



## BUGLE



Published by  
RIPPLE ROCK GEM & MINERAL CLUB  
Box 6, Campbell River, BC, V9W 4Z9

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Assistant: Janet Burkholder

Volume 26  
Copy 5

May 2015

Regular monthly meeting  
2<sup>nd</sup> Friday each month at 7:30 pm  
(Except July & August)  
Craft Room, Campbell River Community Hall  
401-11th Ave  
Campbell River, BC



# RIPPLE ROCK GEM & MINERAL CLUB

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### Delegates to Vancouver Island Zone Meetings

Senior	Gordon Burkholder
Intermediate	Jan Boyes
Junior	Ulla Williams

## WORKSHOP

Shop located at 246 Dahl Rd.  
 For general shop info contact  
**Beba Adams 250-926-0044**  
**The workshop hours are posted on the club website.**  
**[www.ripplerockgemandmineralclub.com](http://www.ripplerockgemandmineralclub.com)**

### MEMBERSHIPS

A single membership is \$15.00 and a family is \$25.00. Memberships may be paid at the General meetings or by mail to Box 6 Campbell River, BC, V9W 4Z9.

## **President's News**

As you might guess most of the activity is around getting the show done. Looks good but I will let Molly give the details.

Got the shop cleared out, we are going to have to put a second roof shelter over it I think with a 1 or 2 foot overhang, we can plot that out after the show. Show case work bee is completed. There is always a lot of work to be done for the club and we could use your help on many projects. Contact me or any of the executive to volunteer.

A Summer Cruise

A one day trip aboard the 'Misty Isles' arranged by the Cortes Museum Tours.

Cost \$120

-Topic is Desolation Geology - when Wrangellia came wandering in.

Date Aug.6

-for those coming from off Cortes Island catch the 9:05 ferry from Heriot Bay, leave your car on Quadra. A shuttle service will take us across to Cortes Bay.

-bring a packed lunch, camera, binoculars, an extra pair of shoes or boots, dress for the weather, hat and sunscreen.

-for further details and registration phone Lynne Jordan at 935-6472, email Cortes Museum at [cimas@twincomm.ca](mailto:cimas@twincomm.ca) or call the museum at 935-6340

*The boat can do 12 people, if more ripple rockers are interested then we can have a whole tour to ourselves on another day, no extra charge. Let me know as soon as possible if you want to go. 285-3343.*

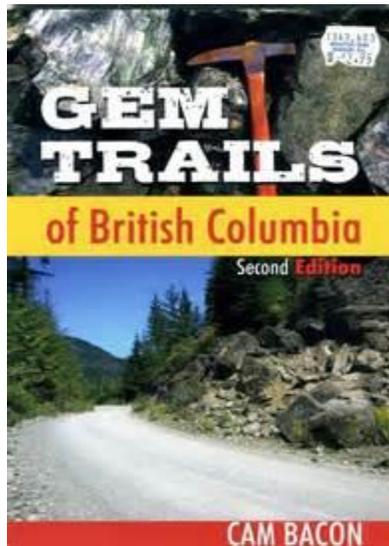
Kathy Young

## **From the Library**

Planning a trip in the near future? Check out the Library for books on rock hounding opportunities in the region you're headed to. Many of the books are dated but they give you some excellent information on past finds. These are always good starting points for hounding rocks.

One such publication is called Gem Trails of British Columbia by Cam Bacon. It has all sorts of information on where to look for all kinds of different material. It will be a great resource if you're going to summer camp as you can do lots of your own trips on the way to and from Summer Camp.

This book has maps and good directions.



Check out the Library inventory on the web site [www.riplerockgemandmineralclub.com](http://www.riplerockgemandmineralclub.com) to see what's available.

Down-sizing? If you have any books that might be of use to our membership we'd love to receive your donations.

Linda Henderson

“Outside of a dog, a book is man's best friend. Inside of a dog it's too dark to read.”  
Groucho Marx, *The Essential Groucho: Writings For, By, and About Groucho Marx*

### **Entertainment Excitement**

After last month's interesting rock identification 'contest' we are going to have a Mexican "Show and Tell" as entertainment this month. Bring along anything Mexican related; jewelry, rocks, slabs, cabs, etc. and tell us about them. See you at the meeting!

Pat Doyle

*P.S.* The rocks in the contest were given away as prizes to some lucky members. Bob and Pat Hayhurst, Linda Henderson, Beba Adams, Shane Mawhinney, Julie's friend Rowan each took home a prize. As well I think, Steve and Jeanette Huber each got one. There were 8 or 9 prizes altogether. Congratulations!

PD

### **Wagon Master's Field Trips**

The Oyster River field trip report:

It was a beautiful day to be on the river. Eighteen of us gathered at the meeting spot; Jack Falkner lives nearby and is familiar with the area. He led us to our first location and off we went to the Oyster River. The forest was bursting with spring, making the short walk a treat. The level of the river was low leaving acres and acres of exposed rock: a

Rockhounds dream. The group quickly dispersed everyone with the familiar rock hounding stoop. Most of us were armed with our spray bottles which were definitely an asset! Spraying the rocks made the flowers shine, and was also a convenient way to point out to others which rock you were talking about. The flower stone is quite abundant which made us become more and more discerning about which rock to haul back to the vehicles. Sam, one of our new members, got busy with his gold panning gear and started digging away. He was rewarded with flakes of gold which he proudly displayed in a small vial, very pretty in the bright sun! We walked downstream to see where the river has recently changed direction. It is amazing what nature can do when she decides! The river literally carved a new channel in the forest creating a brand new path! It made me consider how many times this has happened in the past and also gave us a front row seat to the forces of geology and how over time things change so drastically.

Lunch time came quickly and some of us started to haul our rocks back to the vehicles. The previous short walk was made much longer with a heavy load of rocks on your back or cradled gently in your arms like the gem that it is! Some of us made a second trip to the boulders to grab another load. After we got back to the vehicles we decided that the planned second spot was too far of a walk to be collecting (hauling) rocks and many of us called it a day. A small group of us stayed and explored directly under the bridge on the highway. The rock there was mostly the same as the other spot but not as big. After another haul of rocks back the vehicles we called it a day. Another day of adventurous day of rockhounding, and now my rock stash is a little larger.



Thanks to everyone who showed up and I will see you on the next trip!

The **Merry Widow** trip is scheduled for this weekend and should prove to be very rewarding. For those hardy enough to camp on the bench at the top of the mountain it should be a really unique experience. There are campsites along the route lower down the mountain beside a few lakes and RV parks in Port McNeill and area. See my email for specific details on what to bring.

Shane Mawhinney

### **Show Update**

We are getting closer to the big event and everything is progressing nicely. There are 28 registered vendors to date and some of them have information about themselves that you can view on our website [www.riplerockgemandmineralclub.com](http://www.riplerockgemandmineralclub.com) . We have demonstrators for faceting and cabochon making as well. There will be 5 showcases displayed and 2 rock displays; Ron McBurnie and Pat Doyle have their art rocks and our club is putting together a rock display similar to Charlie Halstrom's. If you have rocks or minerals and want to have them in the display, please have them ready for the 15<sup>th</sup> of May. Make arrangements to get them to Dennis Cambrey. He is preparing the layout. The concession has been given over to 2 local "truck" vendors; Jalapeno Grill and Mini Donuts. Since we won't be busy making and selling the food it should allow more members to find other jobs where they can put their energy at the Show. For a more complete list of events check out the website [www.riplerockgemandmineralclub.com](http://www.riplerockgemandmineralclub.com)

Show Chair,

Molly Milroy

### **Editor's Message**

It's good to be back in Campbell River after our winter spent in the mostly warm and sunny climes of Baja California. Janet and I did a lot of "rock work" while we were away. This coming June we will have a table at the annual Show. There are always interesting things to see at the Show and we look forward to presenting some of the things we have been creating.

This issue will continue to explore rock identification, faceting, and we will look at some new species of rock as well as ones which are better known to us on the Island. There are also some important bits of information about the Show and our Club's exhibit.

Please think about writing something for the newsletter and submitting your thoughts, pictures or articles.

Gordon Burkholder

Quotable quote: Now and then it's good to pause in our pursuit of happiness and just be happy.- *Guillaume Apollinaire*

## FROM THE CLASSROOM

North Island College offers several courses that would be of interest to our club members.

Check out the full list of workshops, including July offerings, online here or attached.

### **Solder Blast** (GENI 1222)

Instructor: Jan Hellerud

Spend a day learning the basics of silver soldering by creating a tri-metal pendant. You will be incorporating a number of soldering techniques and methods which will provide you with a basic skill level that you can use in your own home studio. You will use silver solder to join and attach a variety of shapes in brass, copper and silver into a complete finished unit. You will also be introduced to fundamental finishing techniques to make your pendant a piece of jewelry that you will be proud to wear. Note: A supply fee is added to the price upon registration. See supply list for details.

\$69 tuition + \$25 supply fee/ 1 session

Friday, June 19th, 9 am to 3 pm

### **Etching Techniques for Jewelry and Beyond** (GENI 1216)

Instructor: Joan Irvin

Add interest to your metal projects by etching textures, and even images, into the surface of your metal. Learn a variety of masking techniques, how to work with salts as mordants, and how to etch a variety of metals including copper, brass/bronze, and silver. Note: A supply fee is added to the price upon registration. See supply list for details.

\$139 tuition + \$40 supply fee/2 sessions

Saturday & Sunday, June 27 and 28, 9 am to 3:30 pm

### **Jewelry from Square Wire** (GENI 1217)

Instructor: Joan Irvin

Wire jewelry can be easily made at home, once you learn the techniques! Explore twisting (single, intermittent, and reverse), shaping, wrapping, bundling, frame mounting, and embellishment techniques, while creating earrings, pendants, a bracelet with a loop and hook clasp, and more! Be sure to bring your favourite beads. Note: A supply fee is added to the price upon registration. See supply list for details.

\$139 tuition + \$25 supply fee/2 sessions

Monday & Tuesday, June 29 & 30, 9 am to 3:30 pm

Quote: The test and the use of man's education is that he finds pleasure in the exercise of his mind.- *Jacques Barzun*

## ROCK OF THE MONTH

### May's Birthstone: Emerald



**Emerald** is a form of the mineral Beryl which also has other important gem varieties, including blue Aquamarine, pink Morganite, and yellow Heliodor/Golden Beryl. Pure Beryl is white; the green color of Emerald is usually caused by chromium impurities, and occasionally by vanadium impurities. Emerald is by far the most valuable gemstone variety of Beryl, being one of the few precious gemstones.

Emeralds are notorious for their flaws. Flawless stones are very uncommon, and are noted for their great value. Some actually prefer Emeralds with minute flaws over flawless Emeralds, as this proves authenticity. Flaws are often hidden by treating the Emeralds with oil or synthetic lubricants, and this is a common practice in the industry. Though Colombian Emeralds have traditionally been the highest quality Emeralds with the finest green color, a new source of Emerald from the African country of Zambia has been producing deep green Emeralds with fewer flaws.

Many Emerald fakes and doublets are known. Two pale colored stones may be glued together with a deep green paste, creating a stone resembling Emerald. Faceted green glass also resembles Emerald, and it may be coated with a hard substance to mask its low hardness. Synthetic Emeralds are also sold to unwary buyers without them knowing the stone is synthetic. Experts can distinguish all these fakes, and it is especially important to only purchase Emeralds from reliable dealers. Experts can also determine if an Emerald was treated with oil or a lubricant to mask internal flaws.

A rare and unusual form of Emerald, known as "Trapiche Emerald", is characterized by star-shaped rays that emanate from the center of a stone in a hexagonal pattern. These rays appear much like asterism, but, unlike asterism, are not caused by light reflection from tiny parallel inclusions, but by black carbon impurities that form in a star-shaped pattern. These Trapiche Emeralds are only found in the Boyaca Emerald mining district of Colombia, and are cut into cabochons.

[http://www.minerals.net/gemstone/emerald\\_gemstone.aspx#sthash.EHJnR8R2.dpuf](http://www.minerals.net/gemstone/emerald_gemstone.aspx#sthash.EHJnR8R2.dpuf)

Quote: If A equals success, then the formula is:  $A = X + Y + Z$ , Where X is work. Y is play. Z is keep your mouth shut. - *Albert Einstein*

## WHAT'S THAT ROCK?

### Rock Identification: A continuing Story

Porphyry ("PORE-fer-ee") is a name used for any igneous rock with conspicuous larger grains "phenocrysts" floating in a fine-grained groundmass. Geologists use the term porphyry only with a word in front of it describing the composition of the groundmass for instance, andesite porphyry. The fine-grained part is andesite and the phenocrysts are light alkali feldspar and dark biotite. Geologists also may call this an andesite with porphyritic texture. That is, "porphyry" refers to a texture, not a composition, just as "satin" refers to a type of fabric rather than the fiber it's made from

The phenocrysts gallery shows some of the different minerals that are found as phenocrysts. See other examples of porphyritic texture in the volcanic rocks gallery. A porphyry may be plutonic, intrusive or extrusive.



Porphyritic texture



Rhyolite Porphyry



Andesite Porphyry

### *Kornography*



## WELCOME “NEW” MEMBERS

### Membership

Seems like we are getting near the end of renewals and new members are signing on. Our newest member is Kasandra Manering who has re-joined us after a brief absence. Welcome back Kasandra! We can expect a few new members that will be signing up at the ‘show’ in June.

We encourage new members to attend the general meetings and get to know the other members. Find someone who shares your particular interests or can help you discover rocks either in the field or through education. Also remember to contact Steve for your lapidary class. You have to take the class in order to use the equipment that the club provides.

Finally put the Club’s web page [www.ripplerockgemandmineralclub.com](http://www.ripplerockgemandmineralclub.com) in your ‘favorites’ list and go there for more up to the minute reports and information. If you have rock needs or interests that are not being met get hold of an executive member and have a conversation. As one knowledgeable member stated, “You get out what you put in to a club.”

Dennis Cambrey

*Did you know...?* Insanity is defined as: Doing the same thing over and over again and expecting different results.

## FROM THE CUTTING FLOOR

### Cutting Instructions - Rectangle

I found this article on the internet using the search word “faceting”. I am always intrigued by the search results. I hope you find it interesting. Devin guides you through step-by-step instructions for faceting a rectangle cut amethyst.

#### **Step 1: Prep Gem Rough**

Once you've picked your gem rough, you'll need to orient it for the best results when cutting. Whole chapters or books can be written on this topic, so we'll save that for next time! After orienting your rough, you'll cut a flat surface where the table will be. This will make it easier to apply dop wax and put the gem rough on a dop for cutting.

#### **Step 2: Prep Alcohol Burner**

Okay, most of you already know how to setup your alcohol lamp, but here it is for posterity. Put the denatured alcohol into the alcohol burner, put the top back on and light it up!

#### **Step 3: Warm the Dop, Dop Wax, and the Rough**

With the flame going, you can warm up the dop, warm up the rough a little bit not too much, and melt some wax onto the rough and onto the dop. Put the dop and the rough together at the waxy parts and precisely position the rough on the dop to cut for best yield.

Usually you'll start with a flat dop that attaches to the table of the stone. When you flip the stone over you may use a v-shaped dop or a cone-shaped dop depending on the design you're cutting and the

shape that it gives the pavilion. Wait for the wax to completely cool. Once it is cool to the touch, very gently twist on rough and very gently tug it side to side to verify that the wax adhesion is strong enough for work.

It takes a lot of practice to really figure out how much twisting and tugging is just enough to verify the wax is on good, so don't give up, just keep trying!

#### **Step 4: Put Dop in Quill**

Now that your facet rough, dop wax, and dop are good friends, put the happy trio into the quill of your faceting machine. The quill is the lift table, turning, rotating, arm that holds the dop for cutting. The cutting angle is determined by the faceting diagram you're using to cut your gem. At least I hope you're using a diagram! Otherwise you're doing an abstract and that works much better with an oil and canvas.

Consult your faceting machine owner's manual if you're having trouble figuring out how to set the cutting angle for your machine.

The indexes to cut to are determined by the faceting diagram you're using to cut your gem. Make sure you have the right index in the quill for the design you're cutting.

Lower the quill arm to the lap. Adjust the mast arm height to the proper cutting depth for the specific facet that you are cutting. You'll want to start by cutting less than what you need to start with. This is because you'll cut this facet again, with subsequently finer laps until you finally polish the facet. So you always leave a little bit more material at each stage so that by the time you polish you'll have just the right depth on the facet. Determining the right depth for each coarseness or fineness of cutting is another one of those lessons best learned through experience.

#### **Step 5: Start Cutting**

Okay, the cutting angle, the index and the mast height are set, and you've adjusted the height just right, right? Start cutting the stone but pressing lightly on the quill or the stone and moving it back and forth on the lap. This motion helps avoid overusing one area of the lap and getting a groove. When cutting the stone you'll start with a coarse grit and move to finer grits until you have a mirror finish on every facet. The cutting levels are generally called preforming to get the basic gem shape, pre-polishing to put a finer cut on each facet, and then the polish. Choosing which grits to use to cut through each stage to the finished product is a very highly debated topic that is best left to each faceter's discretion. But if you're looking for an opinion, I use 600 grit, 1200 grit, and then cerium oxide to polish quartz. For harder materials I use 600 grit, 3000 grit, then 14,000 grit or 50,000 grit. If I'm really trying to impress, then I'll touch each facet with 100,000 grit at the end. I've heard that the final polish should be alumina oxide since it is a finer grade than 100k diamond.

#### **Step 6: Finished roughing in the main pavilion facet**

The initial preform generally takes the first tier of facets or the median angle facet and cut until the facets meet at a point. This insures that there is enough gem rough to fully cut the design to the depth required. Technically you can save some rough by estimating or cutting exactly the amount needed to just allow the deepest tier of facets to meet but rarely is the rough so expensive to warrant saving a few points (one hundredths of a carat) and going through that headache. Just cut till the facets meet and you'll have no worries!

#### **Step 7: Closer look at the pavilion preform**

Another look at the main facets on the pavilion meeting



#### **Step 8: Polishing Quartz using cerium oxide**

Once the three tiers of the pavilion have been pre-formed, then we will pre-form the girdle. The girdle is really important because that is where gemstones are measured for setting in jewelry. Unless you're planning on never setting this gem or using custom jewelry, you will want to pull out your calipers to measure and cut the girdle to one of the major sizes that jewelry castings are available for. For example, 7x5mm or 8x10mm castings are widely available for oval or rectangle cuts.

#### **Step 9: Closer look at the pavilion pre-form**

The final polish for any gem requires special care. Unless you're an experienced faceter with plenty of broken in laps, you'll find this step will take a good bit of time and practice to learn. Any old hat who tells you otherwise... forgot!

You can polish with diamond, cerium oxide, alumina oxide, or any number of brand name polishing laps that take a lot of the thinking out of the process. Just depends on your preference. A general rule of thumb is that softer abrasives like cerium are used for softer materials and harder abrasives are used for harder materials like topaz and sapphire.

Professional and competition cutters will point out that ready to polish laps are softer and will round the facets on the gem when cutting. Harder laps that must be charged will cut flatter facets. Charging is when you put the diamond, cerium, or alumina powder, paste, or slurry onto the lap and wipe it into the lap.

How can you tell a facet has been rounded? Reflect the light from an unshielded 20 or 40 watt bulb onto the facet. Be sure to put the bulb label reflection in so that you can see it on the facet. If it is curved (beyond the bulb curvature) then it is rounded. Some rounding is so severe that the light reflection cannot be seen on the entire facet at once.

#### **Step 10: Smear the cerium oxide slurry on the phenolic lap**

Once you have the dry cerium powder on the lap add water and smear the powder and water mixture on the lap. This is now called slurry.

#### **Step 11: No really, smear it good!**

Here is another pattern of spreading the slurry on the lap. Please take care that you don't get too distracted finger painting in the slurry and forget to finish polishing your gemstone!

#### **Step 12: Finished polishing pavilion of the gem**

The pavilion of the gem has been polished using cerium oxide.

#### **Step 13: Another look at the polished pavilion**

Here is another view of the polished pavilion.

**Step 14: Line up dop on transfer alignment fixture** now that the pavilion is done, it is time to cut the crown. To do that we have to "flip" the rough on the dop and cut the other side. We have to remove the dop from the quill so that we can flip the stone over but you don't want to lose the positioning of the stone or it will be lopsided! We'll use a transfer alignment fixture to save our relative position so we can return to it after the transfer.

Set the cutting angle to 90 degrees and the degree to the starting degree for the design. That is usually the highest number of the index gear you're using. Lower the mast height until the girdle facet brushes smoothly across the transfer alignment fixture. Make sure you always use the same

grit lap so that your alignment fixture doesn't contaminate your laps.

#### **Step 15: Time to transfer from the pavilion to the crown of the gemstone**

Remove the dop from the quill and put the dop into the dop transfer fixture. Pick out a dop that fits flush to the pavilion shape, in this case a v-shaped dop. You want a dop that is large enough to fully cover the culet and another tier or two of facets but not so large that it covers the girdle. When polishing the girdle we don't want to polish the dop too!

With the two dops in the transfer fixture, light up the alcohol lamp and warm the new dop and melt some wax onto it. I like to melt some wax onto the pavilion of the stone too, as that helps with adhesion. However be very careful not to heat the stone too much or the original wax on the table dop will melt and the stone will shift around losing its place. That can also lead to a lopsided gemstone.

With hot wax on the new dop and the stone's pavilion, push the two dops together firmly but not so much that you squeeze the wax out of the way.

Wait for the wax to completely cool. Once it is cool to the touch, very gently twist on rough and very gently tug it side to side to verify that the wax adhesion is strong enough for work.

It takes a lot of practice to really figure out how much twisting and tugging is just enough to verify the wax is on good, so don't give up, just keep trying! **Step 16: Remove the old dop from the stone**

Wrap a wet paper towel around the gem rough and the new dop. Heat the far end of the original dop until the heat travels through the dop and slowly melts the wax holding it to the table of the stone.

The weight of the dop will pull it down from the stone as the wax begins to give and you can remove the heat. Using another paper towel or an oven mitt, pull off the original dop from the stone and very carefully remove any wax that you don't want gumming up your laps while you cut the crown. **Step 17: Line up the dop in the quill to the transfer alignment fixture**

Put the dop into the quill arm and lower the arm to the transfer alignment fixture. Gently turn the dop until the main girdle facet brushes smoothly across the transfer alignment fixture.

#### **Step 18: Put the dop back in the quill to prepare to cut the crown of the gem**

Once the alignment is done, tighten the screw in the quill to hold the dop firmly in place. **Step 19: Set the Cutting Angle for the Quill.** The cutting angle is determined by the faceting diagram you're using to cut your gem. At least I hope you're using a diagram! Otherwise you're doing an abstract and that works much better with an oil and canvas.

Consult your faceting machine owner's manual if you're having trouble figuring out how to set the cutting angle for your machine.

#### **Step 20: Each tier of the crown has been pre-polished**

I got ahead of myself! I meant to show you pictures of each tier getting preformed but I lost track of things and didn't come to my senses until just now. Here you see each tier has been pre-formed and pre-polished.

#### **Step 21: Put table adapter in quill and line it up**

With the crown facets all done except for the table we don't have to worry about using the transfer alignment fixture. We can just take the dop out of the quill and put the table adapter into the quill.

The table adapter is needed for some faceting machines because they can not support setting the quill angle to zero degrees for the table facet. The adapter allows you to set the quill angle to 45 degrees and the stone will be at zero degrees from within the adapter.

Rather than setting the quill angle to 45 degrees I prefer to put the adapter loosely into the quill, lower the mast height to the lap and when the adapter is flush to the lap and can be rotated

smoothly, I tighten the quill angle screw, and then the quill screw for the adapter. **Step 22: Put dop in table adapter.**

With the table adapter fully prepped, place the dop into the table adapter and tighten it. There is no need to align anything. Be sure to raise the mast height up or if you drop the quill arm you could pop the stone off the dop right before your very last facet!

**Step 23: Cut the table of the crown of the gem**

Now, set the mast height so that you're cutting just into the table facet. Go slowly and cut cautiously so as not to over do it and put a big fat window into your gem and cut into the upper tier of facets.

**Step 24: Finished pre-polishing the table of the gem**

The table facet has been pre-polished.

**Step 25: Finished polishing the table of the gem. A new gem is born!**

The table facet has been polished and a new gemstone is born!

**Step 26: Remove dop from table adapter**

Take the dop out of the table adapter and see what time it is. Mostly likely you've gone way past your bedtime!

**Step 27: Put dop in a dop holder**

Put the dop in a holder so that you can melt the wax holding the gemstone onto it. I also recommend putting a wet paper towel around the stone to keep it cool.

**Step 28: Heat dop wax to release gem**

If you've heated the dop to melt the wax then you've got some extra wax on the gemstone you can probably peel off with your fingers. Nothing stronger than that should be used to avoid marring the polish or the edges of the gemstone.

**Step 29: Remove excess wax from gemstone**

If you've heated the dop to melt the wax then you've got some extra wax on the gemstone you can probably peel off with your fingers. Nothing stronger than that should be used to avoid marring the polish or the edges of the gemstone.

**Step 30: Put gem into acetone to remove remaining wax**

Put the gemstone into acetone to remove the rest of the wax. You can put the gemstone on a dop in the acetone too, but try not to leave the dop in too long or it could get a slight skin on it from the acid eating away at it.

**Step 31: The finished stone**



Final Thought: I think a compliment ought to always precede a complaint, where one is possible, because it softens resentment and insures for the complaint a courteous and gentle reception. - *Mark Twain*