



## **PETROLEUM TECHNOLOGY**

### **October 2013 Newsletter**

The Fall Semester of the Petroleum Classes are well underway. 2013 is the second year of the program that now includes both Freshman and Sophomore students. October presented the opportunity of the Shale Show 2013 in Sweetwater, Texas. The Shale Show is named after the Cline Shale deposits which sit directly under this geographic area of the state of Texas. Much like the other areas of oil and gas bearing shale throughout the U.S.A., there is much excitement that this resource bearing strata will provide much activity in the way of drilling, fracing, recovery, building, industry, employment, and income.

This was a two day oil show, and students went over on both dates. Many contacts were made with many companies who attended the show. Some of the faculty contacts were made just as companies were reaching out to community colleges which have programs like ours.

Other lab exercise opportunities arose, as we ran one of our premier "Project Based Learning" labs for a second time. Instructors give the students a stack of pipes, a pile of fittings, an instruction sheet, and asked them to build something. The students learn teamwork, how to use tools, how to think, and how to accomplish the seemingly impossible through this project.

Later in the month, the second year students were hosted by TRC Fiberflex over Midland, TX to view how fiberglass sucker rods are made. Sucker rods are the rods on the pump jacks around the region responsible for making the down hole pumps work and getting the product oil out of well, that are many thousands of feet deep.



*(Left)* A worker puts the final touches on fiber glass rods. Students learned how these are fabricated, tested and certified prior to sale.

From the fiberglass rod production site, the students went to a location where TRC has another shop to recondition used sucker rods: TRC Rod Services of Texas. The visit included all of the details on how sucker rods are cleaned, reprocessed through ball peening, tested for cracks with fluorescent dyes, pull-tested for strength, and recertified before being sold, or re-used again in the field.



*(Left)* Students viewing one area of parts reprocessing certification for steel rods.

*(Right)* Parts failure analysis is one way to make better parts, preventing breakage and pump unit downtime. Downtime = loss or prevention of income and can involve considerable repair costs.





(Left) Completed reconditioned rods ready for packaging, shipping, and reuse.

On the way back to WTC, the class stopped at SCS Technologies in Big Spring, Texas. SCS Technologies makes LACT units. These are Lease Acquisition Custody Transfer (LACT) units. A LACT counts the gallons or barrels, of product that enters a pipeline or that is pumped into a transport truck. The units can also measure natural gas as it enters a gas pipeline.

(Right) LACT unit PLC panel during the production phase. Not all wiring is complete.



(Left) Students observing a commercial PLC unit control box panel for one of the