

Memo

To File: 11-7151

From: C. Knowles

Date: 6/11/2012

RE: Field exam measurement

On June 7th, 2012 I conducted two flow measurements on wells under the above reference water right permit. Brad and Bud Woolsteinhulm as the operators of the system were present. There are three wells on the farm but the middle and south wells are the two under this permit that needed measurements conducted. The middle well is tied to the south well and irrigates primarily the pivot east of this well. This pivot is approximately 90 acres in size with the remaining water being fed back into the main line to the west of the well. Two measurements were conducted with each of the wells isolated for peak output of the wells. The middle well (A0010687 site id 50 HP Newman motor with a Johnston pump) required two measurements summed together due to the pump and piping configuration. These two measurements totaled 682.38 gpm or 1.52 cfs. Pressure at this well was documented at 43 PSI with both wells running at the same time. The south well (A0010686 site id 75 HP Newman motor with a Western Land Roller pump) was then tested right off the well head and measured at 967.88 gpm or 2.16 cfs. The two combined total 3.68 cfs or 1650.26 gpm. These two wells irrigated one 90 acre pivot and three quarter mile wheel lines.

Based on two different measurements conducted on this system it appears the discharge is real close to 1650 gpm. Both measurements conducted were done using ultrasonic equipment in similar locations and under similar pumping conditions. The two wells are connected together and at the time of this measurement the south well was the better well in terms of discharge.

LOG DUMP
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A0010687DAINESNORTH

Start Date 07 JUN 12
Start Time 10:46:47 AM
End Date 07 JUN 12
End Time 10:55:47 AM

HH:MM:SS	VOLUM GAL/M	VEL Ft/s	+TOTL GAL
10:46:47 A	595	3.94	0
10:47:47 A	583	3.87	583
10:48:47 A	595	3.95	1179
10:49:47 A	597	3.96	1762
10:50:47 A	603	4.00	2370
10:51:47 A	592	3.93	2966
10:52:47 A	588	3.90	3545
10:53:47 A	601	3.98	4140
10:54:47 A	592	3.92	4738
10:55:47 A	596	3.95	5337

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A0010686

Start Date 07 JUN 12
Start Time 12:06:58 PM
End Date 07 JUN 12
End Time 12:15:58 PM

HH:MM:SS	VOLUM GAL/M	VEL Ft/s	+TOTL GAL
12:06:58 P	971	5.75	0
12:07:58 P	967	5.73	963
12:08:58 P	965	5.72	1953
12:09:58 P	967	5.73	2914
12:10:58 P	964	5.72	3871
12:11:58 P	959	5.69	4830
12:12:58 P	960	5.69	5810
12:13:58 P	964	5.72	6761
12:14:58 P	984	5.83	7743
12:15:58 P	967	5.74	8697

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DAINESPIVMEAS

Start Date 07 JUN 12
Start Time 11:43:58 AM
End Date 07 JUN 12
End Time 11:52:58 AM

HH:MM:SS	VOLUM GAL/M	VEL Ft/s	+TOTL GAL
11:43:58 A	197	1.31	0
11:44:58 A	196	1.30	196
11:45:58 A	197	1.30	391
11:46:58 A	195	1.29	585
11:47:58 A	194	1.29	785
11:48:58 A	198	1.31	981
11:49:58 A	196	1.30	1176
11:50:58 A	196	1.30	1376
11:51:58 A	198	1.31	1570
11:52:58 A	196	1.30	1765

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DAINEST-WL

Start Date 07 JUN 12
Start Time 11:23:16 AM
End Date 07 JUN 12
End Time 11:32:16 AM

HH:MM:SS	VOLUM GAL/M	VEL Ft/s	+TOTL GAL
11:23:16 A	468	3.17	0
11:24:16 A	471	3.20	476
11:25:16 A	484	3.28	946
11:26:16 A	493	3.34	1444
11:27:16 A	525	3.56	1930
11:28:16 A	489	3.32	2416
11:29:16 A	493	3.34	2912
11:30:16 A	507	3.44	3407
11:31:16 A	494	3.35	3889
11:32:16 A	499	3.39	4390