

**APPENDIX J**

**EW-3 PERFORMANCE ASSESSMENT FIELD SHEETS AND TEST DATA**

**PUMPED WELL - DRAWDOWN DATA**

Pumped Well No.: FW-3

Project No.: 2012 Project Name: N. Oaks Runne / Hwy 96

Date: 11/20/06 Type of Test: Step Test No. 1

CRA Supervisor: RAmet Pump Setting: \_\_\_\_\_ amsl

Screened Interval: 185 to 195 Pumping Rate (Q): 10 gpm

Aquifer Thickness: 37 Datum Point: TOL Datum Point Elevation: 913.88 amsl

Static Water Level: 33.91  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Q	Remarks
	Hr.	Min.					
			0.5	50.15	16.24	20	
			1.0	51.65	17.74		
			1.5	52.33	18.42		
			2.0	53.59	19.63		
			2.5	54.00	20.69		
			3.0	55.57	21.66		
			3.5	57.88	23.97		
			4.0	58.59	24.63		
			4.5	59.18	25.87		
			5.0	60.95	27.04		
			6	63.02	29.11		
			7	64.44	30.53		
			8	65.56	31.65		
			9	66.03	32.12		
			10	66.45	32.54		
			15	67.77	33.86		
			20	68.38	34.47		
			25	69.00	35.09		
			30	69.14	35.23		
			35	69.61	35.70		
			40	70.28	36.37		
			45	71.77	37.86		
			50	72.20	38.29		
			55	72.94	39.03		
			60	72.50	38.59		

**PUMPED WELL - DRAWDOWN DATA**

Pumped Well No.: EW-3

Project No.: 2012 Project Name:  Hwy 96 / N. OAKS Ravine  
 Date: 11/29/03 Type of Test: Step Test No. 2  
 CRA Supervisor: RAmet Pump Setting: 20 amsl  
 Screened Interval: 185 to 195 Pumping Rate (Q): 20  
 Aquifer Thickness: 37 Datum Point: TUC Datum Point Elevation: 913.88 amsl  
 Static Water Level: 33.91  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Q	Remarks
	Hr.	Min.					
20	12	00	-	72.50	38.59		
		0.5		76.77	42.86		
		1.0		78.82	44.91		
		1.5		80.72	46.81		
		2.0		84.66	50.75		
		2.5		86.25	52.34		
		3.0		87.82	53.91		
		3.5		89.10	55.19		
		4.0		90.80	56.89		
		4.5		92.37	58.46		
		5.0		94.12	60.71		
		6.0		97.03	63.17		
		7.0		99.21	65.30		
		8.0		100.21	66.30		
		9.0		101.34	67.43		
		10.0		102.18	68.27		
		15.0		105.40	71.49		
		20.0		107.80	73.89		
		25.0		108.48	74.57		
		30.0		108.92	75.07		
		35.0		109.25	75.37		
		40.0		109.42	75.51		
		45.0		109.52	75.61		
		50.0		109.65	75.74		
		55.0		109.71	75.80		
		60.0					

**PUMPED WELL - DRAWDOWN DATA**

Pumped Well No.: EW-3

*Highway 96 / N. OAKS*

Project No.: 2012 Project Name: ~~Step Test No. 3~~

Date: 11/20/96 Type of Test: Step Test No. 3

CRA Supervisor: R. Amst Pump Setting: \_\_\_\_\_ amsl

Screened Interval: 185 to 195 Pumping Rate (Q): 30

Aquifer Thickness: 37 Datum Point: TUC Datum Point Elevation: 913.88 amsl

Static Water Level: 33.91  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Q	Remarks
	Hr.	Min.					
20	13	00	0	109.88	75.89		
		05		114.24	80.33		
		1.0		117.63	83.72		
		1.5		120.41	86.50		
		2.0		122.68	88.77		
		2.5		125.30	91.39		
		3.0		127.27	93.36		
		3.5		129.59	95.68		
		4.0		131.72	96.81		
		4.5		132.10	98.19		
		5.0		133.72	99.81		
		6.0		136.18	102.27		
		7.0		138.02	104.11		
		8.0		138.98	105.07		
		9.0		140.25	106.34		
		10.0		141.35	107.44		
		15		144.52	110.61		
		20		146.18	112.27		
		25		147.00	113.09		
		30		147.91	114.00		
		35		148.72	114.31		
		40		148.42	114.51		
		45		148.58	114.67		
				148.61	114.70		
				148.64	114.73	65	48.76 114.85
				148.68	114.77		

50  
55  
60

148.61 114.70  
148.64 114.73  
148.68 114.77

**PUMPED WELL - DRAWDOWN DATA**

Pumped Well No.: FW-3

Project No.: 2012 Project Name: Highway 96 / N. DAKS  
 Date: 11/21/06 Type of Test: 24-hr. constant rate  
 CRA Supervisor: B. Sandberg Pump Setting: \_\_\_\_\_ amsl  
 Screened Interval: 185 to 195 Pumping Rate (Q): 20  
 Aquifer Thickness: 37 Datum Point: TOL Datum Point Elevation: 913.88 amsl  
 Static Water Level: 33.80  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Q	Remarks
	Hr.	Min.					
11/21	09	00	0	33.80	0	20	
		0.5	0.5	47.90	14.10		
		1.0	1.0	53.22	19.42		
		1.5	1.5	58.38	24.58		
		2.0	2.0	62.42	28.62		
		2.5	2.5	67.00	33.20		
		3.0	3.0	70.48	36.68		
		3.5	3.5	73.54	39.74		
		4.0	4.0	76.41	42.61		
		4.5	4.5	78.98	45.18		
		5.0	5	80.59	47.79		
		6.0	6	85.01	51.21		
		7.0	7	88.60	54.81		
		8.0	8	91.33	57.53		
		9.0	9	93.69	59.89		
		10.0	10	95.38	61.58		
		15	15	102.22	68.42		
		20	20	108.00	74.20		
		25	26	111.40	78.60		
		30	31	112.38	79.58		
		35	35	113.52	79.72		
		40	40	113.50	79.70	↓	

**PUMPED WELL - DRAWDOWN DATA**

Pumped Well No.: EW-3

Project No.: 2012 Project Name: Hwy 96 / N. OAKS Ravine

Date: 11/2/06 Type of Test: 24 hr Constant Rate

CRA Supervisor: B. Sandberg Pump Setting: \_\_\_\_\_ amsl

Screened Interval: 185 to 195 Pumping Rate (Q): ~20.6

Aquifer Thickness: 37 Datum Point: top Datum Point Elevation: 913.88 amsl

Static Water Level: 33.80  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Q	Remarks
	Hr.	Min.					
11/2	09	45	45	113.58	79.78	20.00	
	09	50	50	113.77	79.97		
	9	55	55	114.09	80.29		
	10	00	60	114.25	80.45		
	10	10	70	114.72	81.02		
	10	20	80	114.94	81.14		
	10	30	90	115.09	81.29		
	10	40	100	115.16	81.36		
	10	50	110	115.30	81.50		
	11	00	120	115.37	81.57		
	11	10	130	115.47	81.67		
	11	20	140	115.75	81.95		
	11	30	150	116.11	82.31		
	12	00	180	116.15	82.35		
	12	30	<del>170</del> <sup>210</sup>	115.95	82.15		
	13	00	<del>180</del> <sup>240</sup>	115.92	81.62		
	13	30	<del>190</del> <sup>270</sup>	116.35	82.55		
	14	00	<del>200</del> <sup>300</sup>	116.41	82.61		
	15	00	<del>210</del> <sup>360</sup>	116.49	82.69		
	16	00	<del>220</del> <sup>420</sup>	116.97	83.17		
	17	00	<del>230</del> <sup>480</sup>	116.83	83.03		
	18	00	<del>240</del> <sup>540</sup>	116.86	83.00	20.09	

PUMPED WELL - DRAWDOWN DATA

Pumped Well No.: FW-3

Project No.: 2012 Project Name:  Hwy 96/ N. Oaks Ravine  
 Date: 11/21/06 Type of Test: 24 hr constant rate  
 CRA Supervisor: Brian Sandberg Pump Setting: \_\_\_\_\_ amsl  
 Screened Interval: 185 to 195 Pumping Rate (Q): 20 gpm  
 Aquifer Thickness: 37 Datum Point: TOL Datum Point Elevation: 913.88 amsl  
 Static Water Level: 33.80  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Q	Remarks
	Hr.	Min.					
21	19	00	600	116.78	82.98	20.00	
	20	00	660	116.49	82.69		
	21	00	720	117.05	83.25		
	22	00	780	117.23	83.43		
	23	00	840	117.16	83.36		
	24	00	900	117.28	83.48		
22	1	00	960	117.51	83.71		
	2	00	1020	117.35	83.55		
	3	00	1080	117.38	83.58		
	4	00	1140	117.38	83.58		
	5	00	1200	117.35	83.55		
	6	00	1260	117.38	83.58		
	7	00	1320	117.57	83.27		
	8	00	1380	117.60	83.30		
	0	90	1440	117.65	83.35	↓	
							95% Recovery
							~78.9 Ft 79.10
							117.69
							-79.10
							<u>38.59</u>

## OBSERVATION WELL - DRAWDOWN DATA

Observation Well No.: MW-19B

Project No.: 2012 Project Name: Hwy 96 / N. Oaks Ravine  
 Date: 11/21/06 Type of Test: 24-hr constant rate  
 CRA Supervisor: Brian Sandberg Pumping Well: EW-3  
 Distance to Pumping Well: 54 ft' Pumping Rate (Q): 20  
 Aquifer Thickness: 37 Datum Point: TOL Datum Point Elevation: 913.33 amsl  
 Static Water Level: 33.51  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Remarks
	Hr.	Min.				
11/21	09	11.5	11.5	44.42	10.91	Screen 190-200
	09	16.5	16.5	46.30	12.79	
	09	22.5	22.5	47.61	14.10	
	09	27	27	48.31	14.80	
	09	33	33	48.98	15.47	
	09	41	41	49.36	15.85	
	09	54	54	49.76	16.25	
	10	06	66	50.00	16.49	
	10	14	74	50.21	16.70	
	10	32	92	50.40	16.89	
	10	50	110	50.54	17.03	
	11	00	120	50.59	17.08	
	11	25	145	50.75	17.24	
	12	01	181	50.87	17.36	
	13	04	214	50.81	17.40	
	14	00	240	50.91	17.50	
	15	02	262	50.94	17.53	
	16	00	320	51.02	17.61	
	17	02	382	51.00	17.59	
	18	05	445	51.02	17.61	
	19	06	606	51.00	17.59	
	20	00	660	51.12	17.71	

22 02 782 51.12  
 24 02 902 51.04

**OBSERVATION WELL - DRAWDOWN DATA**

Observation Well No.:           NW-19B          

Project No.:           2012           Project Name:           Hay 96 / N. OAKS Ravine          

Date:           11/21-22/06           Type of Test:           24-hr. constant rate          

CRA Supervisor:           Brian Sandberg           Pumping Well:           EW-3          

Distance to Pumping Well:           54 ft.           Pumping Rate (Q):           20 gpm          

Aquifer Thickness:           37           Datum Point:           TOL           Datum Point Elevation:           913.33           amsl

Static Water Level:           33.51            Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Remarks
	Hr.	Min.				
0	22	02	782	51.12	17.61	
	24	02	902	51.04	17.53	
22	01	10	910	51.02	17.51	
22	03	02	1082	51.00	17.49	
22	04	10	1150	50.88	17.37	
22	05	10	1210	50.82	17.31	
	07	00	1320	50.88	17.37	
	08	02	1382	50.91	17.40	
	08	53		50.89		95% ~ 16.5
<b>Recovery</b>						
	9	<del>51</del>	16	38.21		50.89
	9	48	33	35.77		-16.50
	10	16	62	34.66		<u>34.39</u>
	10	26	76	34.52		
	10	46	91	34.44		
	11	20		34.23		
← see recovery starts						



**OBSERVATION WELL - DRAWDOWN DATA**

Observation Well No.: MW-20B

Project No.: 2012 Project Name: Highway 96 / N. Oaks Ravine

Date: 11/21/06 Type of Test: Constant rate - 24hr

CRA Supervisor: Ratomot / B. Sandberg Pumping Well: EL-3

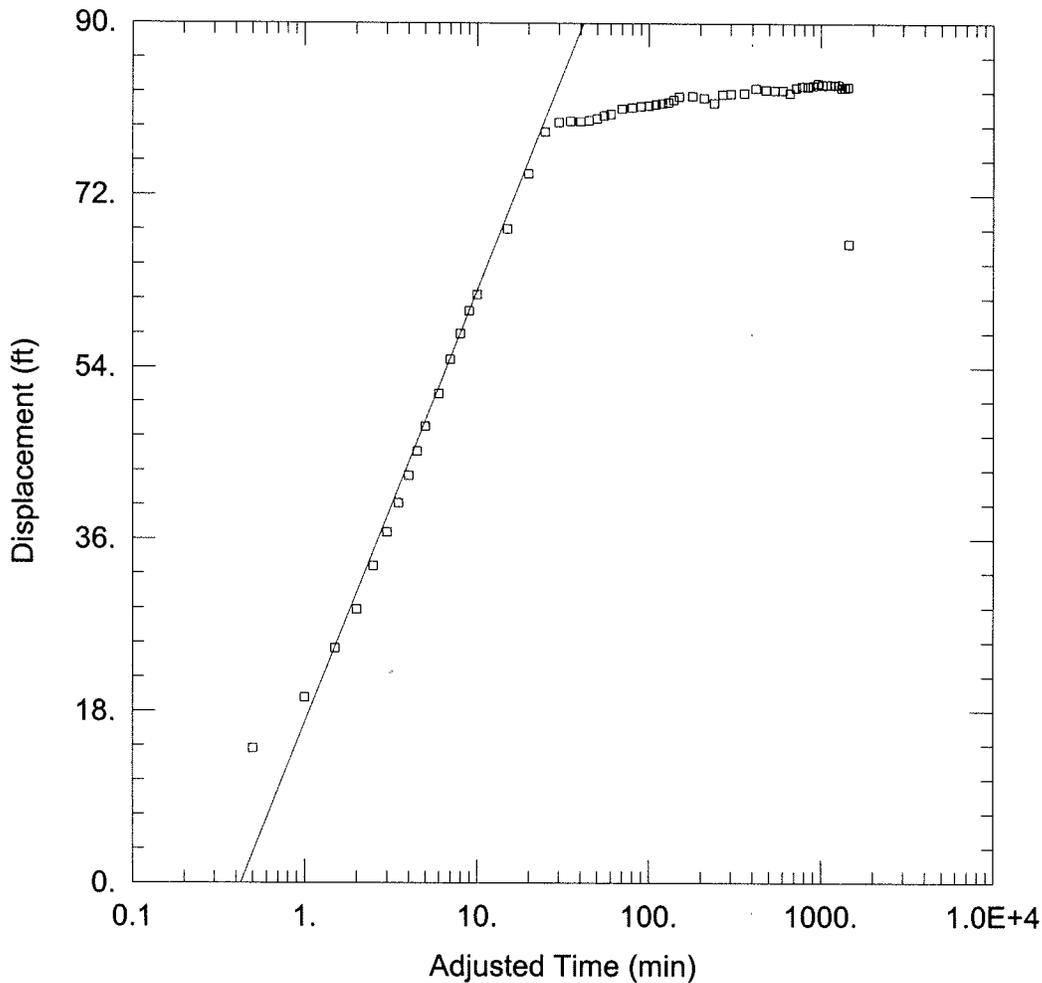
Distance to Pumping Well: 141 ft Pumping Rate (Q): 20

Aquifer Thickness: 37 Datum Point: TOL Datum Point Elevation: 915.04  
35.44 amsl

Static Water Level: 35.44  Confined  Unconfined

Day	Time		Elapsed Time (min.)	Water Level	Drawdown	Remarks
	Hr.	Min.				
11/21	9	12	12	40.90	5.54	
	9	18	18	42.28	6.84	
	9	24	24	43.38	7.94	
	9	28	28	43.81	8.37	
	9	34	34	44.40	8.96	
	9	39	39	44.64	9.20	
	9	55	55	45.15	9.71	
	10	02	62	45.25	9.81	
	10	16	76	45.52	10.08	
	10	31	91	45.75	10.31	
	11	02	122	45.96	10.52	
	11	22	142	46.06	10.76	
	12	02	182	46.20	10.77	
	13	02	242	46.21	10.79	
	14	04	304	46.23	10.89	
	15	00	360	46.28	10.84	
	16	02	422	46.31	10.89	
	17	02	482	46.32	10.88	
	18	07	547	46.42	10.98	
	19	02	602	46.37	10.93	
	20	02	662	46.42	10.98	
	22	01	781	46.41	10.97	





**EW-3 PUMPING TEST**

Data Set: C:\Documents and Settings\raamot\Desktop\Data\EW-3 Drawdown.aqt

Date: 01/16/07

Time: 18:50:50

**PROJECT INFORMATION**

Company: CRA

Project: 2012

Location: North Oaks

Test Well: EW-3

Test Date: 11/21/06

**AQUIFER DATA**

Saturated Thickness: 97. ft

Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA**

**Pumping Wells**

**Observation Wells**

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
EW-3	0	0	EW-3	0	0

**SOLUTION**

Aquifer Model: Confined

Solution Method: Cooper-Jacob

T = 0.01083 ft<sup>2</sup>/min

S = 0.05982

Data Set: C:\Documents and Settings\raamot\Desktop\Data\EW-3 Drawdown.aqt  
 Title: EW-3 Pumping Test  
 Date: 01/16/07  
 Time: 18:51:09

PROJECT INFORMATION

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Date: 11/21/06  
 Test Well: EW-3

AQUIFER DATA

Saturated Thickness: 97. ft  
 Anisotropy Ratio (Kz/Kr): 1.

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Casing Radius: 0.25 ft  
 Well Radius: 0.416 ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of pumping periods: 2

<u>Pumping Period Data</u>			
<u>Time (min)</u>	<u>Rate (gal/min)</u>	<u>Time (min)</u>	<u>Rate (gal/min)</u>
0.	20.	1455.5	0.

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Radial distance from EW-3: 0. ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of Observations: 88

<u>Observation Data</u>			
<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
0.5	14.1	660.	82.69
1.	19.42	720.	83.25
1.5	24.58	780.	83.43
2.	28.62	840.	83.36
2.5	33.2	900.	83.48
3.	36.68	960.	83.71
3.5	39.74	1020.	83.55
4.	42.61	1080.	83.58
4.5	45.18	1140.	83.58

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
5.	47.79	1200.	83.55
6.	51.21	1260.	83.58
7.	54.81	1320.	83.27
8.	57.53	1380.	83.3
9.	59.89	1440.	83.35
10.	61.58	1455.5	66.92
15.	68.42	1456.	60.32
20.	74.2	1456.5	55.19
25.	78.6	1457.	50.65
30.	79.58	1457.5	46.57
35.	79.72	1458.	42.7
40.	79.7	1458.5	38.72
45.	79.78	1459.	36.22
50.	79.97	1459.5	33.32
55.	80.29	1460.	30.67
60.	80.45	1461.	26.15
70.	81.02	1462.	22.71
80.	81.14	1463.	19.27
90.	81.29	1464.	17.22
100.	81.36	1465.	15.3
110.	81.5	1466.	13.3
120.	81.57	1467.	12.1
130.	81.67	1468.	10.8
140.	81.95	1469.	9.82
150.	82.31	1470.	8.78
180.	82.35	1475.	5.69
210.	82.15	1480.	3.99
240.	81.62	1485.	3.05
270.	82.55	1490.	2.53
300.	82.61	1495.	2.11
360.	82.69	1500.	1.82
420.	83.17	1505.	1.6
480.	83.03	1510.	1.44
540.	83.	1515.	1.3
600.	82.98	1578.	0.52

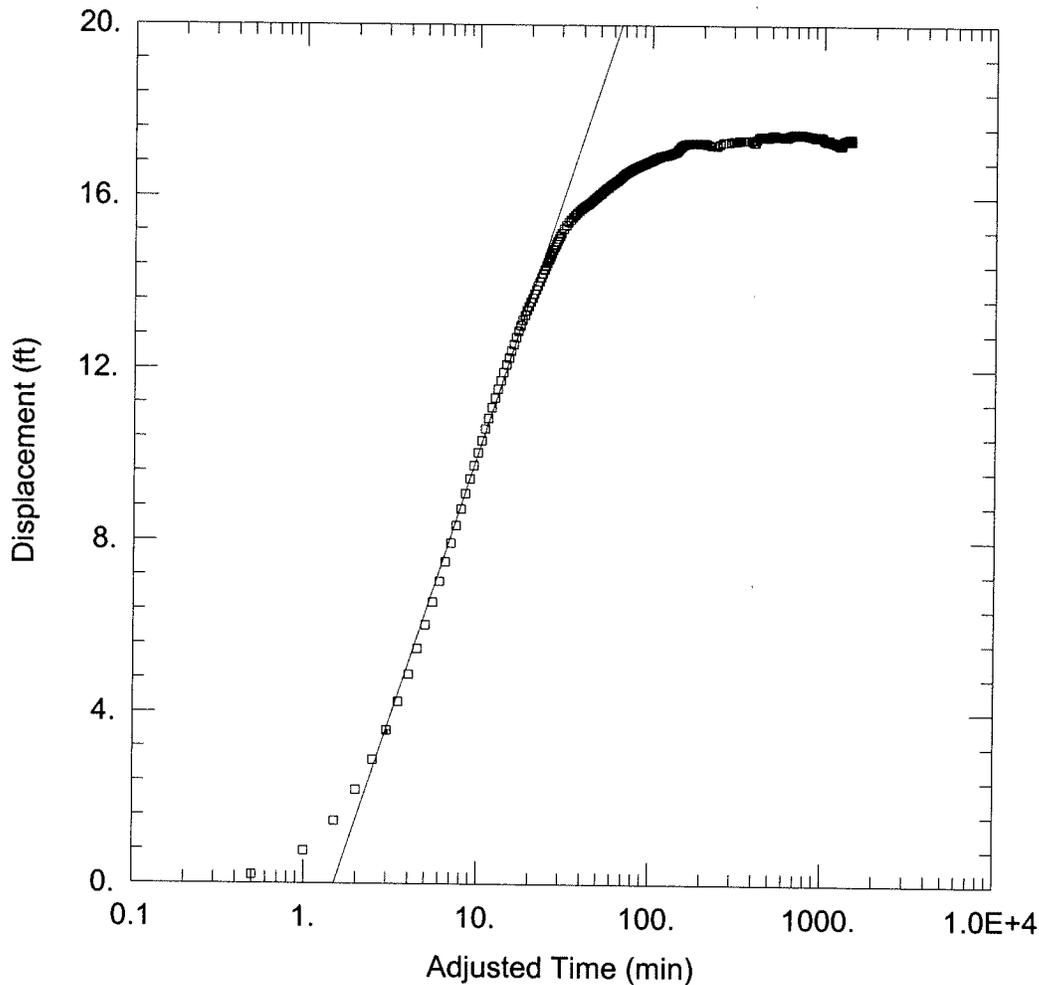
SOLUTION

Pumping Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Jacob

VISUAL ESTIMATION RESULTSEstimated Parameters

Parameter	Estimate	
T	0.01083	ft <sup>2</sup> /min
S	0.05982	

$K = T/b = 0.0001116 \text{ ft/min}$  (5.672E-5 cm/sec)  
 $S_s = S/b = 0.0006167 \text{ 1/ft}$



**EW-3 PUMPING TEST**

Data Set: C:\Documents and Settings\raamot\Desktop\Data\MW-19B Drawdown.aqt  
 Date: 01/16/07 Time: 18:49:06

**PROJECT INFORMATION**

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Well: EW-3  
 Test Date: 11/21/06

**AQUIFER DATA**

Saturated Thickness: 97. ft Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA**

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
EW-3	0	0	□ MW-19B	54	0

**SOLUTION**

Aquifer Model: Confined Solution Method: Cooper-Jacob  
 T = 0.04033 ft<sup>2</sup>/min S = 4.662E-5

Data Set: C:\Documents and Settings\raamot\Desktop\Data\MW-19B Drawdown.aqt  
 Title: EW-3 Pumping Test  
 Date: 01/16/07  
 Time: 18:51:27

PROJECT INFORMATION

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Date: 11/21/06  
 Test Well: EW-3

AQUIFER DATA

Saturated Thickness: 97. ft  
 Anisotropy Ratio (Kz/Kr): 1.

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Casing Radius: 0.25 ft  
 Well Radius: 0.416 ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of pumping periods: 2

<u>Time (min)</u>	<u>Pumping Period Data</u>		<u>Rate (gal/min)</u>
	<u>Rate (gal/min)</u>	<u>Time (min)</u>	
0.	20.	1455.5	0.

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: MW-19B

X Location: 54. ft  
 Y Location: 0. ft

Radial distance from EW-3: 54. ft

Partially Penetrating Well  
 Depth to Top of Screen: 20. ft  
 Depth to Bottom of Screen: 30. ft

No. of Observations: 499

<u>Time (min)</u>	<u>Observation Data</u>		<u>Displacement (ft)</u>
	<u>Displacement (ft)</u>	<u>Time (min)</u>	
0.5	0.1955	320.	17.31
1.	0.762	330.	17.32
1.5	1.455	340.	17.32
2.	2.178	350.	17.32
2.5	2.886	360.	17.33
3.	3.574	370.	17.33
3.5	4.238	380.	17.33
4.	4.875	390.	17.29
4.5	5.475	400.	17.28

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
5.	6.036	410.	17.36
5.5	6.56	420.	17.4
6.	7.049	430.	17.42
6.5	7.504	440.	17.42
7.	7.934	450.	17.42
7.5	8.343	460.	17.41
8.	8.731	470.	17.39
8.5	9.093	480.	17.39
9.	9.43	490.	17.43
9.5	9.746	500.	17.44
10.	10.04	510.	17.45
10.5	10.33	520.	17.45
11.	10.6	530.	17.43
11.5	10.84	540.	17.42
12.	11.09	550.	17.42
12.5	11.32	560.	17.43
13.	11.52	570.	17.42
13.5	11.73	580.	17.41
14.	11.91	590.	17.41
14.5	12.09	600.	17.4
15.	12.25	610.	17.4
15.5	12.41	620.	17.41
16.	12.57	630.	17.43
16.5	12.73	640.	17.44
17.	12.87	650.	17.46
17.5	13.01	660.	17.46
18.	13.13	670.	17.47
18.5	13.24	680.	17.48
19.	13.35	690.	17.47
19.5	13.45	700.	17.46
20.	13.55	710.	17.44
20.5	13.64	720.	17.45
21.	13.74	730.	17.47
21.5	13.83	740.	17.48
22.	13.93	750.	17.47
22.5	14.02	760.	17.47
23.	14.13	770.	17.46
23.5	14.21	780.	17.46
24.	14.3	790.	17.45
24.5	14.38	800.	17.45
25.	14.46	810.	17.44
25.5	14.54	820.	17.44
26.	14.61	830.	17.44
26.5	14.68	840.	17.44
27.	14.76	850.	17.42
27.5	14.83	860.	17.42
28.	14.9	870.	17.42
28.5	14.96	880.	17.41
29.	15.03	890.	17.4
29.5	15.09	900.	17.4
30.	15.15	910.	17.41
31.	15.25	920.	17.42
32.	15.33	930.	17.41
33.	15.4	940.	17.42
34.	15.47	950.	17.42
35.	15.52	960.	17.42
36.	15.58	970.	17.41
37.	15.63	980.	17.41
38.	15.67	990.	17.38
39.	15.72	1000.	17.35
40.	15.75	1010.	17.34
41.	15.78	1020.	17.33
42.	15.81	1030.	17.31
43.	15.84	1040.	17.31
44.	15.86	1050.	17.31
45.	15.9	1060.	17.31
46.	15.93	1070.	17.35

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
47.	15.97	1080.	17.33
48.	16.	1090.	17.31
49.	16.03	1100.	17.3
50.	16.06	1110.	17.29
51.	16.09	1120.	17.29
52.	16.12	1130.	17.3
53.	16.15	1140.	17.29
54.	16.18	1150.	17.29
55.	16.2	1160.	17.28
56.	16.23	1170.	17.27
57.	16.25	1180.	17.26
58.	16.28	1190.	17.25
59.	16.3	1200.	17.24
60.	16.32	1210.	17.24
61.	16.34	1220.	17.23
62.	16.36	1230.	17.22
63.	16.38	1240.	17.21
64.	16.4	1250.	17.2
65.	16.42	1260.	17.21
66.	16.44	1270.	17.22
67.	16.47	1280.	17.26
68.	16.49	1290.	17.3
69.	16.51	1300.	17.31
70.	16.54	1310.	17.32
71.	16.55	1320.	17.33
72.	16.57	1330.	17.32
73.	16.58	1340.	17.34
74.	16.6	1350.	17.34
75.	16.61	1360.	17.33
76.	16.63	1370.	17.34
77.	16.64	1380.	17.35
78.	16.65	1390.	17.36
79.	16.66	1400.	17.36
80.	16.67	1410.	17.36
81.	16.68	1420.	17.36
82.	16.69	1430.	17.32
83.	16.7	1455.	17.37
84.	16.72	1455.5	17.32
85.	16.73	1456.	16.87
86.	16.73	1456.5	16.2
87.	16.74	1457.	15.5
88.	16.75	1457.5	14.79
89.	16.76	1458.	14.1
90.	16.77	1458.5	13.43
91.	16.78	1459.	12.79
92.	16.79	1459.5	12.18
93.	16.8	1460.	11.6
94.	16.8	1460.5	11.04
95.	16.81	1461.	10.53
96.	16.82	1461.5	10.03
97.	16.83	1462.	9.569
98.	16.84	1462.5	9.135
99.	16.84	1463.	8.732
100.	16.85	1463.5	8.357
101.	16.86	1464.	8.005
102.	16.87	1464.5	7.676
103.	16.88	1465.	7.367
104.	16.88	1465.5	7.076
105.	16.89	1466.	6.805
106.	16.9	1466.5	6.549
107.	16.91	1467.	6.309
108.	16.91	1467.5	6.083
109.	16.92	1468.	5.871
110.	16.93	1468.5	5.672
111.	16.94	1469.	5.481
112.	16.94	1469.5	5.304
113.	16.95	1470.	5.138

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
114.	16.95	1470.5	4.977
115.	16.95	1471.	4.827
116.	16.96	1471.5	4.685
117.	16.96	1472.	4.55
118.	16.96	1472.5	4.421
119.	16.97	1473.	4.3
120.	16.97	1473.5	4.181
121.	16.97	1474.	4.072
122.	16.98	1474.5	3.968
123.	16.98	1475.	3.868
124.	16.98	1475.5	3.773
125.	16.99	1476.	3.682
126.	16.99	1476.5	3.595
127.	17.	1477.	3.51
128.	17.	1477.5	3.432
129.	17.01	1478.	3.355
130.	17.01	1478.5	3.28
131.	17.01	1479.	3.212
132.	17.02	1479.5	3.144
133.	17.02	1480.	3.078
134.	17.03	1480.5	3.016
135.	17.03	1481.	2.956
136.	17.04	1481.5	2.902
137.	17.04	1482.	2.842
138.	17.05	1482.5	2.79
139.	17.06	1483.	2.736
140.	17.07	1483.5	2.687
141.	17.08	1484.	2.638
142.	17.09	1484.5	2.591
143.	17.11	1485.	2.546
144.	17.12	1486.	2.459
145.	17.14	1487.	2.379
146.	17.15	1488.	2.305
147.	17.16	1489.	2.235
148.	17.17	1490.	2.168
149.	17.18	1491.	2.105
150.	17.19	1492.	2.046
151.	17.2	1493.	1.989
152.	17.21	1494.	1.935
153.	17.22	1495.	1.883
154.	17.22	1496.	1.833
155.	17.23	1497.	1.786
156.	17.23	1498.	1.742
157.	17.23	1499.	1.697
158.	17.24	1500.	1.656
159.	17.24	1501.	1.618
160.	17.24	1502.	1.578
161.	17.24	1503.	1.543
162.	17.24	1504.	1.509
163.	17.25	1505.	1.474
164.	17.25	1506.	1.442
165.	17.25	1507.	1.412
166.	17.25	1508.	1.385
167.	17.25	1509.	1.355
168.	17.25	1510.	1.328
169.	17.25	1511.	1.301
170.	17.26	1512.	1.274
171.	17.26	1513.	1.249
172.	17.26	1514.	1.226
173.	17.26	1515.	1.202
174.	17.26	1516.	1.18
175.	17.26	1517.	1.163
176.	17.26	1518.	1.14
177.	17.26	1519.	1.138
178.	17.26	1520.	1.141
179.	17.26	1521.	1.123
180.	17.26	1522.	1.108

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
181.	17.26	1523.	1.117
182.	17.26	1524.	1.098
183.	17.27	1525.	1.102
184.	17.26	1526.	1.094
185.	17.26	1527.	1.086
186.	17.25	1528.	1.09
187.	17.25	1529.	1.078
188.	17.25	1530.	1.082
189.	17.25	1531.	1.069
190.	17.25	1532.	1.087
191.	17.25	1533.	1.05
192.	17.25	1534.	1.047
193.	17.25	1535.	1.026
194.	17.25	1536.	1.018
195.	17.25	1537.	1.014
196.	17.25	1538.	0.9872
197.	17.25	1539.	0.9792
198.	17.25	1540.	0.9685
199.	17.25	1541.	0.9716
200.	17.25	1542.	0.9578
201.	17.25	1543.	0.9357
202.	17.25	1544.	0.9431
203.	17.25	1545.	0.9179
204.	17.25	1546.	0.7238
205.	17.25	1547.	0.9303
206.	17.25	1548.	0.9092
207.	17.25	1549.	0.8956
208.	17.24	1550.	0.8682
209.	17.23	1551.	0.8683
210.	17.23	1552.	0.8557
220.	17.21	1553.	0.8719
230.	17.2	1554.	0.8829
240.	17.2	1555.	0.9178
250.	17.23	1556.	0.9052
260.	17.28	1557.	0.8741
270.	17.28	1558.	0.8391
280.	17.28	1559.	0.8019
290.	17.29	1560.	0.7689
300.	17.3	1561.	0.7426
310.	17.3		

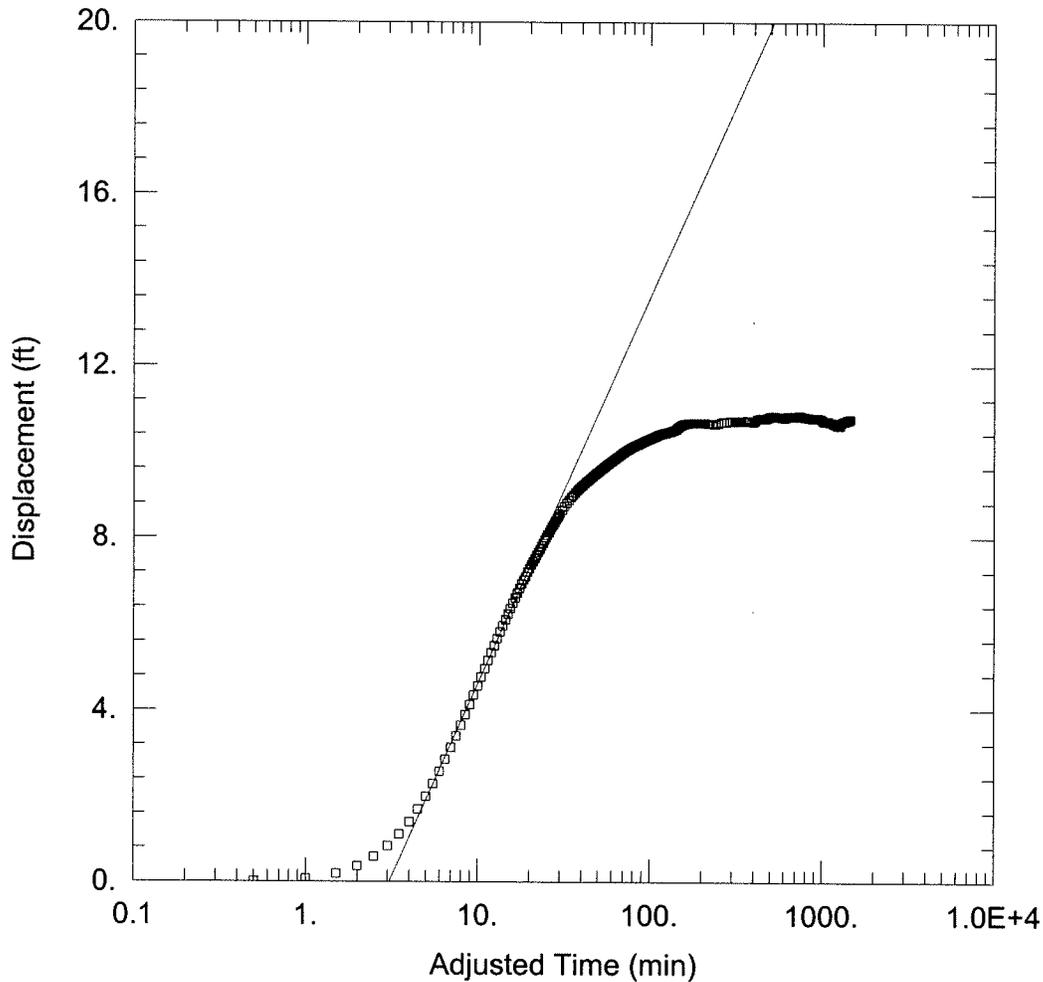
SOLUTION

Pumping Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Jacob

VISUAL ESTIMATION RESULTSEstimated Parameters

Parameter	Estimate	
T	0.04033	ft <sup>2</sup> /min
S	4.662E-5	

$K = T/b = 0.0004158$  ft/min (0.0002112 cm/sec)  
 $S_s = S/b = 4.807E-7$  1/ft



**EW-3 PUMPING TEST**

Data Set: C:\Documents and Settings\raamot\Desktop\Data\MW-20B Drawdown.aqt

Date: 01/16/07

Time: 18:49:53

**PROJECT INFORMATION**

Company: CRA

Project: 2012

Location: North Oaks

Test Well: EW-3

Test Date: 11/21/06

**AQUIFER DATA**

Saturated Thickness: 97. ft

Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA**

**Pumping Wells**

**Observation Wells**

Well Name	X (ft)	Y (ft)
EW-3	0	0

Well Name	X (ft)	Y (ft)
□ MW-20B	141	0

**SOLUTION**

Aquifer Model: Confined

Solution Method: Cooper-Jacob

T = 0.05457 ft<sup>2</sup>/min

S = 1.89E-5

Data Set: C:\Documents and Settings\raamot\Desktop\Data\MW-20B Drawdown.aqt  
 Title: EW-3 Pumping Test  
 Date: 01/16/07  
 Time: 18:51:47

PROJECT INFORMATION

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Date: 11/21/06  
 Test Well: EW-3

AQUIFER DATA

Saturated Thickness: 97. ft  
 Anisotropy Ratio (Kz/Kr): 1.

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Casing Radius: 0.25 ft  
 Well Radius: 0.416 ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of pumping periods: 2

Pumping Period Data			
Time (min)	Rate (gal/min)	Time (min)	Rate (gal/min)
0.	20.	1455.5	0.

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: MW-20B

X Location: 141. ft  
 Y Location: 0. ft

Radial distance from EW-3: 141. ft

Partially Penetrating Well  
 Depth to Top of Screen: 26. ft  
 Depth to Bottom of Screen: 36. ft

No. of Observations: 506

Observation Data			
Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.5	0.0065	350.	10.72
1.	0.0613	360.	10.73
1.5	0.1803	370.	10.73
2.	0.3575	380.	10.73
2.5	0.5779	390.	10.71
3.	0.8295	400.	10.7
3.5	1.102	410.	10.73
4.	1.39	420.	10.76
4.5	1.685	430.	10.78

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
5.	1.982	440.	10.79
5.5	2.279	450.	10.79
6.	2.569	460.	10.78
6.5	2.851	470.	10.78
7.	3.125	480.	10.78
7.5	3.388	490.	10.81
8.	3.643	500.	10.82
8.5	3.888	510.	10.83
9.	4.123	520.	10.84
9.5	4.348	530.	10.84
10.	4.561	540.	10.83
10.5	4.766	550.	10.82
11.	4.962	560.	10.82
11.5	5.149	570.	10.82
12.	5.328	580.	10.81
12.5	5.495	590.	10.81
13.	5.655	600.	10.8
13.5	5.808	610.	10.8
14.	5.955	620.	10.81
14.5	6.096	630.	10.83
15.	6.229	640.	10.82
15.5	6.355	650.	10.83
16.	6.476	660.	10.83
16.5	6.594	670.	10.84
17.	6.706	680.	10.84
17.5	6.819	690.	10.83
18.	6.92	700.	10.83
18.5	7.017	710.	10.82
19.	7.094	720.	10.82
19.5	7.202	730.	10.84
20.	7.285	740.	10.85
20.5	7.365	750.	10.84
21.	7.443	760.	10.83
21.5	7.517	770.	10.83
22.	7.59	780.	10.82
22.5	7.662	790.	10.82
23.	7.732	800.	10.82
23.5	7.807	810.	10.81
24.	7.873	820.	10.81
24.5	7.943	830.	10.8
25.	8.003	840.	10.81
25.5	8.063	850.	10.8
26.	8.123	860.	10.79
26.5	8.181	870.	10.79
27.	8.239	880.	10.78
27.5	8.295	890.	10.78
28.	8.354	900.	10.78
28.5	8.402	910.	10.78
29.	8.453	920.	10.79
29.5	8.503	930.	10.79
30.	8.554	940.	10.79
31.	8.644	950.	10.79
32.	8.73	960.	10.79
33.	8.807	970.	10.78
34.	8.872	980.	10.78
35.	8.934	990.	10.77
36.	8.991	1000.	10.75
37.	9.046	1010.	10.73
38.	9.097	1020.	10.72
39.	9.143	1030.	10.71
40.	9.189	1040.	10.71
41.	9.229	1050.	10.71
42.	9.267	1060.	10.71
43.	9.301	1070.	10.73
44.	9.335	1080.	10.72
45.	9.367	1090.	10.71
46.	9.399	1100.	10.7

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
47.	9.43	1110.	10.69
48.	9.463	1120.	10.69
49.	9.493	1130.	10.69
50.	9.523	1140.	10.69
51.	9.552	1150.	10.69
52.	9.581	1160.	10.67
53.	9.607	1170.	10.67
54.	9.634	1180.	10.66
55.	9.659	1190.	10.65
56.	9.685	1200.	10.65
57.	9.708	1210.	10.64
58.	9.731	1220.	10.63
59.	9.754	1230.	10.62
60.	9.775	1240.	10.61
61.	9.795	1250.	10.61
62.	9.816	1260.	10.61
63.	9.834	1270.	10.62
64.	9.855	1280.	10.64
65.	9.874	1290.	10.68
66.	9.893	1300.	10.69
67.	9.912	1310.	10.7
68.	9.934	1320.	10.72
69.	9.952	1330.	10.71
70.	9.972	1340.	10.72
71.	9.989	1350.	10.73
72.	10.01	1360.	10.72
73.	10.02	1370.	10.72
74.	10.04	1380.	10.73
75.	10.05	1390.	10.74
76.	10.07	1400.	10.75
77.	10.08	1410.	10.75
78.	10.09	1420.	10.75
79.	10.1	1430.	10.74
80.	10.12	1455.	10.76
81.	10.13	1455.5	10.77
82.	10.14	1456.	10.74
83.	10.15	1456.5	10.64
84.	10.16	1457.	10.49
85.	10.17	1457.5	10.29
86.	10.18	1458.	10.06
87.	10.19	1458.5	9.803
88.	10.2	1459.	9.53
89.	10.21	1459.5	9.244
90.	10.22	1460.	8.956
91.	10.23	1460.5	8.664
92.	10.24	1461.	8.375
93.	10.24	1461.5	8.092
94.	10.25	1462.	7.812
95.	10.26	1462.5	7.542
96.	10.27	1463.	7.281
97.	10.28	1463.5	7.031
98.	10.28	1464.	6.789
99.	10.29	1464.5	6.557
100.	10.3	1465.	6.339
101.	10.31	1465.5	6.129
102.	10.32	1466.	5.928
103.	10.32	1466.5	5.736
104.	10.33	1467.	5.564
105.	10.34	1467.5	5.381
106.	10.35	1468.	5.217
107.	10.35	1468.5	5.061
108.	10.36	1469.	4.911
109.	10.37	1469.5	4.77
110.	10.37	1470.	4.636
111.	10.38	1470.5	4.507
112.	10.39	1471.	4.385
113.	10.39	1471.5	4.267

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
114.	10.4	1472.	4.154
115.	10.4	1472.5	4.048
116.	10.41	1473.	3.948
117.	10.41	1473.5	3.849
118.	10.42	1474.	3.756
119.	10.42	1474.5	3.665
120.	10.43	1475.	3.579
121.	10.43	1475.5	3.497
122.	10.44	1476.	3.42
123.	10.44	1476.5	3.342
124.	10.44	1477.	3.27
125.	10.45	1477.5	3.199
126.	10.45	1478.	3.131
127.	10.45	1478.5	3.066
128.	10.46	1479.	3.005
129.	10.46	1479.5	2.945
130.	10.47	1480.	2.886
131.	10.47	1480.5	2.83
132.	10.47	1481.	2.776
133.	10.48	1481.5	2.726
134.	10.48	1482.	2.674
135.	10.49	1482.5	2.628
136.	10.49	1483.	2.578
137.	10.5	1483.5	2.533
138.	10.5	1484.	2.489
139.	10.51	1484.5	2.446
140.	10.51	1485.	2.403
141.	10.52	1486.	2.325
142.	10.53	1487.	2.251
143.	10.54	1488.	2.181
144.	10.55	1489.	2.12
145.	10.56	1490.	2.056
146.	10.57	1491.	1.995
147.	10.58	1492.	1.941
148.	10.59	1493.	1.885
149.	10.6	1494.	1.834
150.	10.6	1495.	1.786
151.	10.61	1496.	1.738
152.	10.62	1497.	1.695
153.	10.63	1498.	1.65
154.	10.63	1499.	1.609
155.	10.64	1500.	1.569
156.	10.64	1501.	1.531
157.	10.64	1502.	1.495
158.	10.65	1503.	1.461
159.	10.65	1504.	1.426
160.	10.65	1505.	1.396
161.	10.65	1506.	1.364
162.	10.65	1507.	1.335
163.	10.66	1508.	1.311
164.	10.66	1509.	1.279
165.	10.66	1510.	1.252
166.	10.66	1511.	1.226
167.	10.66	1512.	1.201
168.	10.67	1513.	1.179
169.	10.67	1514.	1.154
170.	10.67	1515.	1.131
171.	10.67	1516.	1.108
172.	10.67	1517.	1.085
173.	10.67	1518.	1.065
174.	10.67	1519.	1.049
175.	10.67	1520.	1.037
176.	10.67	1521.	1.023
177.	10.67	1522.	1.012
178.	10.67	1523.	0.9965
179.	10.67	1524.	0.9861
180.	10.68	1525.	0.9731

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
181.	10.68	1526.	0.9654
182.	10.68	1527.	0.9536
183.	10.68	1528.	0.9467
184.	10.68	1529.	0.9358
185.	10.68	1530.	0.9311
186.	10.68	1531.	0.9223
187.	10.68	1532.	0.9158
188.	10.67	1533.	0.9054
189.	10.68	1534.	0.5255
190.	10.67	1535.	1.041
191.	10.67	1536.	0.9406
192.	10.67	1537.	0.8963
193.	10.68	1538.	0.87
194.	10.68	1539.	0.8481
195.	10.68	1540.	0.8347
196.	10.68	1541.	0.8242
197.	10.68	1542.	0.8155
198.	10.68	1543.	0.8037
199.	10.68	1544.	0.7976
200.	10.68	1545.	0.7875
201.	10.68	1546.	0.7784
202.	10.68	1547.	0.769
203.	10.68	1548.	0.7548
204.	10.68	1549.	0.7489
205.	10.68	1550.	0.7375
206.	10.68	1551.	0.7258
207.	10.68	1552.	0.7183
208.	10.68	1553.	0.7129
209.	10.67	1554.	0.7074
210.	10.67	1555.	0.7109
220.	10.66	1556.	0.7153
230.	10.65	1557.	0.7103
240.	10.65	1558.	0.6994
250.	10.66	1559.	0.6835
260.	10.69	1560.	0.6652
270.	10.7	1561.	0.647
280.	10.7	1562.	0.6345
290.	10.71	1563.	0.6123
300.	10.72	1564.	0.591
310.	10.7	1565.	0.5802
320.	10.71	1566.	0.5684
330.	10.72	1567.	0.5542
340.	10.72	1568.	0.5368

SOLUTION

Pumping Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Jacob

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
T	0.05457	ft <sup>2</sup> /min
S	1.89E-5	

K = T/b = 0.0005625 ft/min (0.0002858 cm/sec)  
 Ss = S/b = 1.949E-7 1/ft

## PUMPED WELL - RECOVERY DATA

Pumped Well No.: EW-3

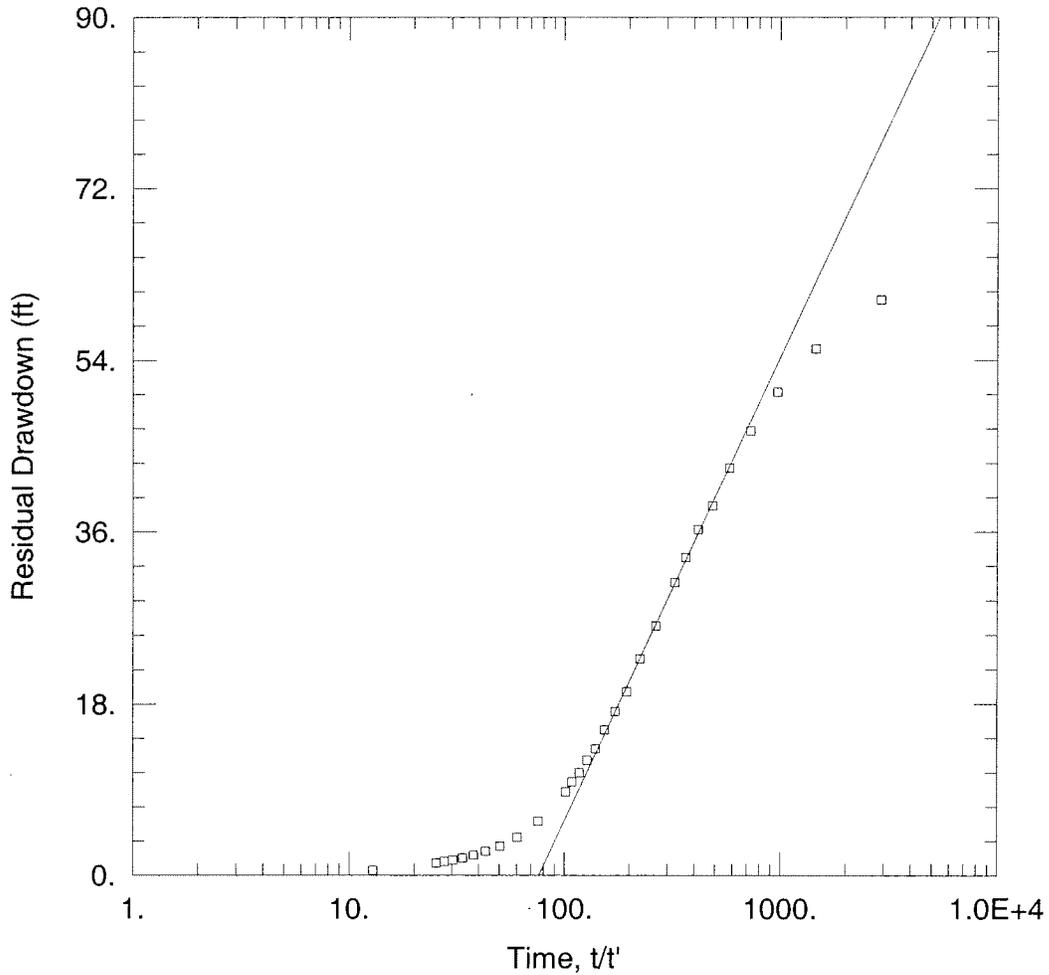
Project No.: 2012 Project Name: Hwy 96 / N. Oaks Ravine  
 Date: 11/22/06 Type of Test: Recovery  
 CRA Supervisor: RArnet / B. Sandberg Pump Setting: \_\_\_\_\_ amsl  
 Screened Interval: 185 to 195 Pumping Rate (Q): 20  
 Aquifer Thickness: 37 Datum Point: TUL Datum Point Elevation: 913.88 amsl  
 Static Water Level: 3380  Confined  Unconfined

Time			Time (t) Since Pumping Stopped (min.)	Ratio t/t'	Water Level	Residual Drawdown	Remarks
Day	Hr.	Min.					
11/22/06	9	15	0.0	2881			
		15.5	<del>0.5</del>	1441	100.72	66.92	
		16.0	1.0	961	94.12	60.32	
		16.5	<del>1.5</del>	721	88.99	55.19	
		17.0	2.0	577	84.45	50.65	
		17.5	2.5	481	80.97	46.67	
		18.0	3.0	412.4	76.50	42.70	
		18.5	3.5	361	72.52	38.72	
		19.0	4.0	321	70.02	36.22	
		19.5	4.5	289	67.12	33.32	
		20.0	5.0	241	64.47	30.67	
		21	6	206.7	59.95	26.15	
		22	7	181	56.51	22.71	
		23	8	161	53.07	19.27	
		24	9	145	50.02	17.22	
		25	10	131.9	49.10	15.30	
		26	11	121	47.10	13.30	
		27	12	111.8	45.90	12.10	
		28	13	103.9	44.60	10.80	
		29	14	97	43.62	9.82	
		30	15	93	42.58	8.78	
		35	20	58.6	39.49	5.69	









EW-3 PUMPING TEST

Data Set: U:\002012\TYPING\REPORT 54\APPENDICIES\PUMPING TEST DATA\EW-3 Recovery.aqt  
 Date: 02/19/07 Time: 12:24:56

PROJECT INFORMATION

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Well: EW-3  
 Test Date: 11/21/06

AQUIFER DATA

Saturated Thickness: 97. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
EW-3	0	0	□ EW-3	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Theis (Recovery)  
 T = 0.01009 ft<sup>2</sup>/min S/S' = 76.13

Data Set: U:\002012\TYPING\REPORT 54\APPENDICIES\PUMPING TEST DATA\EW-3 Recovery.aqt  
 Title: EW-3 Pumping Test  
 Date: 02/19/07  
 Time: 12:24:56

PROJECT INFORMATION

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Date: 11/21/06  
 Test Well: EW-3

AQUIFER DATA

Saturated Thickness: 97. ft  
 Anisotropy Ratio (Kz/Kr): 1.

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Casing Radius: 0.25 ft  
 Well Radius: 0.416 ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of pumping periods: 2

Pumping Period Data			
Time (min)	Rate (gal/min)	Time (min)	Rate (gal/min)
0.	20.	1455.5	0.

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Radial distance from EW-3: 0. ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of Observations: 88

Observation Data			
Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.5	14.1	660.	82.69
1.	19.42	720.	83.25
1.5	24.58	780.	83.43
2.	28.62	840.	83.36
2.5	33.2	900.	83.48
3.	36.68	960.	83.71
3.5	39.74	1020.	83.55
4.	42.61	1080.	83.58
4.5	45.18	1140.	83.58

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
5.	47.79	1200.	83.55
6.	51.21	1260.	83.58
7.	54.81	1320.	83.27
8.	57.53	1380.	83.3
9.	59.89	1440.	83.35
10.	61.58	1455.5	66.92
15.	68.42	1456.	60.32
20.	74.2	1456.5	55.19
25.	78.6	1457.	50.65
30.	79.58	1457.5	46.57
35.	79.72	1458.	42.7
40.	79.7	1458.5	38.72
45.	79.78	1459.	36.22
50.	79.97	1459.5	33.32
55.	80.29	1460.	30.67
60.	80.45	1461.	26.15
70.	81.02	1462.	22.71
80.	81.14	1463.	19.27
90.	81.29	1464.	17.22
100.	81.36	1465.	15.3
110.	81.5	1466.	13.3
120.	81.57	1467.	12.1
130.	81.67	1468.	10.8
140.	81.95	1469.	9.82
150.	82.31	1470.	8.78
180.	82.35	1475.	5.69
210.	82.15	1480.	3.99
240.	81.62	1485.	3.05
270.	82.55	1490.	2.53
300.	82.61	1495.	2.11
360.	82.69	1500.	1.82
420.	83.17	1505.	1.6
480.	83.03	1510.	1.44
540.	83.	1515.	1.3
600.	82.98	1578.	0.52

SOLUTION

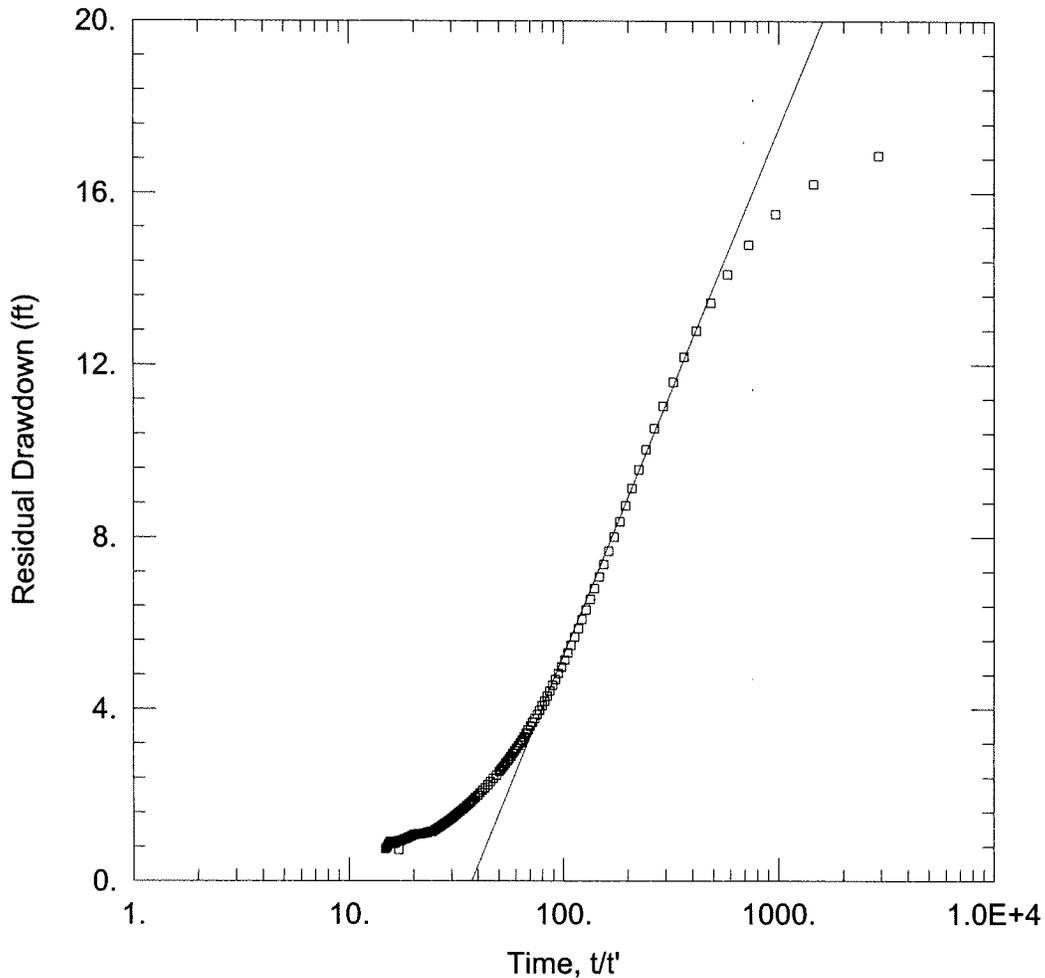
Pumping Test  
 Aquifer Model: Confined  
 Solution Method: Theis (Recovery)

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
T	0.01009	ft <sup>2</sup> /min
S/S'	76.13	

$K = T/b = 0.000104 \text{ ft/min (} 5.282\text{E-}5 \text{ cm/sec)}$



### EW-3 PUMPING TEST

Data Set: C:\Documents and Settings\raamot\Desktop\Data\MW-19B Recovery.aqt

Date: 01/16/07

Time: 18:58:23

### PROJECT INFORMATION

Company: CRA

Project: 2012

Location: North Oaks

Test Well: EW-3

Test Date: 11/21/06

### AQUIFER DATA

Saturated Thickness: 97. ft

Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA

#### Pumping Wells

#### Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
EW-3	0	0	□ MW-19B	54	0

### SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 0.04003 ft<sup>2</sup>/min

S/S' = 37.29

Data Set: C:\Documents and Settings\raamot\Desktop\Data\MW-19B Recovery.aqt  
 Title: EW-3 Pumping Test  
 Date: 01/16/07  
 Time: 18:58:57

PROJECT INFORMATION

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Date: 11/21/06  
 Test Well: EW-3

AQUIFER DATA

Saturated Thickness: 97. ft  
 Anisotropy Ratio (Kz/Kr): 1.

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Casing Radius: 0.25 ft  
 Well Radius: 0.416 ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of pumping periods: 2

<u>Pumping Period Data</u>			
<u>Time (min)</u>	<u>Rate (gal/min)</u>	<u>Time (min)</u>	<u>Rate (gal/min)</u>
0.	20.	1455.5	0.

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: MW-19B

X Location: 54. ft  
 Y Location: 0. ft

Radial distance from EW-3: 54. ft

Partially Penetrating Well  
 Depth to Top of Screen: 20. ft  
 Depth to Bottom of Screen: 30. ft

No. of Observations: 499

<u>Observation Data</u>			
<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
0.5	0.1955	320.	17.31
1.	0.762	330.	17.32
1.5	1.455	340.	17.32
2.	2.178	350.	17.32
2.5	2.886	360.	17.33
3.	3.574	370.	17.33
3.5	4.238	380.	17.33
4.	4.875	390.	17.29
4.5	5.475	400.	17.28

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
5.	6.036	410.	17.36
5.5	6.56	420.	17.4
6.	7.049	430.	17.42
6.5	7.504	440.	17.42
7.	7.934	450.	17.42
7.5	8.343	460.	17.41
8.	8.731	470.	17.39
8.5	9.093	480.	17.39
9.	9.43	490.	17.43
9.5	9.746	500.	17.44
10.	10.04	510.	17.45
10.5	10.33	520.	17.45
11.	10.6	530.	17.43
11.5	10.84	540.	17.42
12.	11.09	550.	17.42
12.5	11.32	560.	17.43
13.	11.52	570.	17.42
13.5	11.73	580.	17.41
14.	11.91	590.	17.41
14.5	12.09	600.	17.4
15.	12.25	610.	17.4
15.5	12.41	620.	17.41
16.	12.57	630.	17.43
16.5	12.73	640.	17.44
17.	12.87	650.	17.46
17.5	13.01	660.	17.46
18.	13.13	670.	17.47
18.5	13.24	680.	17.48
19.	13.35	690.	17.47
19.5	13.45	700.	17.46
20.	13.55	710.	17.44
20.5	13.64	720.	17.45
21.	13.74	730.	17.47
21.5	13.83	740.	17.48
22.	13.93	750.	17.47
22.5	14.02	760.	17.47
23.	14.13	770.	17.46
23.5	14.21	780.	17.46
24.	14.3	790.	17.45
24.5	14.38	800.	17.45
25.	14.46	810.	17.44
25.5	14.54	820.	17.44
26.	14.61	830.	17.44
26.5	14.68	840.	17.44
27.	14.76	850.	17.42
27.5	14.83	860.	17.42
28.	14.9	870.	17.42
28.5	14.96	880.	17.41
29.	15.03	890.	17.4
29.5	15.09	900.	17.4
30.	15.15	910.	17.41
31.	15.25	920.	17.42
32.	15.33	930.	17.41
33.	15.4	940.	17.42
34.	15.47	950.	17.42
35.	15.52	960.	17.42
36.	15.58	970.	17.41
37.	15.63	980.	17.41
38.	15.67	990.	17.38
39.	15.72	1000.	17.35
40.	15.75	1010.	17.34
41.	15.78	1020.	17.33
42.	15.81	1030.	17.31
43.	15.84	1040.	17.31
44.	15.86	1050.	17.31
45.	15.9	1060.	17.31
46.	15.93	1070.	17.35

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
47.	15.97	1080.	17.33
48.	16.	1090.	17.31
49.	16.03	1100.	17.3
50.	16.06	1110.	17.29
51.	16.09	1120.	17.29
52.	16.12	1130.	17.3
53.	16.15	1140.	17.29
54.	16.18	1150.	17.29
55.	16.2	1160.	17.28
56.	16.23	1170.	17.27
57.	16.25	1180.	17.26
58.	16.28	1190.	17.25
59.	16.3	1200.	17.24
60.	16.32	1210.	17.24
61.	16.34	1220.	17.23
62.	16.36	1230.	17.22
63.	16.38	1240.	17.21
64.	16.4	1250.	17.2
65.	16.42	1260.	17.21
66.	16.44	1270.	17.22
67.	16.47	1280.	17.26
68.	16.49	1290.	17.3
69.	16.51	1300.	17.31
70.	16.54	1310.	17.32
71.	16.55	1320.	17.33
72.	16.57	1330.	17.32
73.	16.58	1340.	17.34
74.	16.6	1350.	17.34
75.	16.61	1360.	17.33
76.	16.63	1370.	17.34
77.	16.64	1380.	17.35
78.	16.65	1390.	17.36
79.	16.66	1400.	17.36
80.	16.67	1410.	17.36
81.	16.68	1420.	17.36
82.	16.69	1430.	17.32
83.	16.7	1455.	17.37
84.	16.72	1455.5	17.32
85.	16.73	1456.	16.87
86.	16.73	1456.5	16.2
87.	16.74	1457.	15.5
88.	16.75	1457.5	14.79
89.	16.76	1458.	14.1
90.	16.77	1458.5	13.43
91.	16.78	1459.	12.79
92.	16.79	1459.5	12.18
93.	16.8	1460.	11.6
94.	16.8	1460.5	11.04
95.	16.81	1461.	10.53
96.	16.82	1461.5	10.03
97.	16.83	1462.	9.569
98.	16.84	1462.5	9.135
99.	16.84	1463.	8.732
100.	16.85	1463.5	8.357
101.	16.86	1464.	8.005
102.	16.87	1464.5	7.676
103.	16.88	1465.	7.367
104.	16.88	1465.5	7.076
105.	16.89	1466.	6.805
106.	16.9	1466.5	6.549
107.	16.91	1467.	6.309
108.	16.91	1467.5	6.083
109.	16.92	1468.	5.871
110.	16.93	1468.5	5.672
111.	16.94	1469.	5.481
112.	16.94	1469.5	5.304
113.	16.95	1470.	5.138

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
114.	16.95	1470.5	4.977
115.	16.95	1471.	4.827
116.	16.96	1471.5	4.685
117.	16.96	1472.	4.55
118.	16.96	1472.5	4.421
119.	16.97	1473.	4.3
120.	16.97	1473.5	4.181
121.	16.97	1474.	4.072
122.	16.98	1474.5	3.968
123.	16.98	1475.	3.868
124.	16.98	1475.5	3.773
125.	16.99	1476.	3.682
126.	16.99	1476.5	3.595
127.	17.	1477.	3.51
128.	17.	1477.5	3.432
129.	17.01	1478.	3.355
130.	17.01	1478.5	3.28
131.	17.01	1479.	3.212
132.	17.02	1479.5	3.144
133.	17.02	1480.	3.078
134.	17.03	1480.5	3.016
135.	17.03	1481.	2.956
136.	17.04	1481.5	2.902
137.	17.04	1482.	2.842
138.	17.05	1482.5	2.79
139.	17.06	1483.	2.736
140.	17.07	1483.5	2.687
141.	17.08	1484.	2.638
142.	17.09	1484.5	2.591
143.	17.11	1485.	2.546
144.	17.12	1486.	2.459
145.	17.14	1487.	2.379
146.	17.15	1488.	2.305
147.	17.16	1489.	2.235
148.	17.17	1490.	2.168
149.	17.18	1491.	2.105
150.	17.19	1492.	2.046
151.	17.2	1493.	1.989
152.	17.21	1494.	1.935
153.	17.22	1495.	1.883
154.	17.22	1496.	1.833
155.	17.23	1497.	1.786
156.	17.23	1498.	1.742
157.	17.23	1499.	1.697
158.	17.24	1500.	1.656
159.	17.24	1501.	1.618
160.	17.24	1502.	1.578
161.	17.24	1503.	1.543
162.	17.24	1504.	1.509
163.	17.25	1505.	1.474
164.	17.25	1506.	1.442
165.	17.25	1507.	1.412
166.	17.25	1508.	1.385
167.	17.25	1509.	1.355
168.	17.25	1510.	1.328
169.	17.25	1511.	1.301
170.	17.26	1512.	1.274
171.	17.26	1513.	1.249
172.	17.26	1514.	1.226
173.	17.26	1515.	1.202
174.	17.26	1516.	1.18
175.	17.26	1517.	1.163
176.	17.26	1518.	1.14
177.	17.26	1519.	1.138
178.	17.26	1520.	1.141
179.	17.26	1521.	1.123
180.	17.26	1522.	1.108

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
181.	17.26	1523.	1.117
182.	17.26	1524.	1.098
183.	17.27	1525.	1.102
184.	17.26	1526.	1.094
185.	17.26	1527.	1.086
186.	17.25	1528.	1.09
187.	17.25	1529.	1.078
188.	17.25	1530.	1.082
189.	17.25	1531.	1.069
190.	17.25	1532.	1.087
191.	17.25	1533.	1.05
192.	17.25	1534.	1.047
193.	17.25	1535.	1.026
194.	17.25	1536.	1.018
195.	17.25	1537.	1.014
196.	17.25	1538.	0.9872
197.	17.25	1539.	0.9792
198.	17.25	1540.	0.9685
199.	17.25	1541.	0.9716
200.	17.25	1542.	0.9578
201.	17.25	1543.	0.9357
202.	17.25	1544.	0.9431
203.	17.25	1545.	0.9179
204.	17.25	1546.	0.7238
205.	17.25	1547.	0.9303
206.	17.25	1548.	0.9092
207.	17.25	1549.	0.8956
208.	17.24	1550.	0.8682
209.	17.23	1551.	0.8683
210.	17.23	1552.	0.8557
220.	17.21	1553.	0.8719
230.	17.2	1554.	0.8829
240.	17.2	1555.	0.9178
250.	17.23	1556.	0.9052
260.	17.28	1557.	0.8741
270.	17.28	1558.	0.8391
280.	17.28	1559.	0.8019
290.	17.29	1560.	0.7689
300.	17.3	1561.	0.7426
310.	17.3		

SOLUTION

Pumping Test  
 Aquifer Model: Confined  
 Solution Method: Theis (Recovery)

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
$\frac{T}{S/S'}$	0.04003	ft <sup>2</sup> /min
	37.29	

$K = T/b = 0.0004126 \text{ ft/min (0.0002096 cm/sec)}$

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
$\frac{T}{S/S'}$	0.06273	0.001446	+/- 0.002859	43.39	ft <sup>2</sup> /min
	17.42	0.5939	+/- 1.175	29.32	

C.I. is approximate 95% confidence interval for parameter  
 t-ratio = estimate/std. error

No estimation window

$K = T/b = 0.0006467 \text{ ft/min}$  (0.0003285 cm/sec)

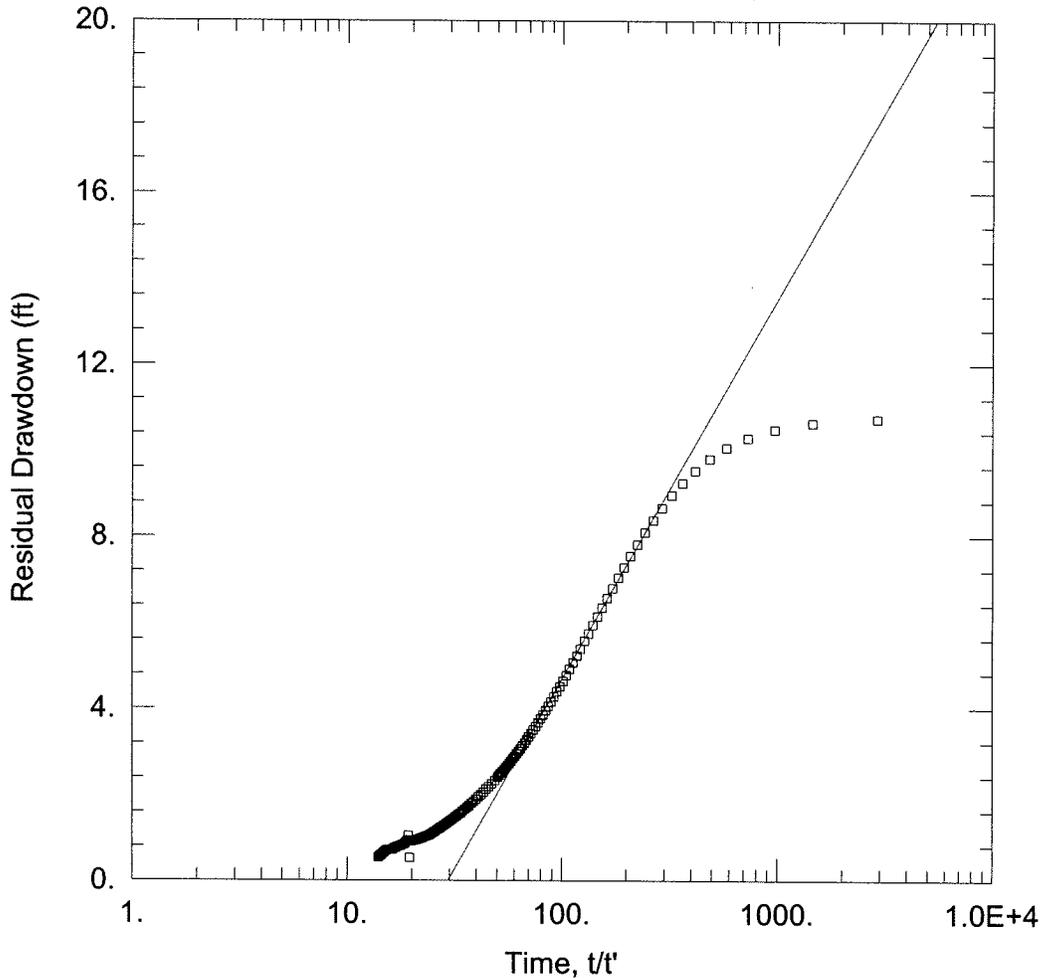
Parameter Correlations

	T	S/S'
T	1.00	-0.71
S/S'	-0.71	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . . 119.5 ft<sup>2</sup>  
Variance . . . . . 0.8987 ft<sup>2</sup>  
Std. Deviation . . . . . 0.948 ft  
Mean . . . . . -1.812E-7 ft  
No. of Residuals . . . . . 135  
No. of Estimates . . . . . 2



**EW-3 PUMPING TEST**

Data Set: C:\Documents and Settings\raamot\Desktop\Data\MW-20B Recovery.aqt

Date: 01/16/07

Time: 19:00:26

**PROJECT INFORMATION**

Company: CRA

Project: 2012

Location: North Oaks

Test Well: EW-3

Test Date: 11/21/06

**AQUIFER DATA**

Saturated Thickness: 97. ft

Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA**

**Pumping Wells**

**Observation Wells**

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
EW-3	0	0	□ MW-20B	141	0

**SOLUTION**

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 0.05548 ft<sup>2</sup>/min

S/S' = 29.5

Data Set: C:\Documents and Settings\raamof\Desktop\Data\MW-20B Recovery.aqt  
 Title: EW-3 Pumping Test  
 Date: 01/16/07  
 Time: 19:00:34

PROJECT INFORMATION

Company: CRA  
 Project: 2012  
 Location: North Oaks  
 Test Date: 11/21/06  
 Test Well: EW-3

AQUIFER DATA

Saturated Thickness: 97. ft  
 Anisotropy Ratio (Kz/Kr): 1.

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: EW-3

X Location: 0. ft  
 Y Location: 0. ft

Casing Radius: 0.25 ft  
 Well Radius: 0.416 ft

Partially Penetrating Well  
 Depth to Top of Screen: 15. ft  
 Depth to Bottom of Screen: 25. ft

No. of pumping periods: 2

Time (min)	Pumping Period Data		Rate (gal/min)
	Rate (gal/min)	Time (min)	
0.	20.	1455.5	0.

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: MW-20B

X Location: 141. ft  
 Y Location: 0. ft

Radial distance from EW-3: 141. ft

Partially Penetrating Well  
 Depth to Top of Screen: 26. ft  
 Depth to Bottom of Screen: 36. ft

No. of Observations: 506

Time (min)	Observation Data		Displacement (ft)
	Displacement (ft)	Time (min)	
0.5	0.0065	350.	10.72
1.	0.0613	360.	10.73
1.5	0.1803	370.	10.73
2.	0.3575	380.	10.73
2.5	0.5779	390.	10.71
3.	0.8295	400.	10.7
3.5	1.102	410.	10.73
4.	1.39	420.	10.76
4.5	1.685	430.	10.78

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
5.	1.982	440.	10.79
5.5	2.279	450.	10.79
6.	2.569	460.	10.78
6.5	2.851	470.	10.78
7.	3.125	480.	10.78
7.5	3.388	490.	10.81
8.	3.643	500.	10.82
8.5	3.888	510.	10.83
9.	4.123	520.	10.84
9.5	4.348	530.	10.84
10.	4.561	540.	10.83
10.5	4.766	550.	10.82
11.	4.962	560.	10.82
11.5	5.149	570.	10.82
12.	5.328	580.	10.81
12.5	5.495	590.	10.81
13.	5.655	600.	10.8
13.5	5.808	610.	10.8
14.	5.955	620.	10.81
14.5	6.096	630.	10.83
15.	6.229	640.	10.82
15.5	6.355	650.	10.83
16.	6.476	660.	10.83
16.5	6.594	670.	10.84
17.	6.706	680.	10.84
17.5	6.819	690.	10.83
18.	6.92	700.	10.83
18.5	7.017	710.	10.82
19.	7.094	720.	10.82
19.5	7.202	730.	10.84
20.	7.285	740.	10.85
20.5	7.365	750.	10.84
21.	7.443	760.	10.83
21.5	7.517	770.	10.83
22.	7.59	780.	10.82
22.5	7.662	790.	10.82
23.	7.732	800.	10.82
23.5	7.807	810.	10.81
24.	7.873	820.	10.81
24.5	7.943	830.	10.8
25.	8.003	840.	10.81
25.5	8.063	850.	10.8
26.	8.123	860.	10.79
26.5	8.181	870.	10.79
27.	8.239	880.	10.78
27.5	8.295	890.	10.78
28.	8.354	900.	10.78
28.5	8.402	910.	10.78
29.	8.453	920.	10.79
29.5	8.503	930.	10.79
30.	8.554	940.	10.79
31.	8.644	950.	10.79
32.	8.73	960.	10.79
33.	8.807	970.	10.78
34.	8.872	980.	10.78
35.	8.934	990.	10.77
36.	8.991	1000.	10.75
37.	9.046	1010.	10.73
38.	9.097	1020.	10.72
39.	9.143	1030.	10.71
40.	9.189	1040.	10.71
41.	9.229	1050.	10.71
42.	9.267	1060.	10.71
43.	9.301	1070.	10.73
44.	9.335	1080.	10.72
45.	9.367	1090.	10.71
46.	9.399	1100.	10.7

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
47.	9.43	1110.	10.69
48.	9.463	1120.	10.69
49.	9.493	1130.	10.69
50.	9.523	1140.	10.69
51.	9.552	1150.	10.69
52.	9.581	1160.	10.67
53.	9.607	1170.	10.67
54.	9.634	1180.	10.66
55.	9.659	1190.	10.65
56.	9.685	1200.	10.65
57.	9.708	1210.	10.64
58.	9.731	1220.	10.63
59.	9.754	1230.	10.62
60.	9.775	1240.	10.61
61.	9.795	1250.	10.61
62.	9.816	1260.	10.61
63.	9.834	1270.	10.62
64.	9.855	1280.	10.64
65.	9.874	1290.	10.68
66.	9.893	1300.	10.69
67.	9.912	1310.	10.7
68.	9.934	1320.	10.72
69.	9.952	1330.	10.71
70.	9.972	1340.	10.72
71.	9.989	1350.	10.73
72.	10.01	1360.	10.72
73.	10.02	1370.	10.72
74.	10.04	1380.	10.73
75.	10.05	1390.	10.74
76.	10.07	1400.	10.75
77.	10.08	1410.	10.75
78.	10.09	1420.	10.75
79.	10.1	1430.	10.74
80.	10.12	1455.	10.76
81.	10.13	1455.5	10.77
82.	10.14	1456.	10.74
83.	10.15	1456.5	10.64
84.	10.16	1457.	10.49
85.	10.17	1457.5	10.29
86.	10.18	1458.	10.06
87.	10.19	1458.5	9.803
88.	10.2	1459.	9.53
89.	10.21	1459.5	9.244
90.	10.22	1460.	8.956
91.	10.23	1460.5	8.664
92.	10.24	1461.	8.375
93.	10.24	1461.5	8.092
94.	10.25	1462.	7.812
95.	10.26	1462.5	7.542
96.	10.27	1463.	7.281
97.	10.28	1463.5	7.031
98.	10.28	1464.	6.789
99.	10.29	1464.5	6.557
100.	10.3	1465.	6.339
101.	10.31	1465.5	6.129
102.	10.32	1466.	5.928
103.	10.32	1466.5	5.736
104.	10.33	1467.	5.564
105.	10.34	1467.5	5.381
106.	10.35	1468.	5.217
107.	10.35	1468.5	5.061
108.	10.36	1469.	4.911
109.	10.37	1469.5	4.77
110.	10.37	1470.	4.636
111.	10.38	1470.5	4.507
112.	10.39	1471.	4.385
113.	10.39	1471.5	4.267

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
114.	10.4	1472.	4.154
115.	10.4	1472.5	4.048
116.	10.41	1473.	3.948
117.	10.41	1473.5	3.849
118.	10.42	1474.	3.756
119.	10.42	1474.5	3.665
120.	10.43	1475.	3.579
121.	10.43	1475.5	3.497
122.	10.44	1476.	3.42
123.	10.44	1476.5	3.342
124.	10.44	1477.	3.27
125.	10.45	1477.5	3.199
126.	10.45	1478.	3.131
127.	10.45	1478.5	3.066
128.	10.46	1479.	3.005
129.	10.46	1479.5	2.945
130.	10.47	1480.	2.886
131.	10.47	1480.5	2.83
132.	10.47	1481.	2.776
133.	10.48	1481.5	2.726
134.	10.48	1482.	2.674
135.	10.49	1482.5	2.628
136.	10.49	1483.	2.578
137.	10.5	1483.5	2.533
138.	10.5	1484.	2.489
139.	10.51	1484.5	2.446
140.	10.51	1485.	2.403
141.	10.52	1486.	2.325
142.	10.53	1487.	2.251
143.	10.54	1488.	2.181
144.	10.55	1489.	2.12
145.	10.56	1490.	2.056
146.	10.57	1491.	1.995
147.	10.58	1492.	1.941
148.	10.59	1493.	1.885
149.	10.6	1494.	1.834
150.	10.6	1495.	1.786
151.	10.61	1496.	1.738
152.	10.62	1497.	1.695
153.	10.63	1498.	1.65
154.	10.63	1499.	1.609
155.	10.64	1500.	1.569
156.	10.64	1501.	1.531
157.	10.64	1502.	1.495
158.	10.65	1503.	1.461
159.	10.65	1504.	1.426
160.	10.65	1505.	1.396
161.	10.65	1506.	1.364
162.	10.65	1507.	1.335
163.	10.66	1508.	1.311
164.	10.66	1509.	1.279
165.	10.66	1510.	1.252
166.	10.66	1511.	1.226
167.	10.66	1512.	1.201
168.	10.67	1513.	1.179
169.	10.67	1514.	1.154
170.	10.67	1515.	1.131
171.	10.67	1516.	1.108
172.	10.67	1517.	1.085
173.	10.67	1518.	1.065
174.	10.67	1519.	1.049
175.	10.67	1520.	1.037
176.	10.67	1521.	1.023
177.	10.67	1522.	1.012
178.	10.67	1523.	0.9965
179.	10.67	1524.	0.9861
180.	10.68	1525.	0.9731

<u>Time (min)</u>	<u>Displacement (ft)</u>	<u>Time (min)</u>	<u>Displacement (ft)</u>
181.	10.68	1526.	0.9654
182.	10.68	1527.	0.9536
183.	10.68	1528.	0.9467
184.	10.68	1529.	0.9358
185.	10.68	1530.	0.9311
186.	10.68	1531.	0.9223
187.	10.68	1532.	0.9158
188.	10.67	1533.	0.9054
189.	10.68	1534.	0.5255
190.	10.67	1535.	1.041
191.	10.67	1536.	0.9406
192.	10.67	1537.	0.8963
193.	10.68	1538.	0.87
194.	10.68	1539.	0.8481
195.	10.68	1540.	0.8347
196.	10.68	1541.	0.8242
197.	10.68	1542.	0.8155
198.	10.68	1543.	0.8037
199.	10.68	1544.	0.7976
200.	10.68	1545.	0.7875
201.	10.68	1546.	0.7784
202.	10.68	1547.	0.769
203.	10.68	1548.	0.7548
204.	10.68	1549.	0.7489
205.	10.68	1550.	0.7375
206.	10.68	1551.	0.7258
207.	10.68	1552.	0.7183
208.	10.68	1553.	0.7129
209.	10.67	1554.	0.7074
210.	10.67	1555.	0.7109
220.	10.66	1556.	0.7153
230.	10.65	1557.	0.7103
240.	10.65	1558.	0.6994
250.	10.66	1559.	0.6835
260.	10.69	1560.	0.6652
270.	10.7	1561.	0.647
280.	10.7	1562.	0.6345
290.	10.71	1563.	0.6123
300.	10.72	1564.	0.591
310.	10.7	1565.	0.5802
320.	10.71	1566.	0.5684
330.	10.72	1567.	0.5542
340.	10.72	1568.	0.5368

SOLUTION

Pumping Test  
 Aquifer Model: Confined  
 Solution Method: Theis (Recovery)

VISUAL ESTIMATION RESULTS

Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
S/S'	0.05548	ft <sup>2</sup> /min
	29.5	

$K = T/b = 0.0005719 \text{ ft/min (0.0002905 cm/sec)}$