THE MOSTLY MONTHLY NEWSLETTER OF THE

🗞 🕹 Eugene 5160 Club ~ January 2020

https://www.facebook.com/5160Club

newsletter archive: http://www.elementalforge.com/5160Club/



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JANUARY MEETING

Thursday January $2^{nd} - 6:00$ pm at David Thompson's

shop. Please do not arrive before 5:45pm. If you didn't get the directions in the meeting notice, email

me for them: michael@elementalforge.com

Request from the Thompsons:

maintenance is all ours. Thanks."

Bring your show-n-tell!



2020 Big Sky Country Conference – July 10/11/12 in Frenchtown, Montana. 1st class knife makers, knife making demos, firearms, bowling ball cannon launch etc. Space is limited – register here: https://www.joshsmithknives.com/history/big-sky-conference/

David Thompson – has coke and coal for sale (near Jerry's in Eugene, OR) – Talk to him at one of our meetings or call 541 688-2348.

Check out the "Classes for Knifemaking, etc." section at the end of the newsletter for offerings around the region. Let me know if there's more that I should add to this list.

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"Please drive very slowly down our lane. The

NOTES AND REMINDERS

Oregon Knife Collectors Association – The 2020 April show will be here in two shakes of a lamb's tail (or two head shakes at smile-knife tales): OKCA Members only Friday the 17th – open to the public for a nominal entry fee Saturday & Sunday the 18th & 19th. Everything from the world of cut plus seminars and demos! <u>http://oregonknifeclub.com/shows.html</u> ଡ଼ୡୡ

NOVEMBER MEETING

ERIK LAND was first up. "I've been busy – I just got another eight orders – they want 'em by Christmas!"

Erik passed around a finished knife that he'd brought in as a



work-in-process last month. CPM 154 blade with Peruvian Walnut handle.



Someone asked Erik if this was a different species than American Walnut – Erik guessed that it was – he had bought a large amount to make a church alter "and not a lick of sapwood, not a knot, it was absolutely the most beautiful walnut I've seen." *A quick web search confirms that it is indeed a separate species. When I asked where he'd bought it he said Crosscut Hardwoods (see the links at the end of the newsletter)* – which is an awesome place to get boards and slabs – my only caveat is that they do not carry much in the way of tightly-figured woods.

His next pass-around (also CPM 154 blade) had an Osage Orange handle. He noted that when he picked the wood blank the thought it had some interesting figure – but by the time it was all shaped and sanded – not so much.



Regardless, it is a classic working knife with a classic American handle wood.

"My wife informed me that she was moving to the front of the line for Christmas" Erik noted – adding that they are still using the steak knives that they bought when they first set up house "so they're pushing 50 years old! And they're the nastiest thing on the face of the earth..." so steak knives it is. He passed around four heat treated and rough shaped blades. Erik always heat treats before grinding. "She only gets four?" someone heckled "We're old and retired – we never have more than four people at the table!" Erik rejoined. Once again CPM 154.



When asked "how the heck did you get them so exactly the same?" Erik replied "I'm just that damn good!" and then shared that he'd roughed the blanks out using a pattern, then he glued them all together with three dots of Super Glue (aka CA glue) to profile the outside edge and drill the holes "and then I set them in front of the shop heater and they magically fall apart... as long as I'm careful with grinding the bevels and such they come out pretty close."



LYNN MOORE was next up with a basket of Micarta from Dennis Ellingsen *[Thanks Again Dennis!]* free for the asking. These are used bushings from industrial use that make excellent durable handle material. Lynn went home without any leftovers.

His first pass-around had a

blade from saw steel – also provided by Dennis – and wood handle of unknown provenance "I think I got it from Wayne – really pretty..." someone opined: "if it came from Wayne it was probably Tree Wood" some other helpful soul chimed in "But it's hard to say with him." The handle pins are copper.



With his next pass-around he used the handle's Desert Ironwood block differently – when he sliced it in half for scales he liked the inside better than the outside. So he flipped the inside outside!

The scales are secured with copper pins. The blade is from circular saw steel.



Then Lynn described how he uses a simple tool Wayne Goddard gave him for designing the sheath. It's just a stick with a leather strap attached. Put the knife against the stick – wrap the strap around the knife at the widest point and mark it to give you a starting point for the width you need to cut of the material for the sheath. You can do the same thing with a cloth tape measure or a piece of string, but the stick makes it easier to hold and the thickness of the leather strap imitates the thickness of the sheath material.

Here is an example of Lynn's sheath process: he transfers the width measurement onto paper and decides how long a sheath he wants – and after it's all drawn out he transfers the design to leather to cut out the pattern. You will note the extra paper outline for an edge piece of leather that will be layered in to protect the stitching from the knife blade. The lump on the edge piece will serve to snap the knife into the sheath.



What you don't see on the photo is that Lynn has already stitched the belt loop onto the sheath (the two black rectangles are the stitching). He trims up the edges of the belt loop – and applies dye to the inside of the belt loop and to the part of the sheath about to be covered – before stitching the belt loop on. He also does tooling and stamps his logo before stitching the sheath together.

Lynn then encouraged folks to take the Micarta he'd brought in... and there was

quite a long discussion of ways to use Micarta in handles and for jigs and tools.

JERRY MARTINDALE

came to the front with some new work. First up was a design he came up with for a combo camp knife/fighting knife. This blade is out of 1065. This was his first shot at doing heat treat



before grinding. You can see from the photo that he's just started in on the grinding.



Next up was a knife with several "firsts" for Jerry: first wood sheath, first inset handle, first fuller – and heat treated this 1084 for "a beating knife". The sheath is Walnut with a rabbit skin liner.



And last but not least – the sword that he worked on at the hammer-in. 5160 steel. "This was a lot of fun to heat treat in a coal forge. I wound up making an oven with fire bricks and passing it through that." He's in the process of sanding. It will have copper fittings for the guard and pommel... which puts it at nearly five pounds when it's assembled.



Jerry noted that it did warp in the quench – which he corrected partly right out of the quench *(by hand if I understood right)* and then using a set of pins to finish the job.



EDWARD DAVIS was next up with a new pouch for his everyday-carry knife. A previous pouch had started to tear the belt loop at the edge so he made the new one with a metal belt clip. He also noted that the old

pouch was not lined – and the flap had started to tear as well.



He's been using a pouch he made for his Leatherman that has the inner lining on the flap and it has held up well. He used 2oz leather on the outside & inside on that pouch. "You can see that some of the stitches have worn through [on the flap] but because it's saddle stitched it isn't going to come apart."

Edward has been making leather briefcases lately. He noted that he decided to take one of them apart (*I believe it was to install wider gussets on the ends*) and because it was saddle stitched he had to cut each and every stitch to take it apart. "You hear that saddle stitch is a lot stronger than machine lock stitch... now I have had the experience of taking apart the saddle stitch. With the machine stitch if you get it started you

can pull it and it will pull apart... but the saddle stitch... that's not going to come undone!"

TRISTAN came to the front with several pieces. First up was the dagger he's been working on. The blade is twisted Damascus *[I believe he uses 1084 and 15N20]* with help from Frank Bobbio (that's a Bobbio style skull for a pommel).



The guard has some copper inlay.



Next he showed us an axe he made with 128 layer Damascus bit and 5160 body. This is his fourth axe and he's still getting comfortable with the construction. He made a tapered drift for the axe eye: making tools to make tools with.



The next two blades have handles from the dyed Oak that Frank Bobbio brought to the last meeting.

The first is a friction folder. This is the third iteration

of the handle! The first round was steel but Tristan did not like the look of that – so he tore that off and put on a wood handle with a steel frame – but "my copper washers looked terrible" so he took that one apart too – so this is version 3:



... and now for something completely different:



... on this EDC knife he shaped the handle a little differently – slightly tapered toward the front with a bit of hollow grind on the sides for your finger or thumb to settle in to.



And finally – one more EDC:



Next up was **STEVE GODDARD** with a fixed blade using two colors of Micarta with a blue G10 spacer dove-tailed together. "The handle is more round than I usually do so you can see the grain in the Micarta..."



These blades are all 1095, edge hardened.



Steve noted that he used an awl to hand punch the stitching holes. There was quite a discussion about punching versus drilling, and there seemed to be general agreement that drilling was not as good an option as far as the integrity of the leather. One person noted that he uses a drill press, but puts a sharpened bicycle spoke – so it becomes a spinning awl so that it doesn't grab the leather with each punch.

The next of Steve's pass-arounds had a Bocote handle.



This one has Desert Ironwood scales.



This one has stabilized Beech (looks similar to Maple) with red plastic and blue G10 spacers, Ironwood in the front. Steve noted that these blades have a Scotch-Brite finish.

This one has a G10 and Osage Orange handle.



The handle on this one is G10 and a man-made laminated wood that Steve thinks is based on Rosewood – *I believe this is currently called Diamondply (previously known as Dymondwood previously known as Pakkawood*).



The next one is Steve's take on a small bush-craft knife. G10 scales and liner.



ADAM noted that he has made a hydraulic press based on the Coal Iron Works frame press. "That was a pretty wild learning curve." So he's got a 10 ton press running on a 110v treadmill motor. So he's been making Damascus!



First up was a 108-layer wakazachi. He started with 12 layers of 1095 and 15N20. He's loving the forging!



Second up was a forged integral Damascus chef knife (not etched – so the pattern doesn't show yet). This is headed to his grandmother – with burl handle wood she sent him when his grandfather passed.



And finally – a "keyhole" style integral in the works. "This keyhole stuff gets me excited – it's just so simple and so difficult at the same time..."



The knife on the far left is one his dad asked him to make out of an old file his dad had.

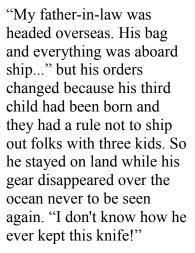
"I'm just having fun right now – learning and trying to get better... another fun one is made from a wrench – I think that is going to work really well as a bottle cap opener!"



A recent newsletter (OKCA?) had pictures and notes on WWII knives – which made our friend here think "now wait a minute – I think in my gun cabinet – I think there's a knife in there too... well there were three knives in there and one of them is a WWII

USN and on the sheath it's got a "V", then a line, then lettering "MEADE"" which he interprets as "Victory in MEADE" as a military action in the South Pacific.







CASEY stepped up, noting that he'd been commissioned to make a brut-de-forge vegetable chopper. Being a wise man he's got two in process.

In the group photo of Casey's knives – these are the two on the right.



FRANK BOBBIO

cautioned that he did not have any knives to passaround, but "I decided to take some one inch cable and try making one of my skulls."

He tried using the induction furnace, but it turns out that induction doesn't work as well with a thick bundle of wires – so he resorted to the propane forge.

He was hoping to have wire "hair" at the top of the skull but in getting it solid enough to form that got lost in the process. "I've got two inch cable and I'll try that."

Frank has been musing and investigating why steel sparks at the grinder – whether it's because of friction heat or what. From his research it's that "Iron is pyrophoric and if you break off small enough pieces it rapidly oxidizes and that's what gives you the sparks... it's burning but primarily because of rapid oxidation..."



From there Frank turned the discussion to fire starter strikers. There were stories about better and worse and worthless strikers – so if you are going all bushcraft, definitely try out your setup before heading out into the woods! ড়৾৾ৠ৵ড়

Have fun, keep well, and work safe -

Your Scribe ~ Michael Kemp

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WEBSITE LINKS

5160 CLUB

5160 Club Newsletters are archived at: <u>http://www.elementalforge.com/5160Club/</u>

Hint: to Google the archive for a specific knife style or presenter name, use a search like this: **sami site:http://www.elementalforge.com/5160Club** or this:

ron lake site:http://www.elementalforge.com/5160Club

OREGON KNIFE COLLECTORS ASSOCIATION (OKCA)

The OKCA hosts monthly dinner meetings where you are guaranteed to see treasures from the wide world of "things that go cut!" OKCA also puts on a small show in December and the big knife show in April – if you haven't seen it you've been missing something special!

http://www.oregonknifeclub.org/index.html Go to the "Knewslettter" link and scan a recent newsletter for a membership form and contact info.

FORUMS

Bladesmith's Forum aka Don Fogg Forum <u>http://www.bladesmithsforum.com/</u>

Knifedogs Forum (USA Knifemaker) https://knifedogs.com/ American Bladesmith Society http://www.americanbladesmith.com/ipboard/

Usual Suspects Network http://www.usualsuspect.net/forums/forum.php

Blade Forums http://www.bladeforums.com/

Hype-Free Blades http://www.hypefreeblades.com/forum

Peter Newman of Bent River Forge/Farrier Supplies has a closed Facebook group: Blacksmiths of Oregon https://www.facebook.com/groups/blacksmithsoforegon

References

Wayne Goddard's books are available at Amazon: http://www.amazon.com/Wayne-Goddard/e/B001JS9M10 And you can email the Goddards directly for his DVD at Sg2goddard@comcast.net

Most of the companies in the "Knife Maker General" links (below) have a section for how-to books and DVDs.

Verhoeven's Metallurgy For Bladesmiths PDF – this is a very deep dive, not an introduction. I no longer see the original free PDF – but here's the updated book on Amazon:

http://www.amazon.com/Steel-Metallurgy-Non-Metallurgist-J-Verhoeven/dp/0871708582

ZKnives – Knife steel composition/comparison/etc. <u>http://zknives.com/knives/steels</u>

Kevin Cashen's Bladesmithing Info http://www.cashenblades.com/info.html

Knife Steel Nerds – a metallurgist's blog on the technical details of steel <u>https://knifesteelnerds.com</u>

Tempil Basic Guide to Ferrous Metallurgy http://es.tempil.com/assets/5/31/Basic_guide_to_ferr ous_metallurgy_(2).pdf From the Heat Treating Society of the ASM – the Heat Treater's Guide Companion for Android devices.

https://play.google.com/store/apps/details? id=com.pfiks.mobile.heattreaters&hl=en

My own "Knife Info" has musings and cheat sheet charts – plus Oregon and Eugene knife laws: <u>http://elementalforge.com/tips_notes/</u>

CLASSES FOR KNIFE MAKING, ETC.

Erik Olson is teaching intro to forged knives in Eugene. I don't have a business contact but his personal Facebook page is: <u>https://www.facebook.com/erik.olson.77715</u>

Farrier Supplies aka Bent River Forge offers intro and advanced blacksmithing classes – and supplies. 26729 99W, Monroe, Oregon Coal, coke, forges, parts, tools, classes... <u>https://www.facebook.com/FarrierSuppliesOR</u> (541) 847-5854

Gene Martin offers personal instruction at his shop south of Grants Pass for a daily rate. <u>http://www.customknife.com/</u>

Bear Iron in Cottage Grove offers blacksmith classes through Lane Community College. <u>https://www.beablacksmith.com/sign-up</u>

Michael and Gabriel Bell of Dragonfly Forge offer an ongoing series of small group classes in Japanese style sword forging and fittings. Located on the southern Oregon Coast. http://dragonflyforge.com/

Murray Carter offers small group classes in a variety of subjects, primarily focused on traditional Japanese cutlery. Located in Hillsboro, Oregon. <u>http://www.cartercutlery.com/bladesmithing-courses/</u>

White Hart Forge offers intro to blacksmithing classes plus some advanced classes and some intro to knife making classes. Oak Grove, Oregon (just south of Portland). <u>https://whitehartforge.com/classes/</u>

Blacksmithing and some bladesmithing workshops are hosted regularly by the Northwest Blacksmith Association: <u>http://blacksmith.org/</u>

David Lisch is an ABS Master Smith who teaches classes in Washington. http://www.davidlisch.com/

The ABS (American Bladesmith Society) offers classes in Washington, Arkansas and elsewhere – if you are up for traveling across the country to take classes, check out their "Schools" link: <u>http://www.americanbladesmith.com/</u>

James Austin offers forging classes in Oakland, CA – axes, tongs, viking anvil, etc.: http://forgedaxes.com/?page_id=148

Keep an eye out on California Blacksmith Association for workshops and events: <u>http://calsmith.org/CBA-Events</u>

USA Knifemaker has a lot of fun & informative videos on their YouTube channel: <u>https://www.youtube.com/user/USAKnifemaker/videos</u> ... and hey - "free" is a hard price to beat!

Nick Wheeler also has a good YouTube channel with a lot of how-to videos: https://www.youtube.com/user/NickWheeler33/videos

GENERAL TOOLS & SUPPLIES

Zoro https://www.zoro.com/

MSC Direct http://www.mscdirect.com/

McMaster-Carr http://www.mcmaster.com

Grainger http://www.grainger.com

Surplus Center http://www.surpluscenter.com/ Victor Machinery Exchange http://www.victornet.com/

Widget Supply - Dremel tools, needle files, craft knives, drill bits, etc – Albany, Oregon. https://widgetsupply.com

And of course there are the local hardware stores like Jerry's, and chains like Harbor Freight and Woodcraft.

KNIFE MAKER GENERAL

Knife kits, steel, tools, machines, supplies such as handle material, fasteners, belts, glues, finishes, etc.

Jantz Supply – Davis, OK http://www.knifemaking.com

Texas Knifemaker's Supply – Houston, TX <u>http://www.texasknife.com</u>

USA Knife Maker's Supply – Mankato, MN <u>http://www.usaknifemaker.com/</u>

Knife and Gun (K&G) – Lakeside, AZ <u>http://www.knifeandgun.com/</u>

Alpha Knife Supply – Cedar City, UT <u>http://www.alphaknifesupply.com/</u>

True Grit – Ontario, CA http://www.trugrit.com

Especially Abrasives – lower cost 2x72 belts <u>http://www.especiallyabrasives.com/</u>

KNIFE STEEL SOURCES

New Jersey Steel Baron http://newjerseysteelbaron.com/

Kelly Cupples (High Temp Tools) – Alabama <u>http://www.hightemptools.com/steel.html</u>

Niagara Specialty Metals – New York http://www.nsm-ny.com (click Products/Knife Steels) SB Specialty Metals – New York & Texas <u>http://shop.sbsm.com/</u>

Sandvic – stainless steels – Texas & Pennsylvania https://www.materials.sandvik/en-us/products/stripsteel/strip-products/knife-steel/sandvik-knife-steels/

Pacific Machinery & Tool Steel – Portland, Oregon <u>http://www.pmtsco.com/tool-die-steel.php</u>

Alpha Knife Supply – Cedar City, UT <u>http://www.alphaknifesupply.com/</u>

KNIFEMAKER EQUIPMENT

Beaumont (KMG) [Ohio] – the industry-benchmark 2x72 belt grinder http://www.beaumontmetalworks.com/shop/

Travis Wuertz [Arizona] – premium versatile grinder http://www.twuertz.com/Home_Page.php

Pheer [Gresham, Oregon] – affordable grinder made in Oregon <u>http://www.2x72beltgrinder.com</u>

Origin Blade Maker – aka Oregon Blade Maker [Portland, Oregon] – affordable chassis and accessories, good reputation – with or w/out motor https://originblademaker.com

AMK [Ohio] – affordable grinder, quick-change between platen & contact wheel <u>http://amktactical.com/</u>

Northridge Tool [Ohio] – precision manufactured belt grinders <u>http://www.northridgetool.com/</u>

Coote [Port Ludlow, Washington] – affordable, simple grinder – you supply the motor <u>http://www.cootebeltgrinder.com</u>

Marinus Kuyl [Hillsboro, Oregon] – another affordable grinder made in Oregon – and parts – you provide the motor. <u>https://originblademaker.com/</u> Grinder-In-A-Box – grinder kit, assembly required http://www.polarbearforge.com/grinder_kit_order.html

The "No Weld Grinder" plans can be purchased from <u>http://usaknifemaker.com</u> either as a booklet or as a download – just use the search box to enter "no weld grinder"

Wayne Coe [Tennessee] – grinders, motors, VFDs... http://www.waynecoeartistblacksmith.com

Contact Rubber Corp – wheels etc. http://contactrubber.com/contact-wheels.asp

Sunray – drive wheels https://www.sunray-inc.com/products/wheels/

Anyang [Texas] – air hammers from 20# to 165# <u>http://www.anyangusa.net/</u>

Meyer Machine Tool [Ohio] – treadle hammer http://www.meyermachinetool.com/Blacksmith-div-.html

Spencer/Clontz tire hammer plans/workshops <u>http://www.alaforge.org/Trading_Post.html</u>

Helve Hammer and Quick-Change Dies Video – from a BladesmithsForum.com thread. <u>https://www.youtube.com/watch?v=uzruqYkKGNM</u>

True Grit – under "All Products"/"Machines & Accessories" http://www.trugrit.com

FORGE & REFRACTORY

Chile Forge San Marcos, Texas <u>http://www.chileforge.com/</u>

Mankel Forge – Muskegon, Michigan <u>http://mankelforge.com/forges.html</u>

Mathewson Metals – forges, burners, anvils... Tacoma Washington <u>https://mathewsonmetals.com</u>

Western Industrial Ceramics Inc. All things refractory – Tualatin, Oregon http://www.wicinc.com/ High Temp Tools (scroll down the page for the category buttons) Tuscaloosa, Alabama <u>http://www.hightemptools.com/supplies-mainpage.html</u>

High Temp Inc. for Kaowool, castable refractory, fire brick up to 2,600°f, etc. Portland, Oregon <u>http://hightempinc.net/</u>

Omega – thermocouples & measuring equipment Stamford, Connecticut https://www.omega.com/en-us/

Auber – more thermocouples and controllers, etc. Alpharetta, Georgia <u>http://www.auberins.com</u>

Hybridburners – home of the venturi T-Rex Smithville, Georgia http://www.hybridburners.com/

Pine Ridge Burners – for ribbon burners and all associated fittings, blowers, valves, etc. Conway, Massachusetts <u>https://www.pineridgeburner.com</u>

Zoeller Forge – low cost venturi & parts: Z Burners Lanesville, Indiana <u>http://zoellerforge.com/</u>

Here's the original article on making a ribbon burners that John Emmerling wrote back in 2005 for the NWBA Newsletter: <u>http://blacksmith.org/2005-1-hot-iron-news/</u> You can download the PDF from that site. John's article starts on page 11.

BLACKSMITH

Farrier Supplies aka Bent River Forge 26729 99W, Monroe, Oregon Coal, coke, forges, parts, tools, classes... https://www.facebook.com/FarrierSuppliesOR (541) 847-5854

Blacksmith Depot http://www.blacksmithsdepot.com Pieh Tool http://www.piehtoolco.com

Centaur Forge http://www.centaurforge.com

Quick and Dirty Tool Co. http://quickanddirtytools.com/

LOGO/ETCHING/STAMPS

Ernie Grospitch – Blue Lightening Stencil <u>http://www.erniesknives.com/</u>

IMG International Marking Group http://img-electromark.com/

Marking Methods, Inc. <u>http://www.markingmethods.com</u>

Electro-Chem Etch http://www.ecemmi.com/products.html

Steel Stamp, Inc. www.steelstampsinc.com

LectroEtch – Ohio https://lectroetch.com/

HEAT TREAT SERVICES

Here are some folks who provide heat treating services for blades. While all of these have been recommended by one reputable person or another I have not had experience with them. If you use one, let us know how it went!

Paul Bos Heat Treating at Buck Knives. Paul Bos has retired and handed the torch to Paul Farner. Highly reputable. Post Falls, Idaho: <u>http://www.buckknives.com/about-knives/heat-</u> treating/ Peters Heat Treating is another highly reputable operation. Meadville, Pennsylvania: <u>http://www.petersheattreat.com/?s=cutlery</u>

Texas Knifemaker's Supply offers heat treat services. Houston, Texas: <u>http://www.texasknife.com/vcom/privacy.php#servic</u> es

Tru-Grit provides heat treat services. Ontario, California: <u>https://trugrit.com/index.php?</u> <u>main_page=index&cPath=34</u>

K&G also provides heat treat services but I can't find a reference on their web site – you'll have to contact them for details. Lakeside, Arizona: <u>http://www.knifeandgun.com/default.asp</u>

Byington Blades heat treat service is in Santa Clara, California: <u>http://www.byingtonblades.com/</u>

WOOD & HANDLE MATERIAL

Burl Source – handle blocks/scales – So. Oregon <u>http://www.burlsales.com/</u>

Shelton Pacific – stabilized wood – Shelton, WA <u>http://stores.sheltonpacific.com/</u>

Gilmer Wood – N.W. Portland https://www.gilmerwood.com/

Bamboo Oasis – wide variety of bamboo – Beaverton, OR phone 503-703-1345 https://bamboooasis.com/

North Woods Figured Wood – Gaston, OR <u>http://www.nwfiguredwoods.com/</u>

Atlas Billiard Supplies – Wheeling, IL – cue blanks of Micarta and exotic woods – with some sizes suitable for knife handles. <u>http://www.cuestik.com/</u>

For Eugene area boards, planks, etc. there's:

Crosscut Hardwoods at 2344 W 7th, Eugene <u>http://www.crosscuteugene.com/</u>

Tree Products Hardwoods at 150 Seneca, Eugene <u>http://treeproductshardwood.com/</u>

and it doesn't hurt to check Mike's Bargain Center on Hwy 99 just south of Beltline, Eugene https://www.facebook.com/MikesBargainCenter/

WOOD STABILIZING

K&G (Knife and Gun) – Lakeside, AZ Good reputation with everybody. <u>http://www.kandgstabilizing.com</u>

Gallery Hardwoods – Eugene, OR <u>http://www.galleryhardwoods.com/stabilized.htm</u>

WSSI (Wood Stabilizing Specialists International, Inc.) – Ionia, IA – some folks have had issues with them, some folks are totally happy. <u>http://www.stabilizedwood.com/</u>

Alpha Knife Supply – Cedar City, UT <u>http://www.alphaknifesupply.com/</u>

Turn Tex Woodworks – San Marcos, TX "Cactus Juice" and pressure chambers etc. for the doit-yourself folks. <u>https://www.turntex.com</u>

OTHER GOODIES

Grey Leather Company – Eugene – Hannah Morgan does custom leatherwork, including sheaths. <u>https://www.facebook.com/GreyLeatherCo/</u> <u>https://www.etsy.com/shop/GreyLeatherCo</u>

Sally Martin Mosaic Pins – So. Oregon http://customknife.com/index.php?cPath=13

Oregon Leather – 810 Conger Eugene and 110 N.W. 2ND Portland http://www.oregonleatherco.com/

Coyote Steel – wide variety of new steel, scrap, copper, brass, bronze – Garfield & Cross St. Eugene http://www.coyotesteel.com Burcham's Metals – Albany, Oregon – recycled metal of all sorts. Very good pricing. http://www.burchamsmetals.com

Cherry City Metals – Salem, Oregon – metal recycling and useful objects <u>http://www.cherrycitymetals.com/</u>

Swift & McCormick Metal Processors Inc. 3192 NE Sedgwick Terrebonne, Oregon 541 548 4448 Everything from big chunks of steel to railroad spikes. Very good prices. They can torch-cut big pieces down for a small fee.

Amtek – tool steel & cutting tools http://www.amteksteel.com/index.html

Rio Grande – jewelry tools/supplies <u>http://www.riogrande.com</u>

Otto Frei – jewelry tools/supplies <u>http://www.ottofrei.com</u>

M3 Composite – space age mokume & other http://www.m3composite.com/

Voodoo Resins – striking resin handle material <u>http://www.voodooresins.com/</u>

The Engineering Toolbox (formula & info reference) <u>http://www.engineeringtoolbox.com</u>

Valley Stainless (that does water-jet cutting) is one of Craig Morgan's customers. They told Craig "bring in a pattern" and they'd work with you on small batch cutting. They don't have a website yet. 29884 E Enid Rd, Eugene, Oregon 97402 (541) 686-4600.