

Ref: J20-043-R02

Date: 9th November 2020

FAO: Stuart Mackley

Elberry Properties Ltd
12 Northgate
Chichester
West Sussex
PO19 1BA

Dear Stuart,

Re: Infiltration Testing – The Steddles, Yapton

GCC was commissioned by Elberry Properties Ltd in October 2020 to undertake additional infiltration testing to support the proposed residential development at the above site.

Reference to the British Geological Survey (BGS) Map extracts and previous investigations indicate the site to overlie superficial River Terrace Deposits (undifferentiated - sand, silt and clay) over bedrock geology of the Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated).

A total of 3no. trial-pits (SA201-SA203) were excavated on the 4th November 2020 at the site (locations shown on Figure 1) with the subsequent infiltration testing carried out in the pits between the 4th and 6th of November. The ground conditions encountered in the trial-pits are shown on the attached calculation sheets.

Infiltration testing was conducted in accordance with the procedures detailed in BRE DG365 and comprised piping water into an open trial hole, the drop in measured head over time was then recorded to give an indication of soakage potential. BRE DG365, 2016 states that for an accurate infiltration rate to be obtained, a soakage pit needs to be filled three times in quick succession. Each test is completed once 75% of the water present has drained away.

The infiltration calculation sheets are appended and the rates are summarised below.

Location	Stratum	Trial Pit Base Depth	Infiltration Rate (m/sec)	Notes
SA201 Test 1	Silt	0.6m	3.95×10^{-6}	Final data point extrapolated. Indicative only
SA201 Test 2		0.6m	9.02×10^{-6}	Test complete
SA201 Test 3		0.6m	8.92×10^{-6}	Test complete

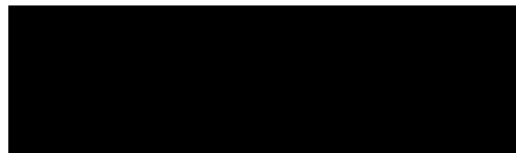
Location	Stratum	Trial Pit Base Depth	Infiltration Rate (m/sec)	Notes
SA202 Test 1	Silty Clay	0.6m	6.75×10^{-6}	Test complete
SA202 Test 2	Silty Clay	0.6m	1.44×10^{-5}	Test complete
SA202 Test 3	Silty Clay	0.6m	1.07×10^{-5}	Test complete

Location	Stratum	Trial Pit Base Depth	Infiltration Rate (m/sec)	Notes
SA203 Test 1	Silty Clay	0.6m	4.14×10^{-6}	Final data point extrapolated. Indicative only
SA203 Test 2	Silty Clay	0.6m	2.97×10^{-6}	Final data point extrapolated. Indicative only
SA203 Test 3	Silty Clay	0.6m	5.73×10^{-6}	Test complete

Yours sincerely



ANTONY PLATT
Director
For Ground Condition Consultants Ltd



RASMUS PALMGREN
Director
For Ground Condition Consultants Ltd

Encl: Figure 1: Location plan
Infiltration Test Results



Ground Condition Consultants Ltd
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client
ELBERRY

project
THE STEDDLES, YAPTON

title
INVESTIGATION LOCATION PLAN

scale NTS drawn by AP checked by RP

date 09 NOV 2020 cad file J20-043

drawing number
FIGURE 1

rev.
0

Soakaway Calculations

Soakaway Test No. SA201 - Test 1
Contract: Yapton
Contract No. J20-043

Field Test

Depth of Pit 0.60 m
Width of Pit 0.50 m
Length of Pit 1.00 m
Depth of Pit Soaked 0.40 m

ap50 1.1 m2
Vp75-25 0.1 m3
t75-25 383.9 min
water used 0.2000 m3
f 3.946E-06 m/sec.

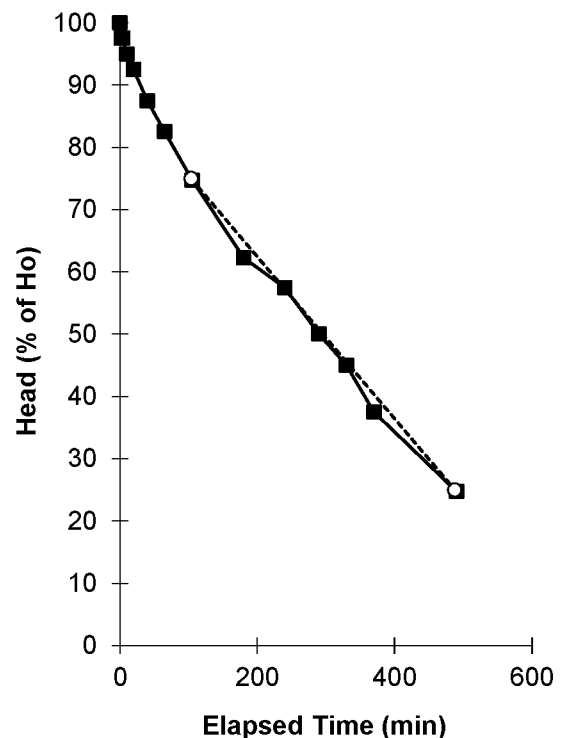
Trial Pit Log (include details of groundwater):

0.0-0.2 - Grass over brown soft silty CLAY (TS)
0.2-0.4 - Light brown very gravelly CLAY with occasional red brick frag (MG)
0.4-0.6 - Light brown slightly gravelly chalk SILT.
Gravel is fine to medium angular to subangular chalk and fine to coarse angular to rounded flint.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.21	2	98	0.39
0.21	4	98	0.39
0.22	10	95	0.38
0.23	20	93	0.37
0.25	40	88	0.35
0.27	65	83	0.33
0.30	105	75	0.30
0.35	180	62	0.25
0.37	240	58	0.23
0.40	290	50	0.20
0.42	330	45	0.18
0.45	370	38	0.15
0.50	490	25	0.10

T75 103.710 75
T25 487.647 25
T75-25 383.937 Derived from Best Fit



Comments

Final data point extrapolated. Infiltration rate should be considered indicative only.

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Soakaway Calculations

Soakaway Test No. SA201 - Test 2
Contract: Yapton
Contract No. J20-043

Field Test

Depth of Pit 0.60 m
Width of Pit 0.50 m
Length of Pit 1.00 m
Depth of Pit Soaked 0.40 m

ap50 1.1 m2
Vp75-25 0.1 m3
t75-25 167.9 min
water used 0.2000 m3
f 9.023E-06 m/sec.

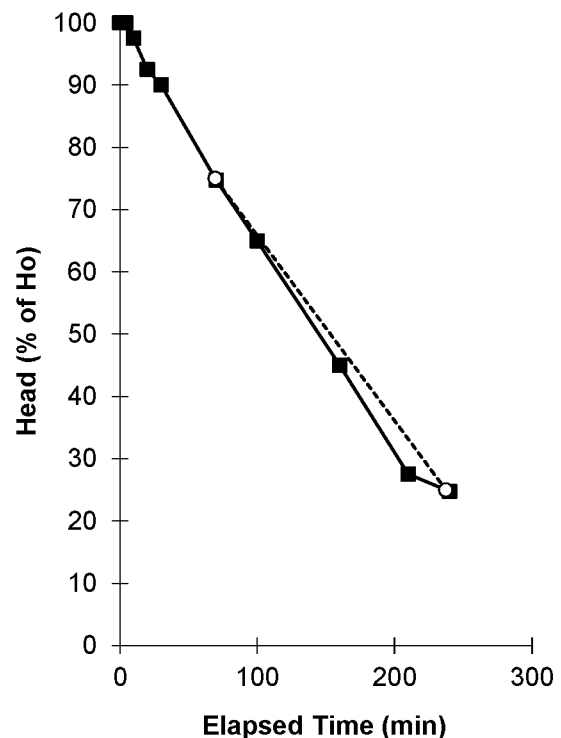
Trial Pit Log (include details of groundwater):

0.0-0.2 - Grass over brown soft silty CLAY (TS)
0.2-0.4 - Light brown very gravelly CLAY with occasional red brick frag (MG)
0.4-0.6 - Light brown slightly gravelly chalk SILT.
Gravel is fine to medium angular to subangular chalk and fine to coarse angular to rounded flint.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.20	2	100	0.40
0.20	4	100	0.40
0.21	10	98	0.39
0.23	20	93	0.37
0.24	30	90	0.36
0.30	70	75	0.30
0.34	100	65	0.26
0.42	160	45	0.18
0.49	210	28	0.11
0.50	240	25	0.10

T75 69.344 75
T25 237.273 25
T75-25 167.928 Derived from Best Fit



Comments

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Soakaway Calculations

Soakaway Test No. SA201 - Test 3
 Contract: Yapton
 Contract No. J20-043

Field Test

Depth of Pit 0.60 m
 Width of Pit 0.50 m
 Length of Pit 1.00 m
 Depth of Pit Soaked 0.40 m

ap50 1.1 m2
 Vp75-25 0.1 m3
 t75-25 169.9 min
 water used 0.2000 m3
 f 8.916E-06 m/sec.

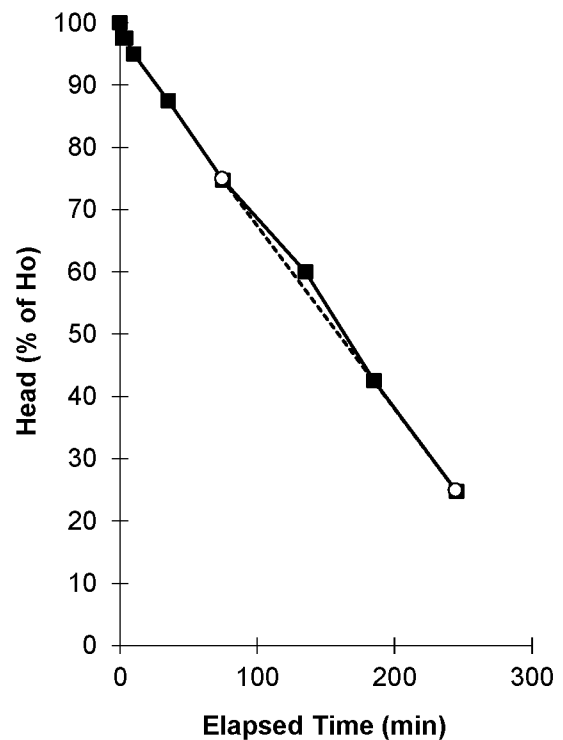
Trial Pit Log (include details of groundwater):

0.0-0.2 - Grass over brown soft silty CLAY (TS)
 0.2-0.4 - Light brown very gravelly CLAY with occasional red brick frag (MG)
 0.4-0.6 - Light brown slightly gravelly chalk SILT.
 Gravel is fine to medium angular to subangular chalk and fine to coarse angular to rounded flint.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.21	2	98	0.39
0.21	4	98	0.39
0.22	10	95	0.38
0.25	35	88	0.35
0.30	75	75	0.30
0.36	135	60	0.24
0.43	185	43	0.17
0.50	245	25	0.10

T75 74.216 75
 T25 244.155 25
 T75-25 169.939 Derived from Best Fit



Comments

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Soakaway Calculations

Soakaway Test No. SA202 - Test 1
Contract: Yapton
Contract No. J20-043

Field Test

Depth of Pit 0.60 m
Width of Pit 0.50 m
Length of Pit 1.00 m
Depth of Pit Soaked 0.40 m

ap50 1.1 m²
Vp75-25 0.1 m³
t75-25 224.4 min
water used 0.2000 m³
f 6.752E-06 m/sec.

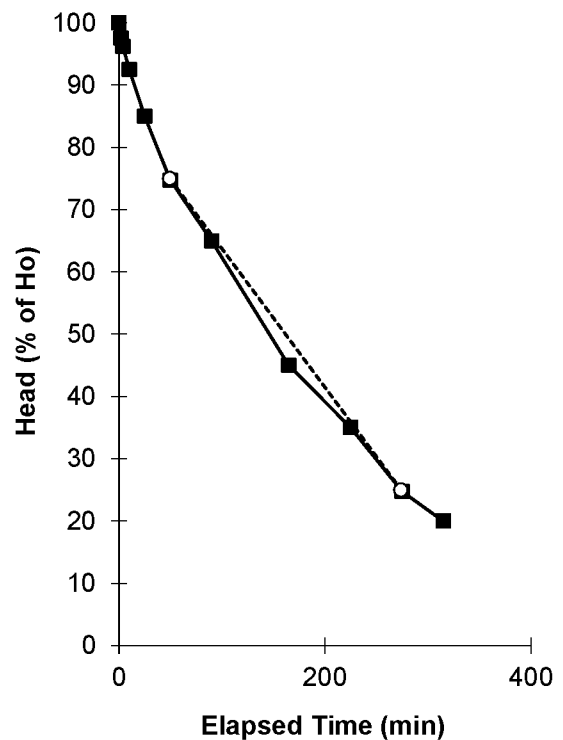
Trial Pit Log (include details of groundwater):

0.0-0.3 - Grass over brown soft silty CLAY (TS)
0.3-0.6 - Brown silty CLAY.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.21	2	98	0.39
0.22	4	96	0.39
0.23	10	93	0.37
0.26	25	85	0.34
0.30	50	75	0.30
0.34	90	65	0.26
0.42	165	45	0.18
0.46	225	35	0.14
0.50	275	25	0.10
0.52	315	20	0.08

T75 49.390 75
T25 273.780 25
T75-25 224.390 Derived from Best Fit



Comments

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Soakaway Calculations

Soakaway Test No. SA202 - Test 2
Contract: Yapton
Contract No. J20-043

Field Test

Depth of Pit 0.60 m
Width of Pit 0.50 m
Length of Pit 1.00 m
Depth of Pit Soaked 0.40 m

ap50 1.1 m2
Vp75-25 0.1 m3
t75-25 105.3 min
water used 0.2000 m3
f 1.439E-05 m/sec.

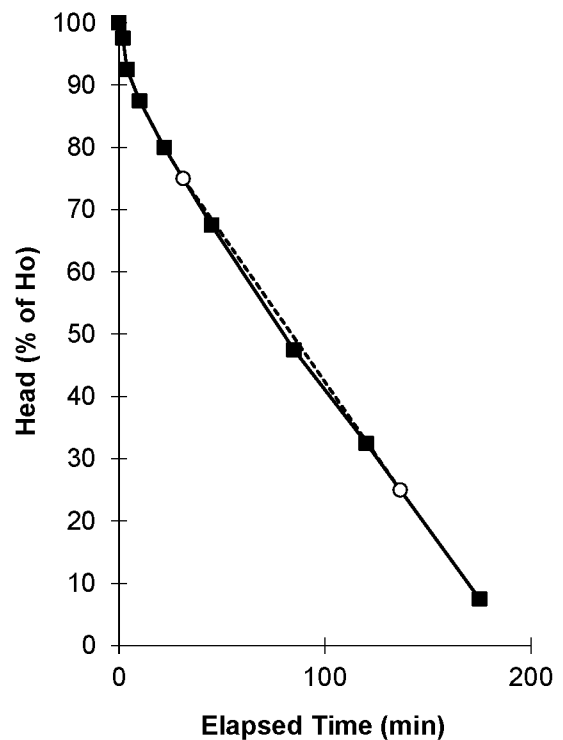
Trial Pit Log (include details of groundwater):

0.0-0.3 - Grass over brown soft silty CLAY (TS)
0.3-0.6 - Brown silty CLAY.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.21	2	98	0.39
0.23	4	93	0.37
0.25	10	88	0.35
0.28	22	80	0.32
0.33	45	68	0.27
0.41	85	48	0.19
0.47	120	33	0.13
0.57	175	8	0.03

T75 31.200 75
T25 136.500 25
T75-25 105.300 Derived from Best Fit



Comments

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Soakaway Calculations

Soakaway Test No. SA202 - Test 3
 Contract: Yapton
 Contract No. J20-043

Field Test

Depth of Pit 0.60 m
 Width of Pit 0.50 m
 Length of Pit 1.00 m
 Depth of Pit Soaked 0.41 m

ap50 1.115 m²
 Vp75-25 0.1025 m³
 t75-25 143.0 min
 water used 0.2050 m³
 f 1.071E-05 m/sec.

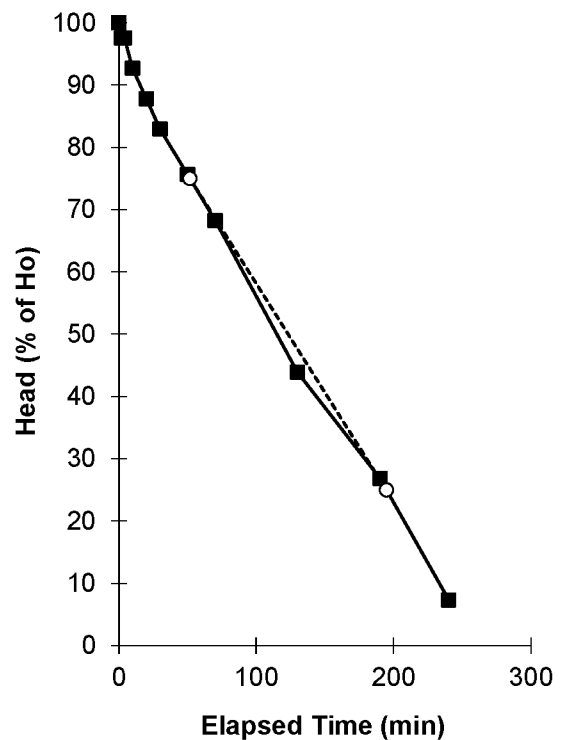
Trial Pit Log (include details of groundwater):

0.0-0.3 - Grass over brown soft silty CLAY (TS)
 0.3-0.6 - Brown silty CLAY.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.19	0	100	0.41
0.20	2	98	0.40
0.20	4	98	0.40
0.22	10	93	0.38
0.24	20	88	0.36
0.26	30	83	0.34
0.29	50	76	0.31
0.32	70	68	0.28
0.42	130	44	0.18
0.49	190	27	0.11
0.57	240	7	0.03

T75 51.667 75
 T25 194.688 25
 T75-25 143.021 Derived from Best Fit



Comments

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Soakaway Calculations

Soakaway Test No. SA203 - Test 1
Contract: Yapton
Contract No. J20-043

Field Test

Depth of Pit 0.60 m
Width of Pit 0.50 m
Length of Pit 1.00 m
Depth of Pit Soaked 0.40 m

ap50 1.1 m2
Vp75-25 0.1 m3
t75-25 365.9 min
water used 0.2000 m3
f 4.141E-06 m/sec.

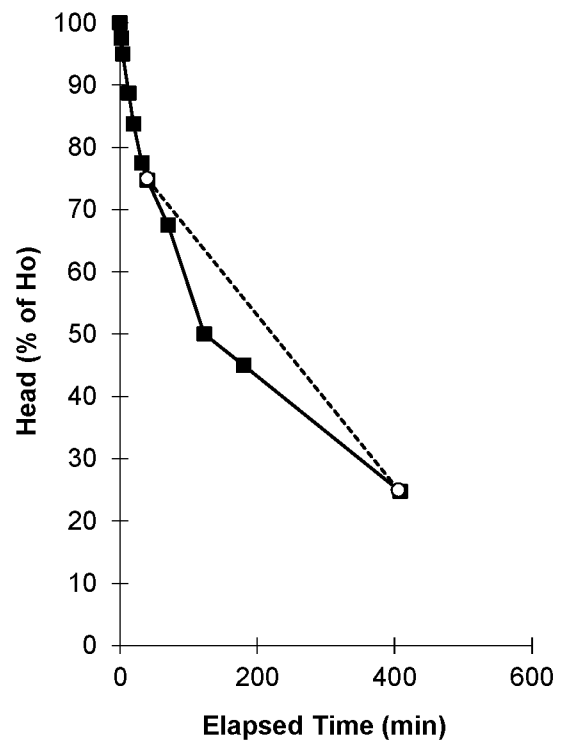
Trial Pit Log (include details of groundwater):

0.0-0.3 - Grass over brown soft silty CLAY (TS)
0.3-0.6 - Brown silty CLAY.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.21	2	98	0.39
0.22	4	95	0.38
0.25	13	89	0.36
0.27	20	84	0.34
0.29	32	78	0.31
0.30	40	75	0.30
0.33	70	68	0.27
0.40	123	50	0.20
0.42	180	45	0.18
0.50	408	25	0.10

T75 39.273 75
T25 405.185 25
T75-25 365.912 Derived from Best Fit



Comments

Final data point extrapolated. Infiltration rate should be considered indicative only.

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Soakaway Calculations

Soakaway Test No. SA203 - Test 2
Contract: Yapton
Contract No. J20-043

Field Test

Depth of Pit 0.60 m
Width of Pit 0.50 m
Length of Pit 1.00 m
Depth of Pit Soaked 0.40 m

ap50 1.1 m2
Vp75-25 0.1 m3
t75-25 509.6 min
water used 0.2000 m3
f 2.973E-06 m/sec.

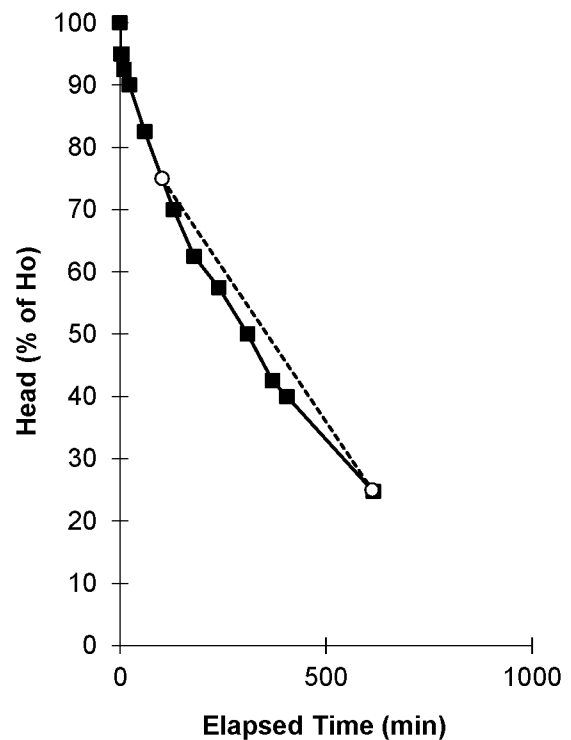
Trial Pit Log (include details of groundwater):

0.0-0.3 - Grass over brown soft silty CLAY (TS)
0.3-0.6 - Brown silty CLAY.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.22	2	95	0.38
0.22	4	95	0.38
0.22	5	95	0.38
0.23	10	93	0.37
0.24	23	90	0.36
0.27	60	83	0.33
0.32	130	70	0.28
0.35	180	63	0.25
0.37	240	58	0.23
0.40	310	50	0.20
0.43	370	43	0.17
0.44	405	40	0.16
0.50	615	25	0.10

T75 102.000 75
T25 611.557 25
T75-25 509.557 Derived from Best Fit



Comments

Final data point extrapolated. Infiltration rate should be considered indicative only.

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Soakaway Calculations

Soakaway Test No. SA203 - Test 3
Contract: Yapton
Contract No. J20-043

Field Test

Depth of Pit 0.60 m
Width of Pit 0.50 m
Length of Pit 1.00 m
Depth of Pit Soaked 0.40 m

ap50 1.1 m²
Vp75-25 0.1 m³
t75-25 264.6 min
water used 0.2000 m³
f 5.725E-06 m/sec.

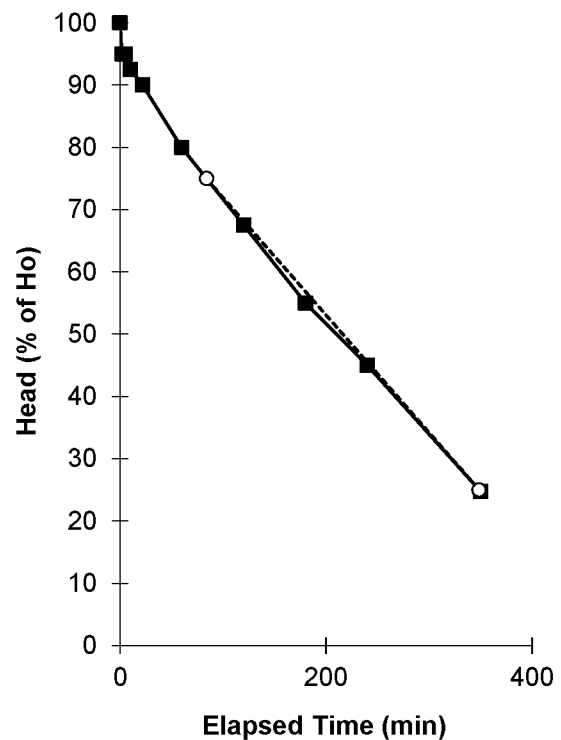
Trial Pit Log (include details of groundwater):

0.0-0.3 - Grass over brown soft silty CLAY (TS)
0.3-0.6 - Brown silty CLAY.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.40
0.22	2	95	0.38
0.22	4	95	0.38
0.22	5	95	0.38
0.23	10	93	0.37
0.24	22	90	0.36
0.28	60	80	0.32
0.33	120	68	0.27
0.38	180	55	0.22
0.42	240	45	0.18
0.50	350	25	0.10

T75 84.000 75
T25 348.642 25
T75-25 264.642 Derived from Best Fit



Comments

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