TOBIN
CONSULTING ENGINEERS

Project	Castlebanny
Date	13/08/2020
Job No.	10730
Revision	01
Completed by:	MW
Checked by:	JD

Analysis: Aquifer properties calculated from Falling Head Test at borrow pit boreholes
Aquifer: Unconfined Devonian Red sandstone

	Storativity		k , Permeability				S, Transmissivity			
	(-)		m/sec		m/day		m^2/sec		m^2/day	
Data Analysis	**BH N**	**BH S**	**BH N**	**BH S**	**BH N**	**BH S**	**BH N**	**BH S**	**BH N**	**BH S**
Early time	0.0233	0.216	1.18E-07	1.98E-06	0.01	0.17	2.39E-06	2.00E-05	0.207	1.725
Medium time	0.0209	0.022	1.06E-07	2.00E-07	0.01	0.02	2.15E-06	2.02E-06	0.186	0.175
Late time	0.0106	0.008	5.39E-08	7.13E-08	0.00	0.01	1.09E-06	7.20E-07	0.094	0.062

TOBIN
CONSULTING ENGINEERS

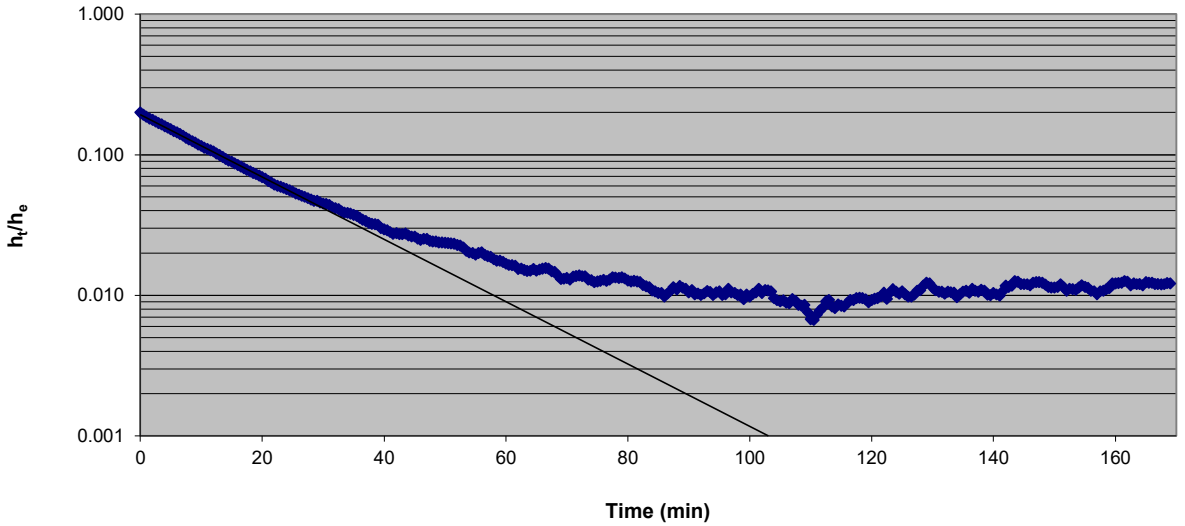
FALLING HEAD TEST

Bore No:	BH N	Test No:	#1	Job No:	10730	Date:	30-Jul-20	Logged by:	MW

Borehole co-ordinates: **Easting:**	7663	**Northing:**	22043	Collar elevation (m):	0.2 Flushed to ground level
Depth to top of test section (m):	2			Length of test section, **L** (m):	16.35
Depth of static water level, H_w (m):	6.74			Radius of borehole, **r** (m):	0.034
Excess head, h_e (m):	5.62			Radius of standpipe or casing, r_c (m):	0.025

Time (min)	Depth to water, h_w (m)	Excess head, $h_t=H_w-h_w$ (m)	h_t/h_e
0	5.62	**1.12**	**0.20**
0.5	5.658144	1.081856	0.19
1	5.69297	1.04703	0.19
1.5	5.724952	1.015048	0.18
2	5.749778	0.990222	0.18
2.5	5.773612	0.966388	0.17
3	5.79456	0.94544	0.17
3.5	5.818782	0.921218	0.16
4	5.84339	0.89661	0.16
4.5	5.865628	0.874372	0.16
5	5.89	0.853124	0.15
5.5	5.91045	0.82955	0.15
6	5.932604	0.807396	0.14
6.5	5.952906	0.787094	0.14
7	5.973638	0.766362	0.14
7.5	5.998206	0.741794	0.13
8	6.019972	0.720028	0.13
8.5	6.038894	0.701106	0.12475
9	6.057298	0.682702	0.12148
9.5	6.076694	0.663306	0.11803
10	6.092772	0.647228	0.11517
10.5	6.109324	0.630676	0.11222
11	6.12303	0.61697	0.10978
11.5	6.13484	0.60516	0.10768
12	6.148592	0.591408	0.10523
12.5	6.166136	0.573864	0.10211
13	6.18174	0.55826	0.09933
13.5	6.19881	0.54119	0.0963
14	6.214932	0.525068	0.09343
14.5	6.230062	0.509938	0.09074
15	6.239502	0.500498	0.08906
15.5	6.253728	0.486272	0.08653
16	6.265066	0.474934	0.08451
16.5	6.278344	0.461656	0.08215
17	6.288776	0.451224	0.08029

Head - time graph (slope of graph is S)



Calculations:

h_1	0.20		
t_1	0.0		
h_2	0.04		
t_2	30.0		
S	2.3E-02		
k	**1.18E-07**		

Permeability, $k = 0.133 \times S \times (rc^2/L)$ (m/sec)

where S = (log (h1/h2)/(t2 - t1), (ie slope of plot, t in mins)

Notes: Logger data used for analysis. Early time data analysed.

17.5	6.303002	0.436998	0.07776
18	6.31296	0.42704	0.07599
18.5	6.32339	0.41661	0.07413
19	6.331924	0.408076	0.07261
19.5	6.341406	0.398594	0.07092
20	6.350888	0.389112	0.06924
20.5	6.360846	0.379154	0.06747
21	6.373694	0.366306	0.06518
21.5	6.3846	0.3554	0.06324
22	6.395982	0.344018	0.06121
22.5	6.403612	0.336388	0.05986
23	6.408396	0.331604	0.059
23.5	6.414086	0.325914	0.05799
24	6.420294	0.319706	0.05689
24.5	6.426544	0.313456	0.05578
25	6.433184	0.306816	0.05459
25.5	6.44172	0.29828	0.05307
26	6.447884	0.292116	0.05198
26.5	6.454048	0.285952	0.05088
27	6.458746	0.281254	0.05005
27.5	6.464478	0.275522	0.04903
28	6.471158	0.268842	0.04784
28.5	6.475942	0.264058	0.04699
29	6.476458	0.263542	0.04689
29.5	6.48314	0.25686	0.0457
30	6.48745	0.25255	0.04494
30.5	6.488916	0.251084	0.04468
31	6.492752	0.247248	0.04399
31.5	6.503228	0.236772	0.04213
32	6.505684	0.234316	0.04169
32.5	6.50952	0.23048	0.04101
33	6.517624	0.222376	0.03957
33.5	6.52245	0.21755	0.03871
34	6.52344	0.21656	0.03853
34.5	6.525852	0.214148	0.0381
35	6.530162	0.209838	0.03734
35.5	6.533522	0.206478	0.03674
36	6.540162	0.199838	0.03556
36.5	6.546368	0.193632	0.03445
37	6.550636	0.189364	0.03369
37.5	6.555894	0.184106	0.03276
38	6.55874	0.18126	0.03225
38.5	6.560678	0.179322	0.03191
39	6.562144	0.177856	0.03165

39.5	6.571196	0.168804	0.03004
40	6.574516	0.165484	0.02945
40.5	6.57693	0.16307	0.02902
41	6.581672	0.158328	0.02817
41.5	6.585982	0.154018	0.02741
42	6.584128	0.155872	0.02774
42.5	6.587014	0.152986	0.02722
43	6.586582	0.153418	0.0273
43.5	6.585676	0.154324	0.02746
44	6.589944	0.150056	0.0267
44.5	6.593264	0.146736	0.02611
45	6.592832	0.147168	0.02619
45.5	6.597616	0.142384	0.02534
46	6.600504	0.139496	0.02482
46.5	6.598132	0.141868	0.02524
47	6.599122	0.140878	0.02507
47.5	6.602916	0.137084	0.02439
48	6.604338	0.135662	0.02414
48.5	6.604338	0.135662	0.02414
49	6.606794	0.133206	0.0237
49.5	6.606794	0.133206	0.0237
50	6.607268	0.132732	0.02362
50.5	6.607742	0.132258	0.02353
51	6.608216	0.131784	0.02345
51.5	6.609164	0.130836	0.02328
52	6.61205	0.12795	0.02277
52.5	6.612998	0.127002	0.0226
53	6.617308	0.122692	0.02183
53.5	6.623514	0.116486	0.02073
54	6.626834	0.113166	0.02014
54.5	6.627826	0.112174	0.01996
55	6.63024	0.10976	0.01953
55.5	6.627868	0.112132	0.01995
56	6.626488	0.113512	0.0202
56.5	6.63123	0.10877	0.01935
57	6.633558	0.106442	0.01894
57.5	6.634506	0.105494	0.01877
58	6.638816	0.101184	0.018
58.5	6.641144	0.098856	0.01759
59	6.641144	0.098856	0.01759
59.5	6.643082	0.096918	0.01725
60	6.64597	0.09403	0.01673
60.5	6.647868	0.092132	0.01639
61	6.647952	0.092048	0.01638

61.5	6.648942	0.091058	0.0162
62	6.653686	0.086314	0.01536
62.5	6.652738	0.087262	0.01553
63	6.655108	0.084892	0.01511
63.5	6.656488	0.083512	0.01486
64	6.656056	0.083944	0.01494
64.5	6.653726	0.086274	0.01535
65	6.656138	0.083862	0.01492
65.5	6.654242	0.085758	0.01526
66	6.653294	0.086706	0.01543
66.5	6.652304	0.087696	0.0156
67	6.653252	0.086748	0.01544
67.5	6.656572	0.083428	0.01484
68	6.657562	0.082438	0.01467
68.5	6.662346	0.077654	0.01382
69	6.666654	0.073346	0.01305
69.5	6.666222	0.073778	0.01313
70	6.665274	0.074726	0.0133
70.5	6.667128	0.072872	0.01297
71	6.66381	0.07619	0.01356
71.5	6.662862	0.077138	0.01373
72	6.662346	0.077654	0.01382
72.5	6.663294	0.076706	0.01365
73	6.663336	0.076664	0.01364
73.5	6.667602	0.072398	0.01288
74	6.668076	0.071924	0.0128
74.5	6.670446	0.069554	0.01238
75	6.669498	0.070502	0.01254
75.5	6.668592	0.071408	0.01271
76	6.667644	0.072356	0.01287
76.5	6.669068	0.070932	0.01262
77	6.667172	0.072828	0.01296
77.5	6.664368	0.075632	0.01346
78	6.664842	0.075158	0.01337
78.5	6.665316	0.074684	0.01329
79	6.664408	0.075592	0.01345
79.5	6.665872	0.074128	0.01319
80	6.668242	0.071758	0.01277
80.5	6.669624	0.070376	0.01252
81	6.668676	0.071324	0.01269
81.5	6.669584	0.070416	0.01253
82	6.670492	0.069508	0.01237
82.5	6.673338	0.066662	0.01186
83	6.674802	0.065198	0.0116

83.5	6.675792	0.064208	0.01142
84	6.679152	0.060848	0.01083
84.5	6.680142	0.059858	0.01065
85	6.681564	0.058436	0.0104
85.5	6.681564	0.058436	0.0104
86	6.684884	0.055116	0.00981
86.5	6.68204	0.05796	0.01031
87	6.679668	0.060332	0.01074
87.5	6.675876	0.064124	0.01141
88	6.678246	0.061754	0.01099
88.5	6.674452	0.065548	0.01166
89	6.676348	0.063652	0.01133
89.5	6.677772	0.062228	0.01107
90	6.68109	0.05891	0.01048
90.5	6.67872	0.06128	0.0109
91	6.68303	0.05697	0.01014
91.5	6.682082	0.057918	0.01031
92	6.683504	0.056496	0.01005
92.5	6.682082	0.057918	0.01031
93	6.679752	0.060248	0.01072
93.5	6.680658	0.059342	0.01056
94	6.683504	0.056496	0.01005
94.5	6.681132	0.058868	0.01047
95	6.680184	0.059816	0.01064
95.5	6.683462	0.056538	0.01006
96	6.682988	0.057012	0.01014
96.5	6.677296	0.062704	0.01116
97	6.68109	0.05891	0.01048
97.5	6.681564	0.058436	0.0104
98	6.68346	0.05654	0.01006
98.5	6.682986	0.057014	0.01014
99	6.687254	0.052746	0.00939
99.5	6.682986	0.057014	0.01014
100	6.684882	0.055118	0.00981
100.5	6.682512	0.057488	0.01023
101	6.68109	0.05891	0.01048
101.5	6.677296	0.062704	0.01116
102	6.681564	0.058436	0.0104
102.5	6.67872	0.06128	0.0109
103	6.679194	0.060806	0.01082
103.5	6.680184	0.059816	0.01064
104	6.68635	0.05365	0.00955
104.5	6.688248	0.051752	0.00921
105	6.689196	0.050804	0.00904

105.5	6.68829	0.05171	0.0092
106	6.690144	0.049856	0.00887
106.5	6.69066	0.04934	0.00878
107	6.68734	0.05266	0.00937
107.5	6.688762	0.051238	0.00912
108	6.69208	0.04792	0.00853
108.5	6.692556	0.047444	0.00844
109	6.69204	0.04796	0.00853
109.5	6.697298	0.042702	0.0076
110	6.70204	0.03796	0.00675
110.5	6.702474	0.037526	0.00668
111	6.699154	0.040846	0.00727
111.5	6.69635	0.04365	0.00777
112	6.693978	0.046022	0.00819
112.5	6.689278	0.050722	0.00903
113	6.687896	0.052104	0.00927
113.5	6.693112	0.046888	0.00834
114	6.694534	0.045466	0.00809
114.5	6.69169	0.04831	0.0086
115	6.692638	0.047362	0.00843
115.5	6.693112	0.046888	0.00834
116	6.690782	0.049218	0.00876
116.5	6.687938	0.052062	0.00926
117	6.687938	0.052062	0.00926
117.5	6.686516	0.053484	0.00952
118	6.686042	0.053958	0.0096
118.5	6.686516	0.053484	0.00952
119	6.687422	0.052578	0.00936
119.5	6.689792	0.050208	0.00893
120	6.687896	0.052104	0.00927
120.5	6.686948	0.053052	0.00944
121	6.686474	0.053526	0.00952
121.5	6.68462	0.05538	0.00985
122	6.681302	0.058698	0.01044
122.5	6.686992	0.053008	0.00943
123	6.681302	0.058698	0.01044
123.5	6.677984	0.062016	0.01103
124	6.680354	0.059646	0.01061
124.5	6.68225	0.05775	0.01028
125	6.679878	0.060122	0.0107
125.5	6.682722	0.057278	0.01019
126	6.685092	0.054908	0.00977
126.5	6.685092	0.054908	0.00977
127	6.683196	0.056804	0.01011

127.5	6.679402	0.060598	0.01078
128	6.678928	0.061072	0.01087
128.5	6.674186	0.065814	0.01171
129	6.670866	0.069134	0.0123
129.5	6.671814	0.068186	0.01213
130	6.676082	0.063918	0.01137
130.5	6.678928	0.061072	0.01087
131	6.68035	0.05965	0.01061
131.5	6.68035	0.05965	0.01061
132	6.682246	0.057754	0.01028
132.5	6.68035	0.05965	0.01061
133	6.680824	0.059176	0.01053
133.5	6.6813	0.0587	0.01044
134	6.685568	0.054432	0.00969
134.5	6.682724	0.057276	0.01019
135	6.680352	0.059648	0.01061
135.5	6.679404	0.060596	0.01078
136	6.6813	0.0587	0.01044
136.5	6.677506	0.062494	0.01112
137	6.679402	0.060598	0.01078
137.5	6.680352	0.059648	0.01061
138	6.678454	0.061546	0.01095
138.5	6.67936	0.06064	0.01079
139	6.683154	0.056846	0.01011
139.5	6.683628	0.056372	0.01003
140	6.68173	0.05827	0.01037
140.5	6.683112	0.056888	0.01012
141	6.684102	0.055898	0.00995
141.5	6.679834	0.060166	0.01071
142	6.674144	0.065856	0.01172
142.5	6.675568	0.064432	0.01146
143	6.674186	0.065814	0.01171
143.5	6.66897	0.07103	0.01264
144	6.66992	0.07008	0.01247
144.5	6.67229	0.06771	0.01205
145	6.672764	0.067236	0.01196
145.5	6.672764	0.067236	0.01196
146	6.673712	0.066288	0.0118
146.5	6.670866	0.069134	0.0123
147	6.670392	0.069608	0.01239
147.5	6.670392	0.069608	0.01239
148	6.670868	0.069132	0.0123
148.5	6.67324	0.06676	0.01188
149	6.67561	0.06439	0.01146

149.5	6.676084	0.063916	0.01137
150	6.676084	0.063916	0.01137
150.5	6.675608	0.064392	0.01146
151	6.672762	0.067238	0.01196
151.5	6.676082	0.063918	0.01137
152	6.679402	0.060598	0.01078
152.5	6.677504	0.062496	0.01112
153	6.67798	0.06202	0.01104
153.5	6.678454	0.061546	0.01095
154	6.676084	0.063916	0.01137
154.5	6.673714	0.066286	0.01179
155	6.675612	0.064388	0.01146
155.5	6.67656	0.06344	0.01129
156	6.679406	0.060594	0.01078
156.5	6.67988	0.06012	0.0107
157	6.682766	0.057234	0.01018
157.5	6.67992	0.06008	0.01069
158	6.679404	0.060596	0.01078
158.5	6.677982	0.062018	0.01104
159	6.677034	0.062966	0.0112
159.5	6.671776	0.068224	0.01214
160	6.671776	0.068224	0.01214
160.5	6.671344	0.068656	0.01222
161	6.67087	0.06913	0.0123
161.5	6.668972	0.071028	0.01264
162	6.66992	0.07008	0.01247
162.5	6.673714	0.066286	0.01179
163	6.671816	0.068184	0.01213
163.5	6.672764	0.067236	0.01196
164	6.67229	0.06771	0.01205
164.5	6.673714	0.066286	0.01179
165	6.670394	0.069606	0.01239
165.5	6.67091	0.06909	0.01229
166	6.67091	0.06909	0.01229
166.5	6.672332	0.067668	0.01204
167	6.672332	0.067668	0.01204
167.5	6.672806	0.067194	0.01196
168	6.672764	0.067236	0.01196
168.5	6.671342	0.068658	0.01222
169	6.671816	0.068184	0.01213

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FALLING HEAD TEST

Bore No:	BH N	Test No:	#1	Job No:	10730	Date:	30-Jul-20	Logged by:	MW

Borehole co-ordinates: **Easting:**	7663	**Northing:**	22043	Collar elevation (m):	0.2 Flushed to ground level
Depth to top of test section (m):	2			Length of test section, **L** (m):	16.35
Depth of static water level, H_w (m):	6.74			Radius of borehole, **r** (m):	0.034
Excess head, h_e (m):	5.62			Radius of standpipe or casing, r_c (m):	0.025

Time (min)	Depth to water, h_w (m)	Excess head, $h_t=H_w-h_w$ (m)	h_t/h_e
0	5.62	**1.12**	**0.20**
0.5	5.658144	1.081856	0.19
1	5.69297	1.04703	0.19
1.5	5.724952	1.015048	0.18
2	5.749778	0.990222	0.18
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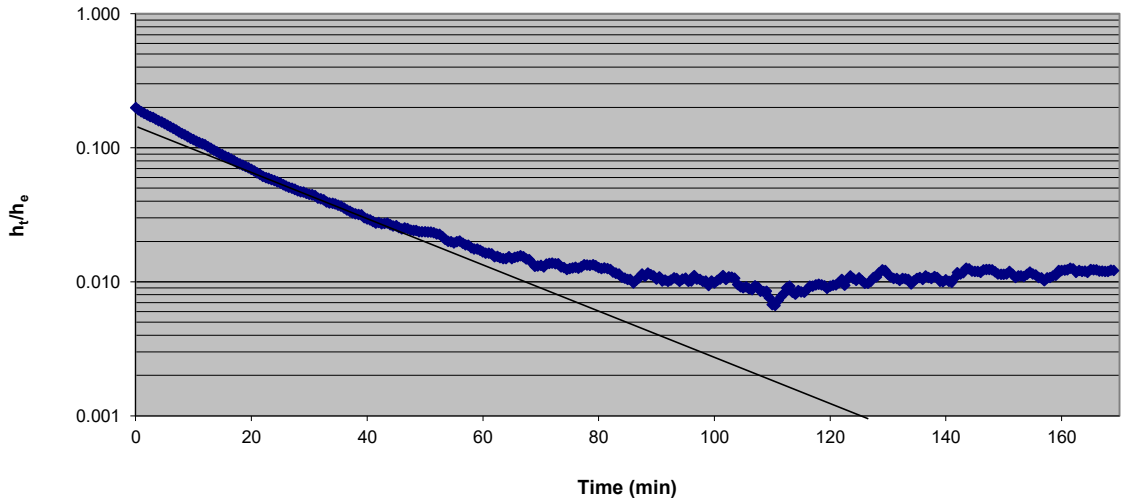
4	5.84339	0.89661	0.16
4.5	5.865628	0.874372	0.16
5	5.89	0.853124	0.15
5.5	5.91045	0.82955	0.15
6	5.932604	0.807396	0.14
6.5	5.952906	0.787094	0.14
7	5.973638	0.766362	0.14
7.5	5.998206	0.741794	0.13
8	6.019972	0.720028	0.13
8.5	6.038894	0.701106	0.12475
9	6.057298	0.682702	0.12148
9.5	6.076694	0.663306	0.11803
10	6.092772	0.647228	0.11517
10.5	6.109324	0.630676	0.11222
11	6.12303	0.61697	0.10978
11.5	6.13484	0.60516	0.10768
12	6.148592	0.591408	0.10523
12.5	6.166136	0.573864	0.10211
13	6.18174	0.55826	0.09933
13.5	6.19881	0.54119	0.0963
14	6.214932	0.525068	0.09343
14.5	6.230062	0.509938	0.09074
15	6.239502	0.500498	0.08906

Head - time graph (slope of graph is S)



Calculations:

h_1	0.07			
t_1	20.0			
h_2	0.02			
t_2	46.0			
S	2.1E-02			
k	**1.06E-07**			

Permeability, k = 0.133 x S x (rc^2/L) (m/sec)

where S = (log (h1/h2)/(t2 - t1), (ie slope of plot, t in mins)

Notes: Logger data used for analysis. Medium range data analysed.

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CONSULTING ENGINEERS

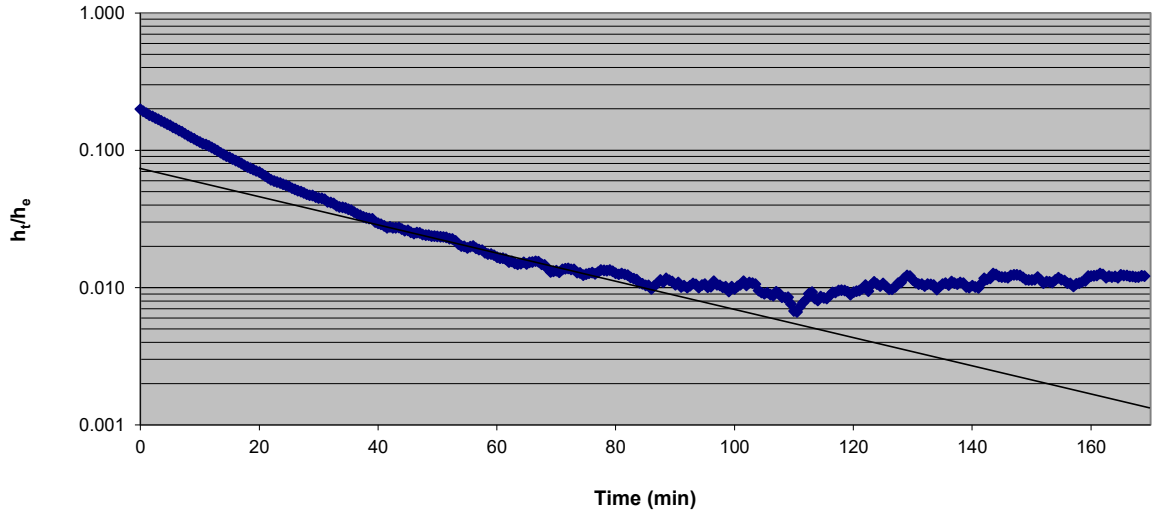
FALLING HEAD TEST

Bore No:	BH N	Test No:	#1	Job No:	10730	Date:	30-Jul-20	Logged by:	MW

Borehole co-ordinates: **Easting:**	7663	**Northing:**	22043	Collar elevation (m):	0.2 Flushed to ground level
Depth to top of test section (m):	2			Length of test section, **L** (m):	16.35
Depth of static water level, H_w (m):	6.74			Radius of borehole, **r** (m):	0.034
Excess head, h_e (m):	5.62			Radius of standpipe or casing, r_c (m):	0.025

Time (min)	Depth to water, h_w (m)	Excess head, $h_t=H_w-h_w$ (m)	h_t/h_e
0	5.62	**1.12**	**0.20**
0.5	5.658144	1.081856	0.19
1	5.69297	1.04703	0.19
1.5	5.724952	1.015048	0.18
2	5.749778	0.990222	0.18
2.5	5.773612	0.966388	0.17
3	5.79456	0.94544	0.17
3.5	5.818782	0.921218	0.16
4	5.84339	0.89661	0.16
4.5	5.865628	0.874372	0.16
5	5.89	0.853124	0.15
5.5	5.91045	0.82955	0.15
6	5.932604	0.807396	0.14
6.5	5.952906	0.787094	0.14
7	5.973638	0.766362	0.14
7.5	5.998206	0.741794	0.13
8	6.019972	0.720028	0.13
8.5	6.038894	0.701106	0.12475
9	6.057298	0.682702	0.12148
9.5	6.076694	0.663306	0.11803
10	6.092772	0.647228	0.11517
10.5	6.109324	0.630676	0.11222
11	6.12303	0.61697	0.10978
11.5	6.13484	0.60516	0.10768
12	6.148592	0.591408	0.10523
12.5	6.166136	0.573864	0.10211
13	6.18174	0.55826	0.09933
13.5	6.19881	0.54119	0.0963
14	6.214932	0.525068	0.09343
14.5	6.230062	0.509938	0.09074
15	6.239502	0.500498	0.08906

Head - time graph (slope of graph is S)



Calculations:

h_1	0.03		
t_1	40.0		
h_2	0.01		
t_2	85.0		
S	1.1E-02		
k	**5.39E-08**		

Permeability, $k = 0.133 \times S \times (rc^2/L)$ (m/sec)

where S = (log (h1/h2)/(t2 - t1), (ie slope of plot, t in mins)

Notes: Logger data used for analysis. Late time data analysed.

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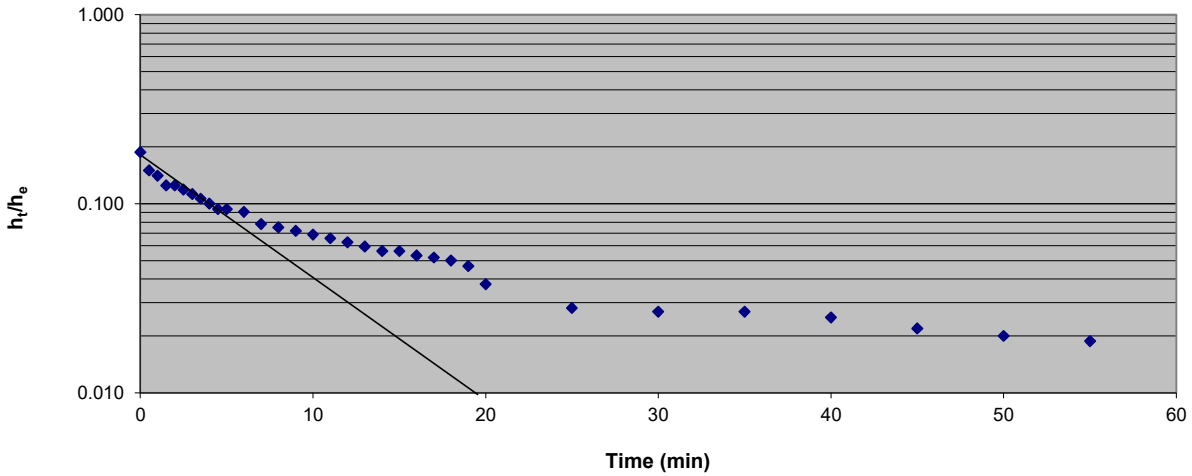
FALLING HEAD TEST

Bore No:	BH S	Test No:	#1	Job No:	10730	Date:	30-Jul-20	Logged by:	MW

Borehole co-ordinates: **Easting:**	7663	**Northing:**	22043	Collar elevation (m):	0 Flushed to ground level
Depth to top of test section (m):	1			Length of test section, **L** (m):	9.1
Depth of static water level, H_w (m):	1.9			Radius of borehole, **r** (m):	0.034
Excess head, h_e (m):	1.60			Radius of standpipe or casing, r_c (m):	0.025

Time (min)	Depth to water, h_w (m)	Excess head, $h_t=H_w-h_w$ (m)	h_t/h_e
0	1.6	**0.30**	**0.19**
0.5	1.66	0.24	0.15
1	1.675	0.225	0.14
1.5	1.7	0.2	0.13
2	1.7	0.2	0.13
2.5	1.71	0.19	0.12
3	1.72	0.18	0.11
3.5	1.73	0.17	0.11
4	1.74	0.16	0.10
4.5	1.75	0.15	0.09
5	1.75	0.15	0.09
6	1.755	0.145	0.09
7.0	1.775	0.125	0.08
8.0	1.78	0.12	0.07
9.0	1.785	0.115	0.07
10.0	1.79	0.11	0.07
11	1.795	0.105	0.07
12	1.8	0.1	0.0625
13	1.805	0.095	0.05938
14	1.81	0.09	0.05625
15	1.81	0.09	0.05625
16	1.815	0.085	0.05313
17	1.817	0.083	0.05188
18	1.82	0.08	0.05
19	1.825	0.075	0.04688
20	1.84	0.06	0.0375
25	1.855	0.045	0.02813
30	1.857	0.043	0.02688
35	1.857	0.043	0.02688
40	1.86	0.04	0.025
45	1.865	0.035	0.02188
50	1.868	0.032	0.02
55	1.87	0.03	0.01875

Head - time graph (slope of graph is S)



Calculations:

h_1	0.19		
t_1	0.0		
h_2	0.09		
t_2	1.5		
S	2.2E-01		
k	**1.98E-06**		

Permeability, $k = 0.133 \times S \times (rc^2/L)$ (m/sec)
where S = (log (h1/h2)/(t2 - t1), (ie slope of plot, t in mins)

Notes: Manual dip data used for analysis. Early time data analysed.

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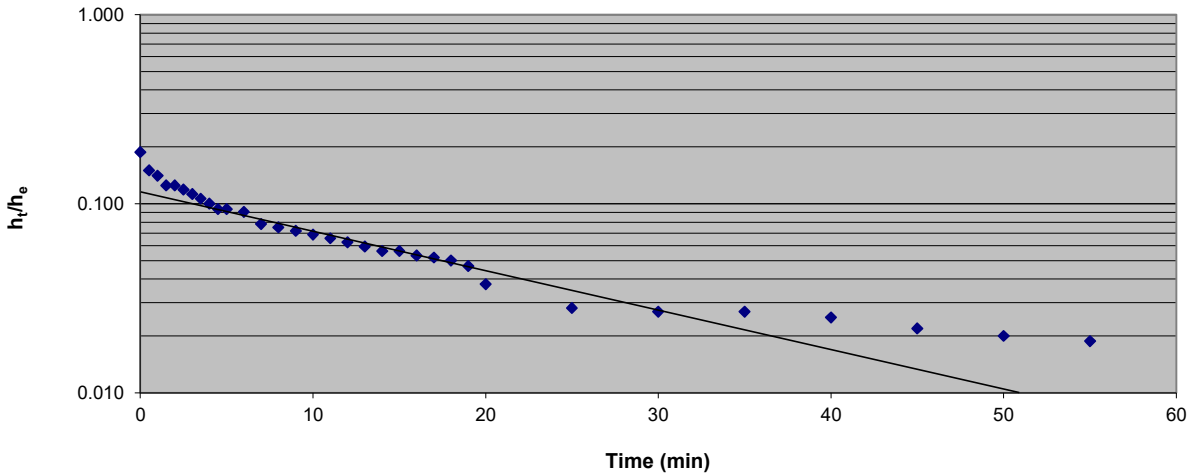
FALLING HEAD TEST

Bore No:	BH S	Test No:	#1	Job No:	10730	Date:	30-Jul-20	Logged by:	MW

Borehole co-ordinates: **Easting:**	7663	**Northing:**	22043	Collar elevation (m):	0 Flushed to ground level
Depth to top of test section (m):	1			Length of test section, **L** (m):	9.1
Depth of static water level, H_w (m):	1.9			Radius of borehole, **r** (m):	0.034
Excess head, h_e (m):	1.60			Radius of standpipe or casing, r_c (m):	0.025

Time (min)	Depth to water, h_w (m)	Excess head, $h_t=H_w-h_w$ (m)	h_t/h_e
0	1.6	**0.30**	**0.19**
0.5	1.66	0.24	0.15
1	1.675	0.225	0.14
1.5	1.7	0.2	0.13
2	1.7	0.2	0.13
2.5	1.71	0.19	0.12
3	1.72	0.18	0.11
3.5	1.73	0.17	0.11
4	1.74	0.16	0.10
4.5	1.75	0.15	0.09
5	1.75	0.15	0.09
6	1.755	0.145	0.09
7.0	1.775	0.125	0.08
8.0	1.78	0.12	0.07
9.0	1.785	0.115	0.07
10.0	1.79	0.11	0.07
11	1.795	0.105	0.07
12	1.8	0.1	0.0625
13	1.805	0.095	0.05938
14	1.81	0.09	0.05625
15	1.81	0.09	0.05625
16	1.815	0.085	0.05313
17	1.817	0.083	0.05188
18	1.82	0.08	0.05
19	1.825	0.075	0.04688
20	1.84	0.06	0.0375
25	1.855	0.045	0.02813
30	1.857	0.043	0.02688
35	1.857	0.043	0.02688
40	1.86	0.04	0.025
45	1.865	0.035	0.02188
50	1.868	0.032	0.02
55	1.87	0.03	0.01875

Head - time graph (slope of graph is S)



Calculations:

h_1	0.10		
t_1	4.0		
h_2	0.03		
t_2	30.0		
S	2.2E-02		
k	**2.00E-07**		

Permeability, $k = 0.133 \times S \times (rc^2/L)$ (m/sec)
where S = (log (h1/h2)/(t2 - t1), (ie slope of plot, t in mins)

Notes: Manual dip data used for analysis. Medium range time data analysed.

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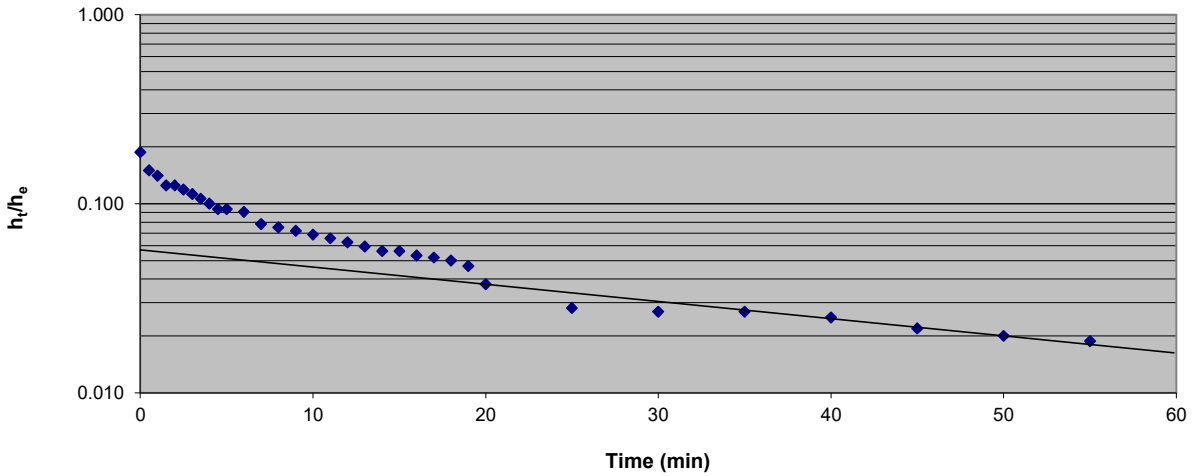
FALLING HEAD TEST

Bore No:	BH S	Test No:	#1	Job No:	10730	Date:	30-Jul-20	Logged by:	MW

Borehole co-ordinates: **Easting:**	7663	**Northing:**	22043	Collar elevation (m):	0 Flushed to ground level
Depth to top of test section (m):	1			Length of test section, **L** (m):	9.1
Depth of static water level, H_w (m):	1.9			Radius of borehole, **r** (m):	0.034
Excess head, h_e (m):	1.60			Radius of standpipe or casing, r_c (m):	0.025

Time (min)	Depth to water, h_w (m)	Excess head, $h_t=H_w-h_w$ (m)	h_t/h_e
0	1.6	**0.30**	**0.19**
0.5	1.66	0.24	0.15
1	1.675	0.225	0.14
1.5	1.7	0.2	0.13
2	1.7	0.2	0.13
2.5	1.71	0.19	0.12
3	1.72	0.18	0.11
3.5	1.73	0.17	0.11
4	1.74	0.16	0.10
4.5	1.75	0.15	0.09
5	1.75	0.15	0.09
6	1.755	0.145	0.09
7.0	1.775	0.125	0.08
8.0	1.78	0.12	0.07
9.0	1.785	0.115	0.07
10.0	1.79	0.11	0.07
11	1.795	0.105	0.07
12	1.8	0.1	0.0625
13	1.805	0.095	0.05938
14	1.81	0.09	0.05625
15	1.81	0.09	0.05625
16	1.815	0.085	0.05313
17	1.817	0.083	0.05188
18	1.82	0.08	0.05
19	1.825	0.075	0.04688
20	1.84	0.06	0.0375
25	1.855	0.045	0.02813
30	1.857	0.043	0.02688
35	1.857	0.043	0.02688
40	1.86	0.04	0.025
45	1.865	0.035	0.02188
50	1.868	0.032	0.02
55	1.87	0.03	0.01875

Head - time graph (slope of graph is S)



Calculations:

h_1	0.04		
t_1	20.0		
h_2	0.02		
t_2	55.0		
S	7.8E-03		
k	**7.13E-08**		

Permeability, $k = 0.133 \times S \times (rc^2/L)$ (m/sec)
where S = (log (h1/h2)/(t2 - t1), (ie slope of plot, t in mins)

Notes: Manual dip data used for analysis. Late time data analysed.