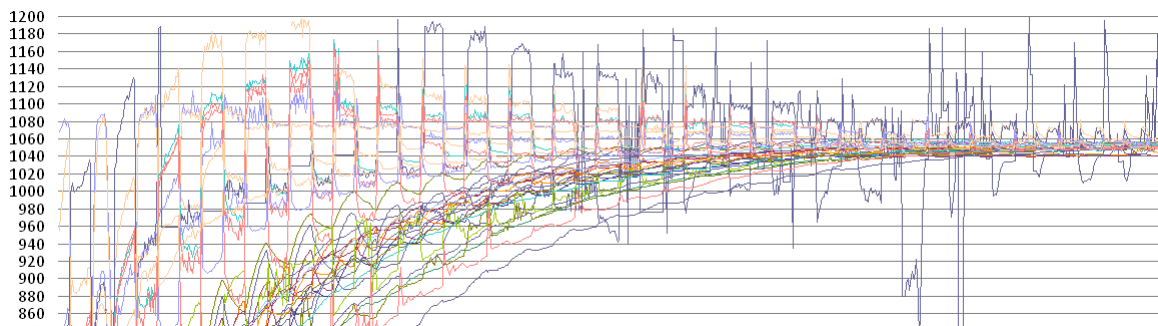


TAMING THE WILD HORSE Homogenizer Improvements

Bogh Industries has completed a retrofit of a large aluminum homogenizer with reversing air flow. The customer had two choices. Replacing the existing homogenizer with new equipment or retrofitting the machine to meet the environmental and improved process requirement posted by the state and the parent company. The existing burners were no longer supported by the burner manufacturer and new burners were needed.

The furnace had six large pulse fired burners with pilot. The main fans are reversing direction every 20 minutes to ensure good even heat up of the heavy load. The survey below shows the profile with a 30 TC survey.



The furnace had leakage around the doors and Bogh Industries designed a new door seal with soft seal which has proven to be an excellent seal during the last 8 months.

The existing burners and combustion blower was removed.



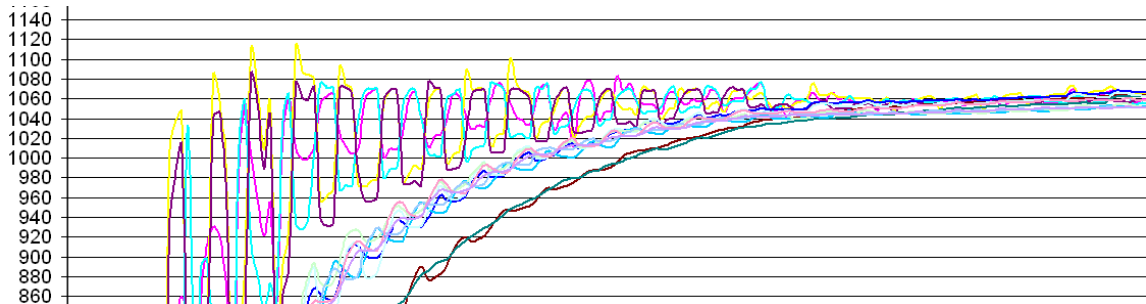
The picture shows the burners and gas train before the retrofit.

Six (6) New Eclipse Winnox™ was installed which meet California low NOx requirements. The burners are direct spark ignited which eliminated the pilot gas train and parts from the system. High resolution Siemens SQM control motors is directly connected to each burner. The controls are now proportional.



The picture shows the new burner mounted after the retrofit with individual combustion blower.

The improved controls have resulted in significant improvement in heat up time and survey uniformity as shown on the graph below.



A hysteresis issue was discovered with the control motor couplings during this survey. (yellow line). New couplings were installed to eliminate this last problem.

The net result of the rebuild is better uniformity, shorter time to soak with overall process improvement.

The wild horse was tamed and significant capital was saved for the customer. The furnace life was extended by many years with a minimal cost compared to a new furnace.

If you want additional information on our capabilities please see our web site www.boghindustries.com or contact us directly by calling 253-732-8476