does not prefer to form through direct conversion of solid carbon, even though the pressure and temperature conditions under which diamond forms have traditionally been studied experimentally as the reaction of graphite to diamond.

Generally, two conditions are needed for diamond formation: Carbon must be present in a mantle fluid or melt in sufficient quantity, and the melt or fluid must become reduced enough so that oxygen does not combine with carbon. But do diamonds all grow by the same mechanism? What does their origin reveal about their growth medium and their mantle host rock? Surprisingly, diamonds do not all form in the same way, but rather they form in various environments and through varying mechanisms. Through decades of study, we now understand that diamonds such as the rare blue Hope, the large colorless Cullinan, and the more common yellow "cape" diamonds all have very different origins within the deep earth.

BOX B: WHERE DO DIAMONDS FORM IN THE EARTH?

Natural diamonds typically form 150–200 km below the surface of the earth. Diamond formation does not occur everywhere at these depths, but only below the oldest continents that have been stable for billions of years; these areas are known as cratons (see figure 2 in Summer 2018 Diamonds from the Deep). This is because these old cratons all have thick continental roots with cool temperature profiles conducive to diamond formation that geologists term "continental lithospheric mantle." Diamonds that form within these continental roots are known as lithospheric diamonds and are carried up to the surface of the earth by rare volcanic eruptions known as kimberlites.

Other diamonds form much deeper in the earth, in sublithospheric regions of the mantle, below these continental roots. So-called superdeep diamonds form at depths much greater than 200 km, in areas of the mantle known as the transition zone (410 to 660 km below the earth's surface) and lower mantle (>660 km). After formation they are transported to shallower depths in the mantle, likely through mantle convection cells, and then also brought to the surface by kimberlite eruptions. Earth's mantle convection associated with plate tectonics is responsible for both the availability of fluids necessary to form diamonds and the return of diamonds to the surface. Ocean floor is thrust deep into the mantle by the process known as subduction and carries diamond-forming fluids in its seawater-altered minerals and rocks. Mantle convection return flow also causes hot mantle to rise to shallower levels and melt, generating the kimberlites that deliver diamonds to the surface.

Diamonds Form from Fluids in the Mantle That Migrate Due to Plate Tectonics

Diamond is a metasomatic mineral that forms during migration of carbon-bearing fluids, which means that it forms from fluids and melts that move through the mantle. Diamonds can form in both peridotite and eclogite in the cratonic lithospheric mantle, as well as their higher-pressure equivalents in the much deeper transition zone and lower mantle (box B). Regardless of a diamond's formation depth, many diamond fluids and melts appear to be related to the recycling of surficial material into the deep earth or to deep melting processes when tectonic plates split apart, or rift, to form new oceans. Both processes occur as part of the geologic cycles that accompany plate tectonics or, in ancient times, some type of pre-plate tectonics.

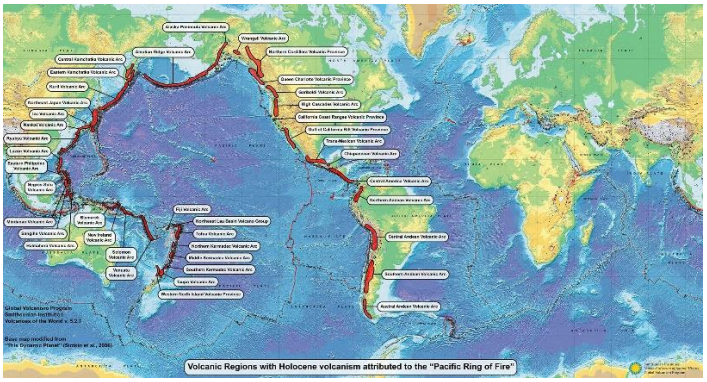
How Do Lithospheric Diamonds Form?

Lithospheric diamonds (box B) often contain detectable nitrogen, implying that they crystallize from carbon- and nitrogen-bearing (C-N-bearing) fluids. Through the study of diamonds from many different localities, we now know that there are subtle differences in the compositions of these C-N-bearing fluids and melts. These differences manifest as changes in the type of carbon and nitrogen compounds contained in these fluids. "Oxidized" hydrous fluids and melts can contain CO_3, CO_2, and N_2, whereas more "reduced" hydrous fluids contain CH_4, NH_3, and minor H_2.

What volcanoes and volcanic regions form the "Pacific Ring of Fire"?

(https://volcano.si.edu/faq/Pacific_Ring_of_Fire.cfm)

The "Pacific Ring of Fire" (PROF) is not a scientific term, but rather a popular description for many areas around the Pacific Ocean with high levels of volcanic activity that originated more than 100 years before the theory of plate tectonics provided a framework to explain the distribution of most volcanoes. While this is an appealing phrase, these areas do not form a single "ring" structure, adjacent volcanoes do not have connected magma reservoirs, and regions have separate tectonic environments. While hot erupted lava is incandescent, volcanic rocks are are not on fire or burning, and volcanic ash is actually tiny fragments of rock. As defined below and shown on the map, the PROF consists of 711 Holocene volcanoes (56% of the 1,261 overall) in 41 different volcanic regions.



Volcanoes on the Pacific Ring of Fire

Since 1960 there have been eruptions from 196 (28%) of the volcanoes in PROF regions, and from 312 (44%) since 1800; over both time periods about 59% of the volcanoes that have erupted around the world were in these PROF regions. Looking at PROF eruption data compared to the world, since 1960 there were 1,531 eruptions in PROF regions (68% of the global total), and 3,489 since 1800 (65% of the global total). Tectonic subduction environments account for 34 of the PROF regions, 74% of the subduction zones around the world.

Origins of the "Ring of Fire" Phrase

The existence of active volcanoes around the Pacific Ocean was well known to academics by the early 1800's, with some writers using "circle" in their descriptions of this distribution of volcanoes. From German writer Carl Ritter in 1859: The most relevent section is here translated into English: "Their line...extends...from the twin islands of New Zealand [to the] northern Philippines, and presents a row of eighty furnaces burning.... The ring then curves northwards, along the archipelagos of Japan, the Kuriles, Kamchatka, the islands Aleutians and Unalaska, whose fifty volcanoes blaze above the waves of the sea Boreal, or align with the American continent. Finally, the circle is connected to the north of the Cordilleras.... So it is not wrong for us to give

this immense circumference of more than three hundred flaming volcanoes the name of the Circle of Fire. This ring of volcanoes [is] open towards the south, while in the north [the continents come] closer together at the Bering Strait.... It is within the ring of fire that the large equatorial zone of the islands inclined to the ecliptic...the sea southern azure, heads through groups swarming from the Philippines to lonely Easter Island."

The French historian Jules Michelet wrote: "From the same post of observation on which I have, in imagination, placed you, [look] towards the arctic hemisphere, and you may discern what Ritter terms the circle of fire. To speak more precisely, it is an opened ring, formed by the volcanoes commencing at the Cordilleras, [extending north to include] those of America, present, for a length of a thousand leagues a succession of sixty gigantic Beacons whose constant eruptions command the abrupt coast and the distant waters. The others, from New Zealand to the North of the Phillipines, number eighty still burning, and a countless host that are extinct. Steering northward, from Japan to Kamschatka, fifty flaming craters dispense their ruddy lights far away to the gloomy seas of the Arctic. In the whole, there is a circle of three hundred active volcanoes around the eastern world."

How Are Crystals Made?

The Editors of Encyclopaedia Britannica

The crystallization process begins with nucleation, the initial step where a small number of particles (that is, ions, atoms, or molecules) come together to form a stable cluster of solid material. This cluster acts as a seed for further growth. There are two types of nucleation: heterogeneous nucleation—where a surface of some other substance becomes the site or location from which the cluster grows, and homogeneous nucleation—where particles come together uniformly within a medium or matrix, such as glycerol, as they randomly move through the medium and collide with one another. Heterogeneous nucleation is more common, with homogeneous nucleation becoming the more likely pathway in conditions of supersaturation (i.e., having too many molecules for the pressure and temperature conditions in the environment) or supercooling (i.e, cooling below the freezing point without solidification or crystallization).

Once nucleation has occurred, the crystal grows as more particles join the initial cluster. Growth, or accretion, can happen in a solution, in a liquid, or in a vapor. The particles continue to arrange themselves in a pattern characteristic of a crystalline solid. Temperature also plays a crucial role in crystal formation. For example, cooling a gas to a liquid and then to a solid can produce a polycrystalline solid (that is, any solid object made up of randomly oriented crystalline regions) unless special techniques are used. Methods like the Czochralski process, where a seed crystal is slowly pulled from a melt, allow for the growth of large, pure crystals. This method is particularly popular for growing silicon crystals used in semiconductors and computer chips.

Membership Dues:

$20.00 per **household** per year is due to the club Treasurer Frank Stratton on the third Tuesday of November for regular members. Dues can also be sent to: Panorama Gem and Mineral Club c/o Johnie Pitman, 701 B Williams Lake Rd, Colville, WA 991114.

Webpage: http://panoramagem.com/

Facebook Group: Panorama Gem & Mineral Club

We**, The Panorama Gem and Mineral Club**, are a multi-faceted group of mineral-minded people. Our proud members include some real gems, a few fossils, and even some diamonds in the rough. A few have lost some of their marbles, but they know where to get more! A few need to polish their coordination because they are always tumbling! And some are miners who use the "silver pick" as their tool of choice! It should be crystal clear, that we all enjoy this unique conglomeration and above all else we strive to **HAVE FUN.** And we never throw stones (away).

A Quick Note from The Editor (Glynis)

Thank you to those who contributed to this issue. If you have a special story to share, ***please*** *contribute to OUR newsletter! Send ideas for articles, internet finds, jokes, pictures, adventure stories, science articles or your own articles to me.* gghull@comcast.net

Guinevere says "Hi"! 

Refreshment Schedule for 2025

Last names that begin with the letters posted bring refreshments for that month

January – H, I, J
February – K, L, M
March – N, O, P
April – Q, R, S, T
May – W, A, B, C
June –D, E, F, G
July – H, I, J
August – Club Picnic
September – K, L, M
October – N, O, P
November - D, E, F, G
December – Christmas Party

Panorama Gem and Mineral Club: Organizational Chart

Officers

President:	Lynne Calvert		559-906-5923
Vice-President:	Bob Bristow		509-935-4375
Secretary:		gghull@comcast.net	
Treasurer:	Frank Stratton		509-207-8503
Trustee 1:	Kevin Youngblood		509-680-0207
Trustee 2:	Jim Peters		509-992-6921
Trustee 3:	Cyndi Doppler		509-216-5473

Committee Chairs

Program Coordinator:	Sheila Stratton		509-207-8506
Hospitality:	Betty Peters		509-992-6921
Historian:	Sheila Stratton		509-207-8506
Newsletter:	Glynis Hull	gghull@comcast.net	509-981-9714
Show Chair	Johnie Pitman		509-684-8887