Place:
Arden Community Hall
636 Hall Rd
Arden, WA

Club Meetings:

Third Tuesday of The Month at 6:00PM

The Panorama Prospector

June 2022

Polishing Rocks

By: Jim Retzer

One of the most common comments I here from people getting started in gem, mineral, rock, and fossil collecting is how to cut and polish rocks they collect. Once they go to a show and see the cut and polished specimens, they get excited and what to see how their material will look when polished and ask how do they do it? It sounds like a simple question, but it really is more complex than one thinks. To answer this there is some information that must be considered. First, what is your desired result? Do you just want polished rocks and display them in a bowl or jar? Do you plan on making something out of them like jewelry or other art forms? do you want to display them as cut and polished slabs? Or maybe you like spheres, obelisks, or cube forms. There are many reasons and ways to cut and polish stones, so to answerer the original question the result sought is particularly important. You do not want to spend money on equipment that is not going to accomplish what you really want, and you do not want to buy equipment that will not hold up to years of use.

To go into the how of polishing rocks would take volumes of articles. There are many books, articles and web sites written about this subject. Here I am not going to cover the technical information but just give an overview of the more common procedures used in the lapidary arts.

Most new rockhounds that want polished rocks start with a rock tumbler. This is the easiest way to start polishing rocks. The simplest tumbler to start with is a rotary barrel tumbler. They come in size from small 1 ½ pound compacity up to ones that will do over 25 pounds. No matter the size the process is the same. The basic knowledge you gain about the rock polishing process, when you tumble rocks, gives you a good foundation when advancing to other lapidary work.

Lortone 33B Tumbler

All stone polishing work uses the common process of using coarser to finer grits. Grit is a generic name for abrasive particles used to smooth a material. You may have knowledge of grit as it pertains to sandpaper. It comes in various degrees of coarseness that is identified by a number. The number refers to how many of each particle can fit through a 1 square inch filter. The smaller the grit number the coarser or more abrasive the grit. In lapidary two different materials are used, Silicon Carbide and Diamond. Silicon Carbide is used in most lapidary work whereas diamond is manly used in cabochon and

faceting work as well as on saw blades. Silicon Carbide Grit comes in two types, graded and ungraded. Graded grit has particles that are very close to the same size whereas Ungraded grit has a wide range of particle sizes. In tumbling you will see grit sold as coarse, medium, and fine. Coarse refers to ungraded grit ranging from 60 to 90 and is usually labeled as 60/90. Medium grit, also ungraded, ranging from 150 to 220 and is labeled 150/220. Fine grit is usually graded 500-grit.

The final phase in stone polishing is the polishing itself. This final step is usually done with a fine powder substance such as Cerium Oxide, Aluminum Oxide, Titanium Oxide, or a variety of other polishes. In the case of cabochon and faceting work super fine grits of diamond are used either on a wheel or in a paste. Diamond polish is from 14,000 grit to 50,000 grit.

Now back to the tumbler. One of the most common tumblers is the Lortone 3A or 33B. In the case of the 3A it has one drum that has a 3-pound capacity whereas the 33B has two 3-pound drums. In a larger capacity is the Thumler's Model B, a 10-pound tumbler. These may seem high priced, but they will last you for many years. This is just a sample of quality tumblers available that are well known and have been proven to be dependable over time. If you do get a tumbler, make sure you get a quality name brand tumbler that will last for many years. Many of these tumblers come as a kit with quality instructions and enough grit and polish to do 1 or 2 loads of rock.

Your next step in lapidary could go one of two ways. Some buy a rock saw first but some will by a multi-wheel cabochon machine. If you go the rock saw route first, I would recommend a Trim/Slab saw. This is usually an 8 or 10 inch saw with a diamond blade that can be used to trim a slab to prepare it for further work or use it to slab small rock. Most of these come with a vise to hold the rock and a drive system to get quality slabs. A dedicated trim saw is usually smaller and is harder to cut quality slabs with and a dedicated slab saw does not have a table system to use for trimming slabs also they are quite larger.

If you take the step into a cabochon machine, and research what is out there, you will be quickly overwhelmed. An easy way to start cutting cabochons is with a multi-wheel machine. This gives you everything you need to make quality cabochons in a complete system. A multi-wheel machine will come with 6 wheels that are diamond coated or impregnated. They usually consist of 2 hard wheels in 80 and 220 grit. These are hard steel wheels with bonded diamond grit. The next 4 wheels are soft bonded diamond wheels that have a foam backing that are usually 280, 600, 1200, 3000. They have side, full face pad wheel that is used for final polish. There are several quality machines available including the CabKing, Diamond Pacific Genie, Kingsley North Cabber, as well as several generic brands. Cabbing machines come in 6" and 8" wheel size. The 6" works well for the general hobbyist and is the most cost effective for general hobby use. The CabKing and the Diamond Pacific come with everything you need to use it right out of the box, with some easy setup. They also come with great information and instructions.

CabKing Unit

Diamond Pacific Genie Unit

The next more common rock polisher is a vibrating or reciprocating lapidary polisher This is a round plate mounted on a motor that provides a vibrating or reciprocating motion that is designed to abrade and polish with minimal assistance. They come in size from 10” on up. They usually come with 2 plates. One plate is used for the grinding and pre-polish stages. During this phase you add grit and water, as you would with a tumbler. The grit used with a vibrating or reciprocating lap must be graded grit. There are some variations in the steps from user to user but in general it is 80-grit, 220-grit, 600-grit, polish. I add an 800-grit step before polishing. The polishing is done in a separate plate that has a polishing pad in it.

Lortone Oscillating Lap

These are some starting points for those interested in polishing their rocks. There is plenty of other equipment and lapidary interest you can look into. Two other interests in rock polishing are Sphere cutting and Faceting. I am not that familiar with these, though I have done some of it in the past. If you want to look into these aspects of our hobby, there are club members that can direct you as well as a wealth of information on the internet and in many publications.

Wild Turkey Mine Trip

By: Jim Retzer

The club took our annual outing to the Wild Turkey Mine in Valley, WA last month. This outing is always productive. There is enough material there to satisfy most any collector. Every time we go there, they have discovered some new variation of their Noble Serpentine. This time a favorite was what they call Lemon Swirl. This is a gray and yellow material that swirls together. When cut the gray takes on a look of smoke swirling around the yellow. Another material this time was what some call Peanut Butter. It has brown blotches in with the green and yellow. In the rough it does not look as good as when it is cut.

Lemon Swirl Noble Serpentine

Yellow Noble Serpentine

Peanut Butter Noble Serpentine

No matter what material you get it should make some good cabochons. You can also cut a flat base on a piece for an outstanding display piece. The material is soft and easy to cut but does take a moderate shine. When cutting cabochons be careful and start on your 220-grit wheel. I have found that even a 600-grit wheel will remove some material. When tumbling start with a medium grit and watch you tumbling times, it does not take as long to tumble as other material. If you tumble this material as you would other material, you will not have much left when you are done. It may take you a couple of times tumbling to get the grits and tumbling times down. Also do not tumble this with other material.

Lemon Swirl Cabochons

Noble Serpentine Cabochons

One of benefits of this outing is that you can put in hard work to find some better material, but you can also just walk around and find plenty of great samples on the ground. I filled two buckets without any digging or hard work and was very happy with the material. Also, the cost of this material at the mine is very reasonable at $1.00 a pound. When you look on the internet for information on Noble Serpentine you see it selling for substantially more. Talking to several of our members after the trip they were surprised at how much material they collected but they were all happy with the outing.

Peanut Butter Noble Serpentine Cabochons in Work

If you missed this outing don't worry. The mine is open to the public one weekend a month over the summer. You can find the dates on their website www.washingtonrocks.net. I know I will be going back over the next couple of months.

Identify the "Rock or Mineral"

Last Month's Rock or Mineral:

Travertine –
It is a form of terrestrial limestone deposited around mineral springs. Often has a fibrous or concentric appearance and exists in white, tan, cream-colored, and even rusty varieties. It is formed by a process of rapid precipitation of calcium carbonate, often at the mouth of a hot spring or in a limestone cave.

It is found in many locations around the world. In the U.S., the most well-known place for travertine formation is Yellowstone National Park. The best representation of Yellowstone's deposits can be seen at Mammoth Hot Springs by the north entrance to the park. Here hot water comes up through a network of fractures and fissures and mixes with the limestone, deposited here millions of years ago when a sea covered the area. The hot water with dissolved carbon dioxide makes a solution of weak carbonic acid. As the solution rises through rock, it dissolves calcium carbonate, the primary compound in limestone. At the surface, the calcium carbonate is deposited in the form of travertine, the rock that forms the terraces of Mammoth Hot Springs.

Travertine terraces in Mammoth Hot Springs, Yellowstone National Park, Wyoming, United States
By © Frank Schulenburg

This Month's Rock or Mineral:

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

It is a pleasure to note we are back in full swing. All meetings and outings are back to normal. Thanks to all for their support and participation during the pandemic.

On another note, we are always looking for newsletter inputs from our members. If you have an idea for an article, please forward it to Jimrocks@recycledhistory.com

Refreshment Schedule for 2021

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

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

Panorama Gem and Mineral Club: Organizational Chart

Officers

President:	Sheila Stratton	skstratton@hotmail.com	509-207-8506
Vice-President:	Bob Bristow	bristow71@outlook.com	509-935-4375
Secretary:	Glynis Hull	gghull@comcast.net	
Treasurer:	Frank Stratton	frstratton@outlook.com	509-207-8503
Trustee 1:	Jim Peters	jimnbetty17@gmail.com	509-992-6921
Trustee 2:	Scott Jackson	free2rockhound@yahoo.com	509-680-4896
Trustee 3:	Greg Cozza	troller@hotmail.com	509-710-0375

Committee Chairs

Program Coordinator:	Sheila Stratton	skstratton@hotmail.com	509-207-8506
Hospitality:	Betty Peters	jimnbetty17@gmail.com	509-992-6921
Historian:			
Newsletter:	Jim Retzer	jimrocks@recycledhistory.com	509-738-2503
Show Chair	Johnie Pitman	jgpitman@outlook.com	509-684-8887