QUINEBAUG VALLEY ENGINEERS

Zagray Farm Museum

The Zagray Quarterly

7 June 2014

President's Notes

The April 5th picnic was enjoyed by many. The food was good and the weather wasn't bad. It'll probably become an annual event.

Our May show was very successful. It was really crowded on Saturday and we had to find new/other places to park cars.

Several saw log donations have been retrieved and there are more donations out there waiting for us to pick up; a Cat 22 crawler in Hamden, lots of old iron in Lisbon, line shafting in Willington, a man lift in North Stonington and a potential for more.

The permit for the woodworking shed has been received and ground has been broken. Construction should progress quickly. Indeed, the concrete piers were poured Monday June 6th.

SPECIAL NOTICE: The Colchester Town Hall is not available for the QVEA meeting scheduled for **June 24**. The meeting will be held in the Tractor Shed at the Zagray Farm beginning at **6:30PM** to maximize use of existing daylight.

FROM THE DESK OF THE TREASURER – Art Chester

Our May Show was another great success, thanks to all of you who helped! Income from all sources topped $11,000, nearly the same as last year. Our only difficulty was the 3 inches of rain we received just before the show left our parking area "squishy" to say the least. Fortunately, we had 25 or so sheets of used plywood which made a quick road across the worst areas.

The club also received in excess of $12,000 for equipment deemed scrap and sent to M&J for recycling. There is more to do, and we will pick at it over the summer.

If you have an email address, please email Dianne Tewksbury at dtewks65@gmail.com to change from snail mail! That will save our printing-sorting-folding-mailing crew some labor, and save your club a ***lot*** of money, as well as being environmentally 'green'.

For those of you who contribute to the United Way campaign, QVEA is now listed as a charitable organization allowing you to direct your donation to us for the support and expansion of the Zagray Farm Museum. Pfizer Foundation also has a volunteer program that provides QVEA with substantial donations each year, based on the volunteer work of members who work or are retired from Pfizer.
We appreciate all donations in any form or size.

Woodworking Building

Our building permit came through on Friday, May 30th. Grading and site preparation started the next morning, and on Sunday the Koering 465 with Sean at the controls made short work of excavation for the 15 piers needed for this structure. We anticipate pouring the concrete floor by mid- month and actual construction a couple weeks later, after the concrete has cured. Extra help is needed, so please try to make yourself available if at all possible.

Stationary Engine Building

We have a meeting with the Zagray Farm Committee Thursday evening to discuss this project and several other items

Happening at the Farm!

Swapping out the engine on the Sawmill was at the top of the list to be ready for the Spring show. Last fall George Jarvis and Bob Chester got a spare Murphy 6 cylinder diesel running after we dragged it into the repair shop. Once we knew we had a good power plant, we removed the Cat engine from the mill, inserted the Murphy and began the process of reconnecting it. The last of the needed parts came together the Friday prior to the show to complete the project, and several of us were working on it at the same time doing different tasks. Parts were even being fabricated in Ed Bezanson's shop on instructions given by cell phone! By Saturday morning we could run the engine but immediately noticed that the governor was not responding properly to varying load inputs. The governor has since been rebuilt using a spare governor for parts and a service manual that George Jarvis (of course) had available. The Murphy now runs nicely and powers the mill effortlessly!

The Case 580 forklift that was sidelined with a bad transmission has been repaired. Cliff Bridgeford did the transmission work last fall after Dave Chester removed it from the tractor. We have completed the re-installation – it operates GREAT! It is back on-line to handle the majority of our forklift tasks. Thanks to Cliff for the transmission rebuild and Dave for tackling the remove and install portion of the project.

The field has been harrowed after a wet spring delay, and corn planted, or will be shortly. Dave D. needed assistance a couple of times to get equipment unstuck, but other than that he pretty much handles the planting on his own.

Chad and Ethan have been working on anything crank start – our F20's, F30, 1020, and the Fordson all ran for the Spring Show! It was our most impressive array of early tractors displayed to date! Now they are working on the ¾ swing shovel and eying up the Wilford ¾ swing out back.

We also picked up 4 loads of nice pine logs from Jewett City and two loads of tulip from a Colchester location.

Summer 2014 Projects

- Pick up donations from Lebanon farm. (in progress, Ed B.)
- Pick up JLG man lift. (in progress, Bob C.)
- Remove line shafting from button factory in Willington.
- Pick up Erie 15B donation. (Ken A. waiting for call from owner)
- Install roof over Food Trailer to correct leaking issues.
- Prepare grounds for GOTO show May of 2015
- Routine mowing and trimming
- Move and sort tires to tractor shed upstairs. We'd like to eliminate the ugly and not very useful corrugated tubes, so all clean-up in this area will help us progress in that direction.
- Move insulation panels to upstairs of tractor shed.
- Complete Woodworking building! (call Art 860-982-5158 or Dave 860-982-5163 to help.)
- Install additional vendor spots around pond
- Reconfigure and replace fencing around play yard

This is an ambitious list of projects, and with approvals for the Stationary Engine Building that project will get underway in the fall. Any and all help is welcome and needed! We are particularly in need of an Electrician that can assist us in installing the planned new power feed and transformer. If you can help, or know someone, let us know.

WHAT I LEARNED ABOUT MAKING IRON

By Dave McClary May 2014

The small iron planer in our machine shop museum was made about 1850 at the Robbins & Lawrence factory in Windsor, VT. That factory building is now the home of the American Precision Museum and retains some of the machine tools and products made there. Seeking more information about such an early manufacturing process, I asked the question where did they get the iron and steel to make the machines and rifles. Although no specific evidence was found, it was concluded that most probably it was furnished by the Tyson Blast Furnace in the town of Tyson located about seventeen miles to the west of Windsor. Referring to a Vermont Historical Society web site, WWW.VERMONTHISTORY.ORG, it was learned that a metallurgist, Isaac Tyson, looking for copper found deposits of iron ore in the hills west of the Connnecticut River and subsequently developed iron mines, made a blast furnace and built a mining town complete with housing and a company store. This was in the 1820's and 1830's and Tyson also produced cast products such as stoves. Given that transportation in this rural area would have been limited to horse and wagon, it is reasonable to assume that was the source of iron and probably castings although there was also a foundry across the street from the Robbins & Lawrence factory.

Looking for blast furnaces in Connecticut, I found several web sites which describe a Beckley blast furnace [WWW.BECKLEYFURNACE.ORG] in East Canaan that has been restored and made into a state historical site. A visit there found a small park-like setting along the Blackberry River with picnic tables and excellent signage describing the furnace and explaining how it worked. Just upstream in the river there is a dam that was the source of power for the blowers needed to operate the furnace. The supporting structures no longer exist but there are pictures showing the ore, charcoal and limestone charging ways leading to the top of the furnace stack and the shed where pig iron was formed and slag removed from the furnace. This facility is located on Lower Road which intersects with Route 44 at the town green, runs down toward the river and in about half a mile reaches the furnace area. The road continues along the river, passes a present day limestone mining operation and ends at Route 7 near the river bridge. Below is a picture of the restored furnace. Web site, WWW.SHARONHIST.ORG, has a broader history of the iron industry in Connecticut starting in the early 1800's. It was noted that there were a total of forty-seven blast furnaces in the north west corner of the state.

Another web site, WWW.STEEL.ORG, was found that provides more detailed information on blast furnace operation using a modern day furnace as a point of reference. Computers control mixing and placement of charge ingredients and sophisticated analysis of the process now replaces the skill and experience of personnel needed in the 1800's. This site includes explanations of the chemical reactions occurring during the phases as ore is transformed into iron products. The cupola furnace at the Zagray Farm Machine Shop Museum was originally erected in 1866. It did not start with iron ore but the process and operations to change pig iron and scrap iron into casting shapes was the same back then as it is today and even back in ancient times. Improvements accrued slowly over time. A notebook has been prepared showing the information found for use at the shop during our shows.

Old Display Renewed - By Dave McClary

An original find at the farm in the old Quonset Hut was a display board containing many lathe dogs and hold down brackets, probably from a factory tool room. It was large, dirty, rusty and very heavy. Consequently, it stood in a corner of the new Quonset Hut mostly out of sight and seldom noticed. A recent burst of energy resulted in taking all the lathe dogs home for de-rusting and preservation. The old board was not going to be reused so it was hosed off and slated for the dump. Three new boards were cut from some rough sawn heavy pine adequately thick to hold long screws for hanging the dogs. A reinforced hand hold was made at the top and the items arranged in some semblance of order. The picture below shows the result. One board has all but two dogs made by one company, J. H. Williams & Co. Most are so called bent dogs with the bent part used to engage a slot in a faceplate on the lathe with the turned piece clamped by a set screw. The two sets in the upper corners of the board on the right are straight dogs which use a bolt or other device fastened to and protruding from the face plate instead of the bent part of a dog. These dogs preceded the development of lathe chucks during the mid 1800's. And of course they were much less expensive and were used well into the 1900's. Some even use them today. The large one at the bottom of the left board fits a four inch diameter piece of round stock and the one just up and to the left is for quarter inch stock. The set screw for the large one has a one and one quarter inch diameter thread. Use of these dogs requires a center mounted in the turning spindle of a lathe like the one used in the tailstock for centering the piece. These display boards are now quite visible mounted between the two north facing windows in the small room of the shop using vertical 2 x 3's that are original and previously supported loose lathe change gears on rusty nails.

Dianne Tewksbury
QVEA Editor
90 Park Road
Colchester, CT 06415

APPLICATION FOR MEMBERSHIP

QUINEBAUG VALLEY ENGINEERS ASSOCIATION, INC. (QVEA)

Zagray Farm Museum

NAME_____

STREET_____

CITY_____

STATE/ZIP_____

PHONE_____

E-MAIL_____

Dues are $20.00 per person for one year, payable with application.
Dues include liability insurance at the farm.

RETURN TO: QVEA, 180 SOUTH PLUMB RD, MIDDLETOWN, CT 06457