



# ROCKHOUND RAMBLINGS

JULY 2018 • PASADENA LAPIDARY SOCIETY • PASADENA, CA

## The Art of Rock Tumbling, Part 1

# Of Coarse

by Ben Shutman

This three-part series will cover the complete process of tumbling rock, from coarse grinding to finishing to polishing. Here in part 1, we take a detailed look at the methods and materials used in coarse grinding.

In essence, my method is to do a long coarse grind in a rotary tumbler and then move on to the finishing stage in a vibratory tumbler. The rock should be smooth and free of pits and crevices before the finishing stage, so I spend more time than most on grinding with coarse grit – typically 4 to 8 coarse “grinds” lasting from 7 to 10 days each. Yes, that’s a lot of coarse grinding, but then finishing and polishing can be done in about a week. I don’t recommend coarse grinding in a vibratory tumbler, even if you think it might be faster. Vibratory action seems to break down coarse grit very quickly, and there are a lot of inconsistencies within batches.

### Get the Grit

I use only 80 grit in the rotary tumbler. And I don’t reuse slurry, because 80 grit in a rotary tumbler breaks down to fine grit after 7 to 10 days. If you follow my method, you should plan on acquiring a large amount of 80 grit.



*Consider empty space one of the ingredients in your tumbler barrel, along with rocks, grit, water, and a spritz of dish soap.*

Watch out buying grit online! There are people who sell used grit as new. Another factor to consider: shipping is eye-wateringly expensive. I suggest a visit to Covington Engineering out in Redlands for your grit and polish. If you’re making a shopping list, you’ll need...

*Continued on page 4*



## Grandfather’s Bones

by Karl Stull

Grandfather spoke to Chris Kyte – giving permission – when Chris bought the old one’s bones in Quartzsite (from a Native American dealer, allowed to sell saguaro remains under Arizona law). Chris calls the old cactus Grandfather because the long ribs of the trunk stand taller than Chris, who is six-three, which means the cactus might have been 40 feet tall and 150 years old when a high wind brought him down, a skeleton by that time, clattering onto the desert floor – a couple of generations older than Chris at least.

In Chris’s care, the old bones have been honored, preserved, and put to new use. A few have gone on to wander the desert as walking sticks, traveling as Grandfather was never able to do. Saguaro wood is ideal for a walking stick, being exceptionally lightweight and strong, meant to hold a maximum amount of water with minimum structure. Traditionally, Indians of the Sonora Desert used saguaro ribs to build houses and make tools and containers. Chris has fashioned a

*Continued on page 5*

## President's Message



Dear Fellow Members,

Pasadena Lapidary Society has had a very eventful first half of the year. Great meetings and speakers, wonderful 2018 annual show, fun annual picnic with great friends and food. It just cannot get any better.

The 2019 Show committee met in June and all the chairpersons are right on track with planning their areas of responsibilities. With the cooperation of all these wonderful volunteers, we can expect to have the very best show. PLS is hosting the California Federation annual convention and show on March 8–10, 2019, at the Fairplex in Pomona. If anyone would like to volunteer to help in any area, please let me know so I can direct you to the chairperson for your area of interest.

Marcia Goetz and I are doing our own little fundraiser to help offset the costs of parking for our volunteers. We are recycling plastic and cans. We need to raise \$1,800 dollars. We have about \$50–\$60 right now. If you would like to contribute to this cause, bring your items to a meeting or Workshop and we will take care of redeeming for cash. Ralph and Becky Fregoso donated \$40 to our fundraiser, and that helped. Thank you, Ralph and Becky!

I would like to thank Mona Ross and Gloria Biesterfeld for all their hard work organizing our annual picnic. They did a fantastic job. There were approximately 45 to 50 attendees, and everyone had a good time visiting and eating the fine food furnished for the potluck. Thanks also to Jim Graffius for grilling the hotdogs. Jim, you did a great job.

At the June general membership meeting, Phil Lahr was elected by the membership to fill the open position of Treasurer. Phil will also serve as the 2019 Show treasurer. Thank you, Phil, for stepping up.

A few members have been requesting that we hold an event where they could sell some of their lapidary work. This is in the planning stage, and now is the time to speak up if you want to do this. We need to have at least 10 members sign up to be sellers. PLS will host the event as a parking lot sale on November 11 at a location in Sierra Madre. The fee for sellers will be \$20 for an 8-foot table. Sellers must sign a contract and sign a waiver for the event. PLS will advertise the event to the public. For more information, contact me at (727) 512-0381 or <mailto:Ellenbf2007@aol.com>.

Please refer to page 7 of the bulletin for the schedule of events in July. Stay cool and enjoy this summer weather.

– Ellen Ferrell, President

## Leaders, Meetings, Membership Information

### Officers

**Ellen Ferrell, President**  
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[Ellenbf2007@aol.com](mailto:Ellenbf2007@aol.com)

**Mona Ross, Vice President**  
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**Joe Goetz, Federation Director**  
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### Trustees

Joe Goetz, Marcia Goetz,  
Chris Kyte

### Committee Chairs

**Annual Show** Ellen Ferrell  
Marcia Goetz (cochair)

**Bulletin** Karl Stull

**Display Table** Paolo Sanchez

**Education** Joan Harrison

**Field Trips** Joe Goetz

**Historian** Elizabeth Weston

**Librarian** Jennifer Jang

**Membership** Marcia Goetz

**Publicity** Mona Ross

Elizabeth Weston (social media)

**Sunshine** Ellen Ferrell

**Ways & Means** Phil Lahr

**Workshop** Carolyn Duncan

**Webmaster** Ben Shutman

### Membership

Membership per calendar year is \$25; for a second adult at the same address, \$15; further adults, \$10. Junior members are \$10. Initiation fee is \$10 per person.

Renewals are due in October and delinquent after December 31. Mail checks to PO Box 5025, Pasadena, CA 91117-0025.

### Board Meetings

1st Thursday every month.  
7 p.m. at Matt Denny's Ale House,  
145 E Huntington Dr, Arcadia.  
All members are welcome.

### Workshop

2nd Sunday every month.  
Fees are \$3 for half-day, \$5 for a  
full day. Bring lunch!

**Safety:** Equipment instruction is required; also liability waivers, eye protection, and closed-toe shoes.

Junior members 9 and older are welcome with adult supervision.

### Program Meetings

3rd Tuesday every month.  
Doors open at 6 p.m.  
Meeting is 6:30–8:45 p.m.  
Pasadena Central Library  
285 E Walnut St.

### Online

**www.pasadenalapidary.org**

**Email:** [info@pasadenalapidary.org](mailto:info@pasadenalapidary.org)

**Facebook:** Pasadena Lapidary Society

**Instagram:** /PasadenaLapidary

**Twitter:** @pasalapidary

Submit articles, corrections, ads, and your ideas to PO Box 5025, Pasadena, CA 91117-0025 or [info@pasadenalapidary.org](mailto:info@pasadenalapidary.org). Include NEWSLETTER in the subject line.

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## March Weather at June Picnic

Under our landmark oak trees at Arcadia Park, PLS members gathered with food, chairs, and easy-ups – though there was no need for the two we put up. Clouds provided all the canopy we needed to enjoy hot dogs and an array of puzzling side dishes and to comment on how blazing hot the sun was last year. In further conversations (see photo, near right): Bonnie and David Lacy recalled wildlife in Alaska, Sylvia Cliffe told Joe Goetz about a bear that visited her backyard, and your bulletin editor chatted with Helen Graffius about low fares on the Metro. No world problems were solved, but people had a pretty good time in the company of other rockhounds, and a tradition continued.

Mona Ross and Gloria Biesterfeld did a great job organizing the picnic and its myriad things to remember. Jim Graffius (photo, far right) stood tall as grill master. Thank you, Akira Atobe and Tatsuo Nagashima – new members attending their first PLS picnic and coming early to help with set-up. We'll be hoping to see one and all again next year. Same time, same oak trees.

– Karl Stull



## July Program Meeting



### In Search of Amber

At July's program meeting, artist and jewelry-maker Linda Queally will take us on a journey to Simojovel, Mexico – the Land of Amber. We'll learn about color, age, and other characteristics of amber and about mining techniques for extracting it. Queally's presentation is based on a four-month trip she took in 2012 to Chiapas state (southwest of the Yucatan Peninsula), visiting four mining towns deep in the mountains.

Queally is a painter, interested in mermaids and pearls, but since 2009 her work has expanded to jewelry. She makes an annual pilgrimage to the international gem shows in Quartzsite, Tucson, and Denver. For an introduction to her work, visit her blog at [www.artbylindaqueally.wordpress.com](http://www.artbylindaqueally.wordpress.com) and her Etsy shop at [www.etsy.com/shop/lindaqueally](http://www.etsy.com/shop/lindaqueally).

For our July Rock of the Month, Jennifer Nishimura will give a presentation about olivine. Paolo Sanchez will be at the Display Table, ready to identify "What Is This?" rocks that you bring to the meeting. See you there! – Mona Ross



The Art of Tumbling, *continued from page 1*

### Grit Shopping List

80 grit (coarse)	5 or 10 lbs.
120/220 grit	2 or 3 lbs.
500 grit	2 or 3 lbs.
Pre-polish (aluminum oxide)	1 lb.
Polish (tin oxide or cerium oxide)	1 lb.

*These amounts will keep a 12 lb. tumbler busy for months. For a 6 lb. or 3 lb. tumbler, reduce amounts accordingly.*

Grit is ruined if it is contaminated, so make sure you have sealable containers and plastic bags for storage. The saying about cleanliness being next to godliness applies in tumbling.

### Manage the Media

While you're shopping, pick up some ceramic angle media (tube shapes in photo at right). It's good to have a variety of sizes in every barrel, but keep in mind while buying that large pieces wear down to small pieces. Inch-long pieces become cashew-sized and peanut-sized. Small pieces last only a few months before they are rice-sized and not super useful.

Rice-sized pieces of ceramic media go to my "small" media bucket along with leftover rock chips – to be used as cushion material. I use this material in 3 lb. rotary tumblers, but even then I usually add large ceramic pieces because they do a good job of working the grit out of the bottom seam of the barrel.

### Fill the Barrel

Only fill the barrel 5/8 full with rock and angle media. You need a fair amount of empty space inside the barrel for the tumbling action to work properly. Add water to just under the level of the rock. Add grit and a squirt of dish soap. Clean the lid and barrel edges where they make a seal, and you're ready to go.

#### How Much 80 Grit?

12 lb. tumbler	1 cup
6 lb. tumbler	1/2 cup
3 lb. tumbler	1/4 cup

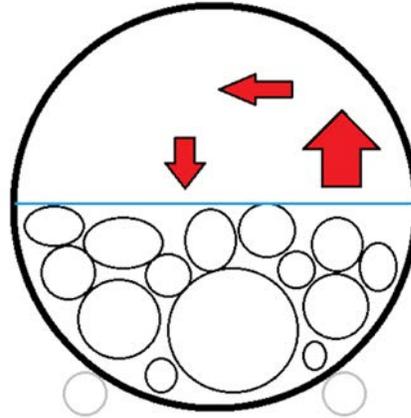
Run the tumbler 24/7 for about a week. It's good to check inside the barrel from time to time, but don't turn off the tumbler for any extended period – like

whenever you're not at home. These machines are made to run unattended. Starting and stopping allows the mixture inside to settle, which leads to a goo that works its way into crevices and is really difficult to clean out. It's like tumbling a load of spackling paste.

### Worry about Slurry

You want grit to stay in suspension the whole time. The consistency should be runny, like pancake batter. When the barrel is rotating, if you see that one side seems heavier than the other, it is probably due to water loss OR the mixture was allowed to settle. Add water as needed, or – better yet – clean the barrel and start a fresh grind.

When you empty your tumbler barrel, put the slurry in the garbage. I use a bag full of sawdust for slurry disposal. Others



*Tumbler "action" is sort of like a rolling wave, as suggested by the arrows. Rock slides up the barrel wall and then falls to the middle. There has to be enough height for the rock to fall with enough force, so empty space in the barrel is important.*



*Adding ceramic angle media gives the rock mix a more uniform consistency, which ensures there is always a convex surface for the rock to abrade against. It also cushions interactions between irregular rock shapes.*

use milk or ice cream cartons, allowing water to evaporate and then sealing up the remaining brick. Whatever method you use, handle slurry with care. It contains very fine particulate matter, and silicosis is no joke. Do NOT dump slurry down any drain. Do NOT put it in your garden.

Some guides recommend reusing slurry – like it's a sourdough starter to be propagated from batch to batch. But slurry is just rock dust and broken-down grit. For the optimum mix, all you need is the correct measures of rock, "fresh" grit, and water.

Finally, make sure you clean the seal-forming surfaces of the barrel and lid every time you use the tumbler. A toothbrush and Dawn work well.

Be patient in rock tumbling. It takes time to get good results. I run rock until it is "done" and then one more week. You'll find your zone. By then, part 2 of this series will be ready with tips for finishing in a vibratory tumbler.

*White spots mean trapped grit, which means these pretty rocks go to the discard bucket. Trapped grit is a menace to all the other rocks in the tumbler at the finishing stage.*



**THE ART OF ROCK TUMBLING: DO'S AND DON'TS**

**Do NOT** tumble for more than 10 days without a complete cleaning and recharge of water and grit.

**Do NOT** use anything organic inside your barrel. Walnut shells do not work as a grit or media. They do add protection to the rock, but they are impossible to clean up. Shells decompose and cause problems. Stay away.

**Do NOT** use plastic pellets as tumbling media. Grit gets embedded in the plastic, and they are impossible to clean.

**PROTIP:** Use a lot of ceramic media. It does a magnificent job of keeping the grit suspended in the slurry.

**PROTIP:** Add detergent or a water wetter product to break up the surface tension of the water. Also, Old Miser is a great product that helps "glue" the grit to the rock. A teaspoon per barrel is all you need.

**PROTIP:** Make sure tumbler belts have the proper tension. Tumbling is most efficient at 30 to 60 RPM. If you're going too fast, the rock spalls. Too slow, you'll be tumbling forever.

**Grandfather's Bones, continued from page 1**

few household items, such as a lamp and a bowl-shaped holder (see photo at right) – suitable for hats, gloves, and outgoing mail. The bowl is the cap of the main trunk, turned upside down.



The two "legs" are Grandfather's first arms, which would have grown when he was 75 to 100 years old. The sawed-off ends of the ribs reveal that saguaro wood grows not in concentric rings as in a tree but in layers that point outward, like spokes of a wheel.

To condition the saguaro wood, Chris rubbed in neat's foot oil. To protect against weathering, he applied coats of lacquer (varnish soaks in and would damage wood fibers). To keep the trail-striking end of a walking stick from raveling, Chris dipped it into a black sealant used for tool handles. That walking stick (below, left) is now known as The Hoof.



Chris Kyte is a past president of the Pasadena Lapidary Society (2010–2011) and now serves on the Board as a trustee. You see him at the Workshop, where he often takes a turn as monitor of the trim saws.

Lots of rock and mineral samples on the Display Table at program meetings are from Chris, who is our go-to resource if you have a question about crystals. On field trips, he is a practitioner of the sit down and sift a small area method of collecting, as opposed to the slow walk to the horizon.

Considering his varied studies, talents, and acquaintance, you might call Chris a Renaissance man. He has been more than once



to the Renaissance Faire, in a wizard costume he designed, wielding a staff full of ancient wisdom from Grandfather (photo at left).

At right, a gilded flicker gnaws through saguaro ribs to make a nest inside. A similar hole made by a nester is visible in the walking stick Chris holds in the photo on page 1.



Photo credit: *Gilded flicker* by Jean-Guy Dallaire, Calgary (Alberta), Canada via Wikipedia



Dear Cabby,

*I bought a gorgeous piece of fire agate rough, but after I cut out a cab and polished it on the Genie, the flash effects were gone. I tried looking from different angles and in different light: nada! What happened? – LIGHT'S OUT*

Dear Light's Out,

I hope you still have some of the original fiery rough. I asked our Mineral Merlin Marcia Goetz (alumna of the Gemological Institute of America) about this stone and how to work with it. She said grinding wheels were the wrong tool to use because fire agate has – brace yourself for vocabulary! – a botryoidal growth pattern.

Botryoidal (BAH tree OY dull) means “shaped like a cluster of grapes.” So a fire agate has curves and bulges instead of planes and angles. Grinding the curves down flat destroys the naturally formed lenses that give fire agates their flare. Building up those lenses took a long time, 24 to 35 million years ago, as hot water containing silica and iron oxide with inclusions of goethite and/or limonite accumulated into beautiful, bubbly, fiery stones.

To preserve the fire, use a Dremel or Foredom rotary tool and work around curves and bulges, being careful to leave a layer of agate on top of the lenses. When shaping and polishing fire agate, keep the stone wet or under water. Make sure electrical tools are safely grounded.

Good luck in your quest for fire. Follow this advice and you won't get burned a second time. – Cabby

## Workshop



### Carving Continues – July 8

The Rock Carving for Beginners class – taught by our master of the art, Sylvia Cliffe – filled up fast. In the first session, participants received a slab of howlite and drew three figures in pencil – straight line, wavy line, and an oval. Then they drew a figure of their choice on the back of the slab, such as a flower. By the end, everyone was carving on their own. As Sylvia said, “From a teacher's point of view, it was a dream.”

The class is full for now, but you can put your name in for the waiting list. No tools needed to start.

**Reminder for Carving class participants:** Start time is 9:30; cleanup at 11:45. Bring eye protection and a dust mask.

Come to the PLS Workshop to do a project and catch up with PLS friends and their news.

Workshop hours are 9 a.m. to 5 p.m. Half day is \$3, all day \$5.

Entrance is on the *west* side of the building, down the walkway between buildings. Do not use the ramp in the parking lot. For directions, please call me at (909) 593-2781 or email [gem.quest@verizon.net](mailto:gem.quest@verizon.net). – Carolyn Duncan

## Education Outreach



### Name the CFMS Triceratops

CFMS is having a contest to name its new baby Triceratops puppet. All of our Jr. members are welcome to brainstorm and suggest a name. I'll have a picture of this lovely puppet, and entry forms at our July general meeting.

Jr. members are also welcome to email their suggestions to me. I'll turn in our Jr. members' suggestions on Friday, July 27.

**Display Table:** Paolo Sanchez is coordinating the Display and Rock Identification Table at our club meetings. You may display items of general interest, workshop projects, and items you've collected on field trips. If you'd like to know the name of a rock or mineral you've acquired, please bring it to the next meeting and set it on the table with a “What Is This?” note. Polishing a small section or carefully “knocking off” a small corner of the specimen will provide more clues.

As always, if you'd like to schedule one of our experienced members to present at your school or community gathering, please contact me at (323) 640-4394, or [liveoak180@yahoo.com](mailto:liveoak180@yahoo.com). – Joan Harrison

## PLS Air Force Wants YOU!

Mechanics at all skill levels needed.

Construction of the PLS air force is under way. Ray Ritchie has designed a decorative airplane made from rock slabs and offered to glue together as many as we can supply parts for. These planes sell like hotcakes at our shows.

The Workshop has templates for the parts. We need volunteers to cut and shape parts on our trim saws and grinders. You might even want to make a plane for yourself. Ask at the front table, and we'll get you started. – Phil Lahr

## Great Deals for PLS Members on Lapidary Equipment

Do you dream of having a home workshop, but find the cost of new equipment a little higher than you are ready for?

The club has a variety of excess lapidary machines and supplies available for sale to members. These include 8-inch and 6-inch HP combo units, a buffing station, a small bench grinder, a trim saw, and a 6-inch flat lap. We also have sandpaper and buffing wheels and various small tools. For more information, contact me at (818) 926-3163 or [plkslahr@att.net](mailto:plkslahr@att.net). – Phil Lahr

## Trial Balloons.....



**FOR PLS MEMBERS TO SELL THEIR CRAFTWORK.** If 10 members sign up to be sellers, PLS will host a parking lot sale November 11 in Sierra Madre. Fee \$20 for an 8-foot table. PLS will advertise the event to the public. For more information, contact Ellen Ferrell at (727) 512-0381 or [Ellenbf2007@aol.com](mailto:Ellenbf2007@aol.com).

**RIDESHARE FOR FIELD TRIPS.** If you don't mind having a passenger or two who will chip in for gas, PLS can send you names and contact info of members looking for a ride. You contact them if/when you want to offer a ride. No one will call you to ask for a ride. To receive rideshare names for future field trips, call Karl Stull at (818) 205-7135 or send a "Might be interested" email to [info@pasadenalapidary.org](mailto:info@pasadenalapidary.org).

**ASSISTANT EDITOR.** Proofreading, looking things up on the Internet, chatting about ideas for the next issue of the newsletter, getting facts and photos at PLS events. You'll need email and basic familiarity with Word. Send a note to Karl Stull and we'll talk about what kinds of work would be best for you: [info@pasadenalapidary.org](mailto:info@pasadenalapidary.org).

## Rock and Gem Shows

**No shows in July!**

A man just can't live in a farming country after the freedom of Western mining camps, so I'm headed for the Yukon.

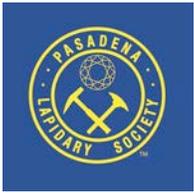
– Jim Patterson, quoted in *Calico Memories* by Lucy Bell Lane



FASANAROCK

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SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4 Independence Day	5 Board meeting	6	7
8 Workshop Carving for Beginners	9	10	11	12	13	14
15	16	17 Program mtg Amber in Simojovel	18	19	20	21
22	23	24	25	26	27	28
29	30	31	<p><b>July 3:</b> Happy Birthday, Harrison Schmitt – only geologist to visit the Moon. <b>July 11:</b> Half-pound meteorite lodges in Denver warehouse roof, 1967. <b>July 28:</b> Robber grabs \$136 million from diamonds exhibit in Cannes, 2013. <b>Note:</b> Meetings at Pasadena Library now start at 6:30.</p>			July 2018



Pasadena Lapidary Society, Inc.  
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*Brecciated jasper in a sterling silver bezel setting by Gloria Biesterfeld*



*On our May 2018 field trip to the Himalaya Mine, we shoveled, sifted, and sorted, and found green and pink tourmalines. Counter-clockwise from top center are finds by Chris Figueroa, Sue Pang, Paolo Sanchez, and Janine Arp (North Orange County club).*