

Appendix C
150 mm Well Pumping Test Results



Friesen Drillers Limited
Box 1, Grp. 15, R.R.#1
Steinbach, MB R5G 1L9

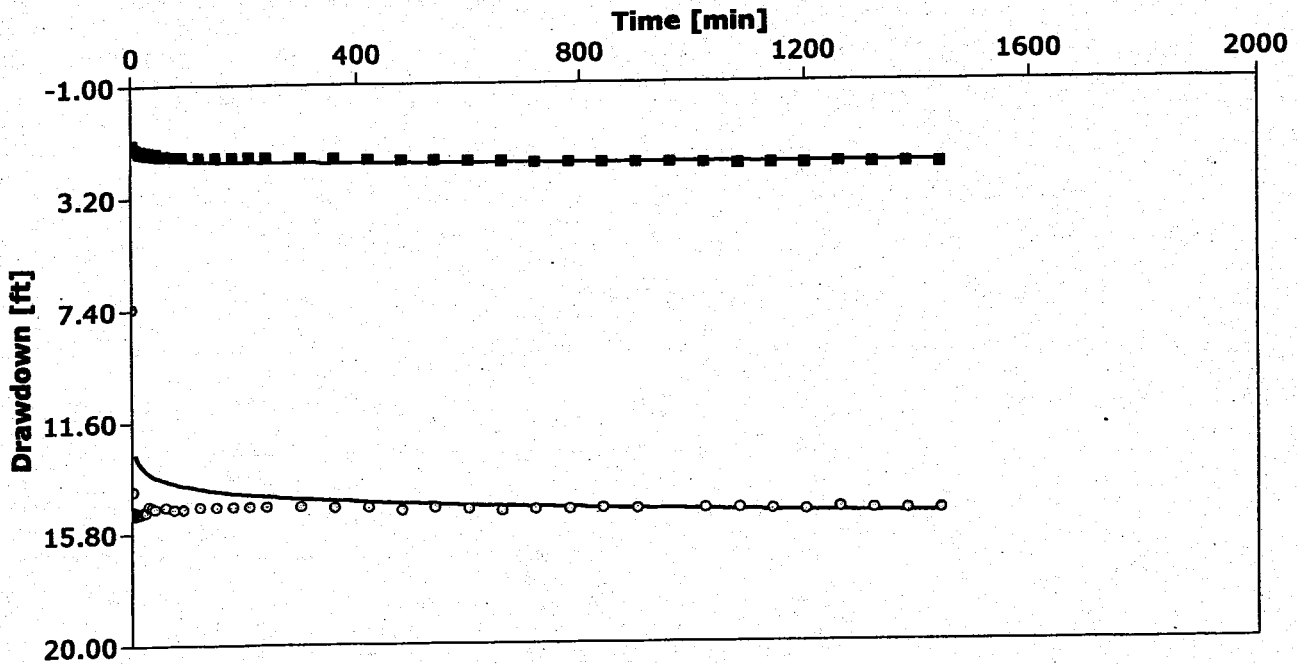
Pumping Test Analysis Report

Project: Pembina Valley Water Co-op

Number: 2005-01

Client: UMA Engineering Inc.

Location: Sandilands - PR404	Pumping Test: 6 inch - 24 Hour Pumping Test	Pumping well: 6 inch Pump Well
Test conducted by: Friesen Drillers Limited		Test date: 8/23/2005
Analysis performed by: Jeff Bell	Theis	Date: 9/1/2005
Aquifer Thickness: 160.00 ft	Discharge rate: 195 [U.S. gal/min]	



Calculation after Theis

Observation well	Transmissivity [U.S. gal/d-ft]	K [U.S. gal/d-ft ²]	Storage coefficient	Radial distance to PW [ft]
6 inch Pump Well	5.28×10^4	3.30×10^2		0.25
Close MW	3.18×10^5	1.99×10^3		46.0
Average	1.85×10^5	1.16×10^3		

FRIESEN DRILLERS — PUMP TEST

WELL OWNER: PUMPING WELL DATE: 23 AUGUST 2005 SIZE OF ORIFICE: 4"
 LOCATION: PEMBINA VALLEY WATER CO. OP STATIC LEVEL: _____ SIZE OF PIPE: 6"

TIME	Date	Elapsed Time	PUMPING WELL Observations	Rate	REMARKS
		SWL	77' 8"		
	12:00 NOON	0	77' 8"		ELEVATION:
		0.5	85'		1183 FT.
		1	91' 10 1/2"	*	
		2	92' 7 1/2"		N 49° 23.908'
		3	92' 9"		W 096° 17.707'
		4	92' 9 1/2"		
		5	92' 9"		
		6	92' 9"		
85 us.		7	92' 8 3/4"		
		8	92' 9"		
95 us.		9	92' 9"		
	12:10	10	92' 9"	*	
		12	92' 8 3/4"		
		14	92' 9"		
		16	92' 8 1/2"		
		20	92' 7 3/4"	*	
		25	92' 7 3/4"		
		30	92' 5"	*	
		35	92' 5 3/4"		
EC-300 us.		40	92' 6 1/2"	*	
1 hr. 1 hr.		50	9	✓	
	1:00 PM	60	92' 6"	*	
		75	92' 6 3/4"	*	
		90	92' 6 1/4"	*	
SURVEY		105	—		
		120	92' 5 3/4"	*	
95 GPM / us		150	92' 6"	*	
		180	92' 5 1/2"	*	
		210	92' 6"		
		240	92' 6"	*	
95 GPM / us		300	92' 6 1/4"	*	

SHEET # 2

FRIESEN DRILLERS — PUMP TEST

WELL OWNER: POMONA VALLEY WATER CO. DATE: 23 - 24 August 09 SIZE OF ORIFICE: 4"
 LOCATION: PUMPING WELL STATIC LEVEL: _____ SIZE OF PIPE: 6"

TIME	Date	Elapsed Time				Rate	REMARKS
		360	92' 6 ¹ / ₄			*	
		420	92' 6 ³ / ₄			*	
		480	92' 7 ¹ / ₄			*	
		540	92.7			*	
		600	92.7 ¹ / ₄			*	
		660	92.8 ¹ / ₄			*	
		720	92.7 ³ / ₄			*	
		780	92.7 ¹ / ₂			*	
		840	92.7 ¹ / ₂			*	
		900	92.7 ³ / ₄			*	
		1020	92.8			*	
		1080	92.8			*	
		1140	92.8 ¹ / ₂			*	
		1200	92.8 ³ / ₄			*	
		1260	92.8			*	
		1320	92' 8 ¹ / ₂ "			*	
		1380	92' 8 ³ / ₄ "			*	
		1440	1 day 92' 8 ¹ / ₂ "			*	
		1560	92' 8 ¹ / ₂ "			*	
		1680				*	
		1800				*	
		1920				*	
		2040				*	
		2160				*	
		2280				*	
		2400				*	
		2520				*	
		2640				*	
		2769				*	
		2880	2 days			*	
		3120				*	

OPERATOR
SERVICES
12.M.C.

No: _____ DRILLER: _____

FRIESEN DRILLERS — PUMP TEST TH-5 observations

WELL OWNER: PENNSVA VALLEY WATER CO-OP. DATE: 23 AUGUST 2005 SIZE OF ORIFICE: 4"
 LOCATION: SANDLANDS - M.W. NEAR PUMP WELL STATIC LEVEL: 79'8 1/2" SIZE OF PIPE: 6"

TIME	Date	Elapsed Time	TRANSDUCER - M.W.		SWL - 77' 11" No. 42489 -	SWL - 79' 8 1/2" No. 45243 -	Rate	REMARKS
			MWRB	126' 1/2" @ 11:30				
	Aug 23	SWL	79' 8 1/2"					
	NOON	0						
		0.5						
		1	80.73				*	
		2	.80					
		3	.85					
		4	.88					
		5	.89					
		6	.91					
		7						
		8	.925					
		9						
		10	.945				**	
		12						
		14						
		16	.99.					
		20 21	81.01				*	
		25 31	.03					
		30 43	.07				*	
		35						
		40					*	
		50						
		60	81.34				*	
		75	81.26				*	
		90	81.21				*	
		105						
		120	81.23				*	
		150	81.22				*	
		180	81.23				*	
		210	81.24					
		240	81.26				*	
		300	81.29				*	

FRIESEN DRILLERS — PUMP TEST

WELL OWNER: Pembina Valley Water Co-op DATE: 23rd 24 August 2005 SIZE OF ORIFICE: 4"
 LOCATION: OBSERVATION WELL TH-5 STATIC LEVEL: 79' 8 1/2" SIZE OF PIPE: 6"

TIME	Date	Elapsed Time				Rate	REMARKS
		360	81.32			*	
		420	81.38			*	
		480	81.39			*	
		540	81.43			*	
		600	81.44			*	
		660	81.47			*	
		720	81.51			*	
		780	81.52			*	
		840	81.54			*	
		900	81.55			*	
		1020	81.57			*	
		1080	81.58			*	
		1140	81.61			*	
		1200	81.61			*	
		1260	81.39			*	
		1320	81.60			*	
		1380	81.62			*	
		1440 1 day	81.63			*	
		1560	81.64			*	
		1680				*	
		1800				*	
		1920				*	
		2040				*	
		2160				*	
		2280				*	
		2400				*	
		2520				*	
		2640				*	
		2769				*	
		2880 2 days				*	
		3120				*	

LOG No: _____ DRILLER: _____