

Subject: Cooks Point WSC Water Loss Investigation

Date: Wednesday, May 31, 2017 at 2:27:38 PM Central Daylight Time

From: Amy Hennard

To: Gary Westbrook

CC: Ruth Albright (rralbr@gmail.com), Ruth Albright (rralbr@gmail.com), Carol Brumley (cjbrumley7@gmail.com)

Gary,

Please find attached the results of the low flow study that was performed by Precision Calibrate Meter Services (PCMS). Sam Godfrey with SAMCO Leak Detection Services recommended that a low flow study be performed by PCMS prior to listening for leaks to determine whether there is something unusual going on in the plant, if there is flow at all times, and if so at what rate. It was determined that there is flow leaving the plant at all times (zeros are likely errors). At some times the flow leaving the plant is 6 GPM or less. If this is a leak, it is my understanding from Steve Noffsinger (PMCS) and Sam Godfrey (Samco) that it is likely very small and may be difficult to locate.

I believe that our next step is to do a leak investigation on the distribution system. Samco is available after June 20th to perform the line listening and leak detection investigation. His quote to do this work is attached.

I also believe that it would be beneficial to remove the pump from the existing well and video the condition of the casing/screen. This will allow us to determine the status of the casing issue and give us an idea of the life left in the well. It will also help to determine whether this issue is related to the water loss problem. I have attached a quote from Brien Water Wells to pull and return the pump, as well as to bring someone in to video the well. It would be advantageous if POSGCD could assist with the videoing.

In addition, there will be additional time from Jones|Carter charged on an hourly basis to assist with and evaluate this work.

Cooks Point WSC is requesting approval to conduct these activities, in order to ensure they are grant eligible items. Please let us know your thoughts on this situation.

Thank you for your assistance.

Amy S. Hennard, PG, PE
Project Manager
ahennard@jonescarter.com

JONES | CARTER
150 Venture Drive, Suite 100
College Station, Texas 77845
Telephone 979.731.8000 Ext. 3017
Direct 979.307.6177
Fax 979.846.2893
Cell 979.255.1520

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Accountability Starts At The Meter

State mandated meter testing performed by Precision Calibrate Meter Services will provide information pertaining to meter accuracy, installations, flow verifications with certifications and improvement recommendations when applicable.

Using only certified testing equipment Precision Calibrate Meter Service provides verifications and calibration testing for water and wastewater meters both field and bench testing environments.

Results obtained in field testing situations will be impacted by external factors such as imperfect test locations and pipe integrity.

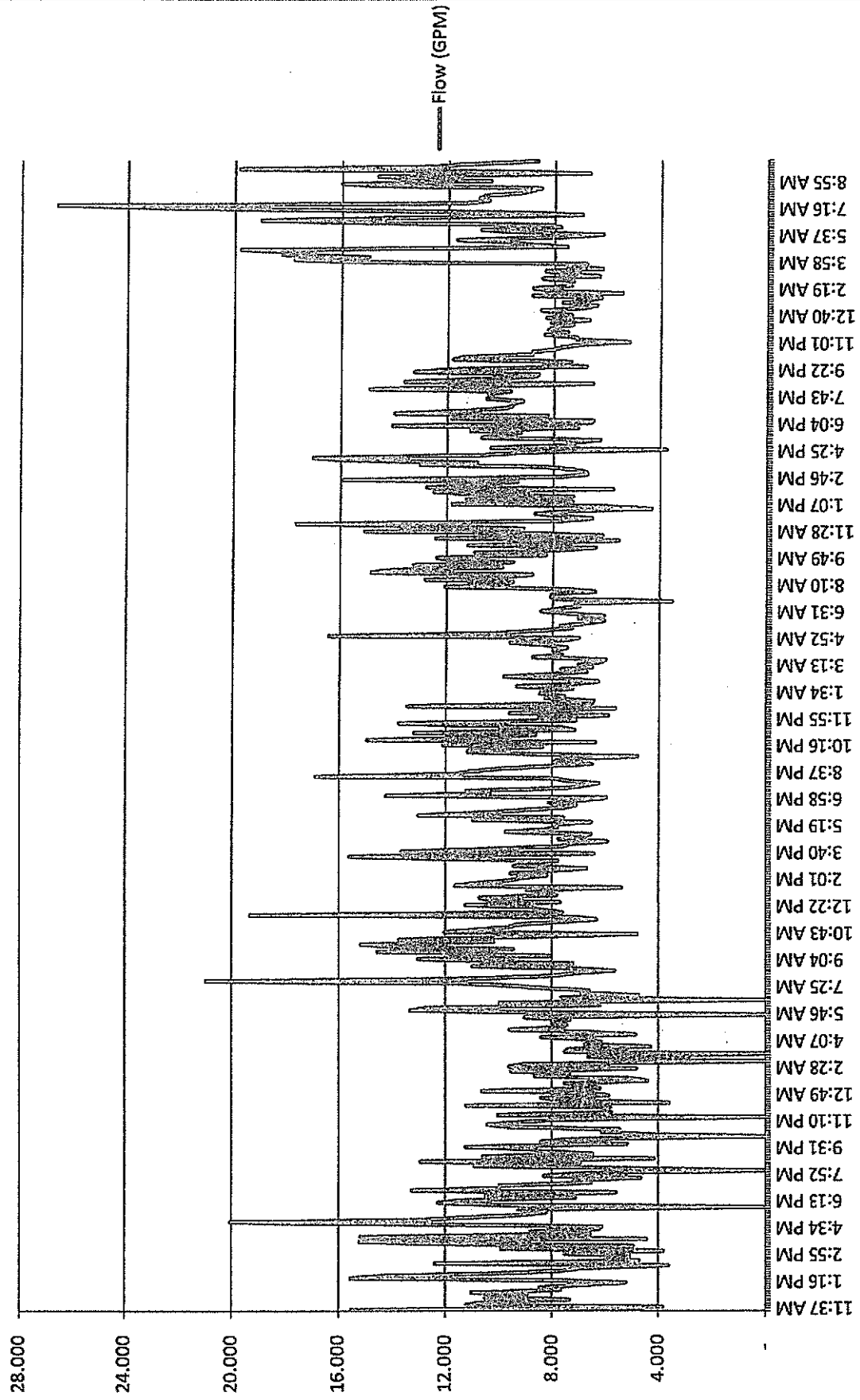
Cooks Point WSC Low Flow Testing

Enclosed please find the flow report and revised monthly water loss report. A line was added on the water loss report provided showing gallons per minute (GPM) per month and average for the year.

The system is averaging a 4.29 GPM water loss. The rule of thumb is to cut the water loss in half, with half being meter loss and the other half being leaks and/or flushing, overflows or any other type of unaccounted for loss. The charts show low flows around four gallons per minute with eight spots going to 0 GPM.

Locating a possible leak of 2.15 GPM in the system would be not be cost effective, in Precision Calibrate Meter Services' opinion. It is likely some of the loss could be picked up using a very effective low flow meter like the Kamstrup. Twenty three percent of residential water usage is low flow of $\frac{1}{4}$ GPM or less. The meters that Cooks Point WSC have in place now are poor compared to the newer technology ultra-sonic meters which can pick up flows as low as $\frac{1}{60}$ GPM.

Flow Out of Water Plant (gal/min)
4/21/17 thru 4/24/2017



Days

Total Water Sold by Residential Meter Readings
Sold Amount from Directors Report
Difference

Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17
127,410	128,485	94,495	104,350	137,370	114,370	99,330	102,170	92,950	88,590	83,150	
126,690	132,390	89,760	104,170	132,200	112,880	98,570	101,940	92,780	88,410		
720	-3,905	4,735	180	5,170	1,490	760	230	170	180		

Well Master Meter

Water Used
12554800 13016600 287200 576100 865800 1182900 1460000 1703800 1967700 2260100 2553400 2833900
301000 361800 330650 288900 289700 317100 277100 243800 263900 292400 293300 280500

Difference (Loss)

Total Water Loss in Gallons (Well Meter-Total Res. Meters)
234,390 207,165 194,405 185,350 179,730 162,730 144,470 161,730 199,450 204,710 197,350
64.8% 61.1% 67.3% 64.0% 56.7% 58.7% 59.3% 61.3% 68.2% 69.8% 70.4%

Total Water Loss in Gallons (Well Meter-Directors Rpt Sold)

235,110 198,260 199,140 185,530 184,900 164,220 145,230 161,960 199,620 204,890 280,500
65.0% 60.0% 68.9% 64.0% 58.3% 59.3% 59.6% 61.4% 68.3% 69.9% 100.0%

Total Water Loss in Gallons Per Minute

Days
29 31 30 31 30 31 31 30 31 30 31
8,082.41 6,521.45 6,480.17 5,979.03 5,991.00 5,249.35 4,660.32 5,391.00 6,433.87 6,823.67 6,366.13
5.61 4.53 4.50 4.15 4.16 3.65 3.24 3.74 4.47 4.74 4.42

Average Gallons Per Minute From February thru December

4.29



LEAK DETECTION SERVICES PROPOSAL AND AGREEMENT COOKS POINT WATER SUPPLY CORPORATION ("CUSTOMER")

SERVICES TO BE PERFORMED

1. Pre-Survey Consultation: SAMCO Leak Detection Services, Inc. ("SAMCO") will meet with Jones & Carter Engineering the Customer's designated agent to review system mapping data and develop a leak detection survey strategy for the Customer.
2. Acoustic Surveying: SAMCO will perform acoustic leak detection survey on approximately two (2) linear water distribution piping, all accessible active and inactive service connections, all accessible water distribution valves to identify system leaks and water loss problems for the Customer. See attached map of project area.
3. Visual Inspections: SAMCO will walk and visually inspect approximately two (2) linear miles of water distribution piping for potential water loss problems.
4. Chlorine Residual Testing: SAMCO will test all water that is identified on the ground in close proximity of the Customer's water system for the existence of chlorine, which is indicative of leaks.
5. Time and Personnel: SAMCO will provide one (1) leak technician for approximately one (1) day for on-site leak surveying. The project will be completed by approximately one day barring any unforeseen developments.
6. Survey Updates & Reports: SAMCO will keep the Customer's designated agent informed of daily leak findings, leak locations and/or any other relevant problems encountered, along with pertinent information about the project, either verbally or by email. All pertinent data gathered during the leak detection project will be compiled into a final written report and delivered to the Customer.
7. Workmanship: SAMCO will perform services for the Customer in a good and workmanlike manner in accordance with generally accepted standards of care in the industry. SAMCO does not guarantee it will detect any or every leak from the Customer's water system, but that it will use commercially reasonable methods and practices to perform the services.
8. Insurance: SAMCO will maintain insurance during its performance of the services and will present certificates of coverage upon request of the Customer.

9. Estimated Costs: The services described above will be performed by SAMCO at an estimated cost of \$3,500.00 (not to exceed \$4,000.00 without further approval).
10. Survey Implementation Schedule
- a. Pre – Survey Consultation – May 12, 2017
 - b. Start of Full Survey – Pending contract negotiations or week of May 22, 2017
 - c. Completion of Contract Services – Approximately one (1) day after survey Commencement
11. Payments: Upon completion of all or a portion of the services, SAMCO will submit an invoice and Customer will remit payment within thirty (30) days of the invoice date. If Customer has a good faith dispute with the amount of the invoice, Customer will notify SAMCO in writing of the basis for the dispute and will pay all amounts not so disputed within the 30-day period. All amounts owed to SAMCO and not paid within 30 days, whether or not disputed, will accrue interest at the rate of twelve percent (12%) per annum.

PRESENTED BY SAMCO LEAK DETECTION SERVICES, INC.:

By: _____ Date _____
Sam Godfrey, President

AGREED TO AND ACCEPTED BY CUSTOMER:

By: _____ Date _____
Authorized Agent for Customer

Printed Name and Title

BRIEN WATER WELLS

5214 S HWY 6
HEARNE TX 77859
979-279-2427

Estimate

Date	Estimate #
5/16/2017	PULL PUMP

Name / Address
COOKS POINT WATER SUPPLY PO BOX 43 CALDWELL, TEXAS 77836

			P.O. No.
Description	Qty	Cost	Total
LABOR TO PULL PUMP AT COOKS POINT, VIDEO THE COMPLETE WELL AND SET THE PUMP BACK INTO THE WELL. WE MAY HAVE TROUBLE GETTING A CLEAR VIDEO IMMEDIATELY AFTER PULLING THE PUMP.....THIS CAN CAUSE CLARITY PROBLEMS....USUALLY WE LIKE TO WAIT TO THE NEXT DAY TO VIDEO AND SET....HOWEVER, WE WILL DO WHAT YOU INSTRUCT US TO DO.	6	150.00	900.00T
VIDEO COMPLETED BY VIDEO CONTRACTOR	1	3,500.00	3,500.00T
		Subtotal	\$4,400.00
		Sales Tax (6.75%)	\$297.00
		Total	\$4,697.00