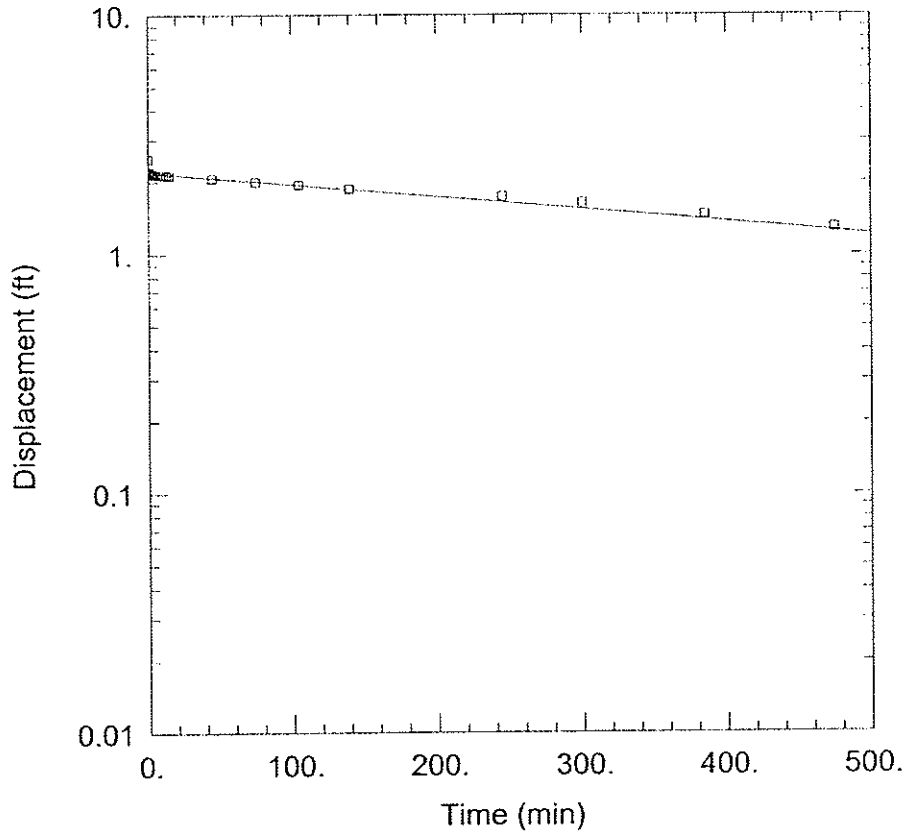
Appendix M
Single-Well Response Data and Hydrogeologic Calculations



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW301B.aqt
Date: 04/09/07 Time: 10:28:11

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW301B
Test Date: 2/19/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 5.415E-7 cm/sec
y0 = 2.188 ft

AQUIFER DATA

Saturated Thickness: 11.1 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW301B)

Initial Displacement: 2.5 ft
Total Well Penetration Depth: 11.1 ft
Casing Radius: 0.083 ft

Static Water Column Height: 11.1 ft
Screen Length: 11.1 ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW301B.aqt
Date: 04/09/07
Time: 10:28:17

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/19/07
Test Well: MW301B

AQUIFER DATA

Saturated Thickness: 11.1 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW301B

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

Initial Displacement: 2.5 ft
Static Water Column Height: 11.1 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 11.1 ft
Total Well Penetration Depth: 11.1 ft

No. of Observations: 21

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	13.	2.13
0.75	2.21	15.	2.12
1.	2.2	45.	2.06
1.25	2.18	75.	1.99
2.	2.17	105.	1.94
3.	2.16	140.	1.86
4.	2.16	245.	1.73

3

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
5.	2.15	300.	1.63
7.	2.14	385.	1.45
9.	2.14	475.	1.28
11.	2.13		

SOLUTION

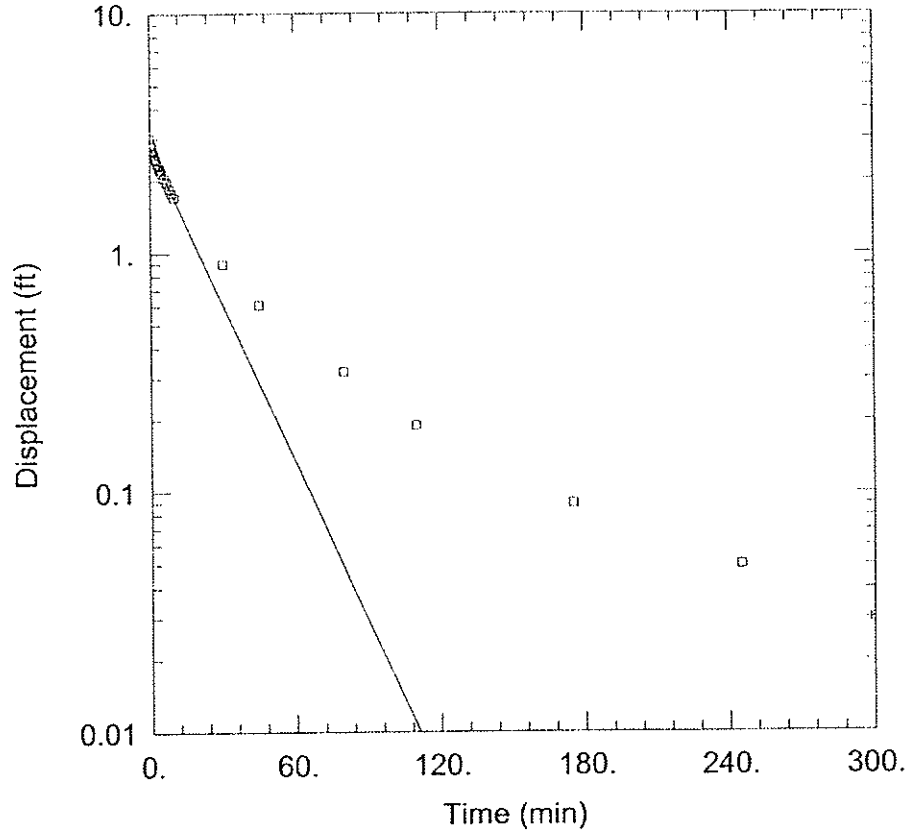
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.898

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	5.415E-7	cm/sec
y0	2.188	ft

T = T*b = 0.0001832 cm²/sec



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW301C.aqt
Date: 04/09/07 Time: 10:30:17

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW301C
Test Date: 2/19/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 7.656E-5 cm/sec
y0 = 2.79 ft

AQUIFER DATA

Saturated Thickness: 1.5 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW301C)

Initial Displacement: 3. ft
Total Well Penetration Depth: 1.5 ft
Casing Radius: 0.0833 ft

Static Water Column Height: 1.5 ft
Screen Length: 1.5 ft
Well Radius: 0.25 ft

5

Data Set: P:\20655\17\K-Tests\MW301C.aqt
Date: 04/09/07
Time: 10:30:28

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/19/07
Test Well: MW301C

AQUIFER DATA

Saturated Thickness: 1.5 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW301C

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

Initial Displacement: 3. ft
Static Water Column Height: 1.5 ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 1.5 ft
Total Well Penetration Depth: 1.5 ft

No. of Observations: 25

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	6.	2.04
0.4167	2.82	7.	1.96
0.6667	2.77	8.	1.85
1.	2.67	9.	1.77
1.417	2.62	10.	1.7
1.75	2.56	30.	0.9
2.	2.5	45.	0.61

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
2.5	2.45	80.	0.32
3.	2.37	110.	0.19
3.5	2.31	175.	0.09
4.	2.24	245.	0.05
4.5	2.2	300.	0.03
5.	2.15		

SOLUTION

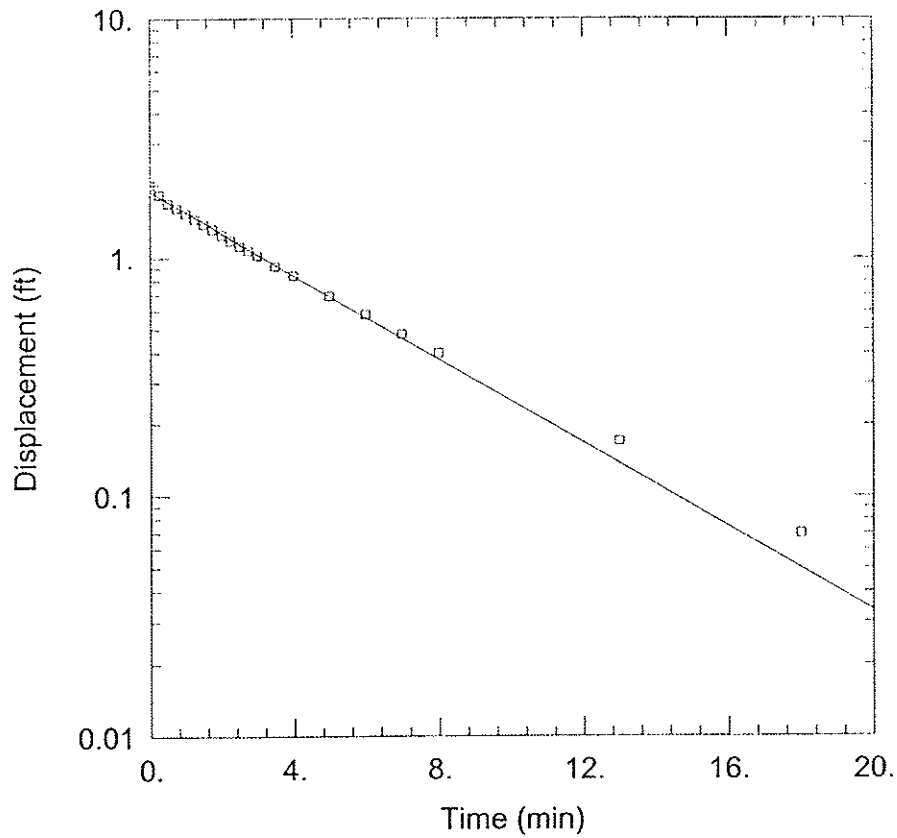
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 1.286

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	7.656E-5	cm/sec
y0	2.79	ft

T = T*b = 0.0035 cm^2/sec



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW302A.aqt
Date: 04/09/07 Time: 10:35:17

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW302A
Test Date: 2/27/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 8.27E-5 cm/sec
y0 = 1.884 ft

AQUIFER DATA

Saturated Thickness: 11.5 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW302A)

Initial Displacement: 2. ft
Total Well Penetration Depth: 11.5 ft
Casing Radius: 0.083 ft

Static Water Column Height: 11.5 ft
Screen Length: 11.5 ft
Well Radius: 0.33 ft

Data Set: P:\20655\17\K-Tests\MW302A.aqt
Date: 04/09/07
Time: 10:35:24

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/27/07
Test Well: MW302A

AQUIFER DATA

Saturated Thickness: 11.5 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW302A

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

Initial Displacement: 2. ft
Static Water Column Height: 11.5 ft
Casing Radius: 0.083 ft
Well Radius: 0.33 ft
Well Skin Radius: 0.33 ft
Screen Length: 11.5 ft
Total Well Penetration Depth: 11.5 ft

No. of Observations: 21

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	2.75	1.07
0.25	1.82	3.	1.02
0.5	1.68	3.5	0.92
0.75	1.6	4.	0.84
1.	1.52	5.	0.69
1.25	1.44	6.	0.58
1.5	1.37	7.	0.48

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
1.75	1.31	8.	0.4
2.	1.24	13.	0.17
2.25	1.18	18.	0.07
2.5	1.12		

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.697

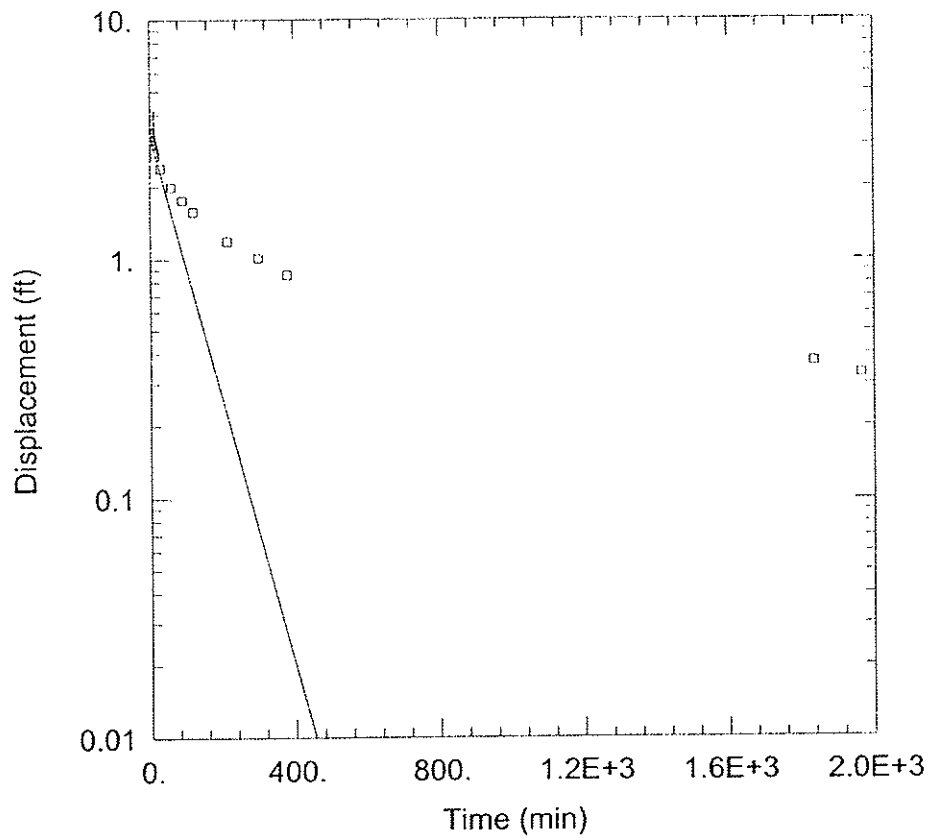
VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	8.27E-5	cm/sec
y0	1.884	ft

T = T*b = 0.02899 cm²/sec

12



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW302B.aqt
Date: 04/09/07 Time: 10:42:03

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW302B
Test Date: 2/19/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 2.377E-5 cm/sec
y0 = 3.32 ft

AQUIFER DATA

Saturated Thickness: 0.5 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW302B)

Initial Displacement: 4. ft
Total Well Penetration Depth: 0.5 ft
Casing Radius: 0.0833 ft

Static Water Column Height: 0.5 ft
Screen Length: 0.5 ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW302B.aqt
Date: 04/09/07
Time: 10:42:08

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/19/07
Test Well: MW302B

AQUIFER DATA

Saturated Thickness: 0.5 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW302B

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

Initial Displacement: 4. ft
Static Water Column Height: 0.5 ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 0.5 ft
Total Well Penetration Depth: 0.5 ft

No. of Observations: 23

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	13.	2.77
1.08	3.61	15.	2.7
1.5	3.49	30.	2.39
2.	3.39	60.	1.99
2.5	3.36	90.	1.75
3.	3.29	120.	1.57
3.5	3.24	215.	1.19

15

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
4.5	3.16	300.	1.01
5.	3.12	380.	0.86
7.	3.01	1835.	0.37
9.	2.92	1965.	0.33
11.	2.83		

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 0.5271

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	2.377E-5	cm/sec
y0	3.32	ft

T = T*b = 0.0003623 cm²/sec

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
K	7.959E-6	2.779E-6	+/- 5.78E-6	2.864	cm/sec
y0	2.946	0.1978	+/- 0.4115	14.89	ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = T*b = 0.0001213 cm²/sec

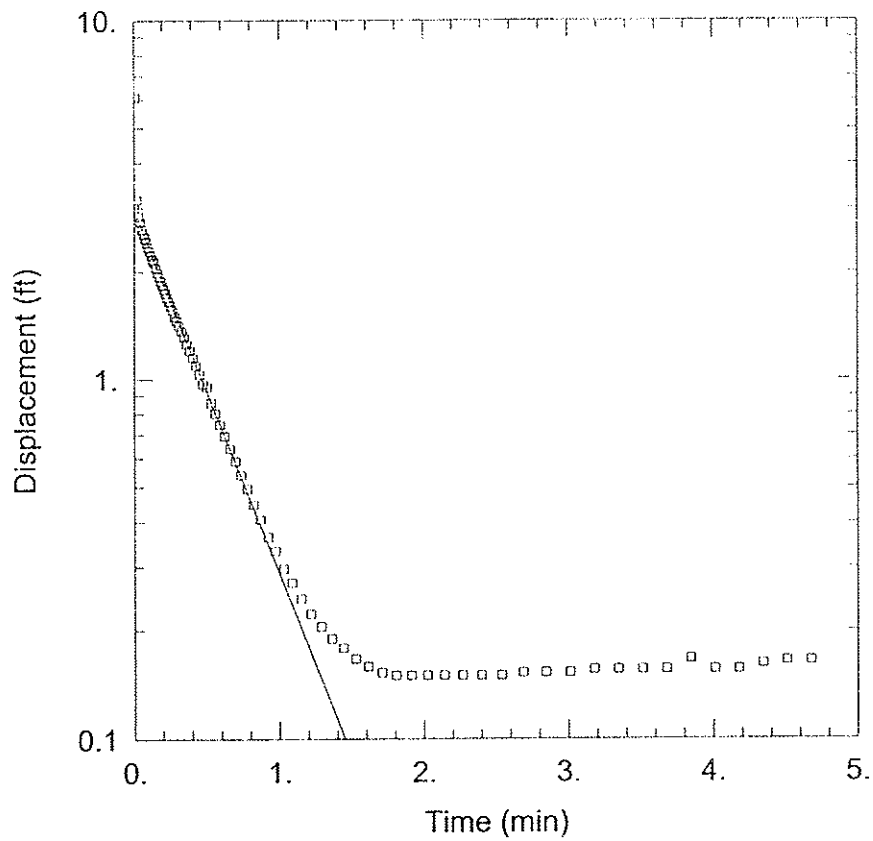
Parameter Correlations

	K	y0
K	1.00	0.40
y0	0.40	1.00

Residual Statistics

for weighted residuals

Sum of Squares	10.88 ft^2
Variance	0.5183 ft^2
Std. Deviation	0.7199 ft
Mean	0.0377 ft
No. of Residuals	23
No. of Estimates	2



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW302C.aqt
Date: 04/09/07 Time: 10:46:30

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW302C
Test Date: 2/27/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 0.001617 cm/sec
y0 = 2.98 ft

AQUIFER DATA

Saturated Thickness: 7. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW302C)

Initial Displacement: 3. ft
Total Well Penetration Depth: 5. ft
Casing Radius: 0.0833 ft

Static Water Column Height: 5. ft
Screen Length: 5. ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW302C.aqt
Date: 04/09/07
Time: 10:46:38

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/27/07
Test Well: MW302C

AQUIFER DATA

Saturated Thickness: 7. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW302C

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

Initial Displacement: 3. ft
Static Water Column Height: 5. ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 5. ft
Total Well Penetration Depth: 5. ft

No. of Observations: 78

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.011	6.085	0.6257	0.693
0.022	3.162	0.6608	0.638
0.033	2.842	0.6982	0.589
0.044	2.732	0.7377	0.54
0.055	2.614	0.7795	0.494
0.066	2.545	0.8238	0.447
0.077	2.479	0.8708	0.407

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.088	2.412	0.9207	0.364
0.099	2.337	0.9733	0.332
0.11	2.282	1.029	0.297
0.121	2.219	1.088	0.271
0.132	2.155	1.151	0.245
0.143	2.124	1.217	0.222
0.154	2.049	1.288	0.205
0.165	1.985	1.362	0.19
0.176	1.933	1.441	0.179
0.187	1.881	1.525	0.167
0.198	1.832	1.613	0.159
0.209	1.783	1.707	0.153
0.22	1.74	1.807	0.15
0.231	1.694	1.912	0.15
0.2427	1.651	2.023	0.15
0.2552	1.607	2.142	0.15
0.2683	1.561	2.267	0.15
0.2823	1.498	2.399	0.15
0.2972	1.46	2.54	0.15
0.3128	1.411	2.688	0.153
0.3295	1.362	2.846	0.153
0.3472	1.31	3.013	0.153
0.3658	1.255	3.179	0.156
0.3857	1.201	3.346	0.156
0.4067	1.146	3.513	0.156
0.4288	1.091	3.679	0.156
0.4523	1.03	3.846	0.167
0.4772	0.967	4.013	0.156
0.5035	0.952	4.179	0.156
0.5315	0.857	4.346	0.162
0.5612	0.802	4.513	0.165
0.5925	0.745	4.679	0.165

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 1.962

VISUAL ESTIMATION RESULTS

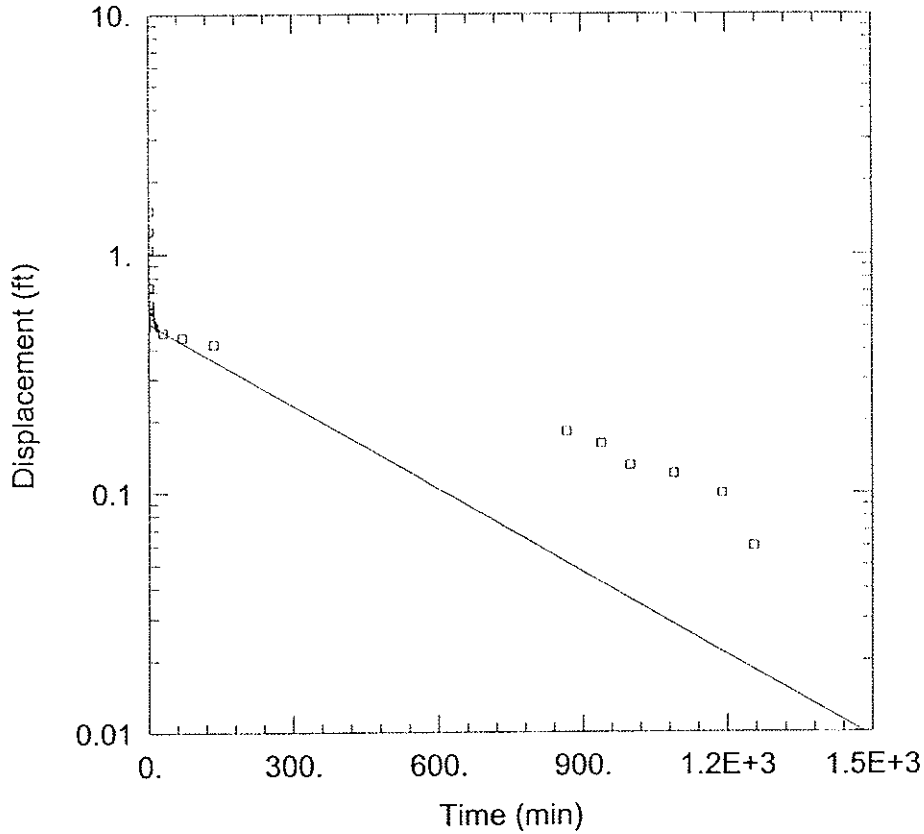
Estimated Parameters

22

Parameter	Estimate	
K	0.001617	cm/sec
y0	2.98	ft

T = T*b = 0.345 cm^2/sec

23



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW303A.aqt
Date: 04/09/07 Time: 11:36:03

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW303A
Test Date: 2/19/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 6.975E-6 cm/sec
y0 = 0.5137 ft

AQUIFER DATA

Saturated Thickness: 7.2 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW303A)

Initial Displacement: 1.5 ft
Total Well Penetration Depth: 7.2 ft
Casing Radius: 0.18 ft

Static Water Column Height: 7.2 ft
Screen Length: 7.2 ft
Well Radius: 0.33 ft
Gravel Pack Porosity: 0.25

Data Set: P:\20655\17\K-Tests\MW303A.aqt
Date: 04/09/07
Time: 11:36:16

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/19/07
Test Well: MW303A

AQUIFER DATA

Saturated Thickness: 7.2 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW303A

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

Initial Displacement: 1.5 ft
Static Water Column Height: 7.2 ft
Casing Radius: 0.18 ft
Well Radius: 0.33 ft
Well Skin Radius: 0.33 ft
Screen Length: 7.2 ft
Total Well Penetration Depth: 7.2 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.18 ft Auto correct feature not functioning - manual entry.
Gravel Pack Porosity: 0.25

No. of Observations: 26

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	7.	0.51
0.25	1.24	8.	0.5
0.5	1.05	9.	0.5
1.	0.73	10.	0.5
1.5	0.62	30.	0.47

27

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
2.	0.59	70.	0.45
2.5	0.56	136.	0.42
3.	0.55	868.	0.18
3.5	0.54	940.	0.16
4.	0.53	1000.	0.13
4.5	0.52	1090.	0.12
5.	0.52	1190.	0.1
6.	0.51	1255.	0.06

SOLUTION

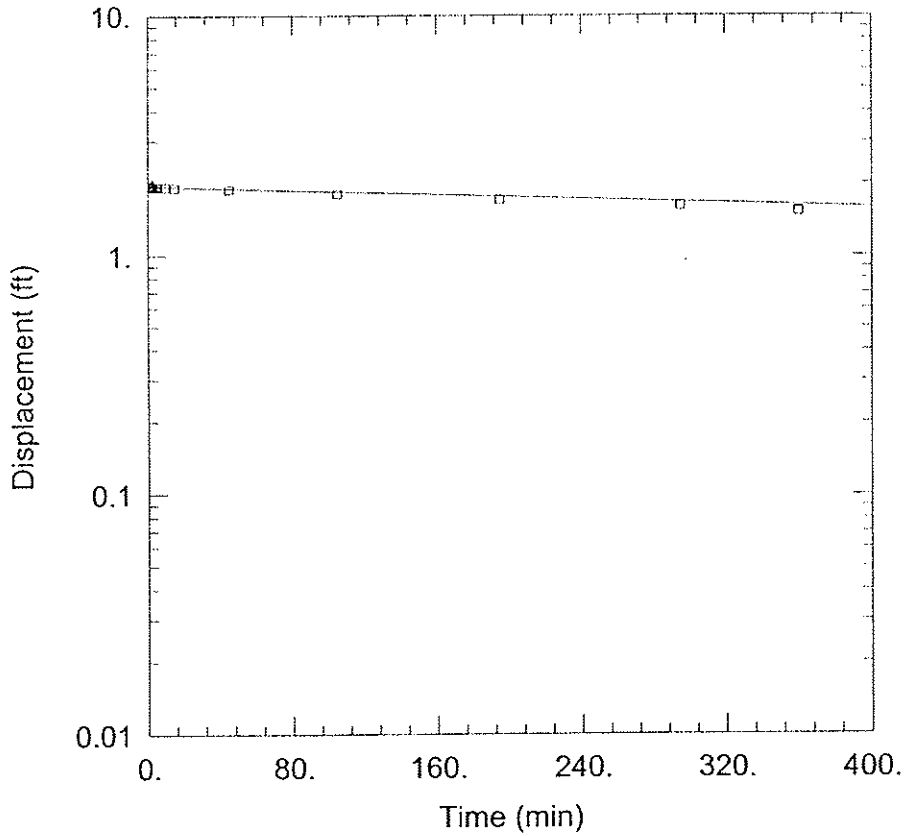
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.296

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	6.975E-6	cm/sec
y0	0.5137	ft

T = T*b = 0.001531 cm^2/sec



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW303B.aqt
Date: 04/09/07 Time: 11:56:23

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW303B
Test Date: 2/20/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 2.203E-7 cm/sec
y0 = 1.942 ft

AQUIFER DATA

Saturated Thickness: 12. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW303B)

Initial Displacement: 2. ft
Total Well Penetration Depth: 12. ft
Casing Radius: 0.0833 ft

Static Water Column Height: 12. ft
Screen Length: 12. ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW303B.aqt
Date: 04/09/07
Time: 11:56:31

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/20/07
Test Well: MW303B

AQUIFER DATA

Saturated Thickness: 12. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW303B

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

Initial Displacement: 2. ft
Static Water Column Height: 12. ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 12. ft
Total Well Penetration Depth: 12. ft

No. of Observations: 16

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	5.	1.92
0.5	2.	10.	1.92
1.	1.95	15.	1.91
1.5	1.94	45.	1.88
2.	1.94	105.	1.8
2.5	1.93	195.	1.7
3.	1.93	295.	1.6

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
4.	1.93	360.	1.52

SOLUTION

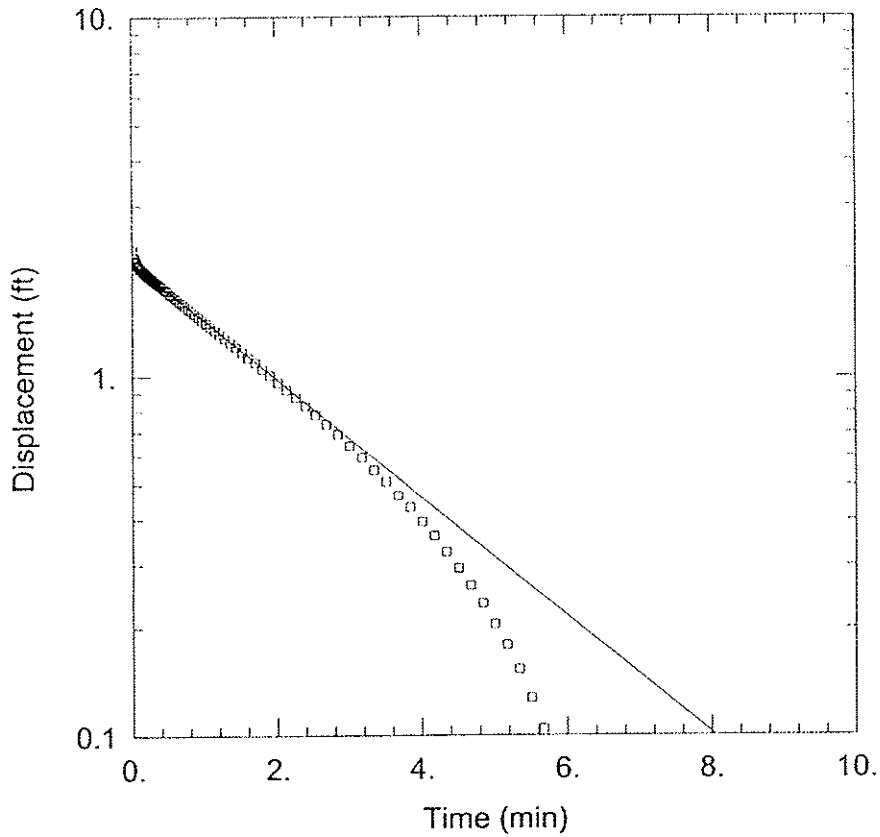
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.961

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	2.203E-7	cm/sec
y0	1.942	ft

T = T*b = 8.057E-5 cm²/sec



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW303C.aqt
Date: 04/09/07 Time: 12:48:05

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW303C
Test Date: 2/27/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 0.0002703 cm/sec
y0 = 2.092 ft

AQUIFER DATA

Saturated Thickness: 13.5 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW303C)

Initial Displacement: 2. ft
Total Well Penetration Depth: 7. ft
Casing Radius: 0.0833 ft

Static Water Column Height: 8.5 ft
Screen Length: 5. ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW303C.aqt
Date: 04/09/07
Time: 12:48:16

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/27/07
Test Well: MW303C

AQUIFER DATA

Saturated Thickness: 13.5 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW303C

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

Initial Displacement: 2. ft
Static Water Column Height: 8.5 ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 5. ft
Total Well Penetration Depth: 7. ft

No. of Observations: 84

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.011	2.268	0.7377	1.572
0.022	2.158	0.7795	1.546
0.033	2.152	0.8238	1.523
0.044	2.158	0.8708	1.495
0.055	2.115	0.9207	1.466
0.066	2.1	0.9733	1.437
0.077	2.069	1.029	1.405

35

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.088	2.048	1.088	1.376
0.099	2.034	1.151	1.345
0.11	2.025	1.217	1.313
0.121	2.005	1.288	1.278
0.132	2.005	1.362	1.241
0.143	1.991	1.441	1.206
0.154	1.97	1.525	1.166
0.165	1.965	1.613	1.125
0.176	1.956	1.707	1.091
0.187	1.947	1.807	1.047
0.198	1.939	1.912	1.007
0.209	1.93	2.023	0.961
0.22	1.921	2.142	0.918
0.231	1.913	2.267	0.874
0.2427	1.904	2.399	0.828
0.2552	1.893	2.54	0.782
0.2683	1.884	2.688	0.736
0.2823	1.872	2.846	0.69
0.2972	1.861	3.013	0.641
0.3128	1.852	3.179	0.594
0.3295	1.841	3.346	0.548
0.3472	1.826	3.513	0.511
0.3658	1.815	3.679	0.467
0.3857	1.8	3.846	0.433
0.4067	1.789	4.013	0.395
0.4288	1.774	4.179	0.361
0.4523	1.754	4.346	0.326
0.4772	1.74	4.513	0.294
0.5035	1.734	4.679	0.263
0.5315	1.702	4.846	0.234
0.5612	1.682	5.013	0.205
0.5925	1.662	5.179	0.179
0.6257	1.642	5.346	0.153
0.6608	1.616	5.513	0.127
0.6982	1.596	5.679	0.104

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.03

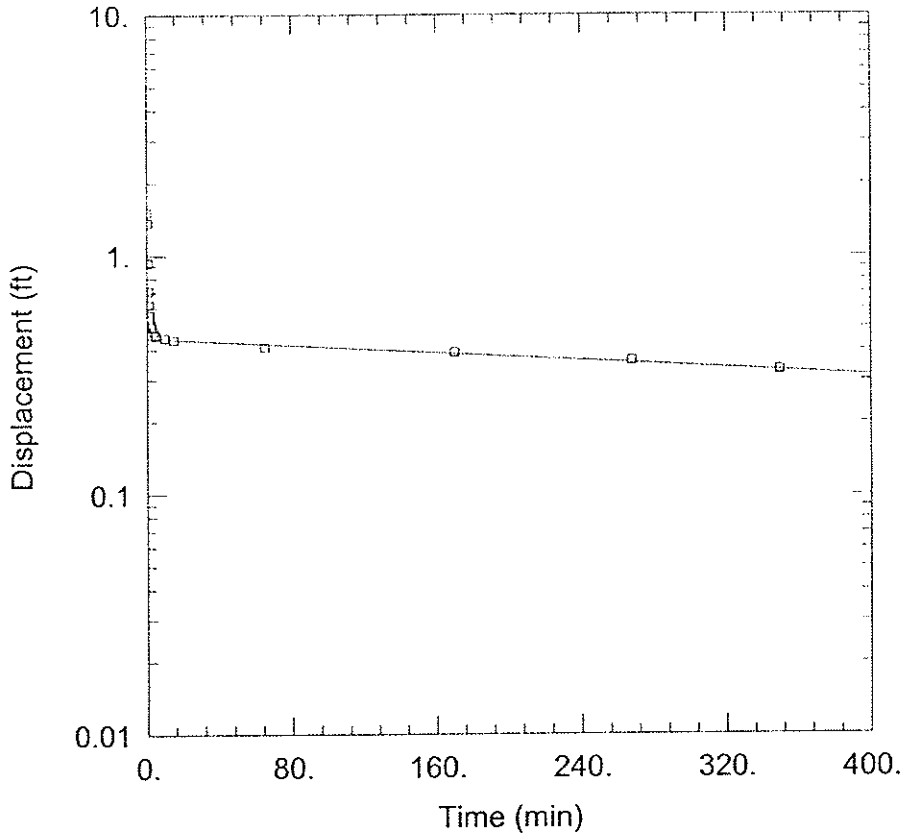
VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.0002703	cm/sec
y0	2.092	ft

T = T*b = 0.1112 cm^2/sec

37



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW304A.aqt
Date: 04/09/07 Time: 12:54:05

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW304A
Test Date: 2/20/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 2.222E-6 cm/sec
y0 = 0.4482 ft

AQUIFER DATA

Saturated Thickness: 7.8 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (New Well)

Initial Displacement: 1.5 ft
Total Well Penetration Depth: 7.8 ft
Casing Radius: 0.18 ft

Static Water Column Height: 7.8 ft
Screen Length: 7.8 ft
Well Radius: 0.33 ft
Gravel Pack Porosity: 0.25

Data Set: P:\20655\17\K-Tests\MW304A.aqt
Date: 04/09/07
Time: 12:54:11

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/20/07
Test Well: MW304A

AQUIFER DATA

Saturated Thickness: 7.8 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: New Well

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

Initial Displacement: 1.5 ft
Static Water Column Height: 7.8 ft
Casing Radius: 0.18 ft
Well Radius: 0.33 ft
Well Skin Radius: 0.33 ft
Screen Length: 7.8 ft
Total Well Penetration Depth: 7.8 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.18 ft correction calculation is not working - entered manually
Gravel Pack Porosity: 0.25

No. of Observations: 18

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	3.	0.5
0.5	1.36	4.	0.48
0.75	0.93	5.	0.46
1.	0.71	10.	0.45
1.25	0.62	15.	0.44

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
1.5	0.56	65.	0.41
1.75	0.54	170.	0.39
2.	0.53	268.	0.36
2.5	0.51	350.	0.33

SOLUTION

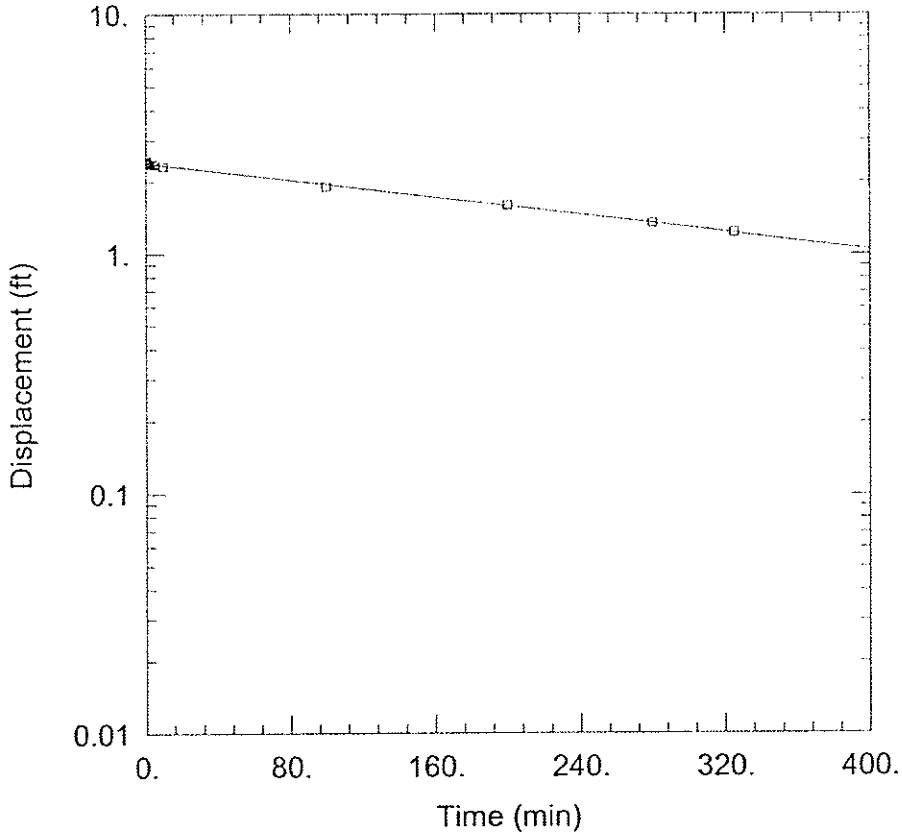
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.365

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	2.222E-6	cm/sec
y0	0.4482	ft

T = T*b = 0.0005283 cm^2/sec



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW304B.aqt
Date: 04/09/07 Time: 12:58:44

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW304B
Test Date: 2/20/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 2.707E-6 cm/sec
y0 = 2.395 ft

AQUIFER DATA

Saturated Thickness: 2. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW304B)

Initial Displacement: 2.5 ft
Total Well Penetration Depth: 2. ft
Casing Radius: 0.0833 ft

Static Water Column Height: 2. ft
Screen Length: 2. ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW304B.aqt
Date: 04/09/07
Time: 12:58:50

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/20/07
Test Well: MW304B

AQUIFER DATA

Saturated Thickness: 2. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW304B

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

Initial Displacement: 2.5 ft
Static Water Column Height: 2. ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 2. ft
Total Well Penetration Depth: 2. ft

No. of Observations: 16

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	3.	2.37
0.25	2.44	4.	2.37
0.5	2.42	5.	2.36
0.75	2.41	10.	2.32
1.	2.4	100.	1.91
1.5	2.38	200.	1.59
2.	2.38	280.	1.34

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
2.5	2.38	325.	1.23

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 1.485

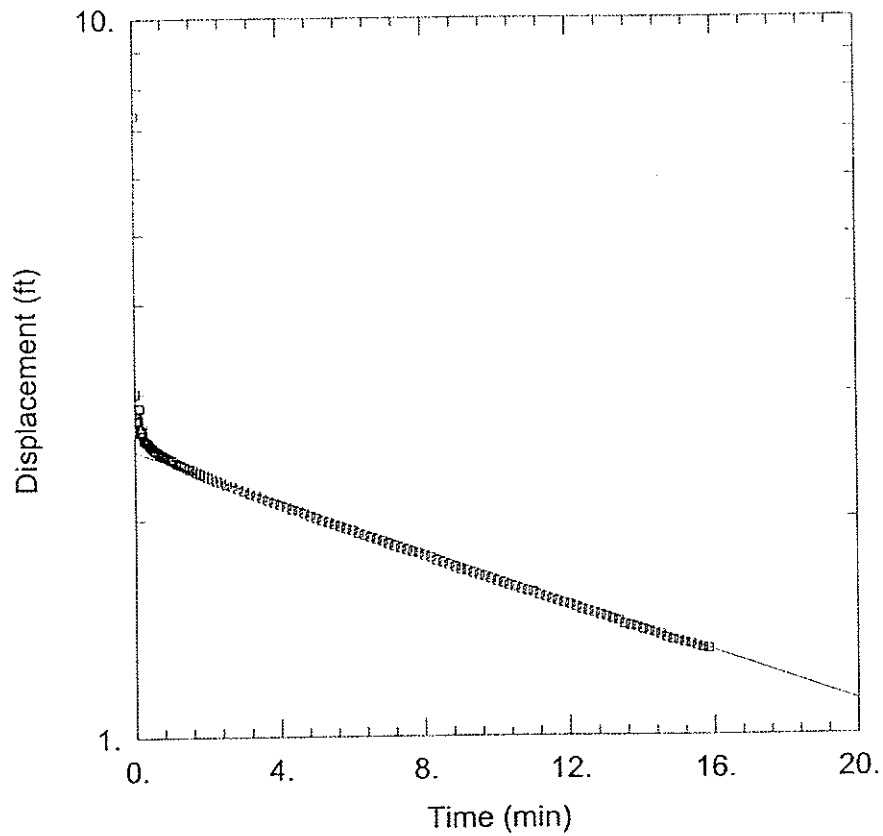
VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	2.707E-6	cm/sec
y0	2.395	ft

T = T*b = 0.000165 cm^2/sec

4b



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW304C.aqt
Date: 04/09/07 Time: 13:11:52

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW304C
Test Date: 2/27/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 1.838E-5 cm/sec
y0 = 2.492 ft

AQUIFER DATA

Saturated Thickness: 11.2 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW304C)

Initial Displacement: 3. ft
Total Well Penetration Depth: 11.2 ft
Casing Radius: 0.0833 ft

Static Water Column Height: 11.2 ft
Screen Length: 11.2 ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW304C.aqt
Date: 04/09/07
Time: 13:11:58

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/27/07
Test Well: MW304C

AQUIFER DATA

Saturated Thickness: 11.2 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW304C

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

Initial Displacement: 3. ft
Static Water Column Height: 11.2 ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 11.2 ft
Total Well Penetration Depth: 11.2 ft

No. of Observations: 145

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.011	7.331	4.013	2.1
0.022	3.017	4.179	2.086
0.033	2.821	4.346	2.068
0.044	2.761	4.513	2.06
0.055	2.798	4.679	2.043
0.066	2.755	4.846	2.025
0.077	2.781	5.013	2.011

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.088	2.766	5.179	1.993
0.099	2.735	5.346	1.982
0.11	2.766	5.513	1.968
0.121	2.712	5.679	1.956
0.132	2.876	5.846	1.942
0.143	2.867	6.013	1.93
0.154	2.651	6.179	1.913
0.165	2.677	6.346	1.901
0.176	2.654	6.513	1.887
0.187	2.665	6.679	1.875
0.198	2.668	6.846	1.864
0.209	2.668	7.013	1.849
0.22	2.691	7.179	1.835
0.231	2.628	7.346	1.823
0.2427	2.625	7.513	1.812
0.2552	2.588	7.679	1.8
0.2683	2.585	7.846	1.792
0.2823	2.582	8.013	1.78
0.2972	2.579	8.179	1.769
0.3128	2.576	8.346	1.751
0.3295	2.57	8.513	1.74
0.3472	2.567	8.679	1.728
0.3658	2.562	8.846	1.714
0.3857	2.559	9.013	1.702
0.4067	2.553	9.179	1.694
0.4288	2.539	9.346	1.682
0.4523	2.533	9.513	1.67
0.4772	2.524	9.679	1.662
0.5035	2.524	9.846	1.65
0.5315	2.507	10.01	1.636
0.5612	2.501	10.18	1.627
0.5925	2.495	10.35	1.616
0.6257	2.49	10.51	1.607
0.6608	2.484	10.68	1.595
0.6982	2.475	10.85	1.587
0.7377	2.469	11.01	1.581
0.7795	2.464	11.18	1.564
0.8238	2.455	11.35	1.555
0.8708	2.449	11.51	1.544
0.9207	2.44	11.68	1.535
0.9733	2.432	11.85	1.526
1.029	2.426	12.01	1.518
1.088	2.417	12.18	1.506

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
1.151	2.403	12.35	1.494
1.217	2.394	12.51	1.486
1.288	2.386	12.68	1.477
1.362	2.377	12.85	1.469
1.441	2.368	13.01	1.46
1.525	2.357	13.18	1.451
1.613	2.348	13.35	1.443
1.707	2.334	13.51	1.425
1.807	2.322	13.68	1.419
1.912	2.314	13.85	1.414
2.023	2.299	14.01	1.402
2.142	2.288	14.18	1.396
2.267	2.27	14.35	1.388
2.399	2.259	14.51	1.379
2.54	2.244	14.68	1.365
2.688	2.23	14.85	1.356
2.846	2.213	15.01	1.353
3.013	2.195	15.18	1.344
3.179	2.178	15.35	1.339
3.346	2.164	15.51	1.33
3.513	2.146	15.68	1.321
3.679	2.129	15.85	1.316
3.846	2.115		

SOLUTION

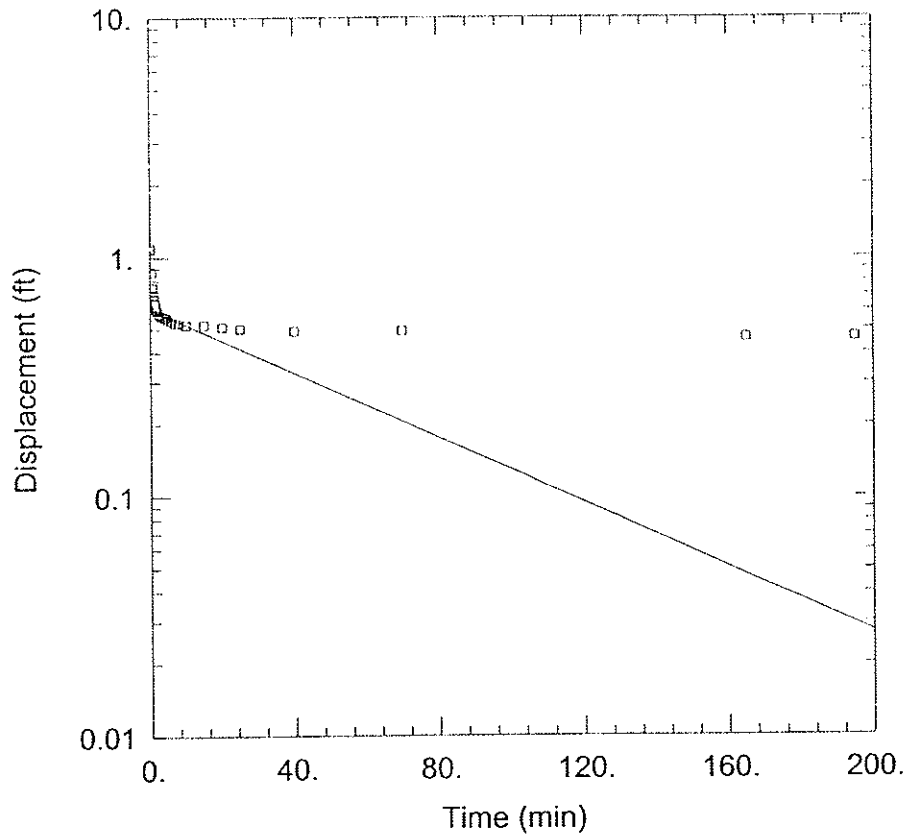
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.905

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	1.838E-5	cm/sec
y0	2.492	ft

T = T*b = 0.006275 cm²/sec



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW305A.aqt
Date: 04/09/07 Time: 13:20:09

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW305A
Test Date: 2/20/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 5.834E-5 cm/sec
y0 = 0.6091 ft

AQUIFER DATA

Saturated Thickness: 3.9 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (New Well)

Initial Displacement: 1.1 ft
Total Well Penetration Depth: 3.9 ft
Casing Radius: 0.18 ft

Static Water Column Height: 3.9 ft
Screen Length: 3.9 ft
Well Radius: 0.33 ft
Gravel Pack Porosity: 0.25

Data Set: P:\20655\17\K-Tests\MW305A.aqt
Date: 04/09/07
Time: 13:20:21

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/20/07
Test Well: MW305A

AQUIFER DATA

Saturated Thickness: 3.9 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: New Well

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

Initial Displacement: 1.1 ft
Static Water Column Height: 3.9 ft
Casing Radius: 0.18 ft
Well Radius: 0.33 ft
Well Skin Radius: 0.33 ft
Screen Length: 3.9 ft
Total Well Penetration Depth: 3.9 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.18 ft
Gravel Pack Porosity: 0.25

No. of Observations: 26

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	0.	4.5	0.56
0.25	1.08	5.	0.55
0.5	0.87	6.	0.54
0.75	0.75	7.	0.53
1.	0.7	8.	0.53

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
1.25	0.67	10.	0.52
1.5	0.64	15.	0.52
1.75	0.61	20.	0.51
2.	0.6	25.	0.5
2.5	0.58	40.	0.49
3.	0.57	70.	0.49
3.5	0.57	165.	0.46
4.	0.56	195.	0.46

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 1.781

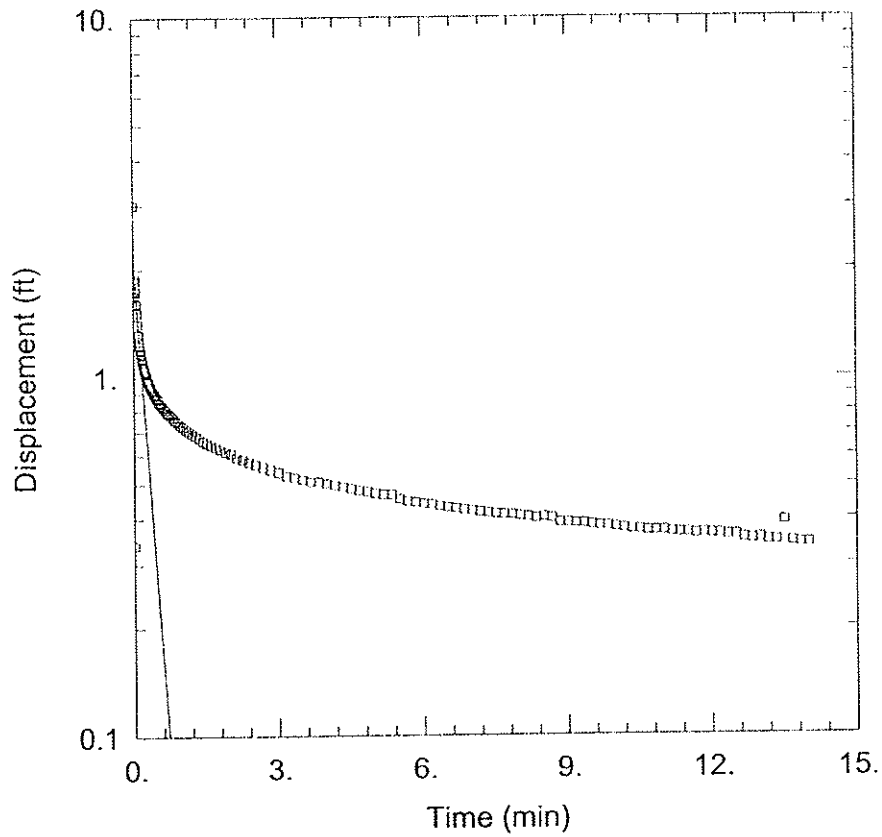
VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	5.834E-5	cm/sec
y0	0.6091	ft

T = T*b = 0.006935 cm²/sec

96



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW305B.aqt
Date: 04/09/07 Time: 13:35:08

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW305B
Test Date: 2/27/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 0.003468 cm/sec
y0 = 2.137 ft

AQUIFER DATA

Saturated Thickness: 5.5 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW305B)

Initial Displacement: 3. ft
Total Well Penetration Depth: 5.5 ft
Casing Radius: 0.0833 ft

Static Water Column Height: 5.5 ft
Screen Length: 5. ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW305B.aqt
Date: 04/09/07
Time: 13:35:14

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/27/07
Test Well: MW305B

AQUIFER DATA

Saturated Thickness: 5.5 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW305B

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

Initial Displacement: 3. ft
Static Water Column Height: 5.5 ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 5. ft
Total Well Penetration Depth: 5.5 ft

No. of Observations: 134

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.011	0.338	3.013	0.54
0.022	1.682	3.179	0.528
0.033	1.884	3.346	0.522
0.044	1.849	3.513	0.516
0.055	1.737	3.679	0.508
0.066	1.604	3.846	0.508
0.077	1.512	4.013	0.502

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.088	1.405	4.179	0.496
0.099	1.318	4.346	0.491
0.11	1.313	4.513	0.485
0.121	1.264	4.679	0.479
0.132	1.229	4.846	0.476
0.143	1.197	5.013	0.47
0.154	1.174	5.179	0.467
0.165	1.163	5.346	0.467
0.176	1.128	5.513	0.453
0.187	1.111	5.679	0.447
0.198	1.096	5.846	0.444
0.209	1.076	6.013	0.441
0.22	1.065	6.179	0.439
0.231	1.05	6.346	0.433
0.2427	1.039	6.513	0.43
0.2552	1.024	6.679	0.427
0.2683	1.007	6.846	0.424
0.2823	0.992	7.013	0.421
0.2972	0.978	7.179	0.418
0.3128	0.967	7.346	0.415
0.3295	0.955	7.513	0.413
0.3472	0.941	7.679	0.41
0.3658	0.929	7.846	0.41
0.3857	0.917	8.013	0.407
0.4067	0.906	8.179	0.404
0.4288	0.897	8.346	0.401
0.4523	0.886	8.513	0.404
0.4772	0.874	8.679	0.401
0.5035	0.868	8.846	0.39
0.5315	0.845	9.013	0.39
0.5612	0.84	9.179	0.387
0.5925	0.828	9.346	0.387
0.6257	0.817	9.513	0.384
0.6608	0.805	9.679	0.381
0.6982	0.793	9.846	0.381
0.7377	0.785	10.01	0.378
0.7795	0.776	10.18	0.375
0.8238	0.765	10.35	0.372
0.8708	0.753	10.51	0.372
0.9207	0.744	10.68	0.369
0.9733	0.73	10.85	0.369
1.029	0.721	11.01	0.369
1.088	0.71	11.18	0.366

8

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
1.151	0.701	11.35	0.364
1.217	0.69	11.51	0.364
1.288	0.681	11.68	0.361
1.362	0.672	11.85	0.364
1.441	0.658	12.01	0.361
1.525	0.649	12.18	0.361
1.613	0.641	12.35	0.358
1.707	0.632	12.51	0.358
1.807	0.623	12.68	0.352
1.912	0.612	12.85	0.349
2.023	0.606	13.01	0.352
2.142	0.591	13.18	0.346
2.267	0.583	13.35	0.346
2.399	0.574	13.51	0.392
2.54	0.566	13.68	0.343
2.688	0.557	13.85	0.34
2.846	0.548	14.01	0.34

SOLUTION

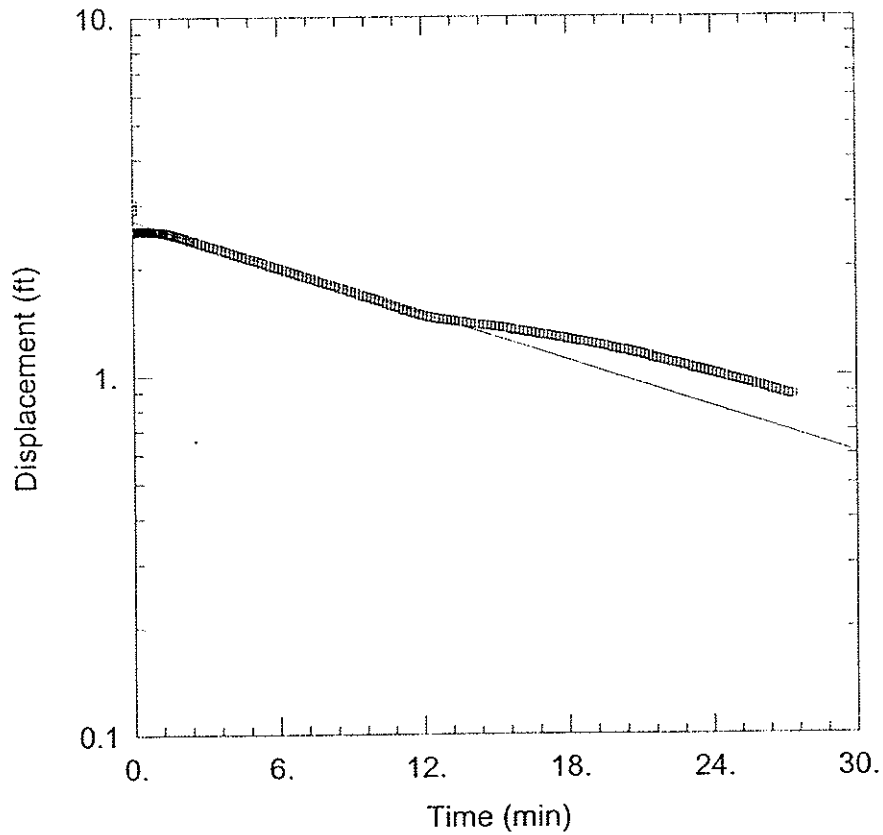
Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.278

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.003468	cm/sec
y0	2.137	ft

T = T*b = 0.5814 cm²/sec



WELL TEST ANALYSIS

Data Set: P:\20655\17\K-Tests\MW305C.aqt
Date: 04/09/07 Time: 13:41:48

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Well: MW305C
Test Date: 2/27/07

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice

K = 2.308E-5 cm/sec
y0 = 2.708 ft

AQUIFER DATA

Saturated Thickness: 11. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW305C)

Initial Displacement: 3. ft
Total Well Penetration Depth: 11. ft
Casing Radius: 0.0833 ft

Static Water Column Height: 11. ft
Screen Length: 11. ft
Well Radius: 0.25 ft

Data Set: P:\20655\17\K-Tests\MW305C.aqt
Date: 04/09/07
Time: 13:41:53

PROJECT INFORMATION

Company: RMT, Inc.
Client: Veolia EPL
Project: 20655.17
Location: Muskego, WI
Test Date: 2/27/07
Test Well: MW305C

AQUIFER DATA

Saturated Thickness: 11. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW305C

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

Initial Displacement: 3. ft
Static Water Column Height: 11. ft
Casing Radius: 0.0833 ft
Well Radius: 0.25 ft
Well Skin Radius: 0.25 ft
Screen Length: 11. ft
Total Well Penetration Depth: 11. ft

No. of Observations: 214

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.011	2.9	9.679	1.66
0.022	2.525	9.846	1.645
0.033	2.528	10.01	1.634
0.044	2.528	10.18	1.619
0.055	2.531	10.35	1.605
0.066	2.531	10.51	1.585
0.077	2.531	10.68	1.57

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.088	2.531	10.85	1.559
0.099	2.534	11.01	1.547
0.11	2.534	11.18	1.53
0.121	2.534	11.35	1.521
0.132	2.534	11.51	1.507
0.143	2.534	11.68	1.495
0.154	2.534	11.85	1.484
0.165	2.54	12.01	1.475
0.176	2.54	12.18	1.463
0.187	2.54	12.35	1.455
0.198	2.54	12.51	1.449
0.209	2.54	12.68	1.44
0.22	2.54	12.85	1.437
0.231	2.54	13.01	1.432
0.2427	2.54	13.18	1.426
0.2552	2.542	13.35	1.42
0.2683	2.542	13.51	1.414
0.2823	2.542	13.68	1.411
0.2972	2.542	13.85	1.403
0.3128	2.542	14.01	1.397
0.3295	2.542	14.18	1.391
0.3472	2.542	14.35	1.388
0.3658	2.542	14.51	1.383
0.3857	2.542	14.68	1.38
0.4067	2.54	14.85	1.374
0.4288	2.542	15.01	1.368
0.4523	2.542	15.18	1.365
0.4772	2.54	15.35	1.357
0.5035	2.542	15.51	1.354
0.5315	2.531	15.68	1.345
0.5612	2.54	15.85	1.336
0.5925	2.54	16.01	1.333
0.6257	2.534	16.18	1.325
0.6608	2.54	16.35	1.319
0.6982	2.534	16.51	1.313
0.7377	2.534	16.68	1.31
0.7795	2.534	16.85	1.302
0.8238	2.531	17.01	1.296
0.8708	2.531	17.18	1.293
0.9207	2.531	17.35	1.284
0.9733	2.528	17.51	1.279
1.029	2.528	17.68	1.273
1.088	2.525	17.85	1.27

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
1.151	2.522	18.01	1.258
1.217	2.519	18.18	1.253
1.288	2.514	18.35	1.247
1.362	2.508	18.51	1.241
1.441	2.499	18.68	1.235
1.525	2.493	18.85	1.23
1.613	2.485	19.01	1.224
1.707	2.476	19.18	1.218
1.807	2.462	19.35	1.212
1.912	2.45	19.51	1.207
2.023	2.436	19.68	1.195
2.142	2.424	19.85	1.189
2.267	2.41	20.01	1.183
2.399	2.39	20.18	1.175
2.54	2.375	20.35	1.172
2.688	2.358	20.51	1.166
2.846	2.338	20.68	1.157
3.013	2.317	20.85	1.152
3.179	2.297	21.01	1.146
3.346	2.28	21.18	1.137
3.513	2.263	21.35	1.131
3.679	2.242	21.51	1.117
3.846	2.225	21.68	1.111
4.013	2.205	21.85	1.106
4.179	2.185	22.01	1.097
4.346	2.167	22.18	1.091
4.513	2.15	22.35	1.085
4.679	2.136	22.51	1.08
4.846	2.115	22.68	1.074
5.013	2.098	22.85	1.065
5.179	2.081	23.01	1.059
5.346	2.064	23.18	1.048
5.513	2.049	23.35	1.042
5.679	2.029	23.51	1.036
5.846	2.012	23.68	1.03
6.013	1.997	23.85	1.022
6.179	1.983	24.01	1.016
6.346	1.963	24.18	1.01
6.513	1.945	24.35	1.002
6.679	1.931	24.51	0.996
6.846	1.916	24.68	0.984
7.013	1.899	24.85	0.979
7.179	1.882	25.01	0.973

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Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
7.346	1.867	25.18	0.964
7.513	1.853	25.35	0.958
7.679	1.836	25.51	0.953
7.846	1.818	25.68	0.947
8.013	1.804	25.85	0.938
8.179	1.789	26.01	0.935
8.346	1.775	26.18	0.927
8.513	1.761	26.35	0.918
8.679	1.743	26.51	0.909
8.846	1.732	26.68	0.903
9.013	1.714	26.85	0.898
9.179	1.703	27.01	0.889
9.346	1.688	27.18	0.883
9.513	1.671	27.35	0.878

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.89

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	2.308E-5	cm/sec
y0	2.708	ft

T = T*b = 0.007737 cm^2/sec