



WATER MINERAL ENERGY

WELL TEST DATA SHEET

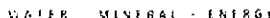
Layne Christensen Company**PROFESSIONAL SERVICES FOR WATER SYSTEMS**

721 West Illinois Avenue, Aurora, Illinois 60506-2892 Telephone 630/897-6941

229 West Indiana Avenue, Beecher, Illinois 60401 Telephone 708/946-2244

Job	City of Webster City	Well No.	8	Date Tested	3/21-22/2013
Location	Webster City, IA			Tested By	D. Good/G. Thomas
Dia. of Well	22" x 16" x 14-3/4"			Driver	350 HP, BJ Test Motor
Depth of Well	1920 ft.			Column & Shaft	8"
Length of Airline	510 ft.	24 HOUR TEST		Bowls	15 MQH, L5, 6 Stage
Static Level	210 ft.			Manufacturer	Byron Jackson
Orifice Size	10 x 8	PAGE 1 OF 3		Serial No.	Test Pumps S/N BJ 0015

Time	Piez. (in)	G.P.M.	Air Gauge (ft)	Pumping Level	Drawdown	Dis. Press. Lbs.	Ft.	Total Head	AMPS	Remarks
8:25 am	0.0	0	300	210	0	0				
9:00	47.0	2066				80				Start Pump
9:01	45.0	2021	250	260	50	80				60 Hz
9:03	43.0	1976	240	270	60	80				Specific Capacity - 32.93
9:05	42.0	1953	240	270	60	80				
9:10	41.0	1929	238	272	62	80				Specific Capacity - 31.11
9:15	41.0	1929	238	272	62	80				
9:20	40.0	1906	238	272	62	80				
9:25	39.0	1882	238	272	62	80				
9:30	39.0	1882	238	272	62	80				
9:45	39.0	1882	238	272	62	80				
10:00	39.0	1882	235	275	65	55			455-456-455	
10:30	39.0	1882	235	275	65	55				Specific Capacity - 28.95
11:00	39.0	1882	230	280	70	55				Specific Capacity - 26.88
11:30	39.0	1882	230	280	70	55				
12:00pm	39.0	1882	230	280	70	55				
12:30	39.0	1882	230	280	70	55				
1:00	39.0	1882	230	280	70	55				Crystal Clear
1:30	39.0	1882	230	280	70	55				1/16" sand in quart jar
2:00	39.0	1882	230	280	70	55				
2:30	39.0	1882	230	280	70	55				
3:00	39.0	1882	230	280	70	55				
3:30	39.0	1882	230	280	70	55				
4:00	39.0	1882	230	280	70	55				
4:30	39.0	1882	230	280	70	55				
5:00	39.0	1882	230	280	70	55				Rossum Sand Tester - .1 mL in 40 mins.
5:30	39.0	1882	230	280	70	55				Trace - "5-6 grains/Qt."
6:00	39.0	1882	230	280	70	55				
6:30	39.0	1882	230	280	70	55				
7:00pm	39.0	1882	230	280	70	55				

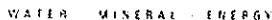


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Date Tested	3/21-22/2013
Tested By	D. Good
Driver	350 HP, BJ Test Motor
Column & Shaft	8"
Bowls	15 MQH, L5, 6 Stage
Manufacturer	Byron Jackson
Serial No.	Test Pumps S/N BJ0015

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Static Level	210 ft.			Manufacturer	Byron Jackson
Orifice Size	10 x 8	PAGE 3 OF 3		Serial No.	Test Pumps S/N BJ0015

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Job	City of Webster City	Well No. 8	Date Tested	3/6/2013
Location	Webster City, IA		Tested By	Derek Good
Dia. of Well	22" x 16" x 15"		Driver	300 HP BJ Test Motor
Depth of Well	1920 ft.		Column & Shaft	8"
Length of Airline	510 ft.	JORDAN TEST	Bowls	Test Pump 15" MQH ₁ L5 6 Stage
Static Level	210 ft.		Manufacturer	300 HP BJ Test Motor
Orifice Size	10 x 8		Serial No.	BJ0015

PAGE 1 OF 2

Time	Piez. (in)	G.P.M.	Air Gauge (ft)	Pumping Level	Drawdown	Dis. Press. Lbs.	Ft.	Total Head	AMPS	Remarks
7:25 am	0.0	0	300	210	0	0		Sandtester		Clear
8:00	40.0	1906		510	300					Greenish Tint
8:02	35.0	1783	200	310	100					Greenish Tint
8:03	32.0	1705		510	300					Greenish Tint
8:05	28.0	1594		510	300					Greenish Tint
8:06	28.0	1594	150	360	150	80				Greenish Tint
8:10	24.0	1476	150	360	150	80				Greenish Tint
8:15	23.5	1461	150	360	150	80				Tanish Brown - Milky
8:20	23.5	1461	155	355	145	80				Tanish Brown - Milky
8:25	20.0	1348	155	355	145	80	1 mL in 1 min.			Tanish Brown - Milky
8:30	20.0	1348	160	350	140	80	Fine Sand			Tanish Brown - Milky
8:35	20.0	1348	160	350	140	80				Tanish Brown - Milky
8:45	20.0	1348	160	350	140	80			434-435-435	Less Tanish Brown - Milky
8:55	20.0	1348	165	345	135	80				Less Tanish Brown
9:00	20.0	1348	165	345	135	80	.2 mL in 1 min			Cloudy
9:05	20.0	1348	165	345	135	80	Fine Sand			Cloudy
9:10	26.0	1536	150	360	150	60				Cloudy
9:20	26.0	1536	150	360	150	60				Cloudy
9:30	25.0	1507	150	360	150	60	.4 mL in 1 min			Cloudy
9:40	25.0	1507	155	355	145	60				Cloudy
9:50	25.0	1507	155	355	145	60				Cloudy
10:00	25.0	1507	155	355	145	60				Cloudy
10:15	25.0	1507	155	355	145	60	.2 mL in 1 min			Less Cloudy
10:35	29.0	1623	135	375	165	40	Fine Sand			
10:45	29.0	1623	135	375	165	40				Clear
11:00	29.0	1623	135	375	165	40				Clear
11:15	29.0	1623	135	375	165	40	.2 mL in 1 min			Clear
11:30	38.0	1857	105	405	195	7	(OPEN VALVE)			Clear
11:45	38.0	1857	105	405	195	7			459-460-460	Clear
12:00pm	38.0	1857	105	405	195	7				Clear



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Depth of Well	1920 ft.			Column & Shaft	8"
Length of Airline	510 ft.	JORDAN TEST		Bowls	Test Pump 15" MQH, L5 6 Stage
Static Level	210 ft.			Manufacturer	300 HP BJ Test Motor
Orifice Size	10 x 8			Serial No.	BJ0015

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WELL TEST DATA SHEET

* Very cold conditions

4° temp -20° W.C.

8 hr. step test

Layne-Western

Pg #1 of 2

a division of Layne Christensen Company

PROFESSIONAL SERVICES FOR WATER SYSTEMS

721 West Illinois Avenue • Aurora, Illinois 60506-2892 • Phone: 630/897-8941

Job 20007BWell No. 8Date Tested 2-19-2013Location Webster City, IADia. of Well 22" to 600 ft X 16" to 1550 ftDepth of Well 1885 ftLength of Airline 510 ft

Non-Pumping Level

Orifice Size 10" X 8"

Pump Used:

Column and Shaft 8"Bowls TEST pump BJ006, 15 MPH 2LSManufacturer BJ 7 stages

Serial No.

Page 1 of 2

Time	Piezometer Reading (in.)	G.P.M.	Air Gauge Reading (psi)	Pumping Level	Drawdown	Disch. Pressure		Total Pumping Head	Remarks
						Lbs.	Feet		
7:45A	0	0	292	218			60H2	Amps	Water temp 58° in well
8:00A	21"	1381	190	320		80			
8:04A	21"	1381	120	390		80			
8:06A	18"	1278	100	410	192	60			Clear
8:11A	16"	1205	90	420	202	60			
8:16A	13"	1086	110	400	182	90		453, 433, 434	
8:20A	13"	1086	110	400	182	90			Very milky - clear
8:24	13"	1086	142	368	150	90			Very cloudy mil
8:27A	13"	1086	158	352	134	90			Very cloudy fine sand
8:32A	13"	1086	162	348	130	90			Very cloudy
8:45A	13"	1086	170	340	122	90			
8:55A	13"	1086	172	338	120	90			Cloudy fine sand
9:05A	13"	1086	172	338	120	90		411, 412, 411	
9:20A	13.5	1107	178	332	114	90			Cloudy fine sand
9:40A	13.5	1107	178	332	114	90			Cloudy fine sand getting better
10:00A	13.5	1107	178	332	114	90			Cloudy
10:20A	13.5	1107	178	332	114	90			Cloudy
10:40A	13.5	1107	178	332	114	90		411, 412, 411	Cloudy less fine sand
11:00A	16	1205	160	350	132	70			
11:03A	16	1205	155	355	137	70			
11:10A	16	1205	155	355	137	70			
11:15A	15.5	1186	155	355	137	70			



WELL TEST DATA SHEET

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PROFESSIONAL SERVICES FOR WATER SYSTEMS

721 West Illinois Avenue • Aurora, Illinois 60506-2892 • Phone: 630/897-6941

Job 20007B Well No. 8 Date Tested 2-19-2013
 Location Webster City, IA Tested By D. Good
 Dia. of Well _____ Driver 300HP BT test motor 460volt
 Depth of Well 1885 +/- Pump Used: _____ Column and Shaft 8"
 Length of Airline 510ft Bowls TEST BOWL 206, 15M QH 2 L5
 Non-Pumping Level 218 Manufacturer 7 Stage bowl 10"x8" surge
 Orifice Size 10"x8" Serial No. _____ discharge

Time	Piezometer Reading (in.)	O.P.M.	Air Gauge Reading (feet)	Pumping Level	Drawdown	Disch. Pressure		Total Pumping Head	Water temp 60° Remarks
						Lbs.	Feet		
11:30A	16"	1205	155	355	137	70	60Hz	Amps	clearing
11:45A	16"	1205	155	355	137	70			clearing
12:00P	16"	1205	155	355	137	70		422, 421, 422	clearing ^{lost sand} _{off}
12:25P	16"	1205	155	355	137	70			clearing ^{lost sand} _{off}
12:30P	19"	1313	142	368	150	50			clearing
12:45P	19"	1313	140	370	152	50			clearing
1:00P	19"	1313	137	373	155	50		435, 435, 436	clearing ^{fine sand}
1:30P	17"	1242	140	370	152	60			clearing ^{fine sand}
1:35P	19"	1313	137	373	155	50			^{1/8"} clearing ^{fine sand}
1:45P	19"	1313	135			50			clearing ^{fine sand}
2:00P	25.5	1522	103	407		20		446, 448, 448	
2:05P	25.5	1522	100	410		20			clear ^{lost fine sand}
2:30P	25.5	1522	110	400		20			
2:50P	25.5	1522	110	400		20			
3:00P	28	1594	97	403	195	8			open valve
3:10P	28	1594	97	413	195	8			clear
3:30P	28	1594	97	413	195	8			clear ^{1/4" sand}
3:45P	28	1594	97	413	195	8			clear
4:00P	28	1594	97	413	195	8			clear
4:15P	28	1594	97	413	195	8			clear
4:30P	28	1594	97	413	195	8		450, 451, 450	clear ^{1/16" sand}
5:00P	28	1594	97	413	195	8			clear ^{1/16" sand in}
5:25P	Shut down		drain hoses					SC=8.1	mason jar