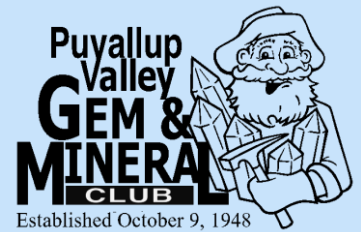


ROCK-A-TEER



Newsletter of the Puyallup Valley Gem & Mineral Club

Jillian Higgins

Issue 48

Volume 101

January

2022

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President's Perspective

Tony Johnson

This club is growing and thriving, and that has a lot to do with the membership.

As we are looking into getting back into the full swing of things, we are going to be looking for more volunteers. We are working hard with the WA State Fair to get back to the way things were, pre COVID. This means daily opportunities to volunteer and scheduling that will need to be filled.

There are also possibilities for us to attend STEM fairs for children's education which is a wonderful way to get our club into the communities. Plus hanging out with excited kids who want to learn about rocks is a really fun time!

It is really hard to try to make plans on improving this club since we are already doing so many good things. When I look at the new year to come the only thing I can see is that we are going to need more volunteers to help keep this club going like it has been. Please keep that in mind when you are planning for your next year. If you would like to volunteer for things, please let anyone on the board know or you can talk to me directly at ynotopals@outlook.com.

Field Trip Report

January 22 - No Sights due to Weather

February 19 - No Sights due to Weather

Please remember that even though we love to meet new people, fieldtrips are a member benefit and part of your membership dues covers you for injury liability.

Though injuries are rare, and we do everything we can to avoid them, we are going out into nature, and uncontrollable environment.

All individuals attending field trips will have to sign a release of liability, and if you are bringing guests, we will try to entice them into join the club by having Membership applications available.

Field Trip Recap

Dennis Batchelor

December's field trip to the Rice Museum is well worth the drive if you have not been there before. Very easy access to the building and the displays are the best you will see on the West Coast.

Since this was a self-guided trip, I hope many of you were able to make use of it and your discount as a member of the club.

JANUARY 2022 CLUB HOUSE SCHEDULE

DATE	DAY	TIME	ACTIVITY	LOCATION	INSTRUCTOR
1	Saturday		CLOSED FOR NEW YEARS		
2	Sunday				
3	Monday		CLOSED FOR MAINTENANCE		
4	Tuesday		CLOSED FOR MAINTENANCE		
5	Wednesday		CLOSED FOR MAINTENANCE		
		4:00PM-8:00PM	Wire Wrapping	Club House	Tony Johnson
6	Thursday	4:00PM-8:00PM	Members Workshop	Club House	Tony Johnson
7	Friday	7:30PM	Club Business Meet	Fruitland Grange	Tony Johnson
8	Saturday	10:00AM-3:00PM	Wire Weaving	Club House	Jillian Higgins
9	Sunday				
10	Monday	10:00AM-2:00PM	Members Workshop	Club House	Glen Ripper
		7:00PM-8:00PM	Opal Club Business Meet.	Club House	Tony Johnson
11	Tuesday	4:00PM-8:00PM	Members Workshop	Club House	Ed & Renera
		7:00PM	Club Board Meeting	Fruitland Grange	Kevin Higgins
12	Wednesday	10:00AM-2:00PM	Members Workshop	Club House	Dennis Batchelor
		4:00PM-8:00PM	Opal Cutting	Club House	Tony Johnson
13	Thursday	4:00PM-8:00PM	Members Workshop	Club House	Tony Johnson
14	Friday	7:30PM	Club Business Meet	Fruitland Grange	Tony Johnson
15	Saturday	10:00AM-2:00PM	NO FIELD TRIP	Field Trip	Dennis Batchelor
		10:00AM-2:00PM	Members Workshop	Club House	Glen Ripper
16	Sunday				
17	Monday	10:00AM-2:00PM	Members Workshop	Club House	Glen Ripper
18	Tuesday	4:00PM-8:00PM	Members Workshop	Club House	Ed & Renera
19	Wednesday	10:00AM-2:00PM	Members Workshop	Club House	Dennis Batchelor
		4:00PM-8:00PM	Wire Wrapping	Club House	Tony Johnson
20	Thursday	4:00PM-8:00PM	Members Workshop	Club House	Tony Johnson
21	Friday	7:30PM	Club Program Night	Fruitland Grange	Tony Johnson
22	Saturday	10:00AM-2:00PM	Intarsia	Club House	Tony Johnson
23	Sunday				
24	Monday	10:00AM-2:00PM	Members Workshop	Club House	Glen Ripper
25	Tuesday	4:00PM-8:00PM	Members Workshop	Club House	Ed & Renera
26	Wednesday	10:00AM-2:00PM	Members Workshop	Club House	Dennis Batchelor
		4:00PM-8:00PM	Opal Cutting	Club House	Tony Johnson
27	Thursday	4:00PM-8:00PM	Members Workshop	Club House	Tony Johnson
28	Friday	7:30PM	Club Program Night	Fruitland Grange	Tony Johnson
29	Saturday	10:00AM-2:00PM	Opal Cutting	Club House	Tony Johnson
30	Sunday				
31	Monday	4:00PM-8:00PM	Members Workshop	Club House	Glen Ripper

For questions about a specific class or event, contact the instructor

Dennis Batchelor (360) 870-8741	Ed Knoll (253) 651-7453	Tony Johnson (253) 863-9238
Renera Barnes rsb1224@netscape.com	Jillian Higgins (253)355-3146	Glen Ripper (253) 508-7545

This schedule is subject to change. Please check the club website for updated information.

MEET THE MEMBERS

Name: **Kevin Higgins**

Favorite Quote: “Always carry a knife with you. Just in case there’s a cheesecake, or you need to stab someone in the throat.” – Gen. James N. Mattis.

What are your skills/past experience with the rock Club or rock hounding?

I am extremely lucky in rockhounding. I always find nice materials. My experience is in cabbing, slabbing, faceting, silversmithing, and machine maintenance.

What is your favorite rock, mineral or gem?

Opals, and anything chatoyant.

What is your favorite thing to do with rocks, minerals or gems?

Cab new materials that I haven’t worked with before and then hand them off to my wife to see what she does with them.

What are your three favorite books/podcasts?

- Bass Talk Live - Podcast
- “Lord of the Rings: by J.R.R. Tolkien
- “Knowing Bass” – by Mike Ikenelli.

What is your favorite memory surrounding rockhounding/rocks in general?

The excitement of watching my wife and now my daughters find rocks.

In your opinion, what is the best thing about the Puyallup Valley Gem & Mineral Club?

The people who are willing to share their knowledge and teach you if you ask.

In your opinion, where/how does the club need to improve?

Communication regarding volunteers and getting people more involved in our events.

What are three (3) things people might not know about you?

- I can skip a jig right and left-handed!
- I can double roll cast a fly rod.
- I used to be an MMA fighter.

What is your greatest accomplishment?

Winning my division at the National Championship for Bass Fisherman. Fishing the BFL All American. And more importantly, I have my two incredible daughters who are going to change the world.

Clubhouse report

Tony Johnson

The soft spots in the floor have been repaired and the new wiring is in the Slab Saw Room, so we are up and running. We are now up to 4 functioning slab saws that should not have any issues running, and one more saw that is just waiting on it’s new motor and we will be up to 5. We should have more availability for the members, which is always the goal and more coverage for when things need repairs or if there are breakdowns.

Carbonado Diamonds

The same hardness, but much tougher than other varieties of diamond.

Author: [Hobart M. King](#), PhD, GIA Graduate Gemologist



Carbonado Diamonds are usually black or gray in color and irregular in shape. Upon close examination, their porous texture is usually obvious. They typically exhibit a luster that might be perceived as glassy, submetallic, or adamantine. Creative Commons image by James St. John. [2] [Click to enlarge.](#)

What Are Carbonado Diamonds?

Carbonado diamonds are a rare and unusual variety of industrial [diamond](#). They are composed almost entirely of microcrystalline diamonds in random crystallographic orientations.

When found in the field, they look nothing like any other type of diamond. They are dark, opaque, porous, and often display a subtle luster. They were first recognized as a type of diamond in 1841 by Portuguese prospectors in [Brazil](#) who called them “carbonado” because they look like tiny pieces of charcoal. [1]

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- [Physical Properties of Carbonado](#)

The Value of Carbonado in Cutting

Carbonado diamonds are superior to other types of industrial diamond in many cutting and grinding applications. When abrasive granules of monocrystalline diamond break or cleave in the high-stress environment of cutting and grinding, the fracture or cleavage often travels completely through the diamond granule.

However, because granules of carbonado are composed of a large number of interlocking microcrystals of diamond, many breaks and cleaves will stop at a crystal boundary instead of propagating completely through the granule.

The name "black diamond" is sometimes used for carbonado, however that name should be reserved for diamonds with a black body color often caused by clouds of tiny black inclusions or by carbonization of fracture surfaces.

Toughness vs. Hardness

Carbonado's polycrystalline texture makes it more durable than a monocrystalline diamond. It is the same hardness as other types of diamond, but it is much tougher. Its polycrystalline texture allows a single abrasive granule to present multiple crystallographic orientations of the diamond crystal at the cutting surface, and the hardest orientation does the most aggressive cutting.

Cutting tools made with carbonado diamond last longer and require less maintenance. Carbonado was recognized as a super abrasive in the 1800s and was more highly valued for its cutting and grinding effectiveness over other varieties of diamond. The problem with carbonado is its rarity. It is only found in two countries, and total worldwide production has only been a few tons of material. Carbonado is not an important commodity in today's abrasive market.

It is interesting to note that in the late 1800s, when De Beers was developing their diamond mines in South Africa, that they preferred carbonado over their own diamonds for diamond drilling. Gardner F. Williams, General Manager of De Beers Consolidated Mines, Ltd. lamented: "Round or shot boart is found in the mines at Kimberley and is very valuable for use in diamond drilling since the Brazilian carbonado has become so scarce." [3]

Where Is Carbonado Found?

Carbonado is found in just two areas worldwide. It is found in the Tombodor [conglomerate](#) and derived sediments in the state of Bahia in eastern [Brazil](#). [1] It is also found in the Bangui Region in southwest [Central African Republic](#), where carbonado weathers from clastic [sedimentary rocks](#) of the Carnot Formation. [2] The two locations are on opposite sides of the Atlantic Ocean near where these continents might have once been connected. It is possible that these two areas of carbonado occurrence share a common origin.

All carbonado that has ever been found has occurred as detrital grains in sediments and clastic sedimentary rocks. The grains are almost always less than 1 centimeter in diameter and many grains are one millimeter or less. Carbonado has never been found in kimberlite, lamproite, or any other rock type associated with the [formation of diamond](#). For this reason, little direct evidence has been found about how carbonado forms.

[1] [Carbonado Diamond: A Review of Properties and Origin](#): by Stephen E. Haggerty; *Gems & Gemology*, Volume 53, Number 2, Summer 2017, pages 168 to 177.

[2] [Diamondites: Carbonado Diamonds](#) (3.2 Ga, Mesoarchean; Bangui region, Central African Republic): by James St. John, flickr image sharing page, last accessed November 2018.

[3] [The Diamond Mines of South Africa](#): by Gardner F. Williams; The Macmillan Company; 1902, Volume 2, page 152.

How Does Carbonado Form?

The origin of carbonado diamond is poorly understood. A number of hypotheses have been advanced by a variety of researchers, but none of them have obtained wide acceptance. A generalized list of the hypothetical processes is given below.

- (A) Shock metamorphism at asteroid impact sites
- (B) High temperature/pressure growth in Earth's mantle
- (C) Conversion of carbon in subduction zones
- (D) Radiation induced creation in Earth's mantle
- (E) Formation in space, then a delivery to Earth

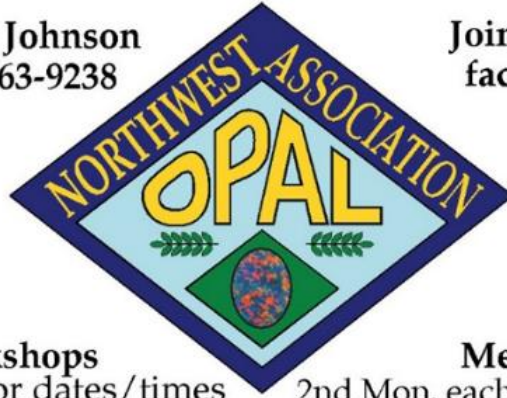
Stephen Haggerty gives a short description of each process in a *Gems & Gemology* article. [1]

Physical Properties of Carbonado Diamond

Chemical Classification	Native element - Carbon
Color	Usually black, gray or brown
<u>Streak</u>	Diamond is harder than a streak plate. Its streak is known as "none" or "colorless"
<u>Luster</u>	Adamantine, but may be subdued because of a rough surface. May appear metallic.
Diaphaneity	Opaque
Cleavage	Individual crystals are too small to see without high magnification.
<u>Mohs Hardness</u>	10. Diamond is the hardest known mineral. However, the hardness of diamond is directional. It is hardest parallel to its octahedral planes and softest parallel to its cubic planes. Because carbonado is a microcrystalline aggregate composed of many crystals in random or near-random orientations, the hardness of the hardest crystal direction in contact with another object will be the effective hardness for producing a scratch.
Specific Gravity	2.8 to 3.45 (varies according to impurities and porosity)
Diagnostic Properties	Hardness, appearance
Chemical Composition	C (elemental carbon)
Crystal System	Isometric

Tony Johnson
253-863-9238

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Workshops
call for dates/times

Meetings
2nd Mon. each month

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www.ricenorthwestmuseum.org

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4203 E 99th Street, Tacoma, WA 98446
Yankees_Diesel@comcast.net

FROM THE BENCH

When setting a stone, particularly smaller stones, sometimes your bezel will tighten up during soldering. If you have a snug fit, I recommend the following to get it out unless you are ready to finish your piece.

1. Put a piece of string or dental floss (spearmint smells nice!) under your stone, making sure it is showing on both sides of the stone. If your stone is snug, just pull up on both sides of the string equally, and it will pop out. Just be ready to catch it.
2. Babybel cheese comes surrounded in red wax. Once you have eaten your protein filled snack, remember to keep your strength up while making beautiful jewelry, crush the wax shell into a cone shape, then you can press the end onto the top of your stone, and it will lift up as it is now stuck to the wax.
3. Using a glue stick, like the kind that come with a hot glue gun, heat the end with a lighter or your torch and then press the heated glue to your stone until it cools. Lift and peel it off the glue.

SUNSHINE REPORT

With everything going on, we have started meeting again, but our attendance at the meetings is still low as members are staying safe. As a group we need to bring to each other's attention members who need healing thoughts or prayer sent their way.

If you know of anyone else who needs to be recognized in next months Sunshine Report , please email or call either

Tony Johnson at ynotopals@outlook.com (253) 863-9238 or
Jillian Higgins at J.Y.Higgins@gmail.com (253) 355-3146

MINERAL OF THE MONTH



This gorgeous mineral is a titanium dioxide metastable mineral. What does that mean? It means that these crystals form and are stable at all pressures and temperatures, but that these are usually just the starting point for something else to form, like rutile or brookite. The color of the stone depends on the growth of the crystal, the double pyramid growth producing the indigo to black with a steely luster (the most common, see pg 12), or the numerous pyramidal faced type that make a honey to brown color. The one pictured here has both types. These crystals will often form inside another material like quartz and some agates and can be found all over the world. Oh yeah...This is Anatase!

2022 SHOW & TELL THEMES and PROGRAM NIGHT EVENTS

MEETING	DATE	SHOW & TELL THEME	PROGRAM NIGHT EVENT
January - 1st Meeting	January 14, 2022	Tiger's Eye or any field trip finds	
January - 2nd Meeting	January 28, 2022	Lace or any field trip finds	Mini Lapidary Demonstrations
February - 1st Meeting	February 11, 2022	Heart shaped or any field trip finds	
February - 2nd Meeting	February 25, 2022	Red, Pink, & Purple or any field trip finds	Carl Carlson
March - 1st Meeting	March 11, 2022	"Sham" rocks or any field trip finds	
March - 2nd Meeting	March 25, 2022	Green or any field trip finds	Jerry's Rock Shop
April - 1st Meeting	April 8, 2022	April Fools Gold or any field trip finds	
April - 2nd Meeting	April 22, 2022	No Show & Tell	Auction/Potluck
May - 1st Meeting	May 13, 2022	Flower rocks or any field trip finds	
May - 2nd Meeting	May 27, 2022	No Show & Tell	Mineral Council
June - 1st Meeting	June 10, 2022	Fancy Slabs & Fossils + any field trip finds	
June - 2nd Meeting	June 24, 2022	No Show & Tell	Tailgate Party @ Grange Parking Lot
July - 1st Meeting	July 8, 2022	Red, White, & Blue or any field trip finds	
July - 2nd Meeting	July 22, 2022	No Show & Tell	Jerry's Rock Shop
August - 1st Meeting	August 12, 2022	Carnelians + any field trip finds	
August - 2nd Meeting	August 27, 2022	No Show & Tell	Picnic & Tailgate Party at club house on Saturday
September - 1st Meeting	September 9, 2022	Crystals + any field trip finds	
September - 2nd Meeting	September 23, 2022	No Show & Tell	Glenn Rodrick
October - 1st Meeting	October 14, 2022	Wood + any field trip finds	
October - 2nd Meeting	October 28, 2022	No Show & Tell	Auction/Potluck
November - 1st Meeting	November 11, 2022	Thundereggs & Geodes + any field trip finds	
November - 2nd Meeting	November 25, 2022	No Show & Tell	BINGO Night
December - 1st Meeting	December 10, 2022	No Show & Tell	Holiday Banquet/Officer Installation on Saturday
December - 2nd Meeting	No Meeting	No Show & Tell	

2022 Elected Officers

Title	Name	Phone	Email
President:	Tony Johnson	(253)863-9238	ynotopals@outlook.net
Vice President:	Kevin Higgins	(253)579-3404	kevlar016@hotmail.com
Secretary:	Teresa Rodrick	(253)531-4062	gtrodi@comcast.net
Treasurer:	Jillian Higgins	(253)355-3146	J.Y.Higgins@gmail.com
Association Director:	Patti Dailey-Shives	(253)678-0029	pattidailey28@gmail.com
1 Year Director:	Jack Ragusa	(253)389-3119	jackragusa@gmail.com
2 Year Director:	Glen Ripper	(253)508-7545	glen311944@yahoo.com
1 Year Trustee:	Dennis Batchelor	(360)870-8741	hobbyhorse51@gmail.com
2 Year Trustee:	Glenn Rodrick	(253)531-4062	gtrodi@comcast.net

2022 Committee Chairs

Title	Name	Phone	Email
Clubhouse Coordinator	Tony Johnson	(253)863-9238	ynotopals@outlook.net
Club Show Coordinator	Glenn Rodrick	(253)531-4062	gtrodi@comcast.net
Field Trips Coordinator	Dennis Batchelor	(360)870-8741	hobbyhorse51@gmail.com
Web Master	Jillian Higgins	(253)355-3146	J.Y.Higgins@gmail.com
Editor/Communications	Jillian Higgins	(253)355-3146	J.Y.Higgins@gmail.com
Membership	Jillian Higgins	(253)355-3146	J.Y.Higgins@gmail.com
Sunshine	Tony Johnson	(253)863-9238	ynotopals@outlook.net
Newsletter	Jillian Higgins	(253)355-3146	J.Y.Higgins@gmail.com
Mineral Council	Patti Dailey-Shives	(253)678-0029	pattidailey28@gmail.com



WASHINGTON STATE MINERAL COUNCIL

The Puyallup Valley Gem & Mineral Club is a member of the American Lands Access Association and the Washington State Mineral Council. You can find more information about the ALAA at: amlands.org or the WA Mineral Council at:

HAPPY BIRTHDAY

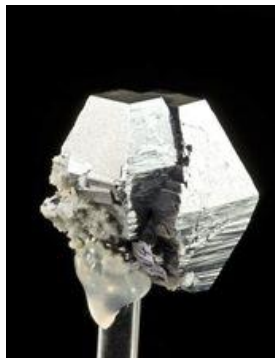
January 2022

Edward Knoll – 1st
 Paul Divona – 1st
 Mark Baumann – 4th
 Kathy Dirks – 7th
 Robert Foster – 7th
 Kade DeJong – 7th
 Dora Poehler – 12th
 Shawn Fahlsing – 14th
 Laurie Sloan – 15th
 Hannah Rosborough – 20th
 Audrey Himel – 30th

MORE GEMS AROUND THE WORLD

C E T V J U E T I N O G Y L B M A
 H S F U S L W E S A T P O I D P X
 A A S X B D E T I V O R A V U O I
 R L A R O C E N I D N A M L A I N
 O C L I N O H U M I T E W P Q L I
 I U E B E N I T O I T E S C F H T
 T E T J E T I R O D A R B A L I E
 E D I C A P U Y N O D E C L A H C
 T W B F I D G O S H E N I T E E L
 I A X L E L E X T I W N S B H T A
 N C I G K X Y N O L E I F Q C I T
 A M B E R N S U N S T O N E F R S
 G O V T O G B M E K O L I R I O Y
 R I L D B H E L I O D O R W S V R
 O N R O I K C T N A I L E N R A C
 M A L A C H I T E E P O R Y P S H
 S P E S S A R T I T E X B T U T J

- | | | |
|-----------------|-----------------|-----------------|
| 1. ALAMANDINE | 12. CRYSTAL | 22. MOONSTONE |
| 2. AMBER | 13. DIOPHASE | 23. MORGANITE |
| 3. AMBLYGONITE | 14. EPIDOTE | 24. ONYX |
| 4. AXINITE | 15. EUCLASE | 25. OPAL |
| 5. BENITOITE | 16. GOSHENITE | 26. PYROPE |
| 6. BIXBITE | 17. HELIODOR | 27. SARDONYX |
| 7. CARNELIAN | 18. JADE | 28. SPESSARTITE |
| 8. CHALCEDONY | 19. JET | 29. SUNSTONE |
| 9. CHAROITE | 20. LABRADORITE | 30. TSAVORITE |
| 10. CLINOHUMITE | 21. MALACHITE | 31. UVAROVITE |
| 11. CORAL | | |



ROCK-A-TEER

Newsletter of Puyallup Valley

Gem & Mineral Club

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