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EUGENE D. FREDERICKSEN - Retired

July 20, 2006

RECEIVED

JUL 24 2006

DEPT. OF WATER RESOURCES
SOUTHERN REGION

Department of Water Resources
Allen D. Merritt
1341 Fillmore Street, Suite 200
Twin Falls, Idaho 83301-3380

Re: Transfer # 71607

Dear Allen:

In accordance with the recommended decision and order issued for the above referenced matter on March 20, 2006, specifically, paragraph two of the actual order, please find enclosed the pump test report prepared by Brockway Engineering, PLLC of Twin Falls. It is my understanding that Shane Bendixsen is the department employee who reviewed and approved the test methodology. Mr. Bendixson has previously been provided a copy of the well test report.

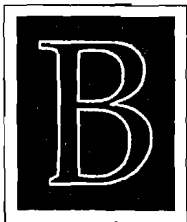
Very truly yours,

FREDERICKSEN WILLIAMS MESERVY & LOTHSPREICH, LLP

A handwritten signature in black ink, appearing to read 'REW', followed by a long horizontal line.

ROBERT E. WILLIAMS

REW/ch
Encl.
C: Client
Rich Carlson
Protestants
C:\data\4 Bros Fitzgerald\IDWR\IDWR 7-20-06.doc



BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics

Hydrology

Water Resources

CHARLES E.
BROCKWAY,
PH.D., P.E.

CHARLES G.
BROCKWAY,
PH.D., P.E.

2016 NORTH
WASHINGTON
STREET • SUITE 4

TWIN FALLS,
IDAHO 83301

208•736•8543

FAX: 736•8506

COPY

July 11, 2006

Mr. Andrew Fitzgerald
4 Brothers Dairy, Inc.
427 N., 250 W.
Shoshone, ID 83352

RECEIVED
JUL 24 2006
DEPT. OF WATER RESOURCES
SOUTHERN REGION

Re: New Well Pump Test (Ref: Transfer # 71607)

Dear Andrew:

This letter report summarizes the pump test performed as required by the Preliminary Order issued on Water Right Transfer #71607 which seeks to transfer an existing irrigation water right for use at the new dairy barn #4 located north of Shoshone, Id. The test was performed to more definitively determine the nature of the aquifer and to estimate the expected magnitude of impacts on other wells in the area due to diversion of the transferred water right at the new location. The well was pumped and monitored for a total of 3 days from June 12th to June 15th, 2006 under the observation and direction of our office. The West well was pumped and both the West well and the East well (which lies approximately 160 ft East of the pumped well) were closely monitored for the initial 4 hour period with daily monitoring performed throughout the remainder of the test.

Background & Test Configuration

The new well is located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 5, Township 5 South, Range 17 East. The total depth of the well is 630 feet. According to the driller log (attached), the upper portion of the well contains an 8" steel casing extending to a depth of 339' below the ground surface (BGS). The static water level (SWL) in the pumped well was measured to be 254.3' BGS prior to initiating the pump test. Examination of cuttings at the surface indicate that some portion of the well extends through a decomposed granite formation. Based on discussions with Eaton Drilling, the well appears to be drawing water from a semi-confined system as evidenced by the increase in static water level which occurred during the drilling process at a depth of approximately 580' BGS with the piezometric static water level rising to 252' BGS.

For the test, a 7.5 HP submersible pump (the same pump intended for use pending final transfer approval) was placed at a depth of approximately 590' BGS. A 6" orifice meter fitted initially with a 4.032" orifice plate was utilized to measure the well discharge with a throttling valve placed upstream in

anticipation of step pumping. The maximum observed diversion was approximately 140 gpm so in order that the maximum impacts could be developed in the monitoring well for best analysis, no stepped testing was performed and the throttling valve was left fully open.

The test pump was started at 12:06 PM on Monday, June 12, 2006. The static water level in the pumping well and the flow rate were closely monitored for the initial 4 hour test period. After approximately 3 hours, the flow rate had declined somewhat and a 3.030" orifice plate was installed (without stopping the pump) to maintain adequate pressure within the orifice meter for accurate discharge measurement. The 3.030" orifice plate was utilized for the remainder of the test.

Periodic measurements were taken over the remaining 71 hours of pumping. Final pumping water level measurements were taken on Thursday, June 15, 2006 at approximately 11:30 AM. The pump was shut off at 11:41 AM and the recovery of the pumping well was closely monitored for 45 minutes after which additional measurements were taken approximately hourly until that evening and the final water level measurement was taken the morning of June 16th at which time the static water level in the pumping well had returned to just over 1 foot below it's original starting level and the monitoring well had returned to within 3 inches of its initial static water level.

Test Results

The observation well followed a classic theis drawdown curve for the first 20 hours of pumping, after which it remained relatively stable with near 2' of total drawdown. A similar trend was observed in the pumping well, however total drawdown stabilized in the range of 85' below the initial starting static water level. The pumping rate declined as expected due to the increasing lift in the pumped well. The maximum observed diversion was approximately 140 gpm at the start of the pump test with an average diversion rate of 120 gpm over the course of the test. All data collected during the 3 day pump test were tabulated, and are attached to this report.

Analysis & Conclusions

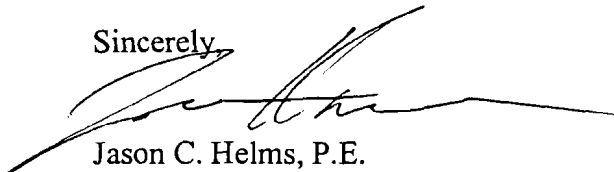
Based on examination of the pump test data, it appears that the aquifer at the location of diversion behaves as a semi-confined system with recharge from the upper unconfined system. Based on this hypothesis, a curve-fit procedure was performed utilizing the Hantush and Jacob Leaky Aquifer formula. The observation well data was used for the curve-fit procedure to eliminate the well efficiency effects which are likely involved in the increased drawdown observed in the pumping well.

The best fit for the observation well data based on the Hantush-Jacob formula indicates overall aquifer transmissivity of 3,514 [ft^2/day] and an associated storage coefficient of 4.5×10^{-3} . The (r/B) type-curve with a value of 0.2 appears to match the later stabilization observed in the monitoring well most closely. A graph showing the curve-fit solution with the associated parameters is attached. The closest protestant's estimated well impacts are also shown based on the same theoretical parameters.

Based on the best-fit theoretical curve described above, long-term drawdown to the closest protestant well (Buckway) is estimated to be approximately 2 feet assuming continuous constant pumping at the average tested flow rate of 121 gpm with hydraulic connection and similar aquifer properties at that location. This flow rate represents an approximate average annual diversion of 195 acre-ft which closely corresponds to the proposed maximum authorized transfer volume of 233.1 acre-ft per year.

Please review the information included in this report and contact our office if you have any questions regarding this analysis. Thank you for the opportunity to provide this service to you.

Sincerely,

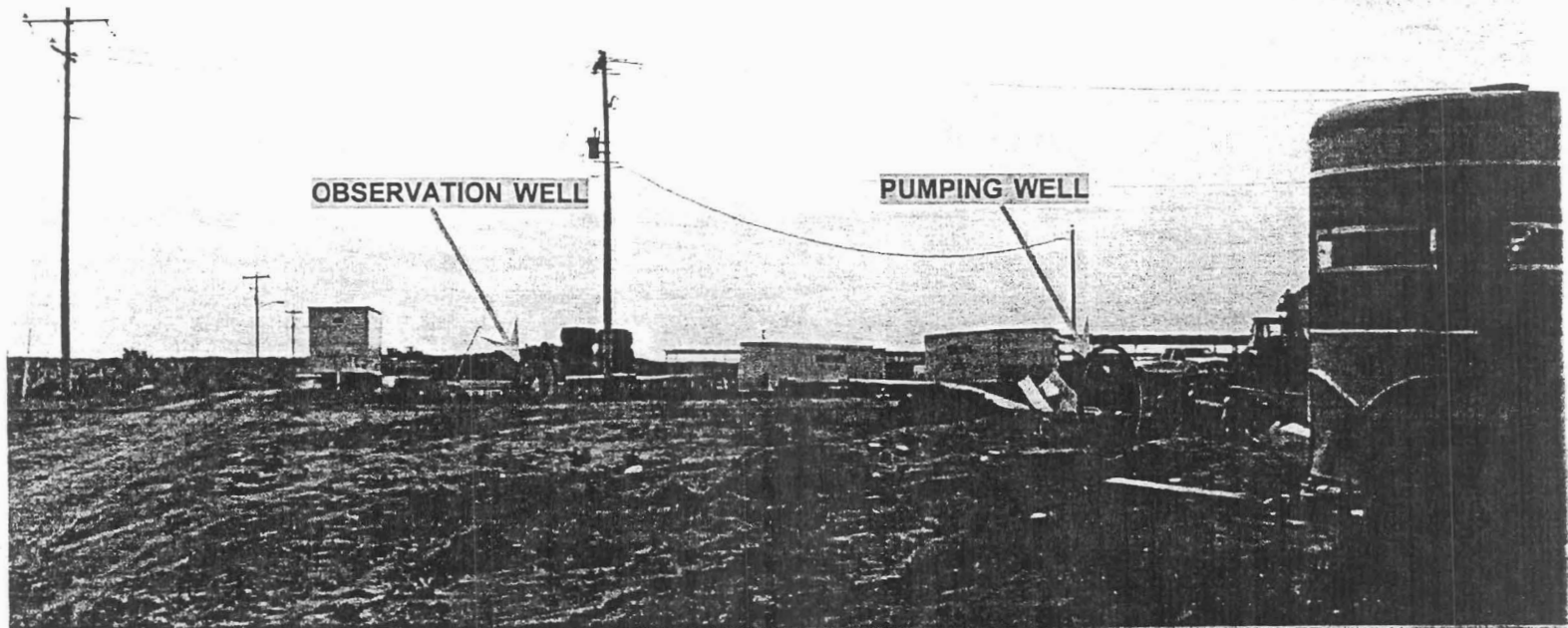


Jason C. Helms, P.E.

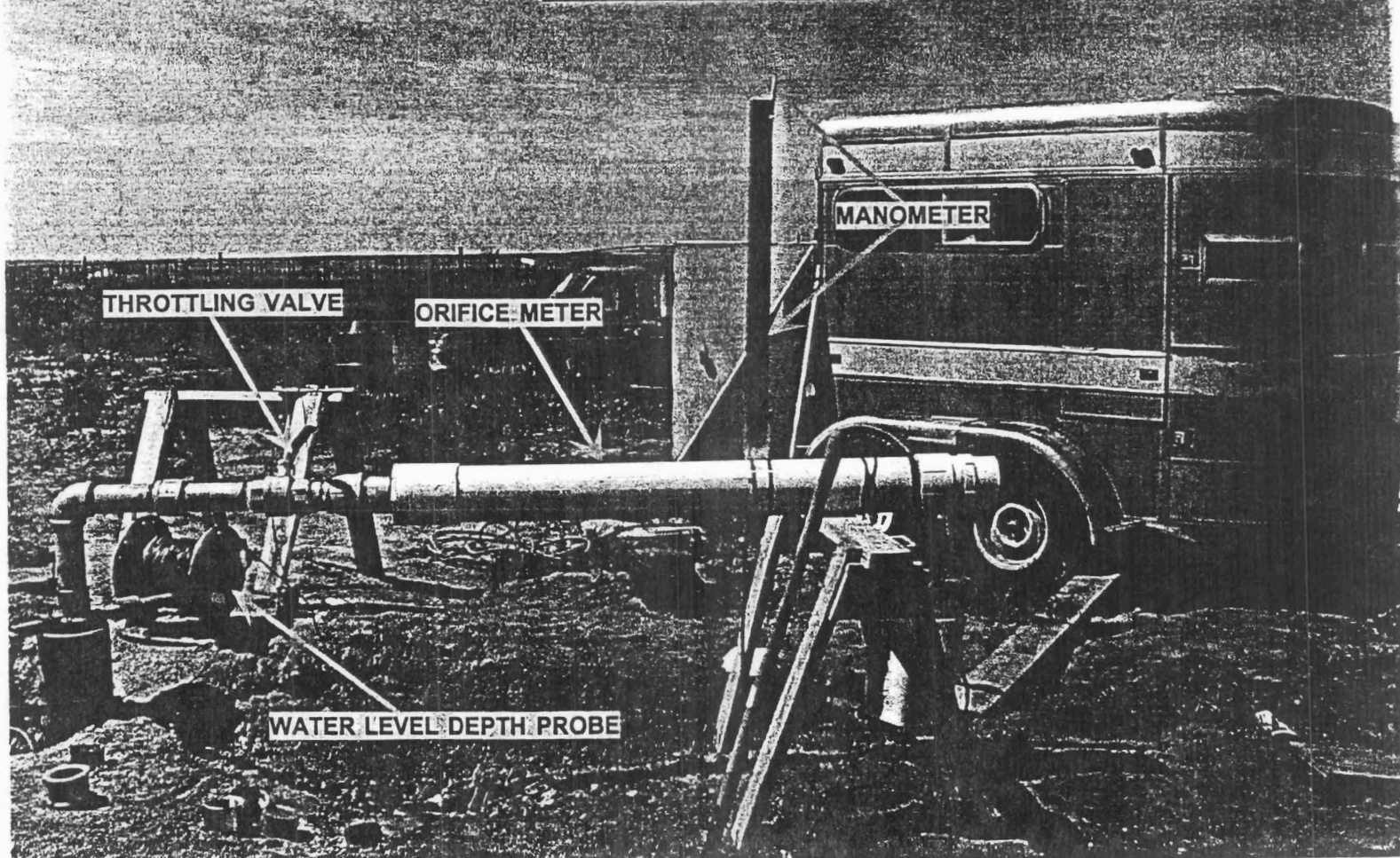
Attachments: Pump Test Data [chart, tables]
Curve-Fit Predicted Drawdown (Hantush-Jacob)
Curve-Fit Analysis Summary
Pump Test Configuration Photos
Driller Logs [4Bros New Wells, Buckway Well]

Cc: Shane Bendixsen (IDWR)
Rob Williams

4 BROS. DAIRY, INC.
NEW BARN #4 TEST WELL LOCATIONS
(LOOKING EAST)

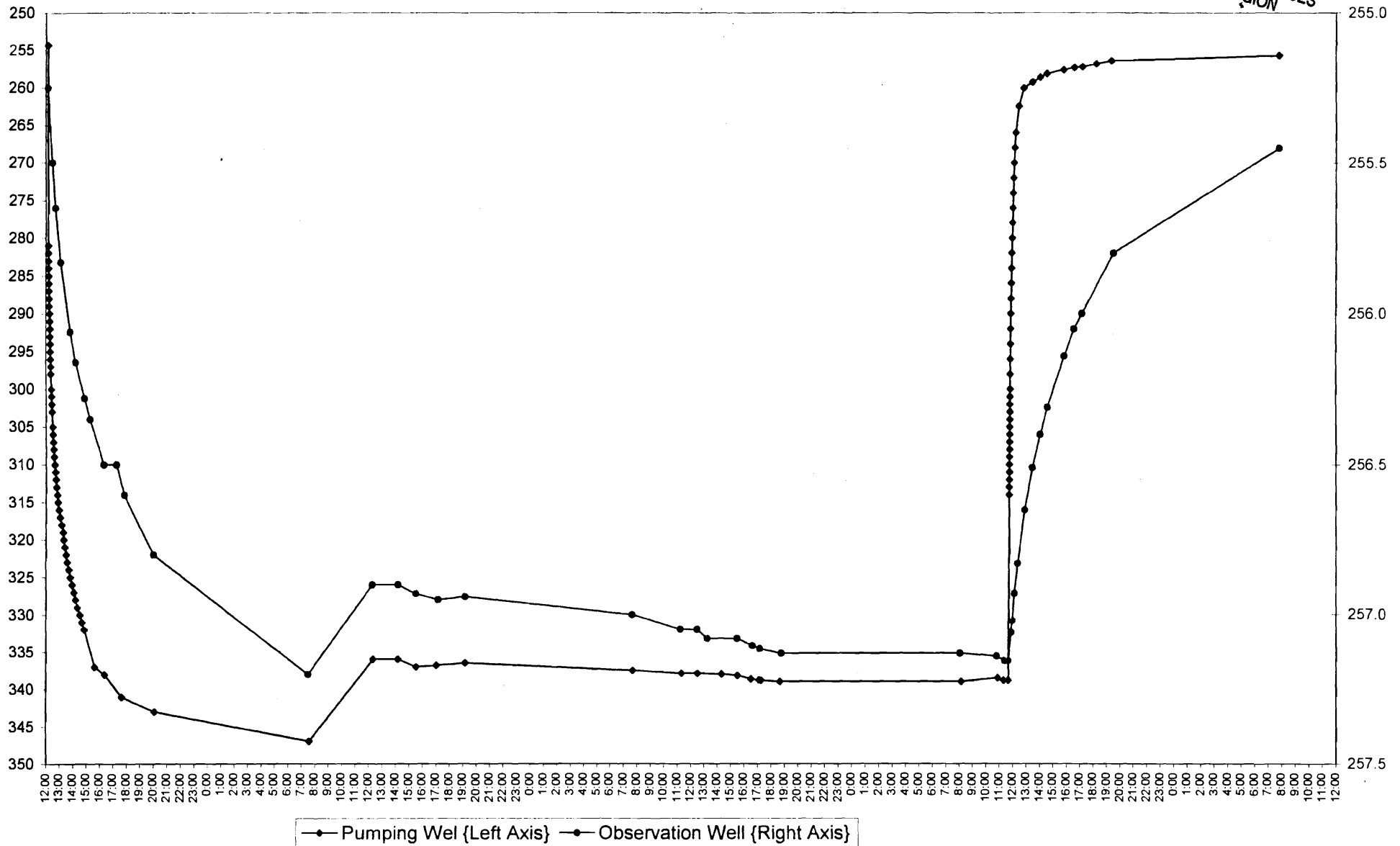


4 BROS. DAIRY, INC.
PUMPING WELL ORIFICE METER CONFIGURATION
(LOOKING SOUTH WEST)



DEPT. OF WATER RESOURCES
SOUTHERN REGION

Measured Static Water Level Below Top of Well Casing (Q ~ 125gpm)



ORIFICE IN PIPE FLOW (GPM)									
6" Orifice Pipe Meter					This sheet contains the equations & correct Cd values for the meter.				
Per Hunter Rouse 1949 (pg 35)									
$Q = C_d \cdot A \cdot \sqrt{2 \cdot g \cdot H}$									
Pipe Diameter				6.020"					
Orifice Diameter									
	2.023	3.030"	4.032"	5.002"					
d/D	0.336	0.503	0.670	0.831					
Cd	0.631	0.658	0.713	0.870					
Head (in)	Flow in GPM				time [sec]	flow [cfs]	flow [gpm]	head [in]	
1	14.6	34.2	65.7	123.3	1	0.274	122.9256	3.5	4" Orifice Plate
1.5	17.9	41.9	80.5	151.1	150	0.272	121.9751		
2	20.7	48.4	92.9	174.4	171	0.271	121.8414		
2.5	23.2	54.1	103.9	195.0	199	0.271	121.6629		
3	25.4	59.3	113.8	213.6	233	0.271	121.4459		
3.5	27.4	64.0	122.9	230.7	266	0.270	121.2349		
4	29.3	68.5	131.4	246.7	310	0.270	120.9529		
4.5	31.1	72.6	139.4	261.6	333	0.269	120.8053		
5	32.8	76.5	146.9	275.8	384	0.268	120.4773		
5.5	34.4	80.3	154.1	289.3	420	0.268	120.2452		
6	35.9	83.8	160.9	302.1	507	0.267	119.6825		
6.5	37.3	87.3	167.5	314.5	570	0.266	119.2733		
7	38.8	90.6	173.8	326.3	630	0.265	118.8823		
7.5	40.1	93.7	179.9	337.8	670	0.264	118.621		
8	41.4	96.8	185.8	348.9	690	0.264	118.4901		
8.5	42.7	99.8	191.6	359.6	725	0.264	118.2606		
9	43.9	102.7	197.1	370.0	766	0.263	117.9913		
9.5	45.1	105.5	202.5	380.2	828	0.262	117.5829		
10	46.3	108.2	207.8	390.0	853	0.262	117.4178		
10.5	47.5	110.9	212.9	399.7	960	0.260	116.7086		
11	48.6	113.5	217.9	409.1	1018	0.259	116.3223		
11.5	49.7	116.1	222.8	418.3	1081	0.258	115.9013		
12	50.7	118.6	227.6	427.3	1145	0.257	115.472		
12.5	51.8	121.0	232.3	436.1	1320	0.255	114.29		
13	52.8	123.4	236.9	444.7	1391	0.254	113.807	3	
13.5	53.8	125.8	241.4	453.2	1490	0.253	113.7386		
14	54.8	128.1	245.9	461.5	1599	0.253	113.6634		
14.5	55.8	130.3	250.2	469.7	1717	0.253	113.5818		
15	56.7	132.6	254.5	477.7	1856	0.253	113.4857		
15.5	57.7	134.8	258.7	485.6	1980	0.253	113.3998		
16	58.6	136.9	262.8	493.4	2176	0.252	113.264		
16.5	59.5	139.0	266.9	501.0	2343	0.252	113.1482		
17	60.4	141.1	270.9	508.5	2552	0.252	113.0031		
17.5	61.3	143.2	274.9	516.0	2767	0.251	112.8535		
18	62.1	145.2	278.8	523.3	3016	0.251	112.6802		
18.5	63.0	147.2	282.6	530.5	3292	0.251	112.4877		
19	63.8	149.2	286.4	537.6	3722	0.250	112.1871		
19.5	64.7	151.1	290.2	544.6	4140	0.249	111.8941	2.9	
20	65.5	153.1	293.8	551.6	4269	0.249	111.6692		
20.5	66.3	155.0	297.5	558.4	4539	0.248	111.1969		
21	67.1	156.8	301.1	565.2	4840	0.247	110.668		
21.5	67.9	158.7	304.7	571.9	5201	0.245	110.0304		
22	68.7	160.5	308.2	578.5	5627	0.243	109.2731		
22.5	69.5	162.4	311.7	585.0	6000	0.242	108.6058		

23	70.2	164.1	315.1	591.5		6450	0.240	107.7951		3" Orifice Plate
23.5	71.0	165.9	318.5	597.9		6960	0.238	106.869		
24	71.8	167.7	321.9	604.2		7419	0.236	106.0285		
24.5	72.5	169.4	325.2	610.5		7925	0.234	105.0942		
25	73.2	171.1	328.5	616.7		8570	0.231	103.8911	2.5	
25.5	74.0	172.8	331.8	622.8		9140	0.259	116.0686	11.5	
26	74.7	174.5	335.0	628.9		9750	0.256	115.0548	11.3	
26.5	75.4	176.2	338.2	634.9		12545	0.256	115.0548	11.3	
27	76.1	177.8	341.4	640.9		15203	0.270	121.0098	12.5	
27.5	76.8	179.5	344.6	646.8		257542	0	0		
28	77.5	181.1	347.7	652.6						
28.5	78.2	182.7	350.8	658.4						
29	78.9	184.3	353.8	664.2						
29.5	79.6	185.9	356.9	669.9						
30	80.2	187.5	359.9	675.6						
30.5	80.9	189.0	362.9	681.2						
31	81.6	190.6	365.8	686.7						
31.5	82.2	192.1	368.8	692.2						
32	82.9	193.6	371.7	697.7						
32.5	83.5	195.1	374.6	703.1						
33	84.1	196.6	377.5	708.5						
33.5	84.8	198.1	380.3	713.9						
34	85.4	199.6	383.1	719.2						
34.5	86.0	201.0	385.9	724.4						
35	86.7	202.5	388.7	729.7						
35.5	87.3	203.9	391.5	734.9						
36	87.9	205.4	394.2	740.0						
36.5	88.5	206.8	397.0	745.1						
37	89.1	208.2	399.7	750.2						
37.5	89.7	209.6	402.4	755.3						
38	90.3	211.0	405.0	760.3						
38.5	90.9	212.4	407.7	765.3						
39	91.5	213.7	410.3	770.2						
39.5	92.1	215.1	413.0	775.2						
40	92.6	216.5	415.6	780.1						
40.5	93.2	217.8	418.2	784.9						
41	93.8	219.2	420.7	789.7						
41.5	94.4	220.5	423.3	794.5						
42	94.9	221.8	425.8	799.3						
42.5	95.5	223.1	428.4	804.1						
43	96.1	224.4	430.9	808.8						
43.5	96.6	225.7	433.4	813.5						
44	97.2	227.0	435.8	818.1						
44.5	97.7	228.3	438.3	822.8						
45	98.3	229.6	440.8	827.4						
45.5	98.8	230.9	443.2	832.0						
46	99.3	232.1	445.6	836.5						

Pumping Well Data

										start poi	6/12/2006	
	elapsed time [sec]	elapsed time [days]	drawdown	Measured SWL	hour	minute	sec	time	offset [sec]	date & time	Orifice Reading	
Start pump->	0.00	0.000	0.00	254.30	12	9	0	12:09:00	43740	6/12/2006 12:09	3.5 in	
	150.00	0.002	26.70	281.00	12	11	30	12:11:30	43890	6/12/2006 12:11		
	171.00	0.002	27.70	282.00	12	11	51	12:11:51	43911	6/12/2006 12:11		
	199.00	0.002	28.70	283.00	12	12	19	12:12:19	43939	6/12/2006 12:12		
	233.00	0.003	29.70	284.00	12	12	53	12:12:53	43973	6/12/2006 12:12		
	266.00	0.003	30.70	285.00	12	13	26	12:13:26	44006	6/12/2006 12:13		
	310.00	0.004	31.70	286.00	12	14	10	12:14:10	44050	6/12/2006 12:14		
	333.00	0.004	32.70	287.00	12	14	33	12:14:33	44073	6/12/2006 12:14		
	384.00	0.004	33.70	288.00	12	15	24	12:15:24	44124	6/12/2006 12:15	3.5 in	
	420.00	0.005	34.70	289.00	12	16	0	12:16:00	44160	6/12/2006 12:16		
	507.00	0.006	35.70	290.00	12	17	27	12:17:27	44247	6/12/2006 12:17		
	570.00	0.007	36.70	291.00	12	18	30	12:18:30	44310	6/12/2006 12:18		
	630.00	0.007	37.70	292.00	12	19	30	12:19:30	44370	6/12/2006 12:19		
	670.00	0.008	38.70	293.00	12	20	10	12:20:10	44410	6/12/2006 12:20		
	690.00	0.008	39.70	294.00	12	20	30	12:20:30	44430	6/12/2006 12:20		
	725.00	0.008	40.70	295.00	12	21	5	12:21:05	44465	6/12/2006 12:21	3.5 in	
	766.00	0.009	41.70	296.00	12	21	46	12:21:46	44506	6/12/2006 12:21		
	828.00	0.010	42.70	297.00	12	22	48	12:22:48	44568	6/12/2006 12:22		
	853.00	0.010	43.70	298.00	12	23	13	12:23:13	44593	6/12/2006 12:23		
	960.00	0.011	45.70	300.00	12	25	0	12:25:00	44700	6/12/2006 12:25		
	1018.00	0.012	46.70	301.00	12	25	58	12:25:58	44758	6/12/2006 12:25		
	1081.00	0.013	47.70	302.00	12	27	1	12:27:01	44821	6/12/2006 12:27		
	1145.00	0.013	48.70	303.00	12	28	5	12:28:05	44885	6/12/2006 12:28		
	1320.00	0.015	50.70	305.00	12	31	0	12:31:00	45060	6/12/2006 12:31		
	1391.00	0.016	51.70	306.00	12	32	11	12:32:11	45131	6/12/2006 12:32	3.0 in	
	1490.00	0.017	52.70	307.00	12	33	50	12:33:50	45230	6/12/2006 12:33		
	1599.00	0.019	53.70	308.00	12	35	39	12:35:39	45339	6/12/2006 12:35		
	1717.00	0.020	54.70	309.00	12	37	37	12:37:37	45457	6/12/2006 12:37		
	1856.00	0.021	55.70	310.00	12	39	56	12:39:56	45596	6/12/2006 12:39		
	1980.00	0.023	56.70	311.00	12	42	0	12:42:00	45720	6/12/2006 12:42	3.0 in	
	2176.00	0.025	57.70	312.00	12	45	16	12:45:16	45916	6/12/2006 12:45		
	2343.00	0.027	58.70	313.00	12	48	3	12:48:03	46083	6/12/2006 12:48		
	2552.00	0.030	59.70	314.00	12	51	32	12:51:32	46292	6/12/2006 12:51		
	2767.00	0.032	60.70	315.00	12	55	7	12:55:07	46507	6/12/2006 12:55		
	3016.00	0.035	61.70	316.00	12	59	16	12:59:16	46756	6/12/2006 12:59		
	3292.00	0.038	62.70	317.00	13	3	52	13:03:52	47032	6/12/2006 13:03		
	3722.00	0.043	63.70	318.00	13	11	2	13:11:02	47462	6/12/2006 13:11		
	4140.00	0.048	64.70	319.00	13	18	0	13:18:00	47880	6/12/2006 13:18	2.9 in	
	4269.00	0.049	65.70	320.00	13	20	9	13:20:09	48009	6/12/2006 13:20		
	4539.00	0.053	66.70	321.00	13	24	39	13:24:39	48279	6/12/2006 13:24	3.0 in	
	4840.00	0.056	67.70	322.00	13	29	40	13:29:40	48580	6/12/2006 13:29	3.0 in	
	5201.00	0.060	68.70	323.00	13	35	41	13:35:41	48941	6/12/2006 13:35		
	5627.00	0.065	69.70	324.00	13	42	47	13:42:47	49367	6/12/2006 13:42		
	6000.00	0.069	70.70	325.00	13	49	0	13:49:00	49740	6/12/2006 13:49		
	6450.00	0.075	71.70	326.00	13	56	30	13:56:30	50190	6/12/2006 13:56	3.0 in	
	6960.00	0.081	72.70	327.00	14	5	0	14:05:00	50700	6/12/2006 14:05		
	7419.00	0.086	73.70	328.00	14	12	39	14:12:39	51159	6/12/2006 14:12		
	7925.00	0.092	74.70	329.00	14	21	5	14:21:05	51665	6/12/2006 14:21		
	8570.00	0.099	75.70	330.00	14	31	50	14:31:50	52310	6/12/2006 14:31	2.5 in	
	9140.00	0.106	76.70	331.00	14	41	20	14:41:20	52880	6/12/2006 14:41		
	9750.00	0.113	77.70	332.00	14	51	30	14:51:30	53490	6/12/2006 14:51		
	12545.00	0.145	82.70	337.00	15	38	5	15:38:05	56285	6/12/2006 15:38	2.5 in	
	15203.00	0.176	83.70	338.00	16	22	23	16:22:23	58943	6/12/2006 16:22	12.0 in	
	19860.00	0.230	86.70	341.00	17	40	0	17:40:00	63600	6/12/2006 17:40	11.3 in	
	28560.00	0.331	88.70	343.00	20	5	0	20:05:00	72300	6/12/2006 20:05	11.0 in	
	69960.00	0.810	92.70	347.00	31	35	0	7:35:00	113700	6/13/2006 7:35	11.5 in	
	87060.00	1.008	81.70	336.00	36	20	0	12:20:00	130800	6/13/2006 12:20	12.7 in	
	93720.00	1.085	81.70	336.00	38	11	0	14:11:00	137460	6/13/2006 14:11	12.9 in	

4.032" Orifice Plate

Pumping Well Data

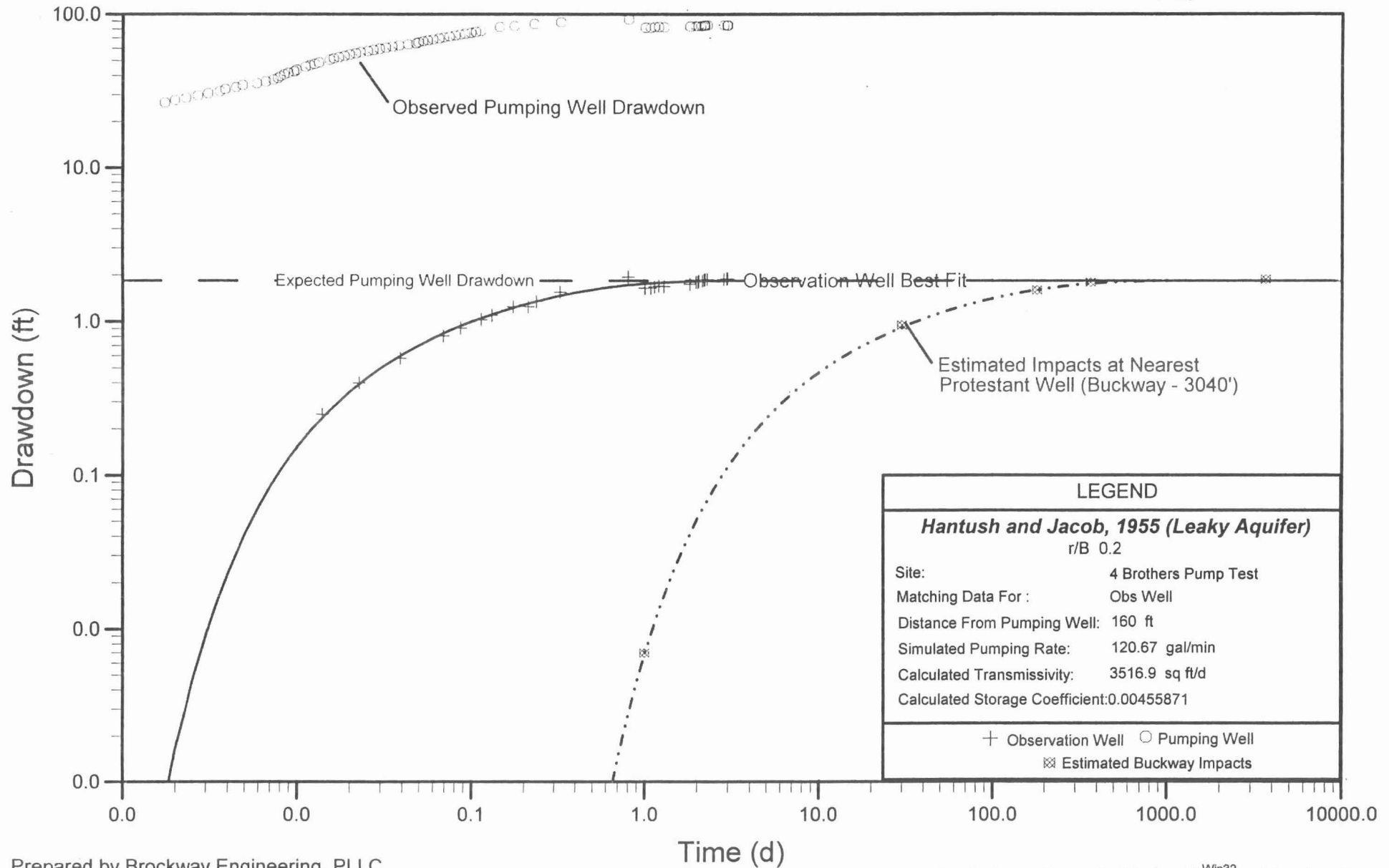
	98580.00	1.141	82.70	337.00	39	32	0	15:32:00	142320	6/13/2006 15:32	12.8 in	3.030" Orifice Plate
	103980.00	1.203	82.50	336.80	41	2	0	17:02:00	147720	6/13/2006 17:02	12.5 in	
	111660.00	1.292	82.20	336.50	43	10	0	19:10:00	155400	6/13/2006 19:10	12.5 in	
	156840.00	1.815	83.20	337.50	55	43	0	7:43:00	200580	6/14/2006 7:43	12.7 in	
	169860.00	1.966	83.60	337.90	59	20	0	11:20:00	213600	6/14/2006 11:20	12.7 in	
	174180.00	2.016	83.60	337.90	60	32	0	12:32:00	217920	6/14/2006 12:32	12.7 in	
	180660.00	2.091	83.70	338.00	62	20	0	14:20:00	224400	6/14/2006 14:20	12.7 in	
	184980.00	2.141	83.90	338.20	63	32	0	15:32:00	228720	6/14/2006 15:32		
	188505.00	2.182	84.37	338.67	64	30	45	16:30:45	232245	6/14/2006 16:30		
	190680.00	2.207	84.49	338.79	65	7	0	17:07:00	234420	6/14/2006 17:07		
	191252.00	2.214	84.53	338.83	65	16	32	17:16:32	234992	6/14/2006 17:16		
	196260.00	2.272	84.70	339.00	66	40	0	18:40:00	240000	6/14/2006 18:40	12.6 in	
	244860.00	2.834	84.70	339.00	80	10	0	8:10:00	288600	6/15/2006 8:10	12.7 in	
	254760.00	2.949	84.20	338.50	82	55	0	10:55:00	298500	6/15/2006 10:55		
	256400.00	2.968	84.53	338.83	83	22	20	11:22:20	300140	6/15/2006 11:22	12.6 in	
STOP pump->	257542.00	2.981	84.55	338.85	83	41	22	11:41:22	301282	6/15/2006 11:41	0.0 in	
	257762.00	2.983	59.70	314.00	83	45	2	11:45:02	301502	6/15/2006 11:45		
	257773.00	2.983	58.70	313.00	83	45	13	11:45:13	301513	6/15/2006 11:45		
	257786.00	2.984	57.70	312.00	83	45	26	11:45:26	301526	6/15/2006 11:45		
	257800.00	2.984	56.70	311.00	83	45	40	11:45:40	301540	6/15/2006 11:45		
	257813.00	2.984	55.70	310.00	83	45	53	11:45:53	301553	6/15/2006 11:45		
	257829.00	2.984	54.70	309.00	83	46	9	11:46:09	301569	6/15/2006 11:46		
	257843.00	2.984	53.70	308.00	83	46	23	11:46:23	301583	6/15/2006 11:46		
	257857.00	2.984	52.70	307.00	83	46	37	11:46:37	301597	6/15/2006 11:46		
	257872.00	2.985	51.70	306.00	83	46	52	11:46:52	301612	6/15/2006 11:46		
	257889.00	2.985	50.70	305.00	83	47	9	11:47:09	301629	6/15/2006 11:47		
	257903.00	2.985	49.70	304.00	83	47	23	11:47:23	301643	6/15/2006 11:47		
	257921.00	2.985	48.70	303.00	83	47	41	11:47:41	301661	6/15/2006 11:47		
	257937.00	2.985	47.70	302.00	83	47	57	11:47:57	301677	6/15/2006 11:47		
	257955.00	2.986	46.70	301.00	83	48	15	11:48:15	301695	6/15/2006 11:48		
	257973.00	2.986	45.70	300.00	83	48	33	11:48:33	301713	6/15/2006 11:48		
	258011.00	2.986	43.70	298.00	83	49	11	11:49:11	301751	6/15/2006 11:49		
	258055.00	2.987	41.70	296.00	83	49	55	11:49:55	301795	6/15/2006 11:49		
	258098.00	2.987	39.70	294.00	83	50	38	11:50:38	301838	6/15/2006 11:50		
	258144.00	2.988	37.70	292.00	83	51	24	11:51:24	301884	6/15/2006 11:51		
	258193.00	2.988	35.70	290.00	83	52	13	11:52:13	301933	6/15/2006 11:52		
	258243.00	2.989	33.70	288.00	83	53	3	11:53:03	301983	6/15/2006 11:53		
	258298.00	2.990	31.70	286.00	83	53	58	11:53:58	302038	6/15/2006 11:53		
	258358.00	2.990	29.70	284.00	83	54	58	11:54:58	302098	6/15/2006 11:54		
	258450.00	2.991	27.70	282.00	83	56	30	11:56:30	302190	6/15/2006 11:56		
	258559.00	2.993	25.70	280.00	83	58	19	11:58:19	302299	6/15/2006 11:58		
	258666.00	2.994	23.70	278.00	84	0	6	12:00:06	302406	6/15/2006 12:00		
	258735.00	2.995	21.70	276.00	84	1	15	12:01:15	302475	6/15/2006 12:01		
	258819.00	2.996	19.70	274.00	84	2	39	12:02:39	302559	6/15/2006 12:02		
	258922.00	2.997	17.70	272.00	84	4	22	12:04:22	302662	6/15/2006 12:04		
	259056.00	2.998	15.70	270.00	84	6	36	12:06:36	302796	6/15/2006 12:06		
	259236.00	3.000	13.70	268.00	84	9	36	12:09:36	302976	6/15/2006 12:09		
	259483.00	3.003	11.70	266.00	84	13	43	12:13:43	303223	6/15/2006 12:13		
	260340.00	3.013	8.12	262.42	84	28	0	12:28:00	304080	6/15/2006 12:28		
	261660.00	3.028	5.70	260.00	84	50	0	12:50:00	305400	6/15/2006 12:50		
	264000.00	3.056	4.90	259.20	85	29	0	13:29:00	307740	6/15/2006 13:29		
	266100.00	3.080	4.30	258.60	86	4	0	14:04:00	309840	6/15/2006 14:04		
	267900.00	3.101	3.80	258.10	86	34	0	14:34:00	311640	6/15/2006 14:34		
	272340.00	3.152	3.30	257.60	87	48	0	15:48:00	316080	6/15/2006 15:48		
	275280.00	3.186	3.00	257.30	88	37	0	16:37:00	319020	6/15/2006 16:37		
	277380.00	3.210	2.90	257.20	89	12	0	17:12:00	321120	6/15/2006 17:12		
	281160.00	3.254	2.50	256.80	90	15	0	18:15:00	324900	6/15/2006 18:15		
	285120.00	3.300	2.10	256.40	91	21	0	19:21:00	328860	6/15/2006 19:21		
	329820.00	3.817	1.35	255.65	103	46	0	7:46:00	373560	6/16/2006 7:46		

Observation Well Data

									start point:	6/12/06
	elapsed time [sec]	elapsed time [days]	drawdown	Measured SWL	hour	minute	sec	time	date/time value	date & time
START pump->	0	0.000	0.00	255.25	12	9	0	12:09:00	43740.00	6/12/06 12:09
	1200	0.014	0.25	255.50	12	29	0	12:29:00	44940.00	6/12/06 12:29
	1950	0.023	0.40	255.65	12	41	30	12:41:30	45690.00	6/12/06 12:41
	3360	0.039	0.58	255.83	13	5	0	13:05:00	47100.00	6/12/06 13:05
	5960	0.069	0.81	256.06	13	48	20	13:48:20	49700.00	6/12/06 13:48
	7485	0.087	0.91	256.16	14	13	45	14:13:45	51225.00	6/12/06 14:13
	9830	0.114	1.03	256.28	14	52	50	14:52:50	53570.00	6/12/06 14:52
	11290	0.131	1.10	256.35	15	17	10	15:17:10	55030.00	6/12/06 15:17
	14990	0.173	1.25	256.50	16	18	50	16:18:50	58730.00	6/12/06 16:18
	18360	0.213	1.25	256.50	17	15	0	17:15:00	62100.00	6/12/06 17:15
	20460	0.237	1.35	256.60	17	50	0	17:50:00	64200.00	6/12/06 17:50
	28260	0.327	1.55	256.80	20	0	0	20:00:00	72000.00	6/12/06 20:00
	69660	0.806	1.95	257.20	31	30	0	7:30:00	113400.00	6/13/06 7:30
	86760	1.004	1.65	256.90	36	15	0	12:15:00	130500.00	6/13/06 12:15
	93660	1.084	1.65	256.90	38	10	0	14:10:00	137400.00	6/13/06 14:10
	98460	1.140	1.68	256.93	39	30	0	15:30:00	142200.00	6/13/06 15:30
	104340	1.208	1.70	256.95	41	8	0	17:08:00	148080.00	6/13/06 17:08
	111600	1.292	1.69	256.94	43	9	0	19:09:00	155340.00	6/13/06 19:09
	156660	1.813	1.75	257.00	55	40	0	7:40:00	200400.00	6/14/06 7:40
	169560	1.963	1.80	257.05	59	15	0	11:15:00	213300.00	6/14/06 11:15
	174060	2.015	1.80	257.05	60	30	0	12:30:00	217800.00	6/14/06 12:30
	176760	2.046	1.83	257.08	61	15	0	13:15:00	220500.00	6/14/06 13:15
	184860	2.140	1.83	257.08	63	30	0	15:30:00	228600.00	6/14/06 15:30
	188885	2.186	1.86	257.11	64	37	5	16:37:05	232625.00	6/14/06 16:37
	190880	2.209	1.87	257.12	65	10	20	17:10:20	234620.00	6/14/06 17:10
	196560	2.275	1.88	257.13	66	45	0	18:45:00	240300.00	6/14/06 18:45
	244560	2.831	1.88	257.13	80	5	0	8:05:00	288300.00	6/15/06 8:05
	254460	2.945	1.89	257.14	82	50	0	10:50:00	298200.00	6/15/06 10:50
	256670	2.971	1.90	257.16	83	26	50	11:26:50	300410.00	6/15/06 11:26
STOP pump->	257542	2.981	1.90	257.16	83	41	22	11:41:22	301282.00	6/15/06 11:41
	258306	2.990	1.81	257.06	83	54	6	11:54:06	302046.00	6/15/06 11:54
	258620	2.993	1.77	257.02	83	59	20	11:59:20	302360.00	6/15/06 11:59
	259100	2.999	1.68	256.93	84	7	20	12:07:20	302840.00	6/15/06 12:07
	260000	3.009	1.58	256.83	84	22	20	12:22:20	303740.00	6/15/06 12:22
	261900	3.031	1.40	256.65	84	54	0	12:54:00	305640.00	6/15/06 12:54
	263940	3.055	1.26	256.51	85	28	0	13:28:00	307680.00	6/15/06 13:28
	265980	3.078	1.15	256.40	86	2	0	14:02:00	309720.00	6/15/06 14:02
	268020	3.102	1.06	256.31	86	36	0	14:36:00	311760.00	6/15/06 14:36
	272460	3.153	0.89	256.14	87	50	0	15:50:00	316200.00	6/15/06 15:50
	275160	3.185	0.80	256.05	88	35	0	16:35:00	318900.00	6/15/06 16:35
	277260	3.209	0.75	256.00	89	10	0	17:10:00	321000.00	6/15/06 17:10
	285660	3.306	0.55	255.80	91	30	0	19:30:00	329400.00	6/15/06 19:30
	329760	3.817	0.20	255.45	103	45	0	7:45:00	373500.00	6/16/06 7:45

RECEIVED
JUL 24 2006
DEPT. OF WATER RESOURCES
SOUTHERN REGION

Predicted Drawdown



Prepared by Brockway Engineering, PLLC
JCH - June 29, 2006

Analysis performed with Aquifer^{Win32} - Version 3
(Environmental Simulations, Inc.)

map parameters		NAD83 (Converted to feet)	
basemap origin X	8056260	ft	
basemap origin Y	4287120	ft	
basemap height	40364	ft	
basemap width	50755	ft	
Pumped well (West Well)			
Easting	8079757	ft	
Northing	4306942	ft	
Observation well (East Well)			
Easting	8079915	ft	
Northing	4306939	ft	
Buckway Well			
Easting	8080115	ft	
Northing	4309961	ft	

HANTUSH-4HR.OUT
AQUIFERWIN32 ANALYSIS SUMMARY FILE

Selected Analysis: Hantush and Jacob, 1955 (Leaky Aquifer)

Constant discharge from a fully penetrating well in a leaky aquifer

SITE INFORMATION

Site Designator: 4 Brothers Pump Test
Job Number:
Client: 4 Brothers Dairy, Inc.
Site Name: New Wells
Additional Info:

PUMP TEST DETAILS

Pumping Well Pumping Well

Pumping Rates

Index	Time (d)	Rate (gal/min)
0	1.157407e-005	1.229712e+002
1	1.736111e-003	1.220736e+002
2	1.979167e-003	1.216248e+002
3	2.303241e-003	1.216248e+002
4	2.696759e-003	1.216248e+002
5	3.078704e-003	1.211760e+002
6	3.587963e-003	1.211760e+002
7	3.854167e-003	1.207272e+002
8	4.444444e-003	1.202784e+002
9	4.861111e-003	1.202784e+002
10	5.868056e-003	1.198296e+002
11	6.597222e-003	1.193808e+002
12	7.291667e-003	1.189320e+002
13	7.754630e-003	1.184832e+002
14	7.986111e-003	1.184832e+002
15	8.391204e-003	1.184832e+002
16	8.865741e-003	1.180344e+002
17	9.583333e-003	1.175856e+002
18	9.872685e-003	1.175856e+002
19	1.111111e-002	1.166880e+002
20	1.178241e-002	1.162392e+002
21	1.251157e-002	1.157904e+002
22	1.325231e-002	1.153416e+002
23	1.527778e-002	1.144440e+002
24	1.609954e-002	1.139952e+002
25	1.724537e-002	1.135464e+002
26	1.850694e-002	1.135464e+002
27	1.987269e-002	1.135464e+002
28	2.148148e-002	1.135464e+002
29	2.291667e-002	1.135464e+002
30	2.518519e-002	1.130976e+002
31	2.711806e-002	1.130976e+002
32	2.953704e-002	1.130976e+002
33	3.202546e-002	1.126488e+002
34	3.490741e-002	1.126488e+002
35	3.810185e-002	1.126488e+002
36	4.307870e-002	1.122000e+002
37	4.791667e-002	1.117512e+002
38	4.940972e-002	1.117512e+002

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39	5.253472e-002	1.113024e+002
40	5.601852e-002	1.108536e+002
41	6.019676e-002	1.099560e+002
42	6.512731e-002	1.090584e+002
43	6.944444e-002	1.086096e+002
44	7.465278e-002	1.077120e+002
45	8.055556e-002	1.068144e+002
46	8.586806e-002	1.059168e+002
47	9.172454e-002	1.050192e+002
48	9.918981e-002	1.036728e+002
49	1.057870e-001	1.162392e+002
50	1.128472e-001	1.148928e+002
51	1.451968e-001	1.148928e+002
52	1.759606e-001	1.211760e+002
53	2.980810e+000	0.000000e+000

Monitored Wells

Buckway Well
 Obs Well
 sim-pumping well

ANALYSIS SUMMARY

Number of Points = 31

Manual Match

ANALYSIS PARAMETERS

Radial Distance		
Fixed Value	=	160.036 ft
Pumping Rate		
Fixed Value	=	120.67 gal/min
Transmissivity		
Calculated Value	=	3516.9 sq ft/d
Storage Coefficient		
Calculated Value	=	0.00455871
r/B		
Fixed Value	=	0.2

ANALYSIS STATISTICS

Match Point:

Type Curve: (1.000000e-001, 1.000000e-002)
 Data Curve: (8.299597e-004, 5.256431e-003)

Residual Mean	=	-0.006702
Residual Standard Dev.	=	0.068054
Residual Sum of Squares	=	0.144963
Absolute Residual Mean	=	0.049827
Minimum Residual	=	-0.122450
Maximum Residual	=	0.227577

DATA DETAIL

Index	Time	Obs. Drawdown	Calc. Drawdown	Residual
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HANTUSH-4HR.OUT

	(d)	(ft)	(ft)	
0	1.157410e-005	0.000000e+000	0.000000e+000	0.000000e+000
1	1.388889e-002	2.500000e-001	2.375860e-001	1.241399e-002
2	2.256944e-002	4.000000e-001	3.934712e-001	6.528803e-003
3	3.888889e-002	5.800000e-001	6.013638e-001	-2.136379e-002
4	6.898148e-002	8.100000e-001	8.417887e-001	-3.178869e-002
5	8.663194e-002	9.100000e-001	9.397459e-001	-2.974594e-002
6	1.137731e-001	1.030000e+000	1.056586e+000	-2.658550e-002
7	1.306713e-001	1.100000e+000	1.115285e+000	-1.528528e-002
8	1.734954e-001	1.250000e+000	1.232814e+000	1.718609e-002
9	2.125000e-001	1.250000e+000	1.313782e+000	-6.378243e-002
10	2.368056e-001	1.350000e+000	1.355643e+000	-5.642972e-003
11	3.270833e-001	1.550000e+000	1.473340e+000	7.665988e-002
12	8.062500e-001	1.950000e+000	1.722423e+000	2.275769e-001
13	1.004167e+000	1.650000e+000	1.761096e+000	-1.110963e-001
14	1.084028e+000	1.650000e+000	1.772450e+000	-1.224495e-001
15	1.139583e+000	1.680000e+000	1.779283e+000	-9.928320e-002
16	1.207639e+000	1.700000e+000	1.786650e+000	-8.664951e-002
17	1.291667e+000	1.690000e+000	1.794450e+000	-1.044500e-001
18	1.813194e+000	1.750000e+000	1.822705e+000	-7.270505e-002
19	1.962500e+000	1.800000e+000	1.826974e+000	-2.697435e-002
20	2.014583e+000	1.800000e+000	1.828224e+000	-2.822360e-002
21	2.045833e+000	1.830000e+000	1.828922e+000	1.078283e-003
22	2.139583e+000	1.830000e+000	1.830808e+000	-8.082361e-004
23	2.186169e+000	1.860000e+000	1.831641e+000	2.835887e-002
24	2.209259e+000	1.870000e+000	1.832031e+000	3.796934e-002
25	2.275000e+000	1.880000e+000	1.833062e+000	4.693838e-002
26	2.830556e+000	1.880000e+000	1.838509e+000	4.149068e-002
27	2.945139e+000	1.890000e+000	1.839151e+000	5.084879e-002
28	2.970718e+000	1.900000e+000	1.839280e+000	6.072039e-002
29	2.980810e+000	1.900000e+000	1.839329e+000	6.067110e-002
30	2.989653e+000	1.810000e+000	1.839371e+000	-2.937146e-002

WELL NAME - Buckway Well

Number of Points = 6

Manual Match

ANALYSIS PARAMETERS

Radial Distance
Fixed Value = 3039.41 ft

Pumping Rate
Fixed Value = 120.67 gal/min

Transmissivity
Fixed Value = 3514.65 sq ft/d

Storage Coefficient
Fixed Value = 0.00456341

r/B
Fixed Value = 0.2

ANALYSIS STATISTICS

Match Point:
Type Curve: (1.000000e-001, 1.000000e-002)
Data Curve: (2.998657e-001, 5.259790e-003)

Residual Mean = 0.016677
Residual Standard Dev. = 0.017670
Residual Sum of Squares = 0.003542

HANTUSH-4HR.OUT

Absolute Residual Mean = 0.019113
 Minimum Residual = -0.007309
 Maximum Residual = 0.036845

DATA DETAIL

Index	Time (d)	Obs. Drawdown (ft)	Calc. Drawdown (ft)	Residual
0	1.000000e+000	7.000000e-003	6.856235e-003	1.437655e-004
1	3.000000e+001	9.500000e-001	9.220761e-001	2.792394e-002
2	1.800000e+002	1.600000e+000	1.607309e+000	-7.308812e-003
3	3.650000e+002	1.800000e+000	1.763155e+000	3.684451e-002
4	3.650000e+003	1.880000e+000	1.843770e+000	3.622954e-002
5	3.650000e+004	1.850000e+000	1.843771e+000	6.229332e-003

WELL NAME - sim-pumping well

Number of Points = 74

Manual Match

ANALYSIS PARAMETERS

Radial Distance
 Fixed Value = 3 ft

Pumping Rate
 Fixed Value = 120.67 gal/min

Transmissivity
 Fixed Value = 3517.54 sq ft/d

Storage Coefficient
 Calculated Value = 0.0045515

r/B
 Calculated Value = 0.2

ANALYSIS STATISTICS

Match Point:

Type Curve: (1.000000e-001, 1.000000e-002)
 Data Curve: (2.911369e-007, 5.255462e-003)

Residual Mean = 59.788515
 Residual Standard Dev. = 20.636589
 Residual Sum of Squares = 296039.616984
 Absolute Residual Mean = 59.802992
 Minimum Residual = -0.535651
 Maximum Residual = 90.857746

DATA DETAIL

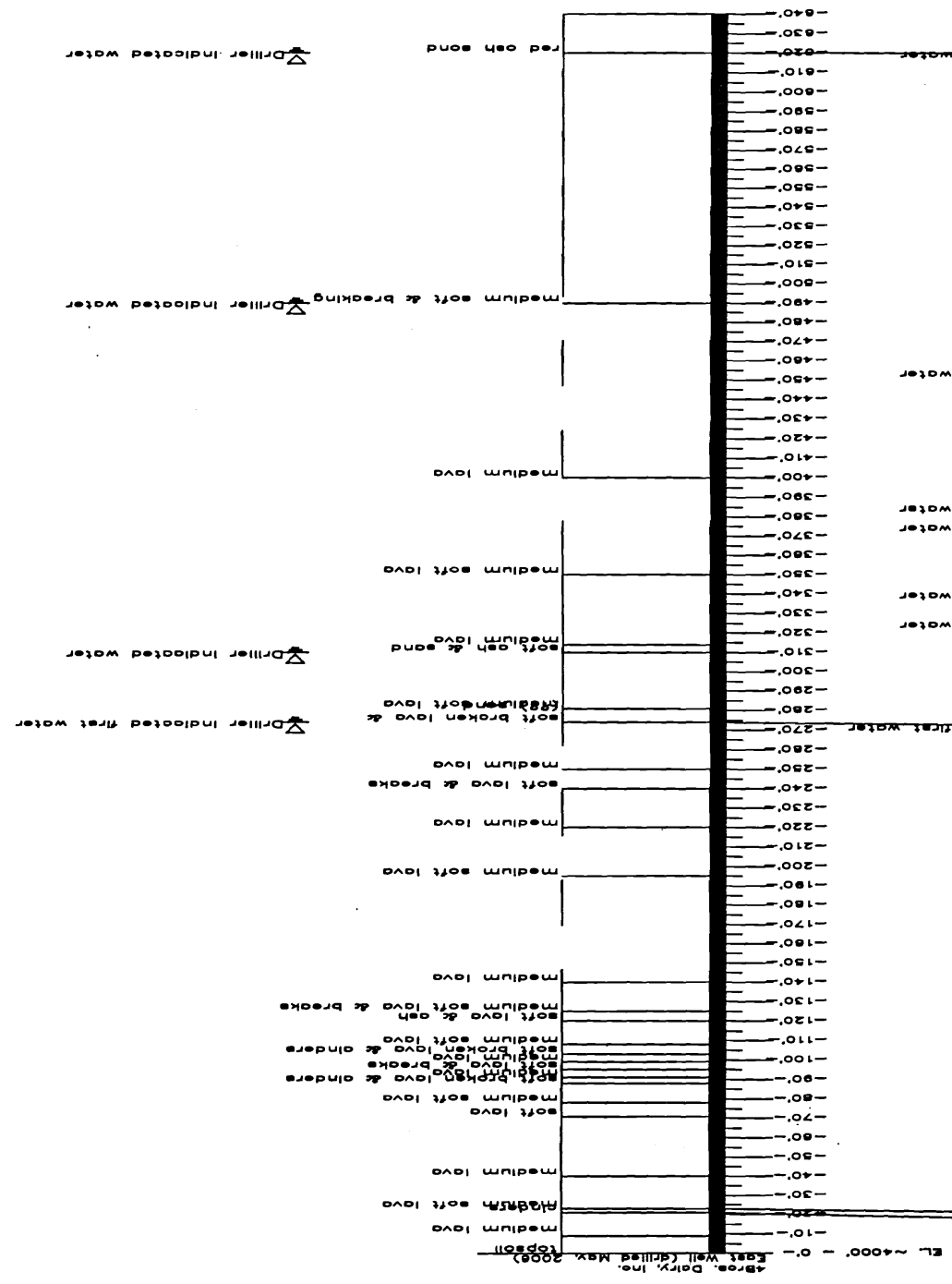
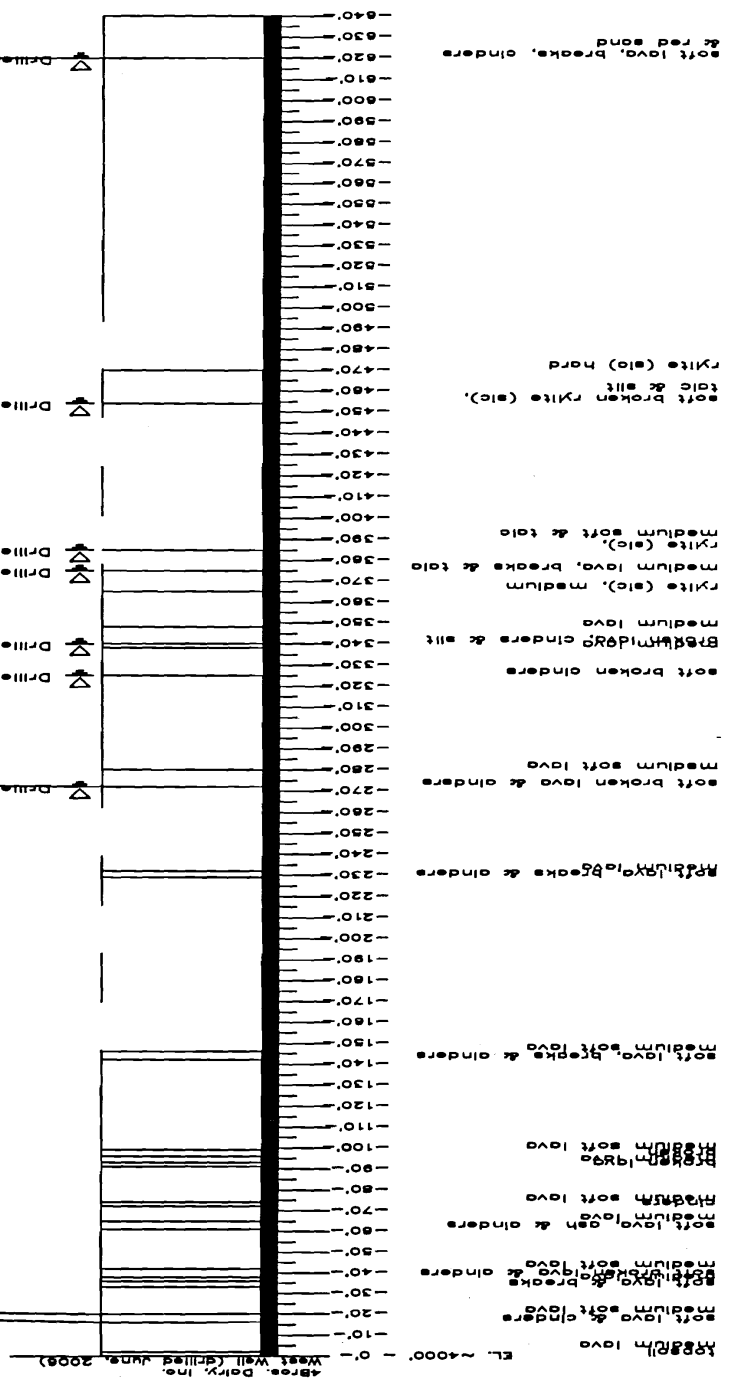
Index	Time (d)	Obs. Drawdown (ft)	Calc. Drawdown (ft)	Residual
0	1.157407e-005	0.000000e+000	5.356512e-001	-5.356512e-001
1	1.736111e-003	2.670000e+001	1.842056e+000	2.485794e+001
2	1.979167e-003	2.770000e+001	1.842177e+000	2.585782e+001
3	2.303241e-003	2.870000e+001	1.842232e+000	2.685777e+001
4	2.696759e-003	2.970000e+001	1.842249e+000	2.785775e+001

HANTUSH-4HR.OUT

5	3.078704e-003	3.070000e+001	1.842252e+000	2.885775e+001
6	3.587963e-003	3.170000e+001	1.842253e+000	2.985775e+001
7	3.854167e-003	3.270000e+001	1.842253e+000	3.085775e+001
8	4.444444e-003	3.370000e+001	1.842254e+000	3.185775e+001
9	4.861111e-003	3.470000e+001	1.842254e+000	3.285775e+001
10	5.868056e-003	3.570000e+001	1.842254e+000	3.385775e+001
11	6.597222e-003	3.670000e+001	1.842254e+000	3.485775e+001
12	7.291667e-003	3.770000e+001	1.842254e+000	3.585775e+001
13	7.754630e-003	3.870000e+001	1.842254e+000	3.685775e+001
14	7.986111e-003	3.970000e+001	1.842254e+000	3.785775e+001
15	8.391204e-003	4.070000e+001	1.842254e+000	3.885775e+001
16	8.865741e-003	4.170000e+001	1.842254e+000	3.985775e+001
17	9.583333e-003	4.270000e+001	1.842254e+000	4.085775e+001
18	9.872685e-003	4.370000e+001	1.842254e+000	4.185775e+001
19	1.111111e-002	4.570000e+001	1.842254e+000	4.385775e+001
20	1.178241e-002	4.670000e+001	1.842254e+000	4.485775e+001
21	1.251157e-002	4.770000e+001	1.842254e+000	4.585775e+001
22	1.325231e-002	4.870000e+001	1.842254e+000	4.685775e+001
23	1.527778e-002	5.070000e+001	1.842254e+000	4.885775e+001
24	1.609954e-002	5.170000e+001	1.842254e+000	4.985775e+001
25	1.724537e-002	5.270000e+001	1.842254e+000	5.085775e+001
26	1.850694e-002	5.370000e+001	1.842254e+000	5.185775e+001
27	1.987269e-002	5.470000e+001	1.842254e+000	5.285775e+001
28	2.148148e-002	5.570000e+001	1.842254e+000	5.385775e+001
29	2.291667e-002	5.670000e+001	1.842254e+000	5.485775e+001
30	2.518519e-002	5.770000e+001	1.842254e+000	5.585775e+001
31	2.711806e-002	5.870000e+001	1.842254e+000	5.685775e+001
32	2.953704e-002	5.970000e+001	1.842254e+000	5.785775e+001
33	3.202546e-002	6.070000e+001	1.842254e+000	5.885775e+001
34	3.490741e-002	6.170000e+001	1.842254e+000	5.985775e+001
35	3.810185e-002	6.270000e+001	1.842254e+000	6.085775e+001
36	4.307870e-002	6.370000e+001	1.842254e+000	6.185775e+001
37	4.791667e-002	6.470000e+001	1.842254e+000	6.285775e+001
38	4.940972e-002	6.570000e+001	1.842254e+000	6.385775e+001
39	5.253472e-002	6.670000e+001	1.842254e+000	6.485775e+001
40	5.601852e-002	6.770000e+001	1.842254e+000	6.585775e+001
41	6.019676e-002	6.870000e+001	1.842254e+000	6.685775e+001
42	6.512731e-002	6.970000e+001	1.842254e+000	6.785775e+001
43	6.944444e-002	7.070000e+001	1.842254e+000	6.885775e+001
44	7.465278e-002	7.170000e+001	1.842254e+000	6.985775e+001
45	8.055556e-002	7.270000e+001	1.842254e+000	7.085775e+001
46	8.586806e-002	7.370000e+001	1.842254e+000	7.185775e+001
47	9.172454e-002	7.470000e+001	1.842254e+000	7.285775e+001
48	9.918981e-002	7.570000e+001	1.842254e+000	7.385775e+001
49	1.057870e-001	7.670000e+001	1.842254e+000	7.485775e+001
50	1.128472e-001	7.770000e+001	1.842254e+000	7.585775e+001
51	1.451968e-001	8.270000e+001	1.842254e+000	8.085775e+001
52	1.759606e-001	8.370000e+001	1.842254e+000	8.185775e+001
53	2.298611e-001	8.670000e+001	1.842254e+000	8.485775e+001
54	3.305556e-001	8.870000e+001	1.842254e+000	8.685775e+001
55	8.097222e-001	9.270000e+001	1.842254e+000	9.085775e+001
56	1.007639e+000	8.170000e+001	1.842254e+000	7.985775e+001
57	1.084722e+000	8.170000e+001	1.842254e+000	7.985775e+001
58	1.140972e+000	8.270000e+001	1.842254e+000	8.085775e+001
59	1.203472e+000	8.250000e+001	1.842254e+000	8.065775e+001
60	1.292361e+000	8.220000e+001	1.842254e+000	8.035775e+001
61	1.815278e+000	8.320000e+001	1.842254e+000	8.135775e+001
62	1.965972e+000	8.360000e+001	1.842254e+000	8.175775e+001
63	2.015972e+000	8.360000e+001	1.842254e+000	8.175775e+001
64	2.090972e+000	8.370000e+001	1.842254e+000	8.185775e+001
65	2.140972e+000	8.390000e+001	1.842254e+000	8.205775e+001
66	2.181771e+000	8.437000e+001	1.842254e+000	8.252775e+001
67	2.206944e+000	8.449000e+001	1.842254e+000	8.264775e+001
68	2.213565e+000	8.453000e+001	1.842254e+000	8.268775e+001
69	2.271528e+000	8.470000e+001	1.842254e+000	8.285775e+001

HANTUSH-4HR.OUT

70	2.834028e+000	8.470000e+001	1.842254e+000	8.285775e+001
71	2.948611e+000	8.420000e+001	1.842254e+000	8.235775e+001
72	2.967593e+000	8.453000e+001	1.842254e+000	8.268775e+001
73	2.980810e+000	8.455000e+001	1.842254e+000	8.270775e+001



WELL DRILLER'S REPORT

(Sign once if Firm Official & Operator)

DUMPED WELL

RECEIVED
MAY 30 2006

Form 238-7
11/87 JGE

IDAHO DEPARTMENT OF WATER RESOURCES

Westwell #1 WELL DRILLER'S REPORT

Office Use Only
Inspected by
Twp Rge Sec
14 14 14
Lat Long

1. WELL TAG NO. D 0042848
DRILLING PERMIT NO. 839142
Other IDWR No. 409485

2. OWNER:
Name 43003 Dairy
Address 425 N 25th W
City Shoshone State ID No 83351

3. LOCATION OF WELL by legal description:
Sketch trap location must agree with written location.

Map showing North, East, South, West directions and well location. Township 5, Range 17, Section 5. Corner Lot 14. County Latah. State ID No 83351. Address of Well Site 250 V RD. City Shoshone ID.

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other Commercial

5. TYPE OF WORK: check all that apply
☐ New Well ☐ Modify ☐ Abandonment ☐ Other (Replacement etc.)

6. DRILL METHOD:
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES:

Seal/Filter Pack	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	5-22	10000	10000	Dry pour

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 236 1/2
Was drive shoe seal tested? ☐ Y ☐ N How?

11. WELL TESTS:

Yield gal/min	Drawdown	Pumping Level	Time

Water Temp 85 Bottom hole temp 85
Water Quality test or comments:
Depth first Water Encounter

12. LITHOLOGIC LOG: (Describe depths or abandonment)

Shoe Cin	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y N
0	0	1	Top soil	
1	1	2	red clay	
2	2	3	clay	
3	3	4	red soil with	
4	4	5	red clay	
5	5	6	red clay	
6	6	7	red clay	
7	7	8	red clay	
8	8	9	red clay	
9	9	10	red clay	
10	10	11	red clay	
11	11	12	red clay	
12	12	13	red clay	
13	13	14	red clay	
14	14	15	red clay	
15	15	16	red clay	
16	16	17	red clay	
17	17	18	red clay	
18	18	19	red clay	
19	19	20	red clay	
20	20	21	red clay	
21	21	22	red clay	
22	22	23	red clay	
23	23	24	red clay	
24	24	25	red clay	
25	25	26	red clay	
26	26	27	red clay	
27	27	28	red clay	
28	28	29	red clay	
29	29	30	red clay	
30	30	31	red clay	
31	31	32	red clay	
32	32	33	red clay	
33	33	34	red clay	
34	34	35	red clay	
35	35	36	red clay	
36	36	37	red clay	
37	37	38	red clay	
38	38	39	red clay	
39	39	40	red clay	
40	40	41	red clay	
41	41	42	red clay	
42	42	43	red clay	
43	43	44	red clay	
44	44	45	red clay	
45	45	46	red clay	
46	46	47	red clay	
47	47	48	red clay	
48	48	49	red clay	
49	49	50	red clay	
50	50	51	red clay	
51	51	52	red clay	
52	52	53	red clay	
53	53	54	red clay	
54	54	55	red clay	
55	55	56	red clay	
56	56	57	red clay	
57	57	58	red clay	
58	58	59	red clay	
59	59	60	red clay	
60	60	61	red clay	
61	61	62	red clay	
62	62	63	red clay	
63	63	64	red clay	
64	64	65	red clay	
65	65	66	red clay	
66	66	67	red clay	
67	67	68	red clay	
68	68	69	red clay	
69	69	70	red clay	
70	70	71	red clay	
71	71	72	red clay	
72	72	73	red clay	
73	73	74	red clay	
74	74	75	red clay	
75	75	76	red clay	
76	76	77	red clay	
77	77	78	red clay	
78	78	79	red clay	
79	79	80	red clay	
80	80	81	red clay	
81	81	82	red clay	
82	82	83	red clay	
83	83	84	red clay	
84	84	85	red clay	
85	85	86	red clay	
86	86	87	red clay	
87	87	88	red clay	
88	88	89	red clay	
89	89	90	red clay	
90	90	91	red clay	
91	91	92	red clay	
92	92	93	red clay	
93	93	94	red clay	
94	94	95	red clay	
95	95	96	red clay	
96	96	97	red clay	
97	97	98	red clay	
98	98	99	red clay	
99	99	100	red clay	

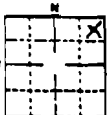
590 bowl

RESERVATION 1/11

DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER Name <u>JESSE BUCKWAY</u> Address <u>584 N. 250 W STHOSHOVE ID</u> Drilling Permit No. <u>37-93-S-0042-COO</u> Water Right Permit No. <u>A 37-10237</u>	7. WATER LEVEL Static water level <u>268</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ °F. Quality _____ Describe artesian or temperature zones below:																																																																																																																																														
2. NATURE OF WORK ☐ New well ☐ Deepened ☒ Replacement ☐ Well diameter increase ☐ Modification ☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 8.)	8. WELL TEST DATA ☐ Pump ☐ Bailor ☒ Air ☐ Other _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Discharge G.P.M.</th> <th style="text-align: center;">Pumping Level</th> <th style="text-align: center;">Hours Pumped</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><u>30</u></td> <td style="text-align: center;"><u>330</u></td> <td style="text-align: center;"><u>1</u></td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Discharge G.P.M.	Pumping Level	Hours Pumped	<u>30</u>	<u>330</u>	<u>1</u>																																																																																																																																								
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3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Monitor ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)	8. LITHOLOGIC LOG 103772 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Bore Diam.</th> <th colspan="2">Depth</th> <th rowspan="2">Material</th> <th colspan="2">Water</th> </tr> <tr> <th>From</th> <th>To</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>0</td> <td>7</td> <td>TOP SOIL</td> <td></td> <td>☒</td> </tr> <tr> <td>8</td> <td>7</td> <td>10</td> <td>HARD BLACK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>8</td> <td>10</td> <td>16</td> <td>BLACK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>16</td> <td>16L</td> <td>RED CLAY + LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>16L</td> <td>84</td> <td>BROWN CLAY + BIK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>84</td> <td>112</td> <td>RED LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>112</td> <td>140</td> <td>BROWN CLAY + BIK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>140</td> <td>150</td> <td>BLACK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>150</td> <td>200</td> <td>BROWN CLAY + BIK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>200</td> <td>217</td> <td>RED LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>217</td> <td>270</td> <td>BROWN CLAY + BIK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>270</td> <td>285</td> <td>BIK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>285</td> <td>290</td> <td>RED LAVA SAND + BROWN CLAY</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>290</td> <td>300</td> <td>GREY LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>300</td> <td>320</td> <td>RED LAVA + BROWN CLAY</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>320</td> <td>360</td> <td>BIK LAVA, BROWN CLAY, RED LAVA, RED SAND</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>360</td> <td>370</td> <td>RED LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>370</td> <td>379</td> <td>BIK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>379</td> <td>388</td> <td>BROWN CLAY, RED LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>388</td> <td>394</td> <td>BIK LAVA</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>394</td> <td>400</td> <td>RED LAVA CRUSTICE NO RETURN</td> <td></td> <td>☒</td> </tr> <tr> <td>G</td> <td>400</td> <td>440</td> <td>BIK LAVA + TAIC</td> <td></td> <td>☒</td> </tr> </tbody> </table>	Bore Diam.	Depth		Material	Water		From	To	Yes	No	8	0	7	TOP SOIL		☒	8	7	10	HARD BLACK LAVA		☒	8	10	16	BLACK LAVA		☒	G	16	16L	RED CLAY + LAVA		☒	G	16L	84	BROWN CLAY + BIK LAVA		☒	G	84	112	RED LAVA		☒	G	112	140	BROWN CLAY + BIK LAVA		☒	G	140	150	BLACK LAVA		☒	G	150	200	BROWN CLAY + BIK LAVA		☒	G	200	217	RED LAVA		☒	G	217	270	BROWN CLAY + BIK LAVA		☒	G	270	285	BIK LAVA		☒	G	285	290	RED LAVA SAND + BROWN CLAY		☒	G	290	300	GREY LAVA		☒	G	300	320	RED LAVA + BROWN CLAY		☒	G	320	360	BIK LAVA, BROWN CLAY, RED LAVA, RED SAND		☒	G	360	370	RED LAVA		☒	G	370	379	BIK LAVA		☒	G	379	388	BROWN CLAY, RED LAVA		☒	G	388	394	BIK LAVA		☒	G	394	400	RED LAVA CRUSTICE NO RETURN		☒	G	400	440	BIK LAVA + TAIC		☒
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G	300	320	RED LAVA + BROWN CLAY		☒																																																																																																																																										
G	320	360	BIK LAVA, BROWN CLAY, RED LAVA, RED SAND		☒																																																																																																																																										
G	360	370	RED LAVA		☒																																																																																																																																										
G	370	379	BIK LAVA		☒																																																																																																																																										
G	379	388	BROWN CLAY, RED LAVA		☒																																																																																																																																										
G	388	394	BIK LAVA		☒																																																																																																																																										
G	394	400	RED LAVA CRUSTICE NO RETURN		☒																																																																																																																																										
G	400	440	BIK LAVA + TAIC		☒																																																																																																																																										
4. METHOD DRILLED ☒ Rotary ☐ Air ☐ Auger ☐ Reverse rotary ☐ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)																																																																																																																																															
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ Thickness _____ Diameter _____ <u>.250</u> inches <u>6</u> inches + <u>1 1/2</u> feet <u>404</u> feet _____ inches _____ inches _____ feet _____ feet _____ inches _____ inches _____ feet _____ feet Was casing drive shoe used? ☐ Yes ☒ No Was a packer or seal used? ☐ Yes ☒ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun Size of perforation? _____ inches by _____ inches Number _____ From _____ To _____ _____ perforations _____ feet _____ feet _____ perforations _____ feet _____ feet _____ perforations _____ feet _____ feet Well screen installed? ☐ Yes ☒ No Manufacturer _____ Type _____ Top Packer or Headpipe _____ Bottom of Tailpipe _____ Diameter _____ Slot size _____ Set from _____ feet to _____ feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☐ Yes ☒ No Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth <u>9</u> Material used in seal: ☐ Cement grout ☒ Bentonite ☐ Puddling clay ☐ _____ Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata Describe access port _____	RECEIVED APR 06 1993 Department of Water Resources Southern Region Office																																																																																																																																														
6. LOCATION OF WELL Sketch map location must agree with written location:  Subdivision Name _____ Lot No. _____ Block No. _____ County <u>LINCOLN</u> Address of Well Site <u>584 N 250 W STHOSHOVE</u> (give at least name of road) T. <u>S</u> N ☐ or S ☒ <u>NE</u> 1/4 NE 1/4 Sec <u>5</u>, R. <u>17</u> E ☒ or W ☐	10. Work started <u>3-24-93</u> finished <u>3-30-93</u>																																																																																																																																														
11. DRILLER'S CERTIFICATION We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>WOOD RIVER DRILLING PUMP</u> <u>265</u> Address <u>BOX 837 BELLEVUE, ID 83313</u> Signed by Drilling Supervisor <u>Ron Smith</u> and <u>Rod McNamee</u> (Operator) (if different than the Drilling Supervisor)																																																																																																																																															

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT