

Report for February 12, 2017

Jan 28th: Dan brought a replacement for the defective Harbor Freight "pancake" air compressor and I attached my 9 gallon portable air tank to the wall for additional storage capacity and to supply air for cleaning equipment such as the LMI dosing pumps. I picked up the blue hose to link the compressor to the storage tank at the OEM store in the Springs that afternoon. The OEM is/was a dumping ground for Springs electronics firms and I have a credit there that I'm not likely to outlive.



Regrettably, the pressure transducer we had in stock for the Well#9 level sensor had been fried so Dan returned home to order a new one and a second transducer for our Well Line Manifold. We have come to realize the hard way that as the bag filters become choked with sediments the back pressure can go alarmingly high and the pressure gauge I installed on the Manifold is no substitute for an alarm. The Manifold was designed and built to accommodate 5 wells so we have two spare ports. One is being used for the pressure gauge and the other will now be used for the electronic pressure sensor.



Incidentally, the two heavy cables on the wall are for attaching the Water Plant and Well#8 to standby generators.

Pressure Transducer/Sensor ↗

Feb 1st: At about 10:30 AM a power outage shutdown water production, terminating communication between the PLC (Programmable Logic Controller) and associated components and the VFD (Variable Frequency Drive) unit for Well#9 – water production stopped and the PC shutdown as well. I stopped by the water plant about 2:00 PM to check on the air pressure line I had installed and to make a list of a few plumbing parts needed to add the pressure transducer to the Well Line Manifold and then off to Woodland Hardware for the part – I didn't see the power outage issue. At about 7 PM I tried to log into the water plant to check on production but, of-course, I could not. So, off to the plant. After restarting the PC but failing to reestablish communication with the Data Logger and observing screwy water production readings I phoned Dan who suggested the

communication failure. He suggested I shutdown and restart the electronics. I did and that reestablished communication with the VFD and the system resumed normal production. The Tank was, at 8 PM, about 8.5' but it recovered over night.

It was just such a situation that gave us so much concern about integrating Well#11a with the Central Treatment Facility back in the period from 2005 through 2007.

Feb 3rd: Friday afternoon the Chlorine LMI dosing pump stopped working and repeated attempts to prime the pump which didn't look like it needed priming didn't solve the problem. Sunday morning I went to the tank to see how our Chlorine residual was holding up - not bad - and I noticed the MasterFlex pump that circulates tank



water through the CL-10 Chlorine-PH-water temperature sensors was making a lot of racket so I took it home, dismantled and lubricated the pump. The pump and its peristaltic attachment costs

\$1,107 (plus shipping) so it's worth a little lubrication.

Feb 5th: I completed installing the pressure transducer parts pictured above.

Feb 7th: I cleared out a number of cardboard boxes including the heavy bag filter boxes for recycling - 3 car loads! And I completed the assembly of a second storage shelving unit for the GAC building. See photos.



I also completed the addition of a pressure gauge for the middle bag filter and relocated the pressure gauges so they face the operator at a 45° angle rather than straight up. I also installed air relief valves on all 3 filters.



Dan returned about 11 and completed work on the Well#9 air pressure level indicator, he completed the programming from home. We then pulled a pressure transducer cable through the conduit from the Well Line Manifold to the PLC. Dan will return with an isolator for the circuit and at that time I hope we will can engage HACH tech support to resolve issues with the SC-200 communication component of the

Tank CL-10 assembly so we will be able to bring the Chlorine, PH and water temperature readings to the PLC and the PC for remote observation. During LMI Chlorine pump outages it will be very important for our operators to be able to observe remotely the system's Chlorine residual as indicated by the Tank's Chlorine levels.



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