



Hydro resources

Hydro Resources-Mid Continent, Inc.

Davenport Rim
2800 Waymaker Way
Austin, Tx 78746

RE: Davenport Rim – Irrigation Well

To Whom It May Concern:

The purpose of this letter is to provide a brief summary of the pump test conducted by Hydro Resources on 7/6/17 for the new irrigation well at 2800 Waymaker Way.

Pump Equipment

- 65GS100 Goulds pump
- Centripro 10 HP 460v 3Φ motor
- Pump set at 630' on 2" galvanized pipe

Pump Test

The test pump was set on 7/5/17. After the installation was complete the equipment was turned on to ensure everything was working properly. At this time the pumping rate and water level was monitored. The technician noted that the static water level of the well was 521'. After 30 minutes of pumping the production was 43 gpm and the water level had drawn down to 600', and was continuing to draw down at a rate of approximately 6" per minute. This was a clear indication that the well was not producing as much as originally estimated so the technician choked back the pump via a ball valve in preparation for the test the next day.

The pump test began at 9:20 am on 7/6/17. The static water level had recovered to 535', initial pumping rate was 36 gpm. After 15 mins of pumping the water level had drawn down to 567', and the pumping rate had dropped to 25 gpm. The well continued to slowly drawdown over the next 24 hours. Notes from the pump test are listed here:

Davenport Rim – Irrigation Well
24 hour pump test
7/6/17

Date	Time	Water Level	GPM
7/6/2017	9:20 AM	535	36
	9:35 AM	567	25
	9:40 AM	569	24
	9:45 AM	571	25
	9:50 AM	573.5	25
	10:00 AM	574	25



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	10:20 AM	575	25
	10:40 AM	575.5	25
	11:00 AM	576	24
	11:30 AM	578.5	24
	12:00 PM	580.5	23
	12:45 PM	583	23
	3:30 PM	586.5	23
	4:00 PM	586.5	23
	4:30 PM	587	23
7/7/2017	10:20 AM	594	23

Based on this information we would estimate the sustainable pumping rate of the well to be approximately 20-22 gpm.

Water Quality

The water quality of the Hosston shows significant improvement over the Cow Creek. While the Total Dissolved Solids are still higher than we would have hoped, the Hosston shows better quality in most of the other items tested.

Hosston Chemical Analysis (isolated) Sampled 7/7/17

DAVENPORT RIM		Collected: 07/07/17 10:19 by CLIENT Received: 07/07/17 13:37 by Kelly Kulkowski						Type Grab	Mastbr Non Potable	C-O-C # 281456	
Lab ID#	AG1497B-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch
General Chemistry											
Total Hardness (ICP Calc) as CaCO3		248	mg/L			5.00	6.24	Bryan	08/01/17 16:25 MRG	EPA 200.7 R4 4	[CALC]
Total Dissolved Solids		1418	mg/L		25.0	50.00	50.0	Bryan	07/13/17 15:43 BLR	SM2543 C 1997	M079182
Nitrate as N		<0.8500	mg/L			0.02	0.0500	Austin	07/12/17 10:44 MSA	SM4500-NO3-F 2000	[CALC]
Nitrite as N		0.03	mg/L	G-01	0.001	0.00	0.01	Austin	07/07/17 14:10 MSA	SM4500-NO2- B 2000	M079067
Nitrate/Nitrite as N		<0.85	mg/L		0.02	0.02	0.05	Bryan	07/12/17 10:44 PB	SM4500-NO3-F 2000	M079177
Total Alkalinity as CaCO3 (pH4.5)		248	mg/L		4.00	16.00	18.0	Bryan	07/21/17 18:00 MRB	SM2320 B 1997	M079300
Chloride		151	mg/L		1.00	4.01	12.5	Bryan	07/25/17 16:09 JMB	SM4500-Cl- B 1997	M079502
Fluoride		2.60	mg/L		0.02	0.02	0.10	Bryan	07/20/17 09:25 OYT	SM4500-F C 2011	M079370
Sulfate		812	mg/L		1.25	31.48	125	Bryan	07/18/17 09:00 MRB	ASTM D516 07	M079302
pH, Lab		8.2	9 U.	Hold-G3	0.0	0.00	0.0	Austin	07/10/17 14:17 AHL	SM4500-H+ B 2000	M079117
Temperature @ pH Analysis		24.1	Deg. C		0.1	0.10	0.1	Austin	07/10/17 14:17 AHL	SM2550 B 2000	M079117
Specific Conductance (adjusted to 25.0°C)		2300	uS/cm		2.00	4.00	4.00	Bryan	07/21/17 14:20 JMB	SM2510 B 1991	M079444
Metals (Total)											
Aluminum		0.030	mg/L		0.005	0.00	0.005	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Arsenic		<0.002	mg/L		0.004	0.00	0.002	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Boron		3.39	mg/L		0.024	0.01	0.012	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Calcium		54.2	mg/L		0.080	2.00	2.50	Bryan	08/01/17 16:25 MRG	EPA 200.7 R4 4	M079386
Copper		0.007	mg/L		0.002	0.00	0.005	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Iron		0.022	mg/L		0.007	0.00	0.005	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Magnesium		26.8	mg/L	ICP-4X	0.001	0.00	0.0005	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Manganese		0.002	mg/L		0.001	0.00	0.0005	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Potassium		42.3	mg/L	MS-01	0.033	0.02	0.050	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385
Sodium		347	mg/L		0.024	0.00	2.50	Bryan	08/01/17 16:25 MRG	EPA 200.7 R4 4	M079386
Zinc		0.163	mg/L		0.003	0.00	0.002	Bryan	08/01/17 15:39 MRG	EPA 200.7 R4 4	M079385



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Please feel free to contact me if you have any questions or require additional information.

Respectfully,

Chris Knox

General Manager