

GGLS member Mel McDonough, terror of the High Track & 85 years old, has moved to a senior living home. Mel is OK but more on his situation next month. Mel's phone number in our roster still works if you want to call and say 'How ya doing?'



June 2023

Pat Young CallBoy Editor 10349 Glencoe Drive Cupertino, California 95014

The CallBoy Newsletter

Official Publication of the Golden Gate Live Steamers, Inc. Copyrighted 2023

Tilden Park		Pat Young, Editor		A 501(c)(3) Non-Profit	
2491 Grizzly Peak Blvd,		phty95014@yahoo.com		Corporation	
Orinda, California 94563		June 2023		www.ggls.org or	
				www.goldengatels.org	
	Board Officers		Club Correspondence		
President:	Jon Sargent	510-233-6481		ce to the Golden Gate Live Steamers	
Vice President:	Rich Croll	510-227-9174	should be sent to the secretary, Matt Petach at this		
Secretary:	Matt Petach	408-256-2883	email: <u>secretary@ggls.org</u>		
Treasurer:	John Lisherness	510-647-8443			
Safety:	Jerry Kimberlin	510-809-7326	<u>Membership</u>		
Director at Large: Mark Johnson 5		510-889-9451	To qualify for membership, attend 2 monthly		
Past President:	Rick Reaves	510-479-3386	⁷⁹⁻³³⁸⁶ meetings. At the first meeting, please introduce yourself and obtain a membership application from		
	<u>Ombudsperson</u>		Membership chairman or Secretary. At the second		
Lisa Kimberlin		510-214-2595 meeting, return		your completed application, a signed	
			release form, the yearly prorated club dues, together with the \$25 initiation fee and you are officially a member.		
GGLS Trust Fund Members					
John Lisherness					
•	(elected March 201	/			
Sammy Tamez (elected August 2022)			<u>CallBoy</u>		
~~~	~ ~ ~ .		Articles, pictures, photographs, items for sale or any		
GGLS Committee Chair People			other information that would be of interest to the club		
Bits & Pieces:	Jeremy Coombes		should be sent to Pat Young, the CallBoy editor at		
Boiler Testing:		Jerry Kimberlin		phty95014@yahoo.com	
Building:	Rick Reaves				
CallBoy Editor:Pat YoungDues:Lisa KimberlinGrounds:Andy Weber		Deadline for submittals to next month's issue is the 19th!			
				···· ± / ····	

Grounds:

Landscape:

Locomotive:

Membership:

Public Train:

Security:

Track:

Web Site:

Refreshments: Rolling Stock:

Shop Foreman: Signals:

Technical Talks:

Train Storage Rental: Jon Sargent

Librarian:

Andy Weber

Pat Young

Paul Hirsh

**Rich Croll** 

Jon Sargent Rich Croll

John Davis

John Lytle

Pat Young

Charlie Reiter

Sammy Tamez

Walt Oellerich Walt Oellerich

Jo Ann Miller, Bruce Anderson

## **2023 Calendar of Club Sponsored Events**

- 06/10-11 GGLS Spring Meet/Open House
  06/11 General Meeting/Board Meeting
  06/17 BAEM meeting
  06/17-18 PV&A Spring Meet at PV&A RR
  06/24 Club reserved for Shanna O'Hare
- 07/09 General Meeting/Board Meeting 07/15 BAEM meeting
- 08/13 General Meeting/Board Meeting 08/19 BAEM meeting 08/26 Club reserved for John Smith
- 09/09-10 GGLS Fall Meet 09/10 General Meeting/Board Meeting 09/16 BAEM meeting
- 10/08 General Meeting/Board Meeting 10/21 BAEM meeting
- 11/12 General Meeting/Board Meeting
- 11/18 BAEM meeting
- 12/09 BAEM meeting
- 12/10 General Meeting/Annual Meeting/Board Meeting

Announcements



Dear GGLS Members,

After some discussion, the GGLS Board has decided to cancel the June 11th, 2023 Board & General Members meetings. We are holding our Spring Open House on June 11th, and we decided it would be too challenging to set up the space to hold the meetings on the same day we're inviting the public to come in & see our facilities.

Our next set of Board & General member's meetings will take place on their regularly scheduled date and time on July 9th, 2023 at 10 AM.

We hope to see as many of you as possible at the railroad on June 10th & 11th for our Spring Meet & Open House!

And hopefully by now, you've also seen Sarah's email asking for volunteer sign-ups to help make the event a success. Please, if you can, sign up for a slot or two. If we spread the work around, it makes it less stressful for everyone!

Thank you all! See you at the Spring Meet & Open House!

Matt Petach GGLS Secretary



PV&A Joint Meet with GGLS & SVLS Saturday, June 17, 2023 Sunday, June 18, 2023

We, at the Portola Valley & Alpine railroad, have been preparing for our June 17 gathering with two sister clubs - the Golden Gate Live Steamer and Sacramento Live Steamer.

There will be LOTS of beautiful trains there and fun people to catch up with. If you plan to bring rolling stock to our club, it would be great to have some kind of heads up on what engines are coming by emailing our steaming bay management at: bob.silverstein@gmail.com

This joint meet is one week earlier than our usual run date and we will also run on Sunday the 18th, Fathers Day, which is a great gift for dad!

Lunch will be available on Saturday the 17th and for \$15 you will receive this bounty:  $\frac{1}{2}$  a giant Bianchini's market sandwich, soda or water, cookie, choice of chips, & fruit. You may purchase additional  $\frac{1}{2}$  sandwich(s) of any type for \$6 each.

Lunch must be ordered ahead of time by signing up at: https://docs.google.com/forms/d/e/1FAIpQLSc8LYZFi fKZaePrB7Lz1fzSmsxK1J6tEIdYghEE9KVM-I1D4g/viewform?vc=0&c=0&w=1&flr=0

Questions & directions can be obtained by emailing <u>bob.silverstein@gmail.com</u>

Hope to see you there!

None.

# New Members and Guests

## **Railroad Activities**

Michael Smith and his family visited the Casey Jones museum in Jackson, Tennessee, and then visited several other railroad museums in the area, including riding the trolley in New Orleans. More about Michael's trip with photos next months.



Jim Pate Jr reported he's learning to fire up a 40-foot, 2-cylinder compound steam launch in the delta named the "Persistence". A 9:48 minute YouTube video titled "Steamboat 'Persistence' Update" shows more about this steam launch. This video can be found at: https://www.youtube.com/watch?v=DgMtEW5WNKI



Bruce Anderson had a chance to ride the Gilroy Garden train that circles the small amusement park. He looked closely at the 1/3 scale CP Huntington steam locomotive although it appears to be petroleum powered. The Gilroy Garden web site posted the following information about this:

"Journey around the park on the Bonfante Railroad with stops at Redwood and Coyote Junctions. This authentic narrow-gauge railroad has custom-designed roofs that allow a full 180-degree view. Our trains are 1/3 scale replicas of an 1863 C.P. Huntington steam locomotive."

This information can be found at: <u>https://www.gilroygardens.org/play/rides/bonfante-railroad-train-ride</u>

# Minutes of the General Meeting

## **Officers Present:**

Matt Petach, Jerry Kimberlin, John Lisherness and Rick Reaves was present as Past-President. Lisa Kimberlin was present as Ombudsperson.

Director-at-Large Mark Johnson, President Jon Sargent and Vice President Rich Croll were absent.

Past President Rick Reaves called the meeting to order at 10:02 hours Pacific time.

## **Officer Reports:**

No report from the President or Vice President.

The Secretary has made no progress on his past task yet and the Treasurer gave a report on our finances.

No report from Safety, Director at Large or Ombudsperson.

## **Committee Reports:**

**Buildings:** Rat proofing got rained out and has been rescheduled for May 22nd. Shop track will get wood cribbing instead of a stone retaining wall.

**Grounds:** Thanks to Bruce Anderson's & Jo Ann Miller's effort, the club grounds are in good shape!

**Ground Track:** Jim McKibbon has taken over and ground track is doing well. John Lytle pointed out the hillside above the car shop is sliding downhill due to all the water.

**High Track:** Still looking for a chair person to take it over.

**Signals:** John Davis noted T33 in front of our shop has been restored to service. S27, approaching the roundhouse siding before T47, is now functioning and it detects the inside straight track but not the siding track. T43 & signal bridge repairs are ongoing.

**Locomotives:** No report from Rich Croll or Paul Hirsh.

Rolling Stock: No report from Rich Croll.

Shop: No report from Rich Croll.

**Public Train:** A big "Thank You" to all the crew who have been staying late. We had over 700 riders last week!



Landscape: Jo Ann Miller & Bruce Anderson spent 3 days cutting back growth by the signal bridge near the Shattock Barn. Many thanks to Rick Reaves for helping out, and to Bruce Anderson & Andy Weber who drove many truckloads of clippings to the park's green waste bin!

A large wood rat's nest was removed and remnants of a  $\frac{5}{8}$ " drip irrigation system were found. We'll handwater the location for now.

**Roundhouse & Storage:** Rodent proofing continues. We need to dispose of the Diamondback construction debris.

**Security:** Nothing to report for the minutes.

Membership: Nothing to report.

Website: Nothing to report.

**Builders Group:** Charlie sent a new article about a bismuth alloy called "Woods Metal" that he uses to prevent the kinking of small metal pipes being bent.

**Library:** Still working on incorporating the donated magazines.

# Old Business:

None

# New Business:

None

Rick adjourned the member's meeting at 10:21 hours Pacific time and we moved right into Bits and Pieces with Jeremy.

#### **Minutes of the Board Meeting**

**Officers Present:** Matt Petach, Jerry Kimberlin, Rick Reaves, John Lisherness; Lisa Kimberlin was present as Ombudsperson.

Director-at-Large Mark Johnson, President Jon Sargent, Vice President Rich Croll were absent. Past President Rick Reaves called the meeting to order at 11:28 hours Pacific time. With Mel's permanent absence, the club will probably need to hire maid service to clean the clubhouse every few weeks on a Thursday.

## **Old Business:**

**April Minutes:** Matt presented the minutes from the April 2nd General Meeting & Board Meeting for approval. Matt Petach made a motion to accept the Minutes of the April 2nd 2023 minutes as emailed to the Board and Jerry Kimberlin seconded the motion. There was no discussion of the minutes and Rick called for the vote. Director Mark Johnson, President Jon Sargent and Vice President Rich Croll notified the Secretary they could not make the meeting and were excused. The motion passed unanimously by the officers present.

**Second Bank Account:** Matt still has not made it to the bank to get a second account opened yet.

### New Business:

**Membership Badge Blanks:** Jerry showed the Board the blank badges he made on his CNC machine. The template we use for cutting the badges is missing and because he lacks the original artwork he is trying to work from a scan of the badges. We might be able to get the artwork from Alpine Awards that makes our badges currently. CJ Yother mentioned he might be able to create artwork for us, so our Secretary will mail CJ with contact details.

**Rat Proofing Efforts:** The Shattock Barn has a 2" gap under the door currently and we can't finish rodent-proofing the buildings until we close that gap. We probably need to come up with a spacer & a rubber sweep to seal off that gap. Our rodent company will be here on May 22 -- 24 so we can ask them for suggestions.

**Trash:** We need to keep trash & debris from piling up against our buildings.

**Water Draining Issue:** The East Bay Regional Park District, which the club leases the land for our buildings & track, is aware of the drainage problem and has been asked to dig a ditch up above by the road to channel water away.

**Insurance Premium:** Matt forwarded the invoice from HUB for our annual insurance to John Lisherness. John had already issued a check for the amount to ensure our insurance coverage continues uninterrupted.

Rick adjourned the meeting at 11:48 hours Pacific time.

Landscaping Report By Jo Ann Miller



It was noted in the April meeting that the junipers along the chain link fence near the Shattock Barn were getting too close to the track and were also obstructing access to the drainage pit. So the club's Landscape Committee, namely Jo Ann & Bruce, agreed to attack those junipers. They had clearly been neglected for a long time. In addition, the EBRPD plants on the other side of the fence, had been allowed to grow over into our area. Jo Ann & Bruce spent 3 long work days pruning back the junipers, cutting out the dead growth and cutting back all the park's plants overgrowth. Rick Reaves helped with the pruning one week too. The slope of the property in that area made it more difficult to do the pruning. At times, both Jo Ann & Bruce had to climb & crawl through the junipers to be able to reach the dead growth and cut it out. There was a lot of dead debris under the junipers, including a 2-foot by 2-foot wood rat nest.

Removing all this dead growth not only makes that area look better, but also removed a lot of fire hazardous debris. There is no automatic irrigation in this area, so the plan for now is to hand water that area periodically during the summer months. We would like to restore that area to a bank of controlled & healthy junipers.



If you want to help with the occasional watering, there is a hose nearby. The water on that hose bib is hidden behind the "Bank" building and is kept turned on for the timer activated irrigation of the plants behind the "Bank". Please use the lever on the timer to turn the hose water on & off.



A photo shows the huge pile of debris that was created from working on these junipers and also clearing out dead growth & storm related damage from other areas of the property.



Andy Weber took a large truck load of this debris to the park green waste bin, and Bruce took five huge loads over the course of a few weeks.

This was a large & dirty project and many thanks to all who helped get this done.

## Bits and Pieces By Jeremy Coombes

Many thanks to Pat Young and Bruce Anderson for the photographs.



Charlie Reiter & Jeremy Coombes have been doing some work on an 0-4-0 tank engine belonging to Sarah Buhre & her son Charlie. The engine was originally a coal fired 5" gauge 0-6-0 Polly locomotive kit which had been roughly reworked by the previous owner. Charlie undertook the reassembly & repair (lengthening) of the frames, and Jeremy took the wheel sets for machining of the tires to regauge to 4³/₄³. Charlie supplied four rough rings which Jeremy machined and brought along to show. They proved to finish nicely but absolutely would not break a chip and the material came off as a single stringer. Jeremy asked John Lisherness about this, and John believes it could be due to the manganese content. Next step will be to fit the tires to the wheels with Loctite 638 and then machine to profile.



Andy del Hierro has been very busy building the boiler for his 71/2" gauge Ken Schroeder Shay and has invested approximately one year to get it to its current state. It is constructed primarily of 1/4" steel plate and schedule 40 pipe with copper fire tubes bronze TIG brazed in. About a quarter of the way through Andy's welding machine quit, leading to negotiations with the family financial officer, which resulted in the acquisition of a brand-new welding machine (you're a lucky guy, Andy). To aid assembly Andy created some "tooling" using his CNC router enabling proper alignment of the parts and holding them in-place during welding. His efforts were worth it as the boiler, which still requires a final weld pass, is straight & square. Andy also brought along some of the throttle components he's been machining that will be fitted as he completes the boiler.



Andy Weber showed two measuring instruments obtained from a friend. Jeremy Coombes gave a short explanation of the "height master" which is used on the surface plate as a height reference tool and the other was an early electronic micrometer.



Charlie Reiter, as mentioned previously, has been working on an engine for Sarah. One of the requests from Sarah concerned whether it could be converted to propane firing.



This is a bit of a challenge, which immediately peaked Charlie's interest, and he forged forward and arrived at the solution shown. It is a thin profile burner (actually, more of a torch) incorporating a commercial venturi unit.



Sarah also has some 5" gauge rolling stock which appears to have provisions for regauging, so Charlie attempted to press the wheel off the axle in an arbor press, but got nowhere. So, he moved over to the hydraulic press and gave it a little pressure, but no movement. Then a little more pressure. Still no Finally, Charlie applied a lot more movement. pressure and there was an almighty bang & the parts separated. After recovering, Charlie noted the parts had a black oxide finish that may have contributed to the difficulty. More to come on how this issue is Stay tuned readers for our next exciting solved. episode!



And just to let us know that he is in fact working on stuff of his own, Charlie brought in a homemade expanding mandrel he manufactured to hold a cylinder (Maid of Kent to be exact) that needed some clean-up on the OD and to square the ends to the bore, which Charlie will sleeve with a stainless steel liner.



Bob Morris is gradually reducing his collection of large-scale locomotives and associated equipment and brought in a  $1\frac{1}{2}$ " scale semaphore switch stand originally made by the late Jim Marino.



If anyone is interested Bob has enough parts to build several of these beautiful little line side features.



After a delay of several years due to COVID Pat Young had a chance to get together with Life Member Steve Vitkovits and his wife Diana. For those who are not acquainted with Steve he designed & implemented the GGLS signal system and wrote numerous articles on valve gear for Live Steam Magazine.

Pat found out that Diana's birthday was coming up in April and since she liked flowers, he printed up a silky blue rose for her similar to ones made previously for our landscaping chairpersons, Jo Ann Miller & Bruce Anderson. Diana liked it very much and wondered if Pat could make some of various sizes, shapes, and colors.

This prompted Pat to learn more about using the Prusa slicer. For those unfamiliar with the slicer, it's an application that communicates with the 3D printer as to how to layout & print each individual layer. By altering the parameters, he was able to change the dimensions and aspect ratios to make a flattened rose, and a flattened & stretched rose. This led to experiments regarding how small he could make the rose before it couldn't be printed. Half size and it came out still highly recognizable and detailed. However, at quarter size definition was lost and the result was a blob like rendition of a rose, so this was the best he could do.





Making all these roses got Pat thinking that since Mother's Day was coming up, he should make some for the ladies of our club, and being a kind and generous person, that is what he did!

Pat also found out that Steve Vitkovits is getting elective surgery soon, so if you have a chance, please give Steve a call and say hello.



(Sent in by Andy Weber)

## **Shop Practice 9 Bending Tubes with "Woods" Metal as a Filler** By Charlie Reiter

The need to bend pipes for live steam projects is always ever present. Most of the time a simple set of bending tools will suffice, but sometimes the shape or size of the bend requires filling the pipe with some material to make the pipe appear solid to the bender and to not just flatten or crush it. One very good method is to fill the pipe with a fine-grained sand and seal the ends shut. The captured sand then keeps the pipe from collapsing at the bend. I have heard of using frozen water or asphalt pitch as the filling medium too but I have never seen it done.

A method for the Live Steamer is to fill the pipe with a low-temperature alloy usually referred to as Wood's metal or sometimes Lipowitz alloy. This alloy is a mixture of bismuth, lead, tin and cadmium. Suppliers for this material were numerous but the main ones were American Smelting and Cerro. I believe American is closed and Cerro has been taken over by Bolton. Knowing the names is valuable because these materials can often be found on the recycling market, Ebay and estate/garage sales. The brand to look for is Cerro Bend, which is the name of their 158-degree version of the material. There is also Cerro Safe which is a 160-190 degree version, formulated for casting things like "tin soldiers". The temperature required to melt is less than that of boiling water and this is the method most often used.

You should know that two elements of the metals in the alloy are considered to be poisonous: lead & cadmium. So safe handling requires the use of gloves or at least washing your hands after handling and when heating, to not getting the alloy any hotter than is required. Heating with a torch is not a safe practice since overheating could cause the fuming of the toxic elements. Melting the alloy in a double boiler arrangement with water will keep the temperature below 212 degrees. Of course the material can be reused and should not be casually discarded since it is considered hazardous waste. In my project I needed to make a couple of 60 degree elbows in ¹/₂" tube. I don't have a ¹/₂" bender and looking at a ³/₈" bender I realized that in a commercial bender the radius would be too large. So I machined a pair of rollers to fit a bender I had. I started with a stainless tube but the radius could not be bent without flattening the tube so I substituted copper on the second try.



This is the setup used for the pour.

My heating setup is a laboratory style hot plate and a bowl of water with a restaurant stainless steel creamer containing the alloy. I think the creamer is an ideal container for this material and it came that way. I got it at an estate sale where everyone thought the creamer was filled with lead due to its weight. I bought it and my hunch paid off where it proved to be Wood's metal. Incidentally B Woods was an American metallurgist who got the credit for creating the alloy.

Once the metal was fluid, which I measured at 120 degrees, I simply filled the piece of copper tubing I had prepared by sealing the bottom with masking tape and standing it up in a drill press vise. That then was placed in a tray to collect any spills. When cool I tried making 4 bends where two were successful but due the tight radius I broke the tube twice. It's a lot of work for general bending but for those special shapes it is a great method to use.



This is the bender with the two rollers & the bent tubes, including the failed stainless steel tube. You can imagine the force necessary to shear off the tube where it broke. The dark line on the copper tube is a trim line.



And here you see the finished parts, an exhaust pipe with its proper bends. A sort of part that just recedes into the finished assembly but not showing the complexity of its creation.

Incidentally getting the position right was a challenge too! The base plate was machined to create a seat for the fitting and then installed in the proper place. The tubes were then assembled and the fitting was super glued to the base plate. Once removed from the assembly a screw hole was drilled through from the back and a flat head screw installed after removing the glue. The parts were then silver brazed together.



Here we have a picture of the alloy material as it comes from the maker just so you know what it looks like and the little ingots are square or hexagonal in shape. The stainless steel tube at this point still had alloy in it but ready to be melted out.

#### Stephen Vitkovits - GGLS Member Since 1968 by Bruce Anderson

I just got off the phone with ninety-two year old member Stephen Vitkovits. Stephen joined GGLS fifty-five years ago, about the time the club was moving from Redwood Park to Tilden Park. He already knew about the existence of GGLS before moving to California as he was building a 0-4-0 as a member of the New Jersey Live Steamers and had done his homework. Stephen is also past president of our club between 2006 & 2008 and architect of the current track signaling system.



A photo of Steve in his shop for a series entitled WORKSHOPS, USA, published in the March 3rd, 1989 issue of Model Engineer

Life as an engineer: locomotive, electrical, and/or mechanical. As a child, Stephen was raised around steam locomotives and model airplanes. As he grew up, he evolved from rubber band to gasoline to steam. Upon graduation, he was hired by Bell Labs, Aircraft Radio and Hewlett-Packard/New Jersey. In 1968 he transferred to Hewlett-Packard/Palo Alto and joined GGLS.



Steve working on his Mikado in the summer of 2019

Stephen has three locomotives. Around the mid-1960s he purchased castings for his 0-4-0 from Friends Models in Massachusetts. He started his 2-8-2 Mikado #1991 in the year 1991.



Steve & his son Ray, enjoying his electric streetcar during the summer of 2019

He also has his electric street car liveried for the San Jose Railroad. He is still active in the hobby recently completing a brake modification of his Mikado.



(Sent in by Andy Weber)

Seen at the Track By Bruce Anderson



Richard Croll brought up his new depressed center 125-ton flat car with six-wheel Buckeye trucks. Another one of Rich's handsome projects!



Evan Guinta steaming his 2-10-2T sans tank. Evan has been doing a wonderful job with this locomotive! An upcoming project will be building the saddle tank.



Finley & Mom Cassie making rounds on a RRPD train.



Lew Breon steaming up his 0-4-0.



John Davis takes our Public Train loaded with guests past hundreds of springtime wild flowers.



Bruce Anderson brought out the Stan James "Minnie" traction engine to educate & entertain guests aboard our Public Train.



Following a long winter, work continues on the new Lisherness/Johnson/Sargent/Hirsh shed.



Flowers & birds are joining the bears to enjoy spring!

For Sale Vertical Milling Machine May 20, 2023



This vertical milling machine for the home machining enthusiast has had less than 40 hours usage, comes with some additional tooling and is manufactured in Taiwan.

This standard mill is very similar to the Vertical Milling Machine Model VM-22-R8 for \$5750 as seen on the KBCTOOLS web site at:

 $\label{eq:https://www.kbctools.com/products/search/VM-22-} \underline{R8} \; .$ 

Price has not been set but will entertain serious offers only. This mill is located in Livermore, California and the approximate weight is 1100-1400 lbs.

Questions & offers can be sent to: <u>scdebeling@comcast.net</u>

For Sale GE 25-ton Switcher April 3, 2023



A 7.5" gauge gasoline powered 4-wheel switcher and has about 50 hours of use. It fires up easily, runs with no trouble and has a fiberglass shell.



About 200 pounds in weight, it is easy to transport and a great runner for someone starting out with in the hobby!

This locomotive can be seen at the Golden Gate Live Steamers club facility in Tilden Park, Berkeley California and a test run can be arranged.

Price: \$2,500 firm.

If interested or for more information, please feel free to email Chris Smith at: <u>cmsmith1@mail.sfsu.edu</u>

# For Sale Shop Equipment March 1, 2023

Chinese Drill/Mill 1/2 hp, 220 VAC motor, 1.5: x 22" table with vise, end mills, collets, drill chuck, boring head with boring tools

Taiwan Engine lathe, bench type, 7" swing, 9" gap bed x 18" between centers, 1/2 hp, 110 VAC motor, quick-change gear box, turret-type tool post, face plate, 3 & 4 jaw chucks, steady rests, miscellaneous cutters.

Arbor press, 2-ton capacity

Craftsman drill press, floor type, 1/3 hp 110 VAC motor, 7" swing,  $\frac{1}{2}$ " capacity.

Enco Metal cutting band saw, horizontal & vertical 1/3 hp 110 VAC motor, 4" x 7" capacity.

Sears Radial arm saw, 10" blade, ³/₄ hp 110 VAC motor with extra blades. Needs repaired but priced to sell.

Air compressor, ³/₄ hp 110 VAC motor with 50' hose.

Victor Ox-acetylene welding/cutting set, including small tanks, hoses.

Portable tool cabinet & machinist tools.

Miscellaneous hand tools.

All this can be viewed in Walnut Creek. If questions or interested in any of these items, please contact:

John Munro Walnut Creek, California 94596 (925) 946-9286