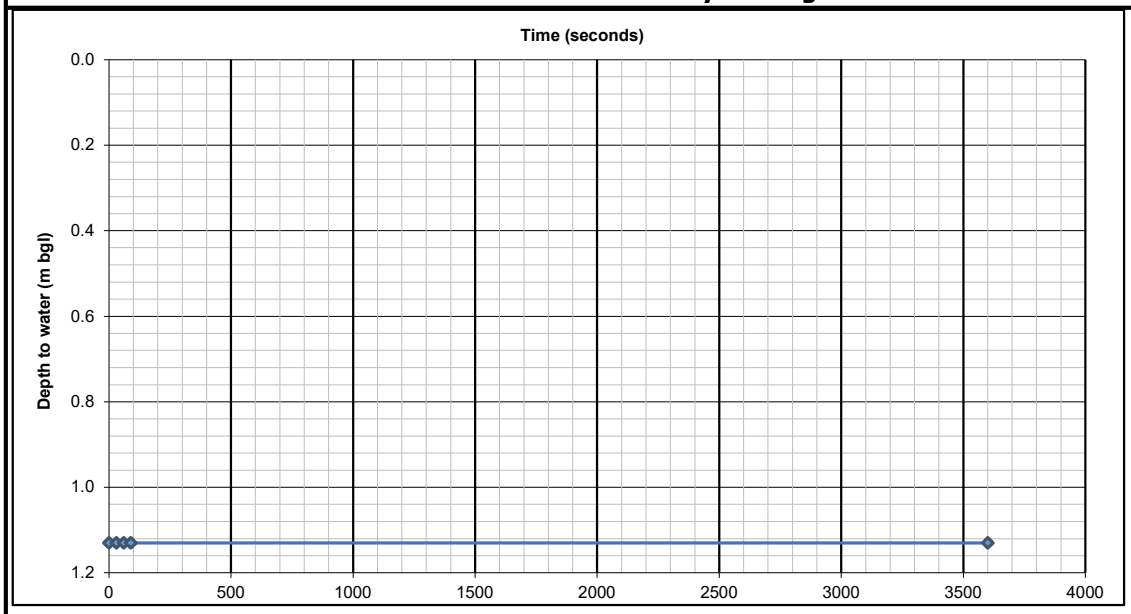
Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	18/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH102
TEST NUMBER:	1

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	1.13				
30	1.13				
60	1.13				
90	1.13				
3600	1.13				

using BS EN ISO 22282-2

Details

Engineer	Ed Martindale
Test Start Time	09:20:00
Test Finish Time	10:20:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	n/a
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	1.00 m
Depth to base of test section	1.50 m bgl
Length of test section	0.00 m
Installation Diameter @ Test Section	n/a
Calculated Permeability	-

Geological Description:

Ground level to 6m bgl: Made Ground
6.00 – 13.50m bgl: Weathered SWLCM*
* Not final depth of BH

Test Remarks:

No permeability coefficent can be calucated due to no change in head response.

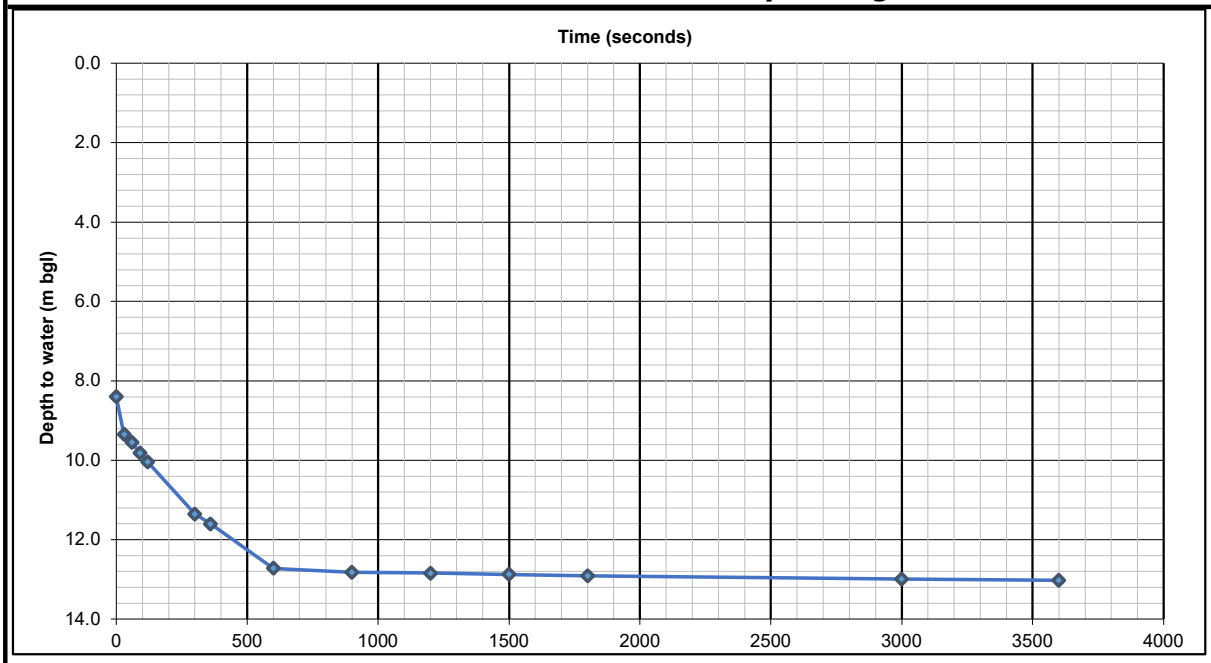
Verified by:	Erin O'Brien	Date Verified:	03/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	20/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH102
TEST NUMBER:	2

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	8.40				
30	9.35				
60	9.55				
90	9.81				
120	10.04				
300	11.35				
360	11.60				
600	12.72				
900	12.82				
1200	12.84				
1500	12.87				
1800	12.91				
3000	12.99				
3600	13.02				

Details

Engineer	Ed Martindale
Test Start Time	09:20:00
Test Finish Time	10:20:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	n/a
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	-
Depth to base of test section	13.50 m bgl
Length of test section	0.00 m
Installation Diameter @ Test Section	n/a
Calculated Permeability	$4x10^{-7}$ m/s (represents permeability through base of borehole)

Geological Description:

Ground level to 6m bgl: Made Ground
6.00 – 13.50m bgl: Weathered SWLCM*
* Not final depth of BH

Test Remarks:

Verified by:	Erin O'Brien	Date Verified:	03/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

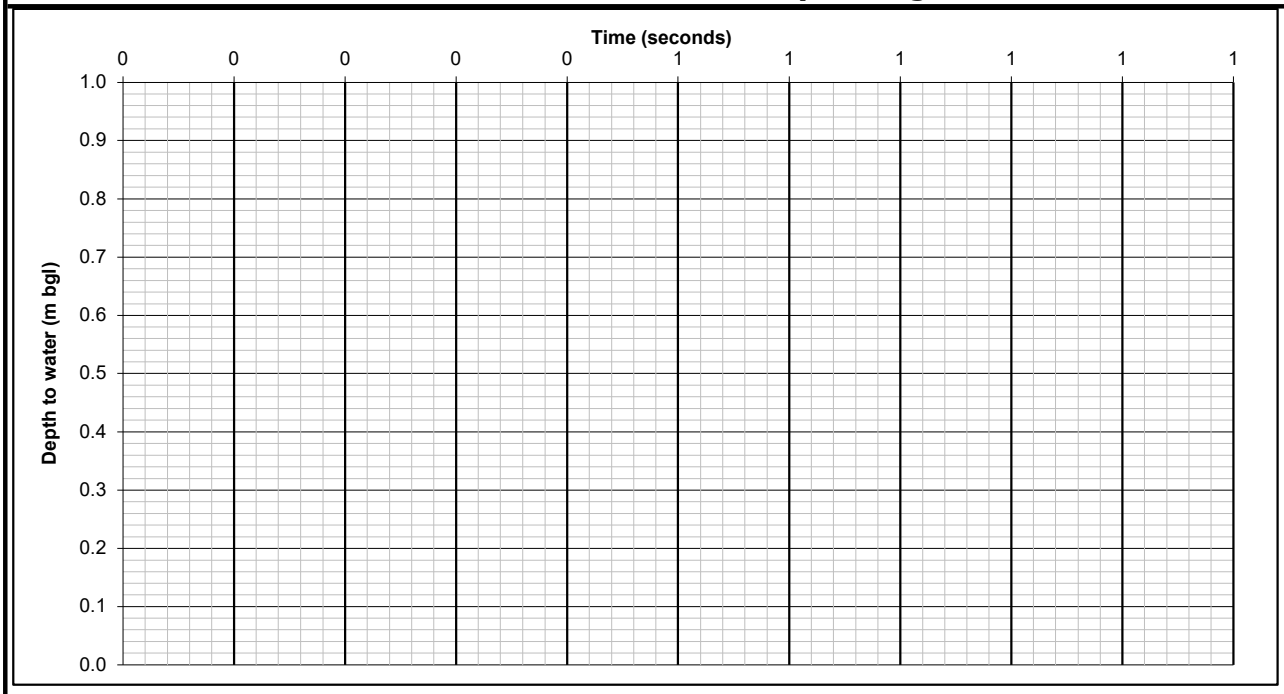
Calculated using BS EN ISO 22282-2

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH112
TEST NUMBER:	1

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0					

Details

Engineer	Ed Martindale
Test Start Time	09:20:00
Test Finish Time	09:25:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	4.50 m bgl
Depth to base of test section	5.00 m bgl
Length of test section	0.50 m
Installation Diameter @ Test Section	-
Calculated Permeability	-

Geological Description:

Ground Level to 1.50m bgl: Made Ground
1.50-5.00: Weathered SWLCM*
* Not final depth of borehole

Test Remarks:

Pumped 500litres of water within 5 minutes into borehole and unable to maintain head. Water drained.

Verified by:	Erin O'Brien	Date Verified:	04/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

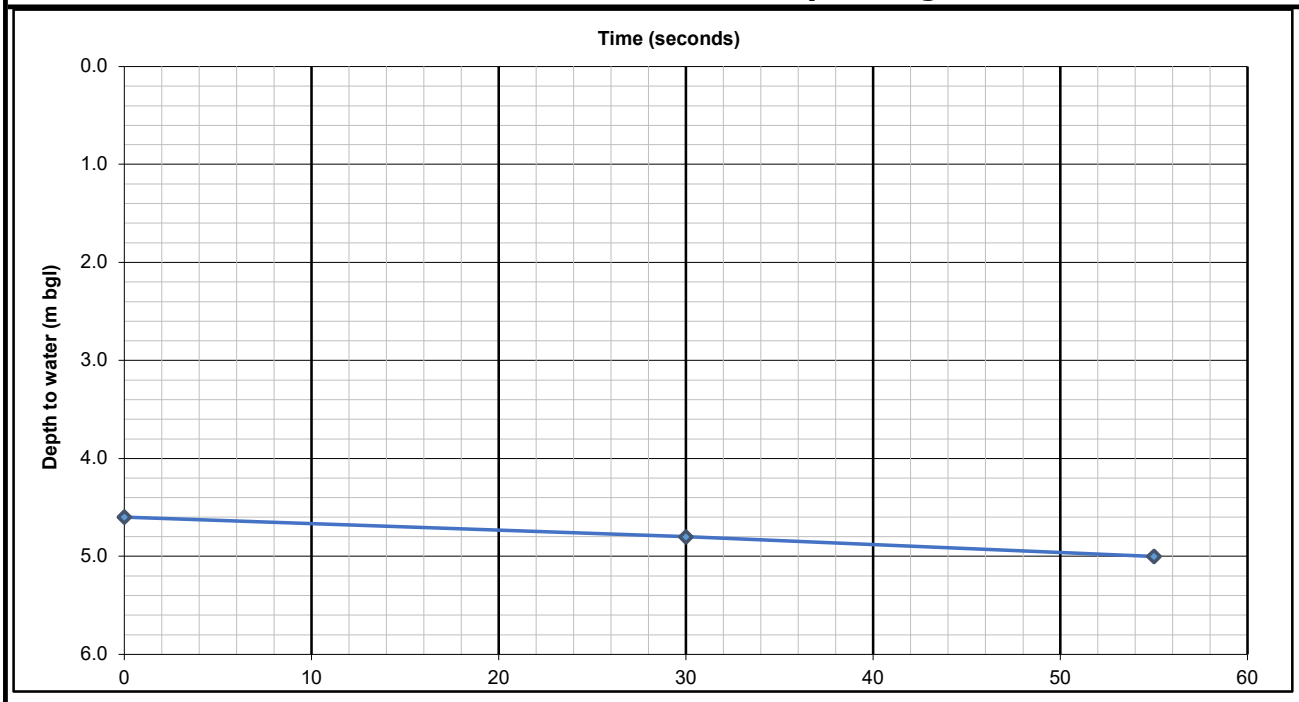
Calculated using BS EN ISO 22282-2:2012

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH112
TEST NUMBER:	2

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	4.60				
30	4.80				
55	5.00				

Calculated using BS EN ISO 22282-2:2012

Details

Engineer	Ed Martindale
Test Start Time	09:30:00
Test Finish Time	09:31:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	4.50 m
Depth to base of test section	5.00 m bgl
Length of test section	0.50 m
Installation Diameter @ Test Section	-
Calculated Permeability	2.90x10-4

Geological Description:

GL - 0.10m bgl: Made Ground
0.10-1.50m bgl: Weathered SWLCM
1.50 - 5m bgl: SWLCM* Not final depth of borehole.

Test Remarks:

Pumped 500litres of water into borehole and water drained within 55 seconds.

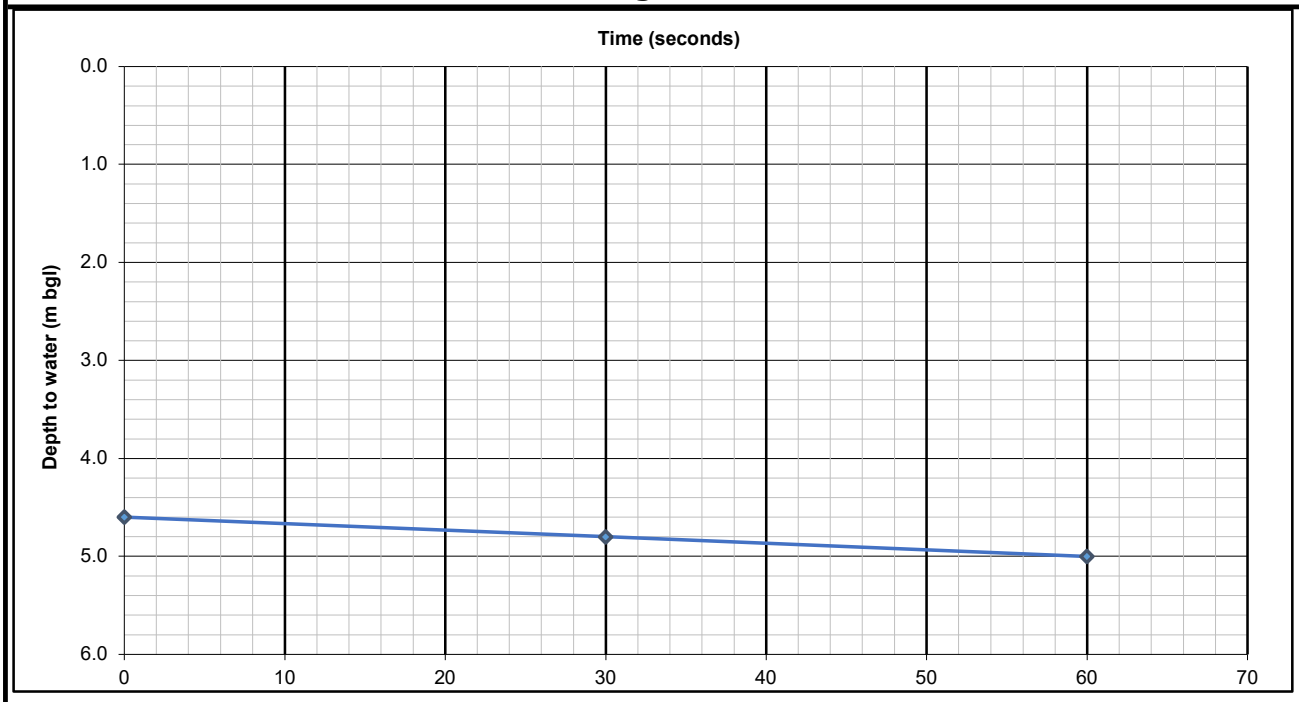
Verified by:	Erin O'Brien	Date Verifired:	03/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH112
TEST NUMBER:	3

Falling Head Test



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	4.60				
30	4.80				
60	5.00				

Calculated using

Details

Engineer	Ed Martindale
Test Start Time	09:30:00
Test Finish Time	09:31:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	4.50 m
Depth to base of test section	5.00 m bgl
Length of test section	0.50 m
Installation Diameter @ Test Section	
Calculated Permeability	2.90×10^{-4}

Geological Description:

GL - 0.10m bgl: Made Ground
0.10-1.50m bgl: Weathered SWLCM
1.50 - 5m bgl: SWLCM* Not final depth of borehole.

Test Remarks:

Pumped 500litres of water into borehole and water drained within 60 seconds. Permeability could not be calculated

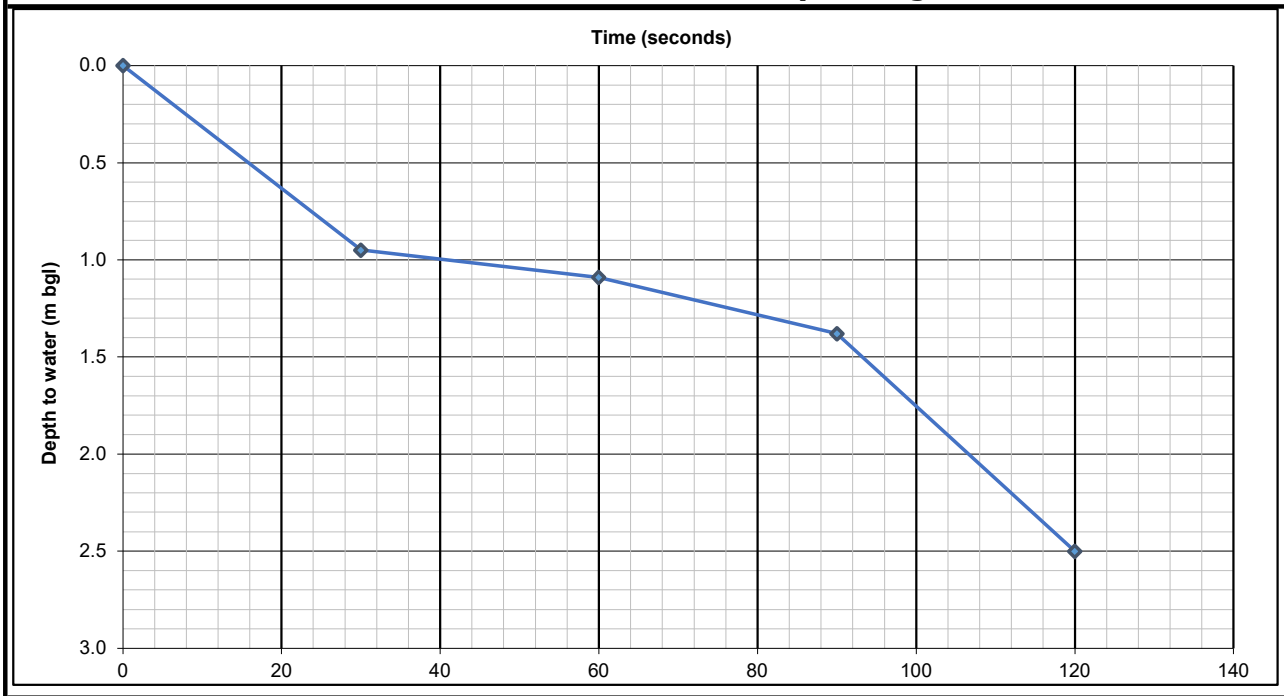
Verified by:	Erin O'Brien	Date Verified:	04/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH115
TEST NUMBER:	1

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	0.00				
30	0.95				
60	1.09				
90	1.38				
120	2.50				

Calculated using BS EN ISO 22282-2:2012

Details

Engineer	Ed Martindale
Test Start Time	09:13:00
Test Finish Time	09:15:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	1.50 m
Depth to base of test section	2.50 m bgl
Length of test section	1.00 m
Installation Diameter @ Test Section	-
Calculated Permeability	7.1×10^{-5}

Geological Description:

0.0 - 1.5m: Made Ground
1.5 - 2.5m: Weathered SWLCM* Not final depth of borehole.

Test Remarks:

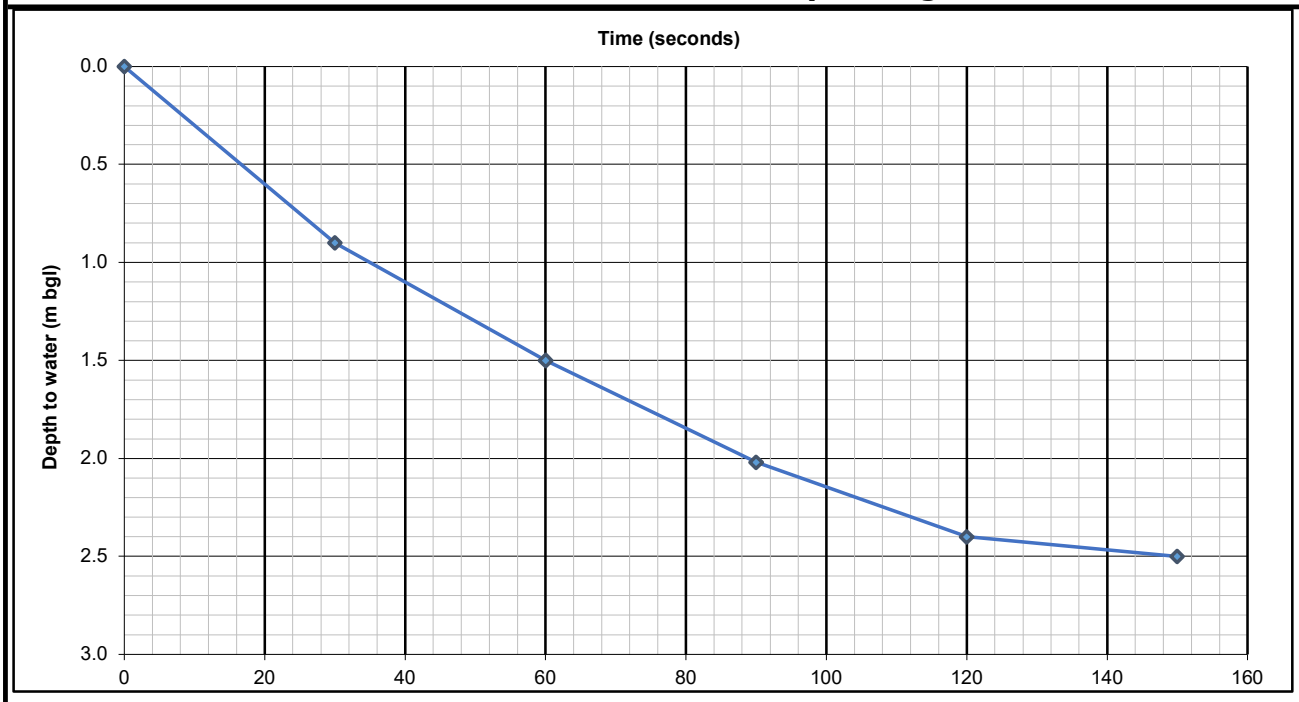
Verified by:	Erin O'Brien	Date Verified:	03/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH115
TEST NUMBER:	2

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	0.00				
30	0.90				
60	1.50				
90	2.02				
120	2.40				
150	2.50				

Calculated using BS EN ISO 22282-2:2012

Details

Engineer	Ed Martindale
Test Start Time	09:15:00
Test Finish Time	09:17:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	1.50 m
Depth to base of test section	2.50 m bgl
Length of test section	1.00 m
Installation Diameter @ Test Section	-
Calculated Permeability	1.4×10^{-4}

Geological Description:

Ground level to 1.5m: Made Ground
1.5 - 2.5m: Weathered SWLCM* Not final depth of borehole.

Test Remarks:

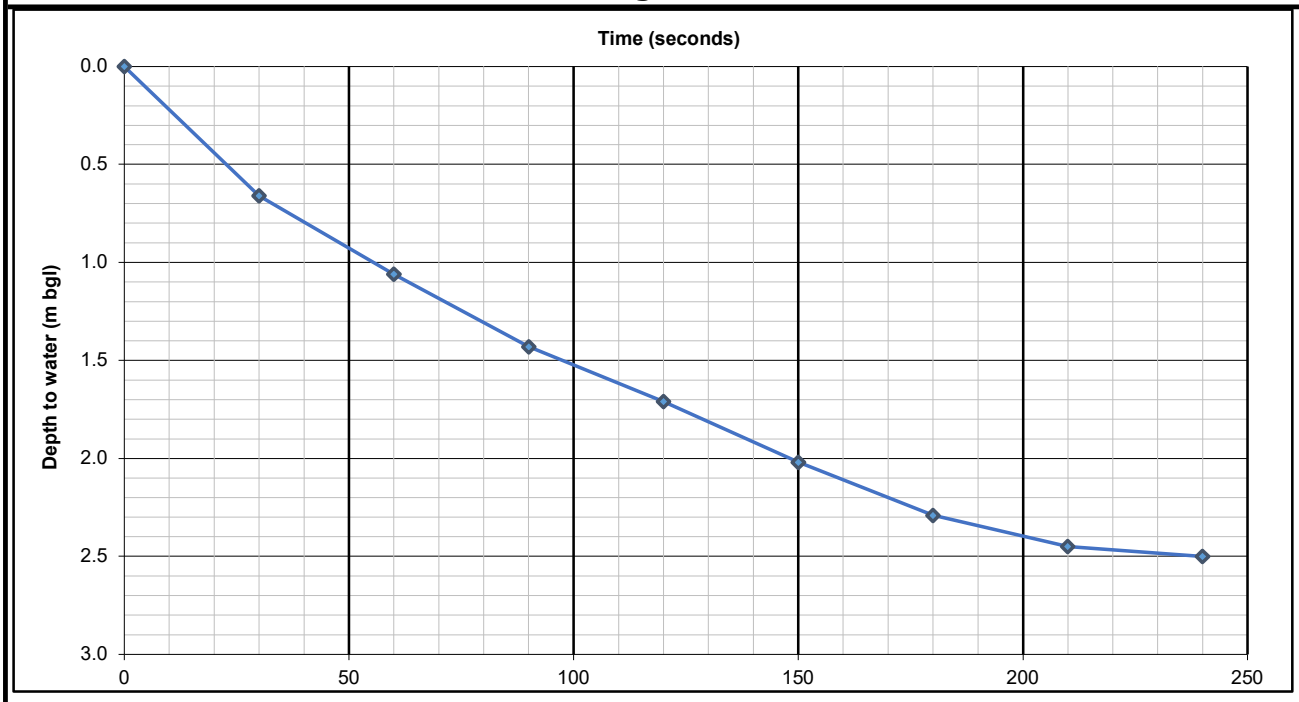
Verified by:	Erin O'Brien	Date Verified:	03/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH115
TEST NUMBER:	3

Falling Head Test



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	0.00				
30	0.66				
60	1.06				
90	1.43				
120	1.71				
150	2.02				
180	2.29				
210	2.45				
240	2.50				

Calculated using

Details

Engineer	Ed Martindale
Test Start Time	09:20:00
Test Finish Time	09:24:00
Weather	Overcast

Test Details

Resting water level	
Casing Above Ground	
Backfill type	
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	1.50 m
Depth to base of test section	2.50 m bgl
Length of test section	0.00 m
Installation Diameter @ Test Section	
Calculated Permeability	5.0×10^{-5}

Geological Description:

Ground level to 1.5m: Made Ground
1.5 - 2.5m: Weathered SWLCM* Not final depth of borehole.

Test Remarks:

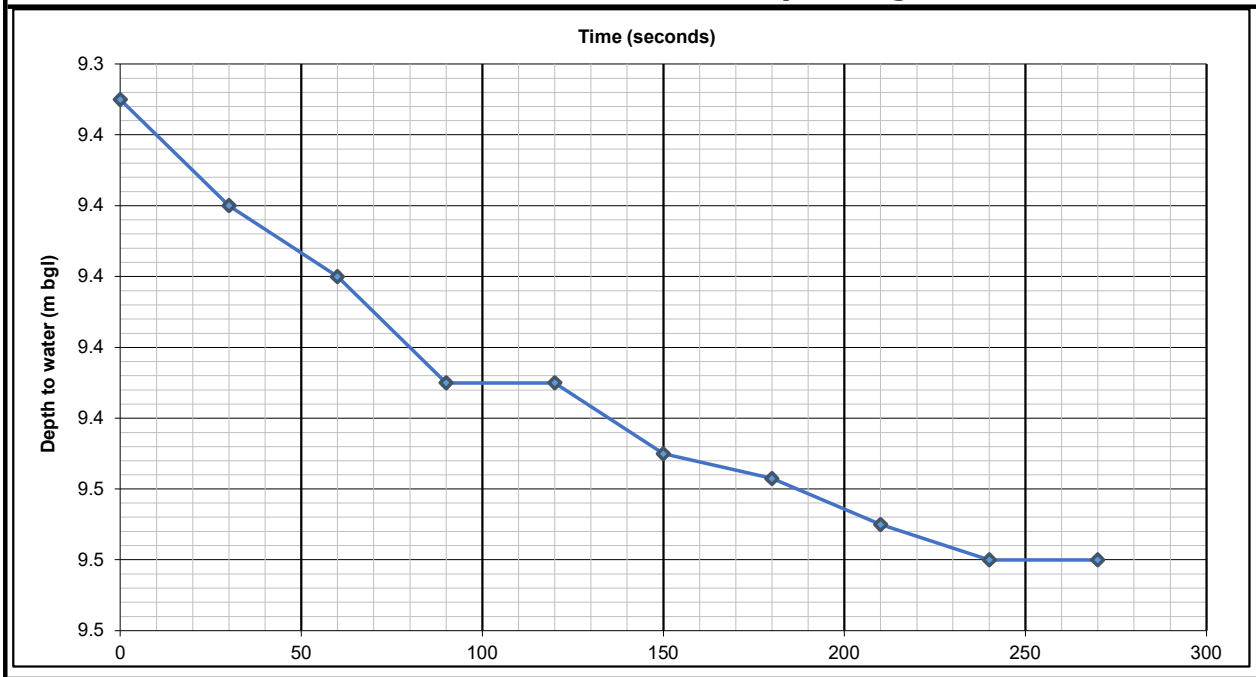
Verified by:	Erin O'Brien	Date Verified:	04/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

Tetra Tech

Hodge House, 114-116 St Mary Street, Cardiff, CF10 1DY

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH115
TEST NUMBER:	4

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	9.35				
30	9.38				
60	9.40				
90	9.43				
120	9.43				
150	9.45				
180	9.46				
210	9.47				
240	9.48				
270	9.48				

Calculated using BS BS EN ISO 22282-2

Details

Engineer	Ed Martindale
Test Start Time	09:20:00
Test Finish Time	09:24:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	9.35 m
Depth to base of test section	9.50 m bgl
Length of test section	0.15 m
Installation Diameter @ Test Section	-
Calculated Permeability	$1x10^{-4}$

Geological Description:

Ground level to 1.5m: Made Ground
1.5 - 5.10m: Weathered SWLCM
5.10 - 30.50m SWLCM

Test Remarks:

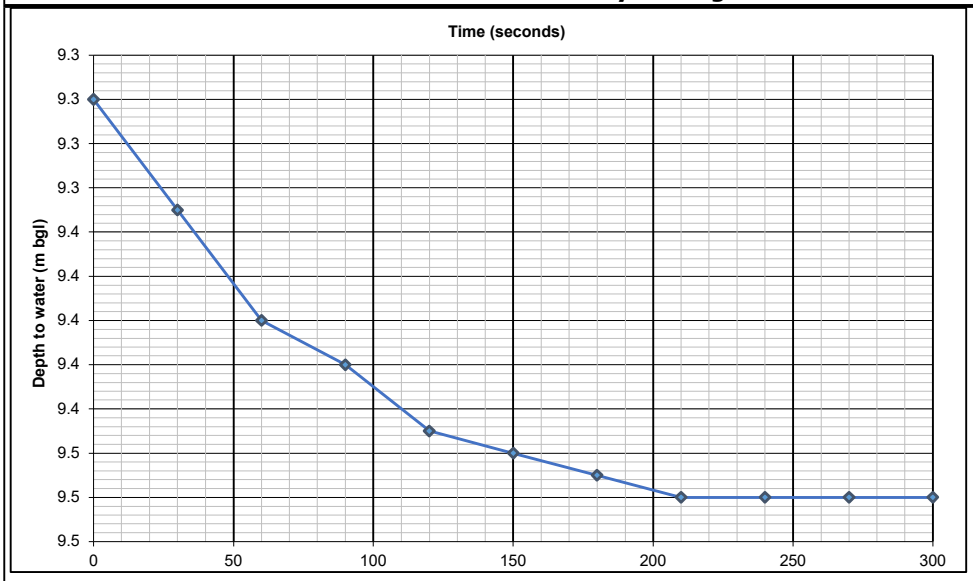
Verified by:	Erin O'Brien	Date Verified:	04/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

Tetra Tech

Hodge House, 114-116 St Mary Street,
Cardiff, CF10 1DY

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH115
TEST NUMBER:	5

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL (m)	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	9.30				
30	9.35				
60	9.40				
90	9.42				
120	9.45				
150	9.46				
180	9.47				
210	9.48				
240	9.48				
270	9.48				
300	9.48				

Details

Engineer	Ed Martindale
Test Start Time	09:35:00
Test Finish Time	09:40:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	9.30 m
Depth to base of test section	9.50 m bgl
Length of test section	0.20 m
Installation Diameter @ Test Section	-
Calculated Permeability	1.04×10^{-4}

Geological Description:

Ground level to 1.5m: Made Ground
1.5 - 5.10m: Weathered SWLCM
5.10 - 30.50m SWLCM

Test Remarks:

Verified by:	Erin O'Brien	Date Verified:	04/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

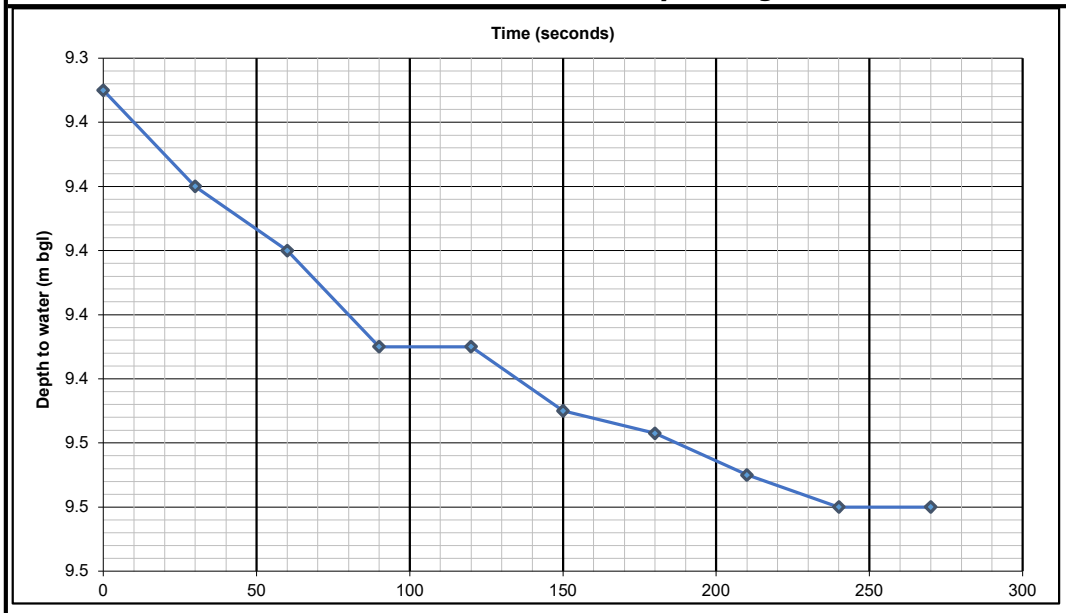
Calculated using BS BS EN ISO 22282-2

Tetra Tech

Hodge House, 114-116 St Mary Street,
Cardiff, CF10 1DY

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat Mill Road
CLIENT:	Merthyr Tydfil County Borough Council
BOREHOLE ID:	BH115
TEST NUMBER:	6

Variable Head Permeability Testing



Time Elapsed (seconds)	Water depth from GL	H/H0	Time Elapsed (s)	Water depth from GL (m)	H/H0
0	9.35				
30	9.38				
60	9.40				
90	9.43				
120	9.43				
150	9.45				
180	9.46				
210	9.47				
240	9.48				
270	9.48				

Calculated using BS BS EN ISO 22282-2

Details

Engineer	Ed Martindale
Test Start Time	09:42:00
Test Finish Time	09:50:00
Weather	Overcast

Test Details

Resting water level	-
Casing Above Ground	-
Backfill type	-
Borehole Diameter	165 mm
Screen Type	In Hole
Depth to top of test section	9.35 m
Depth to base of test section	9.50 m bgl
Length of test section	0.15 m
Installation Diameter @ Test Section	-
Calculated Permeability	$1x10^{-4}$

Geological Description:

Ground level to 1.5m: Made Ground
1.5 - 5.10m: Weathered SWLCM
5.10 - 30.50m SWLCM

Test Remarks:

Verified by:	Erin O'Brien	Date Verified:	04/08/2026
Checked	Peter Murphy	Date Checked	05/08/2026

APPENDIX G: SOAKAWAY RESULTS

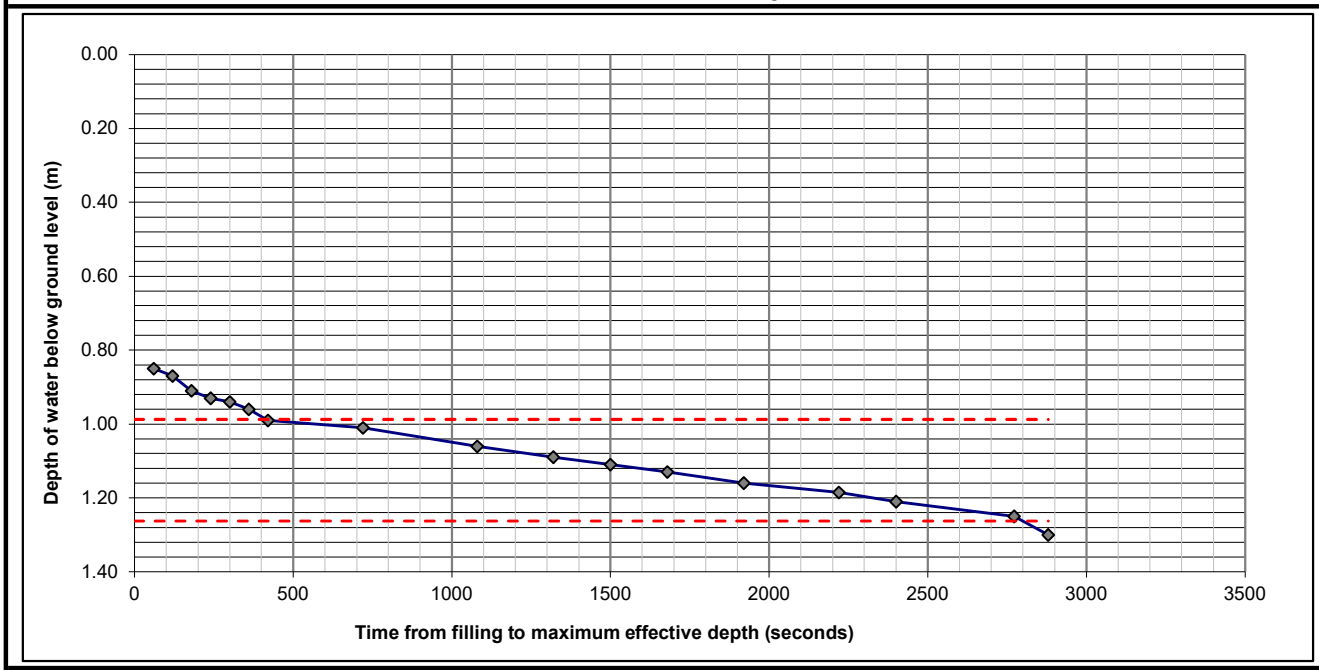
Tetra Tech

1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP505
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
60	1.00	0.850
120	2.00	0.870
180	3.00	0.910
240	4.00	0.930
300	5.00	0.940
360	6.00	0.960
420	7.00	0.990
720	12.00	1.010
1080	18.00	1.060
1320	22.00	1.090
1500	25.00	1.110
1680	28.00	1.130
1920	32.00	1.160
2220	37.00	1.185
2400	40.00	1.210
2772	46.20	1.250
2880	48.00	1.300

PIT LENGTH (m):	2.30	**Pit construction**
PIT WIDTH (m):	0.70	Open - No Gravel
PIT DEPTH (m):	1.40	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.89
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.44
Effective depth of Pit	(m)	0.55
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.89
Level of water in pit at 75% effective depth (p_{75})	(m)	0.14
Level of water in pit at 25% effective depth (p_{25})	(m)	0.41
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.44
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	3.26
Time at 75% effective depth (p_{75})	(s)	415
Time at 25% effective depth (p_{25})	(s)	2799
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	2384

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**5.70E-05**

WATER INPUT:	1700 l	12 mins

GEOLOGY OF TEST SECTION:

Made Ground

Compiled by: SW
Checked by: JC

After BRE Digest 365, Soakaway Design, 2016

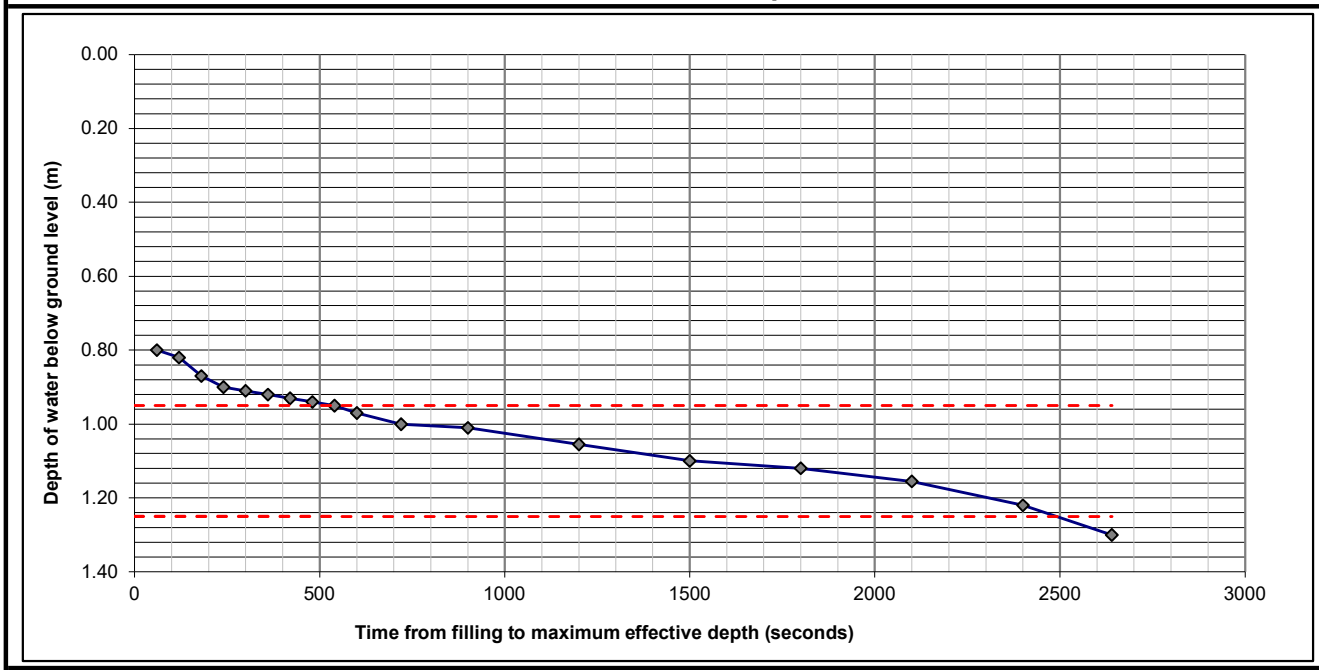
Tetra Tech

1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP505
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
60	1.00	0.800
120	2.00	0.820
180	3.00	0.870
240	4.00	0.900
300	5.00	0.910
360	6.00	0.920
420	7.00	0.930
480	8.00	0.940
540	9.00	0.950
600	10.00	0.970
720	12.00	1.000
900	15.00	1.010
1200	20.00	1.055
1500	25.00	1.100
1800	30.00	1.120
2100	35.00	1.155
2400	40.00	1.220
2640	44.00	1.300

PIT LENGTH (m):	2.30	**Pit construction**
PIT WIDTH (m):	0.70	Open - No Gravel
PIT DEPTH (m):	1.40	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.97
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.48
Effective depth of Pit	(m)	0.60
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.97
Level of water in pit at 75% effective depth (p_{75})	(m)	0.15
Level of water in pit at 25% effective depth (p_{25})	(m)	0.45
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.48
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	3.41
Time at 75% effective depth (p_{75})	(s)	541
Time at 25% effective depth (p_{25})	(s)	2490
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	1950

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**7.27E-05**

WATER INPUT:	1700	l	8.30 mins

GEOLOGY OF TEST SECTION:

Made Ground

Compiled by: SW
Checked by: JC

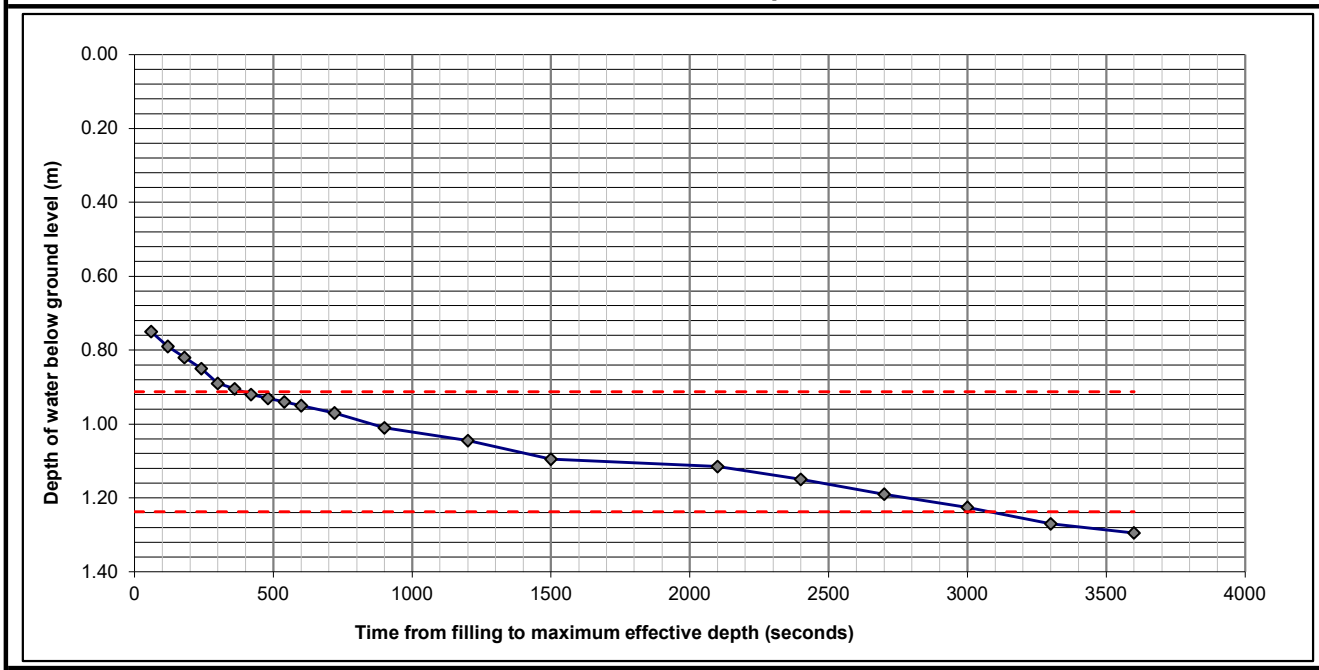
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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP505
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
60	1.00	0.750
120	2.00	0.790
180	3.00	0.820
240	4.00	0.850
300	5.00	0.890
360	6.00	0.905
420	7.00	0.920
480	8.00	0.930
540	9.00	0.940
600	10.00	0.950
720	12.00	0.970
900	15.00	1.010
1200	20.00	1.045
1500	25.00	1.095
2100	35.00	1.115
2400	40.00	1.150
2700	45.00	1.190
3000	50.00	1.225
3300	55.00	1.270
3600	60.00	1.295

PIT LENGTH (m):	2.30	**Pit construction**
PIT WIDTH (m):	0.70	Open - No Gravel
PIT DEPTH (m):	1.40	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	1.05
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.52
Effective depth of Pit	(m)	0.65
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	1.05
Level of water in pit at 75% effective depth (p_{75})	(m)	0.16
Level of water in pit at 25% effective depth (p_{25})	(m)	0.49
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.52
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	3.56
Time at 75% effective depth (p_{75})	(s)	390
Time at 25% effective depth (p_{25})	(s)	3084
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	2693

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**5.46E-05**

WATER INPUT:	1700	l	6.30 mins

GEOLOGY OF TEST SECTION:

Made Ground

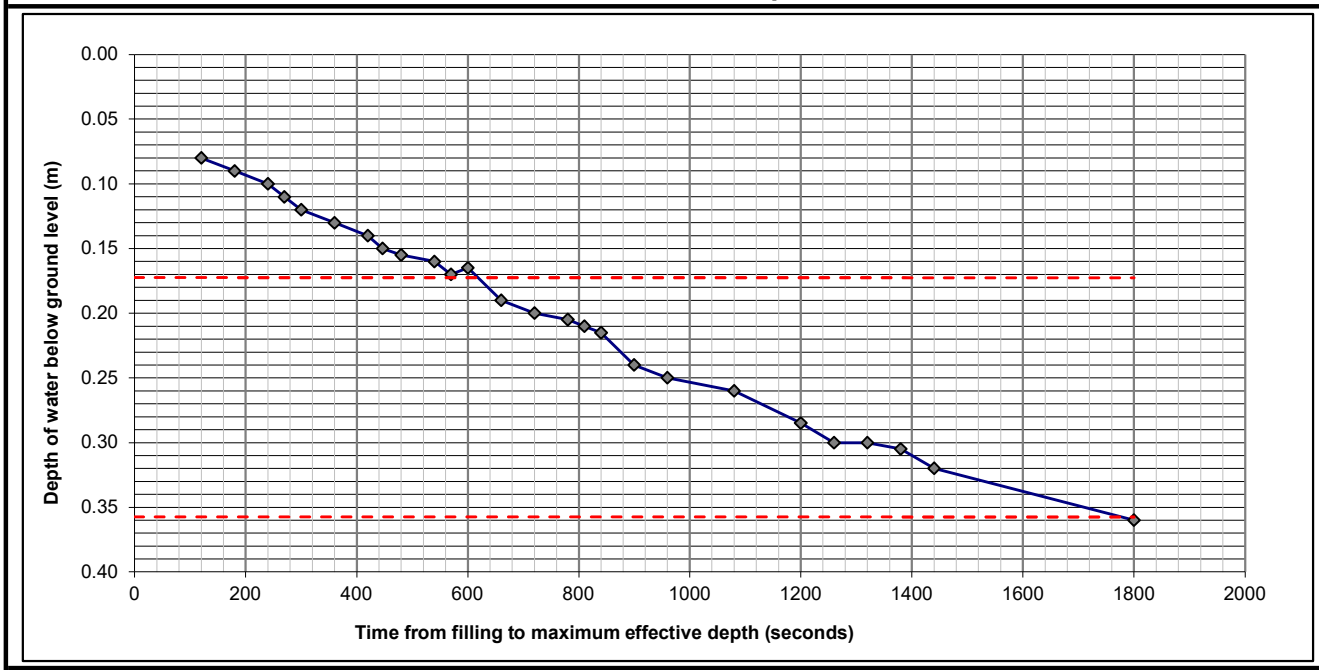
Compiled by: SW
Checked by: JC

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Ground Engineering Services

TETRA TECH

DATE:	19/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP507
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
120	2.00	0.080
180	3.00	0.090
240	4.00	0.100
270	4.50	0.110
300	5.00	0.120
360	6.00	0.130
420	7.00	0.140
447	7.45	0.150
480	8.00	0.155
540	9.00	0.160
570	9.50	0.170
600	10.00	0.165
660	11.00	0.190
720	12.00	0.200
780	13.00	0.205
810	13.50	0.210
840	14.00	0.215
900	15.00	0.240
960	16.00	0.250
1080	18.00	0.260
1200	20.00	0.285
1260	21.00	0.300
1320	22.00	0.300
1380	23.00	0.305
1440	24.00	0.320
1800	30.00	0.360

PIT LENGTH (m):	2.50	**Pit construction**
PIT WIDTH (m):	0.70	Open - No Gravel
PIT DEPTH (m):	0.45	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.65
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.32
Effective depth of Pit	(m)	0.37
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.65
Level of water in pit at 75% effective depth (p_{75})	(m)	0.09
Level of water in pit at 25% effective depth (p_{25})	(m)	0.28
Effective volume between 75% & 25% depth $Vp_{75\text{-}25}$ = V x Pg	(m^3)	0.32
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.93
Time at 75% effective depth (p_{75})	(s)	618
Time at 25% effective depth (p_{25})	(s)	1778
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	1160

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**9.51E-05**

WATER INPUT:	700	l	2:37 mins

GEOLOGY OF TEST SECTION:

Made Ground

Compiled by: SW
Checked by: JC

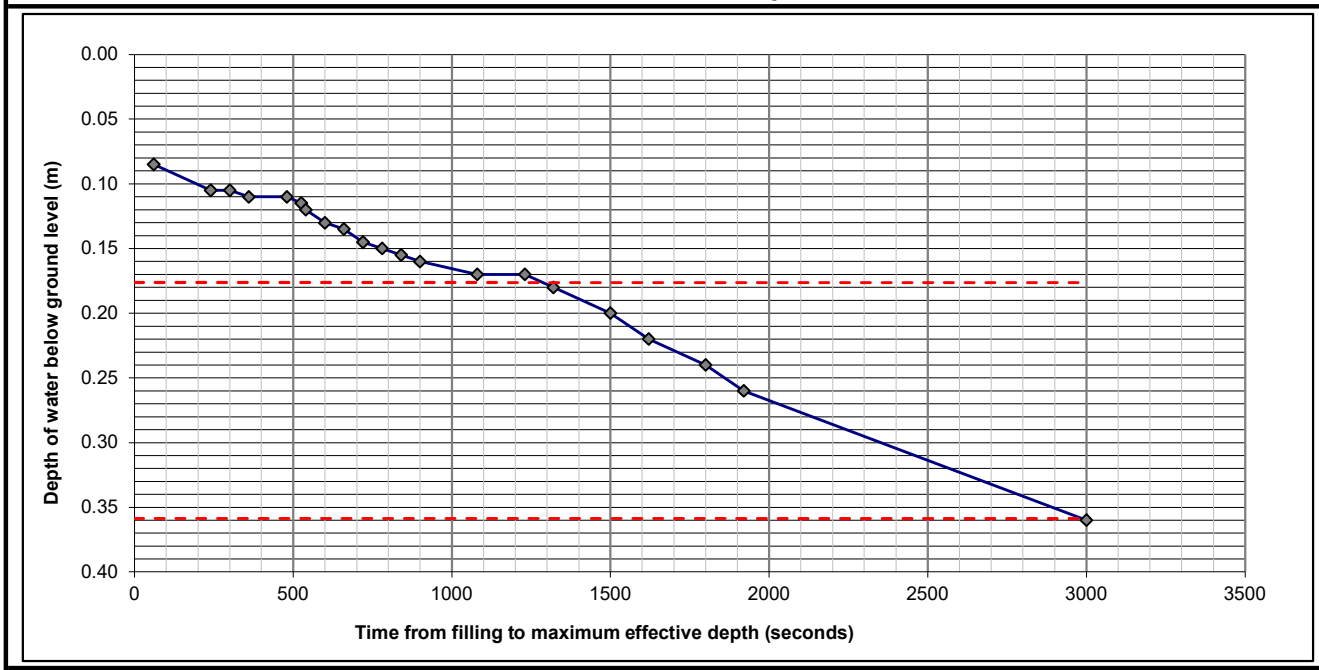
After BRE Digest 365, Soakaway Design, 2016

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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	19/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP507
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
60	1.00	0.085
240	4.00	0.105
300	5.00	0.105
360	6.00	0.110
480	8.00	0.110
525	8.75	0.115
540	9.00	0.120
600	10.00	0.130
660	11.00	0.135
720	12.00	0.145
780	13.00	0.150
840	14.00	0.155
900	15.00	0.160
1080	18.00	0.170
1230	20.50	0.170
1320	22.00	0.180
1500	25.00	0.200
1620	27.00	0.220
1800	30.00	0.240
1920	32.00	0.260
3000	50.00	0.360

PIT LENGTH (m):	2.50	**Pit construction**
PIT WIDTH (m):	0.70	Open - No Gravel
PIT DEPTH (m):	0.45	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.64
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.32
Effective depth of Pit	(m)	0.37
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.64
Level of water in pit at 75% effective depth (p_{75})	(m)	0.09
Level of water in pit at 25% effective depth (p_{25})	(m)	0.27
Effective volume between 75% & 25% depth $Vp_{75\text{-}25}$ = V x Pg	(m^3)	0.32
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.92
Time at 75% effective depth (p_{75})	(s)	1287
Time at 25% effective depth (p_{25})	(s)	2988
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	1701

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**6.44E-05**

WATER INPUT:	600	l	2.37mins

GEOLOGY OF TEST SECTION:

Made Ground

Compiled by: SW
Checked by: JC

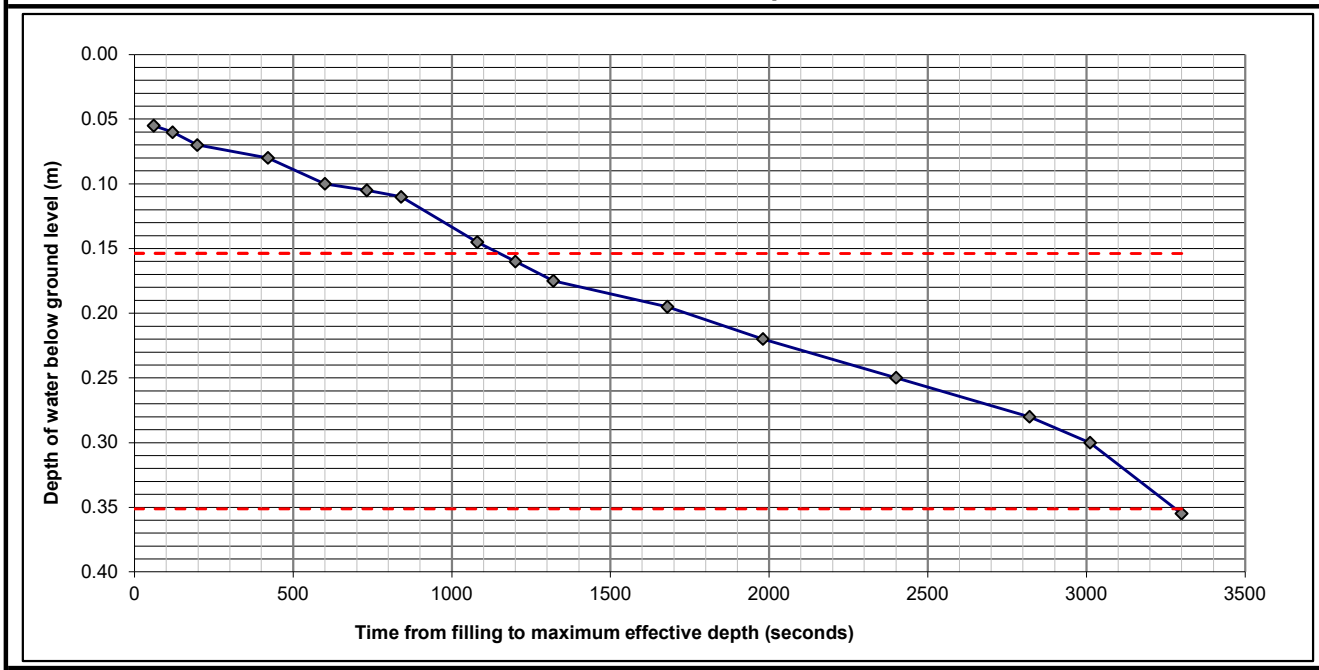
After BRE Digest 365, Soakaway Design, 2016

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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	19/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP507
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
60	1.00	0.055
120	2.00	0.060
198	3.30	0.070
420	7.00	0.080
600	10.00	0.100
732	12.20	0.105
840	14.00	0.110
1080	18.00	0.145
1200	20.00	0.160
1320	22.00	0.175
1680	28.00	0.195
1980	33.00	0.220
2400	40.00	0.250
2820	47.00	0.280
3012	50.20	0.300
3300	55.00	0.355

PIT LENGTH (m):	2.50	**Pit construction**
PIT WIDTH (m):	0.70	Open - No Gravel
PIT DEPTH (m):	0.45	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.69
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.35
Effective depth of Pit	(m)	0.40
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.69
Level of water in pit at 75% effective depth (p_{75})	(m)	0.10
Level of water in pit at 25% effective depth (p_{25})	(m)	0.30
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.35
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	3.01
Time at 75% effective depth (p_{75})	(s)	1150
Time at 25% effective depth (p_{25})	(s)	3281
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	2130

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**5.38E-05**

WATER INPUT:	400	l	2.50 Min

GEOLOGY OF TEST SECTION:

Made Ground

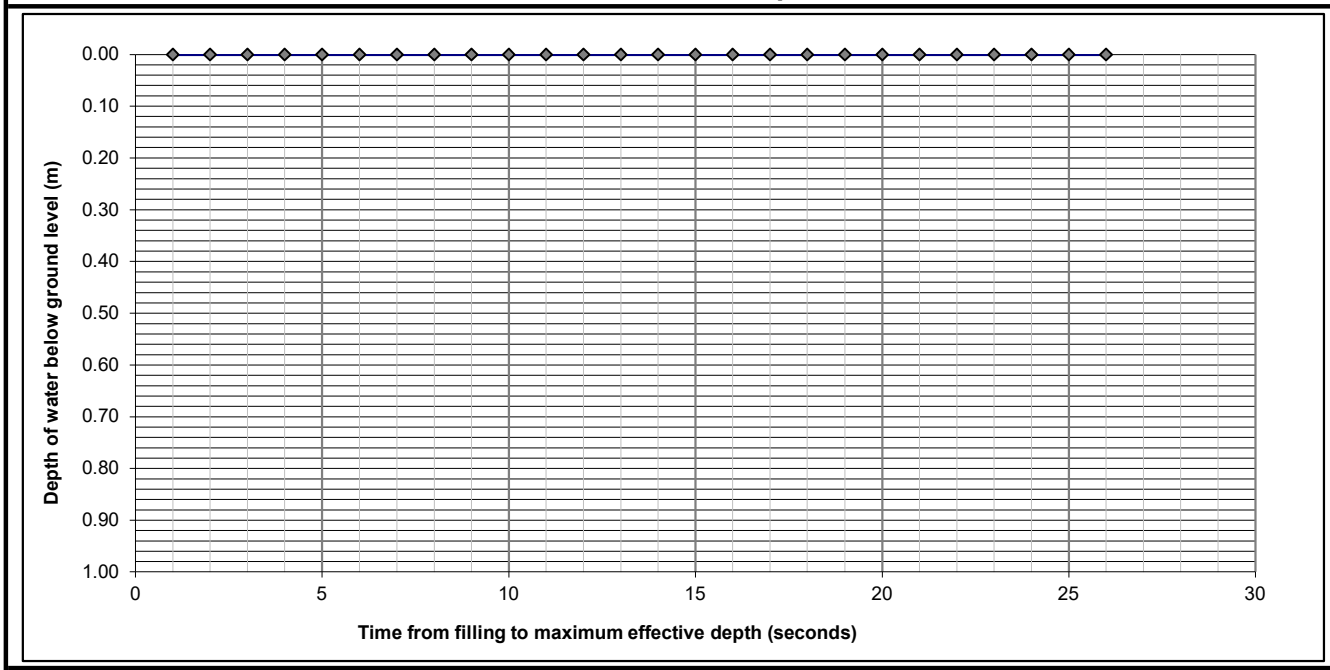
Compiled by:	SW
Checked by:	JC

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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP508
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)

PIT LENGTH (m):	2.55	**Pit construction**
PIT WIDTH (m):	0.70	Open - No Gravel
PIT DEPTH (m):	1.95	1700litres drained into pit. Pit could not be filled.

INPUT PARAMETERS:		
Total volume of pit	(m^3)	#VALUE!
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	#VALUE!
Effective depth of Pit	(m)	#VALUE!
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	#VALUE!
Level of water in pit at 75% effective depth (p_{75})	(m)	#VALUE!
Level of water in pit at 25% effective depth (p_{25})	(m)	#VALUE!
Effective volume between 75% & 25% depth $Vp_{75\text{-}25}$ = V x Pg	(m^3)	#VALUE!
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	#VALUE!
Time at 75% effective depth (p_{75})	(s)	#VALUE!
Time at 25% effective depth (p_{25})	(s)	#VALUE!
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#VALUE!

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**#VALUE!**

WATER INPUT:	300	l	17 mins

GEOLOGY OF TEST SECTION:

Made Ground

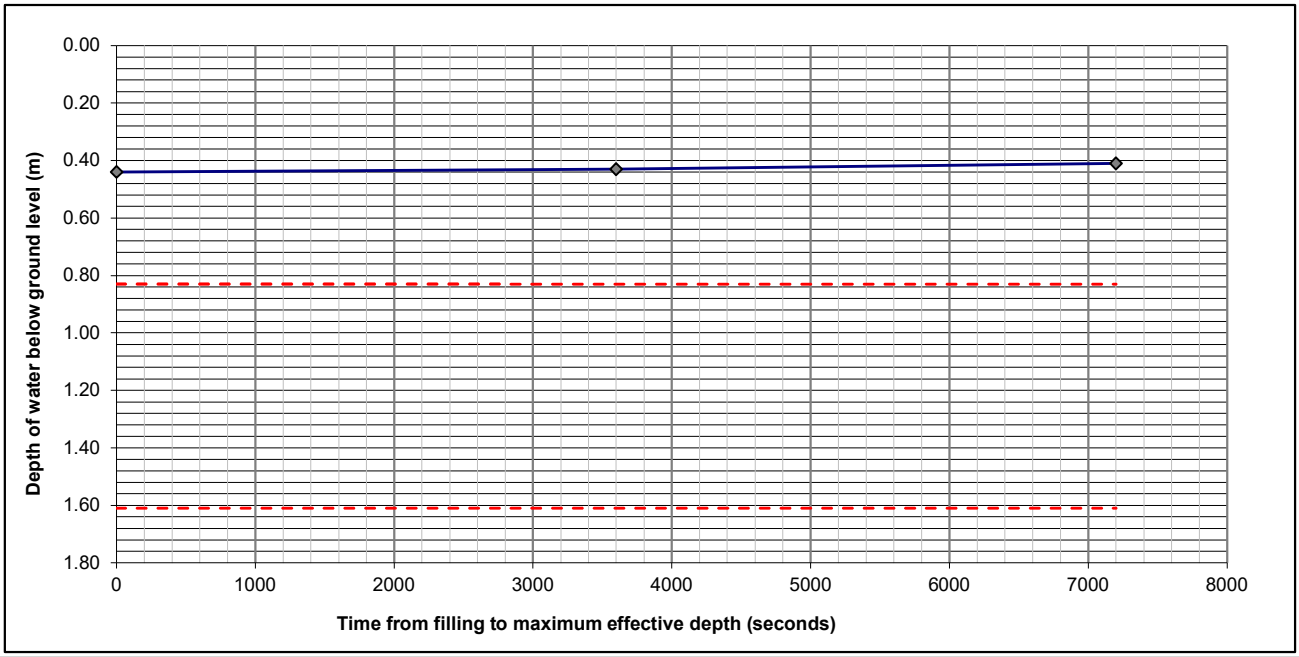
Compiled by:	SW
Checked by:	JC

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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	13/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP510
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.440
3600	60.00	0.430
7200	120.00	0.410

PIT LENGTH (m):	2.30	**Pit construction**	
PIT WIDTH (m):	0.60	Open - No Gravel	
PIT DEPTH (m):	2.00	Note:	Heavy rain during testing

INPUT PARAMETERS:		
Total volume of pit	(m^3)	2.15
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	1.08
Effective depth of Pit	(m)	1.56
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	2.15
Level of water in pit at 75% effective depth (p_{75})	(m)	0.39
Level of water in pit at 25% effective depth (p_{25})	(m)	1.17
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	1.08
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	5.90
Time at 75% effective depth (p_{75})	(s)	#N/A
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:

SOIL INFILTRATION RATE (f) $\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$ (m/s) **#N/A**

WATER INPUT: 300 l 17 mins

GEOLOGY OF TEST SECTION:

Made Ground

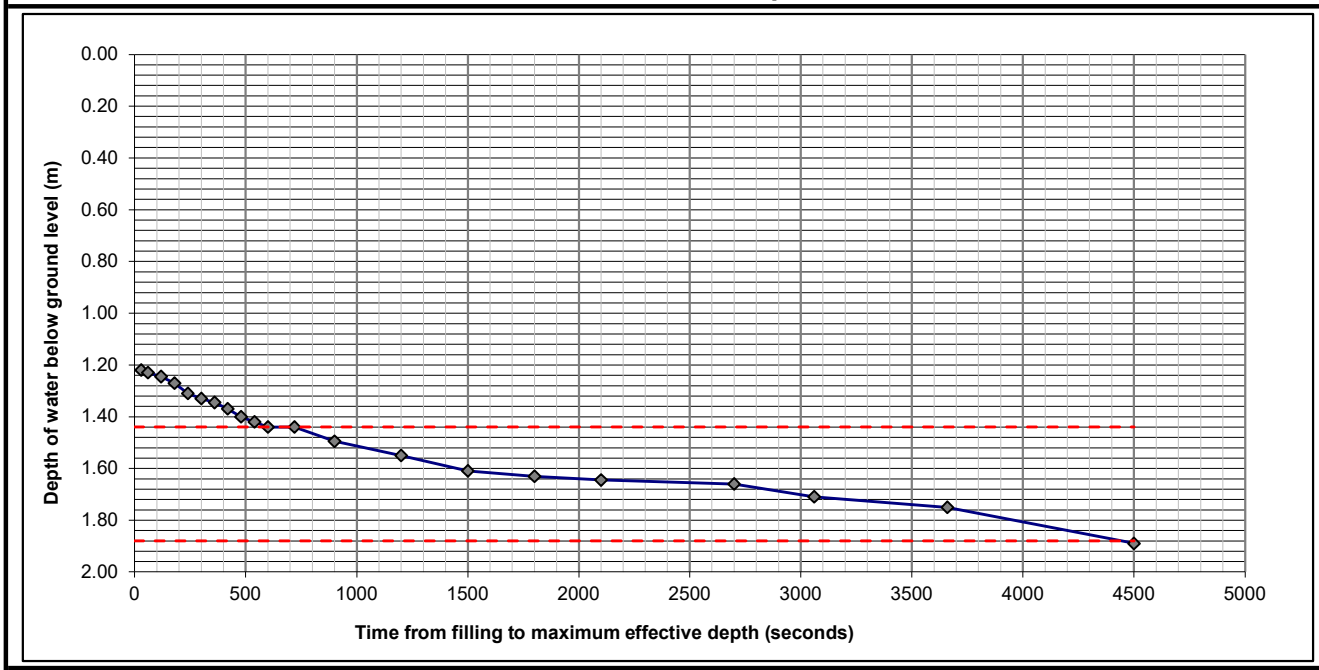
Compiled by: SW
Checked by: JC

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1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
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Ground Engineering Services

TETRA TECH

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP511
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
30	0.50	1.220
60	1.00	1.230
120	2.00	1.245
180	3.00	1.270
240	4.00	1.310
300	5.00	1.330
360	6.00	1.345
420	7.00	1.370
480	8.00	1.400
540	9.00	1.420
600	10.00	1.440
720	12.00	1.440
900	15.00	1.495
1200	20.00	1.550
1500	25.00	1.610
1800	30.00	1.630
2100	35.00	1.645
2700	45.00	1.660
3060	51.00	1.710
3660	61.00	1.750
4500	75.00	1.890

PIT LENGTH (m):	2.20	**Pit construction**
PIT WIDTH (m):	0.80	Open - No Gravel
PIT DEPTH (m):	2.10	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	1.55
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.77
Effective depth of Pit	(m)	0.88
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	1.55
Level of water in pit at 75% effective depth (p_{75})	(m)	0.22
Level of water in pit at 25% effective depth (p_{25})	(m)	0.66
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.77
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	4.40
Time at 75% effective depth (p_{75})	(s)	720
Time at 25% effective depth (p_{25})	(s)	4441
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	3721

OUTPUT:

SOIL INFILTRATION RATE (f) $\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$ (m/s) **4.73E-05**

WATER INPUT: 1700 l 07:30

GEOLOGY OF TEST SECTION:

Made Ground

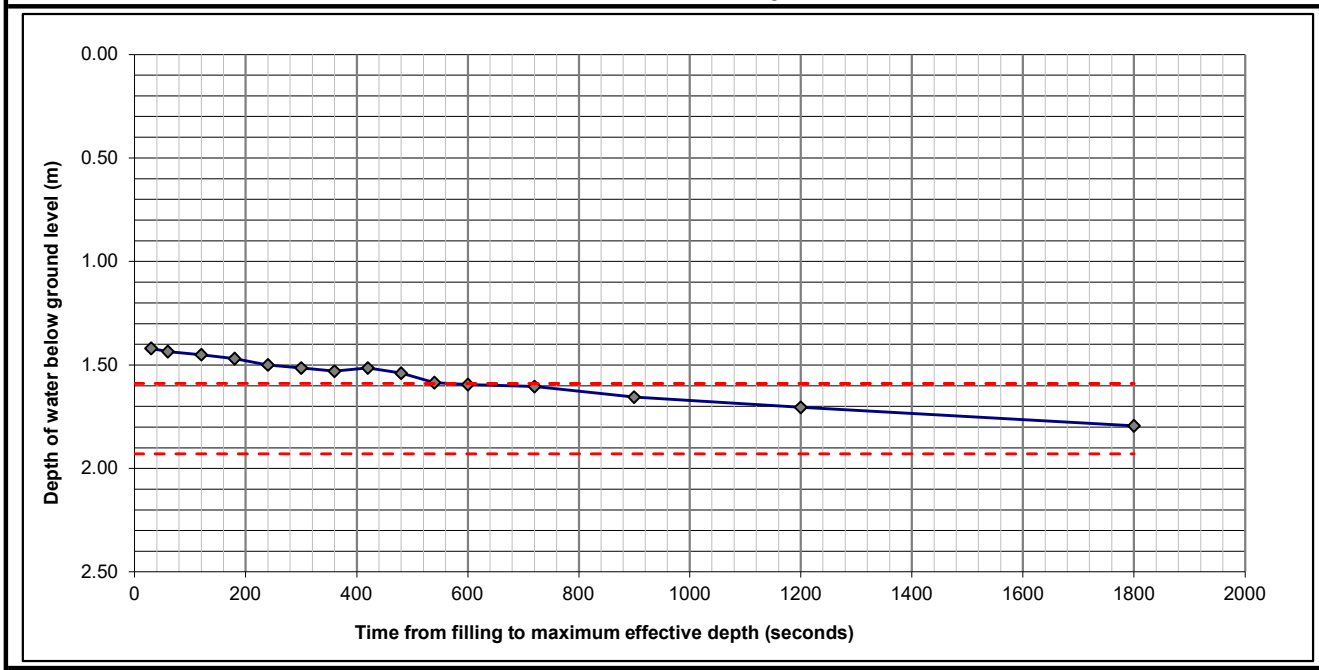
Compiled by: SW
Checked by: JC

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1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP511
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
30	0.50	1.420
60	1.00	1.435
120	2.00	1.450
180	3.00	1.470
240	4.00	1.500
300	5.00	1.515
360	6.00	1.530
420	7.00	1.515
480	8.00	1.540
540	9.00	1.585
600	10.00	1.595
720	12.00	1.605
900	15.00	1.655
1200	20.00	1.705
1800	30.00	1.795

PIT LENGTH (m):	2.20	**Pit construction**	
PIT WIDTH (m):	0.80	Open - No Gravel	
PIT DEPTH (m):	2.10	Note:	Test aborted at 33:00 due to collapse of side of pit

INPUT PARAMETERS:		
Total volume of pit	(m^3)	1.20
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.60
Effective depth of Pit	(m)	0.68
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	1.20
Level of water in pit at 75% effective depth (p_{75})	(m)	0.17
Level of water in pit at 25% effective depth (p_{25})	(m)	0.51
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.60
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	3.80
Time at 75% effective depth (p_{75})	(s)	570
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:

SOIL INFILTRATION RATE (f) $\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$ (m/s) **#N/A**

WATER INPUT:	1700	l	08:10

GEOLOGY OF TEST SECTION:

Made Ground

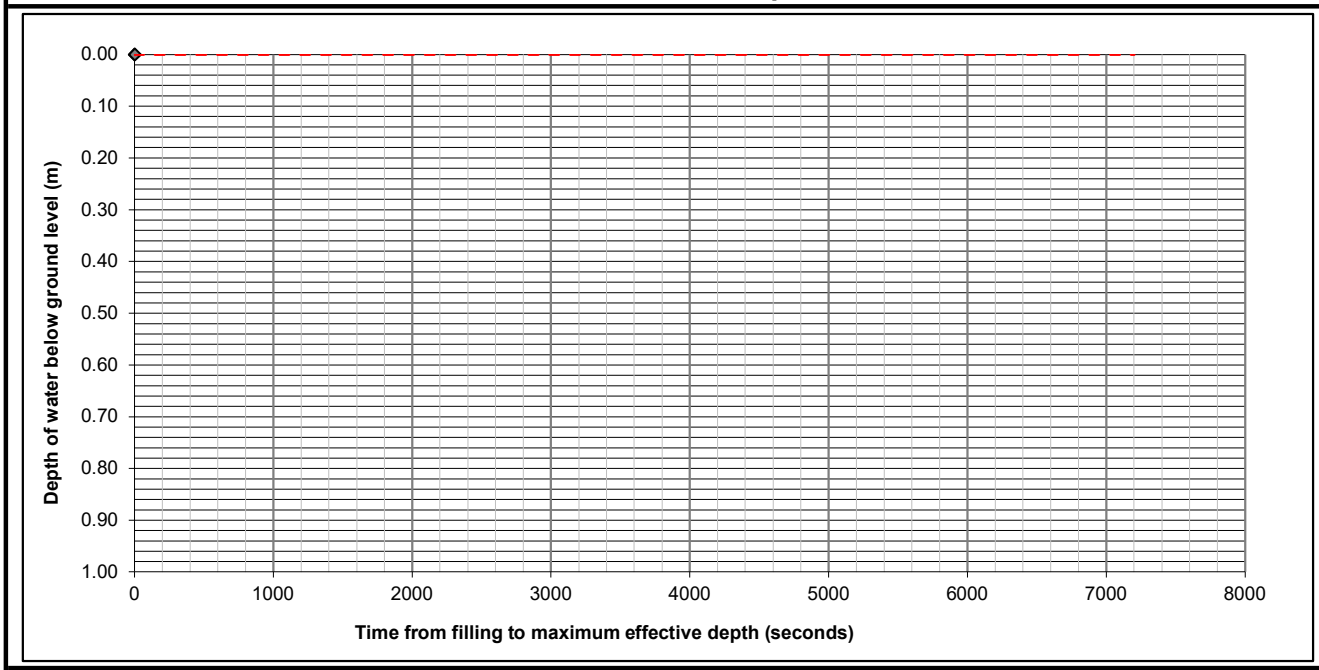
Compiled by: SW
Checked by: JC

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1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	12/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP512
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
3600	60.00	
7200	120.00	

PIT LENGTH (m):	2.40
PIT WIDTH (m):	0.80
PIT DEPTH (m):	1.80

Pit construction

Open - No Gravel

1700litres of water inputted. Location could not be filled due to rapid infiltration

INPUT PARAMETERS:

Total volume of pit	(m^3)	#VALUE!
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	#VALUE!
Effective depth of Pit	(m)	#VALUE!
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	#VALUE!
Level of water in pit at 75% effective depth (p_{75})	(m)	#VALUE!
Level of water in pit at 25% effective depth (p_{25})	(m)	#VALUE!
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	#VALUE!
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	#VALUE!
Time at 75% effective depth (p_{75})	(s)	#VALUE!
Time at 25% effective depth (p_{25})	(s)	#VALUE!
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#VALUE!

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**#VALUE!**

WATER INPUT: 1700 l 5mins

GEOLOGY OF TEST SECTION:

Made Ground

Compiled by: SW
Checked by: JC

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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP513
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
30	0.50	0.750
60	1.00	0.760
120	2.00	0.770
180	3.00	0.785
240	4.00	0.805
300	5.00	0.820
600	10.00	0.860
900	15.00	0.895
1200	20.00	0.940
1500	25.00	0.975
1800	30.00	1.005
2100	35.00	1.045
2700	45.00	1.110
3600	60.00	1.260
4500	75.00	1.335
5400	90.00	1.370

PIT LENGTH (m):	3.40
PIT WIDTH (m):	0.75
PIT DEPTH (m):	1.50

Pit construction
Open - No Gravel

INPUT PARAMETERS:

Total volume of pit	(m^3)	1.91
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.96
Effective depth of Pit	(m)	0.75
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	1.91
Level of water in pit at 75% effective depth (p_{75})	(m)	0.19
Level of water in pit at 25% effective depth (p_{25})	(m)	0.56
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.96
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	5.66
Time at 75% effective depth (p_{75})	(s)	1184
Time at 25% effective depth (p_{25})	(s)	4231
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	3047

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**5.54E-05**

WATER INPUT: 1700 l 12:30 mins

GEOLOGY OF TEST SECTION:
Made Ground

Compiled by: SW
Checked by: JC

After BRE Digest 365, Soakaway Design, 2016

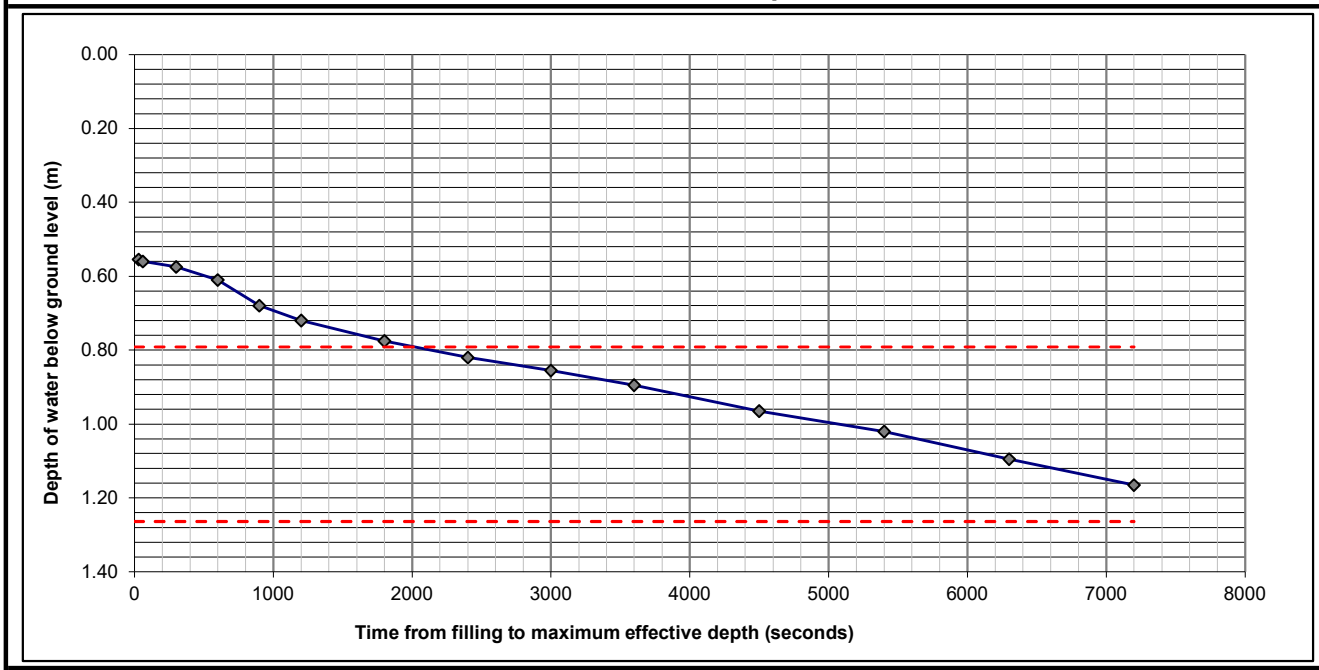
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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP513
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
30	0.50	0.555
60	1.00	0.560
300	5.00	0.575
600	10.00	0.610
900	15.00	0.680
1200	20.00	0.720
1800	30.00	0.775
2400	40.00	0.820
3000	50.00	0.855
3600	60.00	0.895
4500	75.00	0.965
5400	90.00	1.020
6300	105.00	1.095
7200	120.00	1.165

PIT LENGTH (m):	3.40	**Pit construction**	
PIT WIDTH (m):	0.80	Open - No Gravel	
PIT DEPTH (m):	1.50		
INPUT PARAMETERS:			
Total volume of pit		(m^3)	2.57
Pit volume between 75% and 25% depths = L x W x ½D		(m^3)	1.29
Effective depth of Pit		(m)	0.95
Proportion of pit volume occupied by gravel solids		(0-1)	0.00
Maximum potential volume of Water		(m^3)	2.57
Level of water in pit at 75% effective depth (p_{75})		(m)	0.24
Level of water in pit at 25% effective depth (p_{25})		(m)	0.71
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg		(m^3)	1.29
Surface area of pit up to 50% effective depth (A_{p50})		(m^2)	6.69
Time at 75% effective depth (p_{75})		(s)	2017
Time at 25% effective depth (p_{25})		(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)		(s)	#N/A
OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**#N/A**
WATER INPUT:	500 l	5mins	
GEOLOGY OF TEST SECTION:			
Made Ground			

Compiled by: SW
Checked by: JC

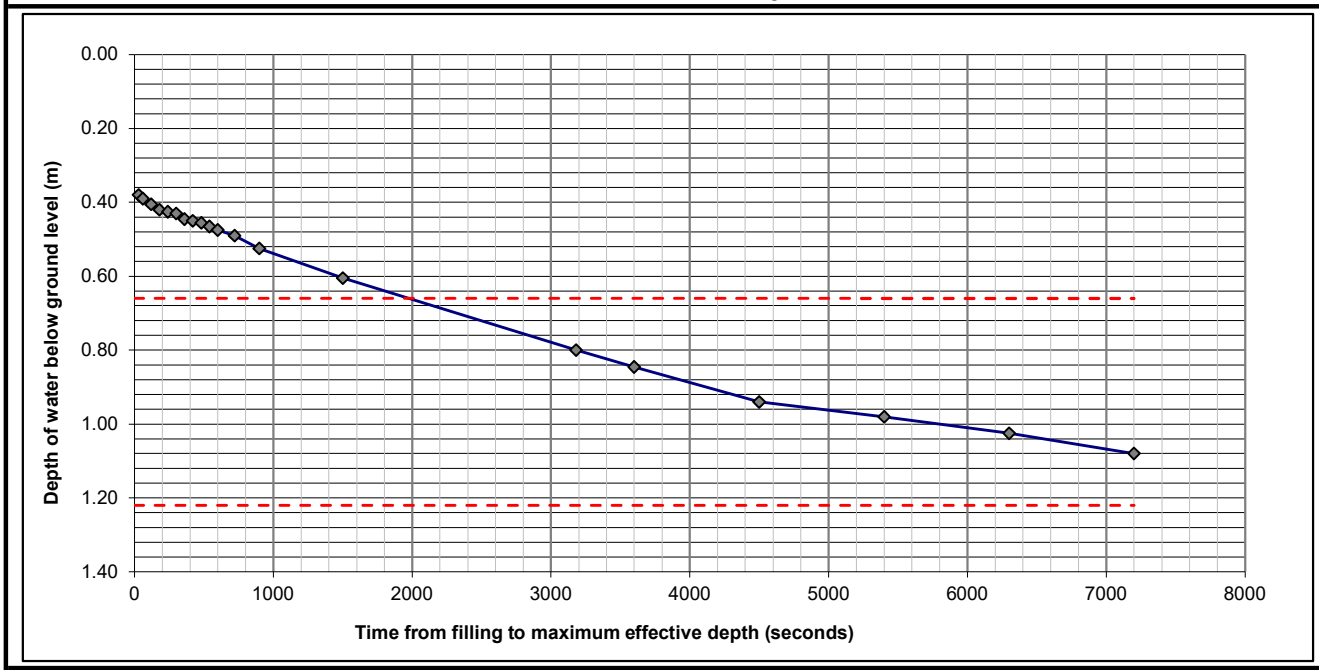
After BRE Digest 365, Soakaway Design, 2016

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TETRA TECH

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP513
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
30	0.50	0.380
60	1.00	0.390
120	2.00	0.405
180	3.00	0.420
240	4.00	0.425
300	5.00	0.430
360	6.00	0.445
420	7.00	0.450
480	8.00	0.455
540	9.00	0.465
600	10.00	0.475
720	12.00	0.490
900	15.00	0.525
1500	25.00	0.605
3180	53.00	0.800
3600	60.00	0.845
4500	75.00	0.940
5400	90.00	0.980
6300	105.00	1.025
7200	120.00	1.080

PIT LENGTH (m):	3.40	**Pit construction**
PIT WIDTH (m):	0.80	Open - No Gravel
PIT DEPTH (m):	1.50	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	3.05
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	1.52
Effective depth of Pit	(m)	1.12
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	3.05
Level of water in pit at 75% effective depth (p_{75})	(m)	0.28
Level of water in pit at 25% effective depth (p_{25})	(m)	0.84
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	1.52
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	7.42
Time at 75% effective depth (p_{75})	(s)	1974
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:

SOIL INFILTRATION RATE (f) $\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$ (m/s) **#N/A**

WATER INPUT:	1200	l	7.5 mins

GEOLOGY OF TEST SECTION:

Made Ground

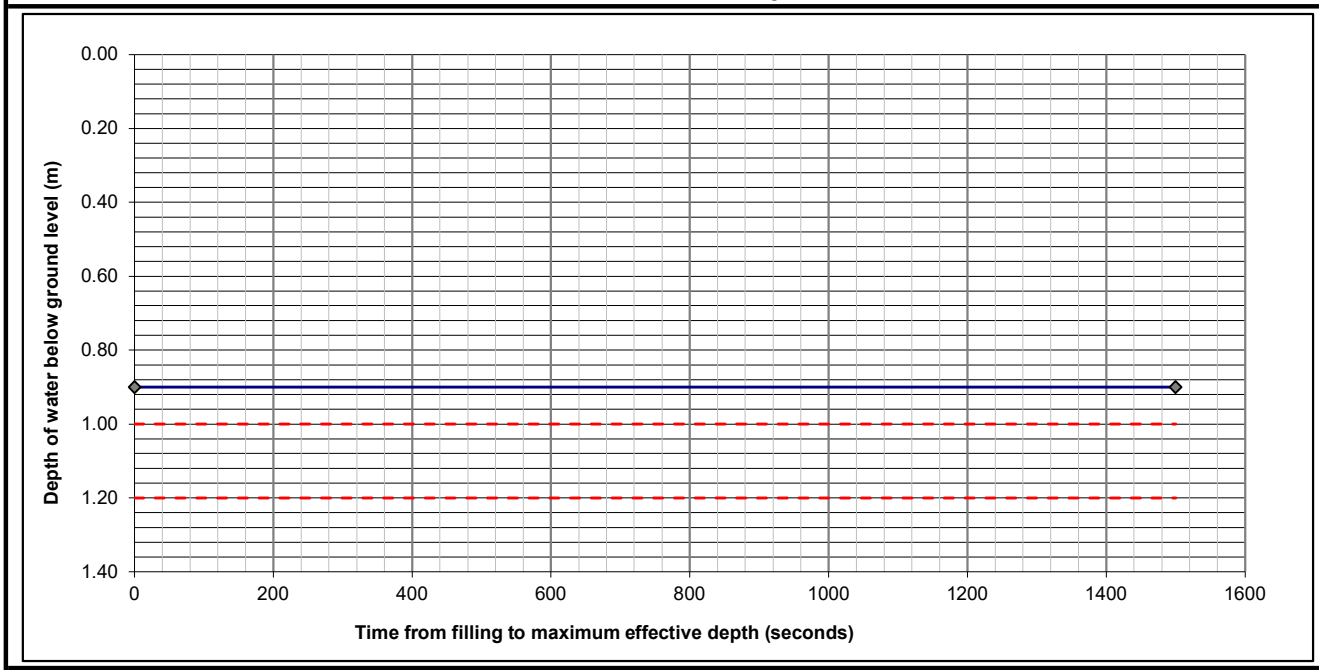
Compiled by: SW
Checked by: JC

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Environmental Consultancy
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TETRA TECH

DATE:	12/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP515
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.900
1500	25.00	0.900

PIT LENGTH (m):	2.80	**Pit construction**	
PIT WIDTH (m):	0.60	Open - No Gravel	
PIT DEPTH (m):	1.30	Notes:	Test terminated by WSP.

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.67
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.34
Effective depth of Pit	(m)	0.40
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.67
Level of water in pit at 75% effective depth (p_{75})	(m)	0.10
Level of water in pit at 25% effective depth (p_{25})	(m)	0.30
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.34
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	3.04
Time at 75% effective depth (p_{75})	(s)	#N/A
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:

SOIL INFILTRATION RATE (f) $\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$ (m/s) **#N/A**

WATER INPUT: 500 l 5 mins

GEOLOGY OF TEST SECTION:

Made Ground

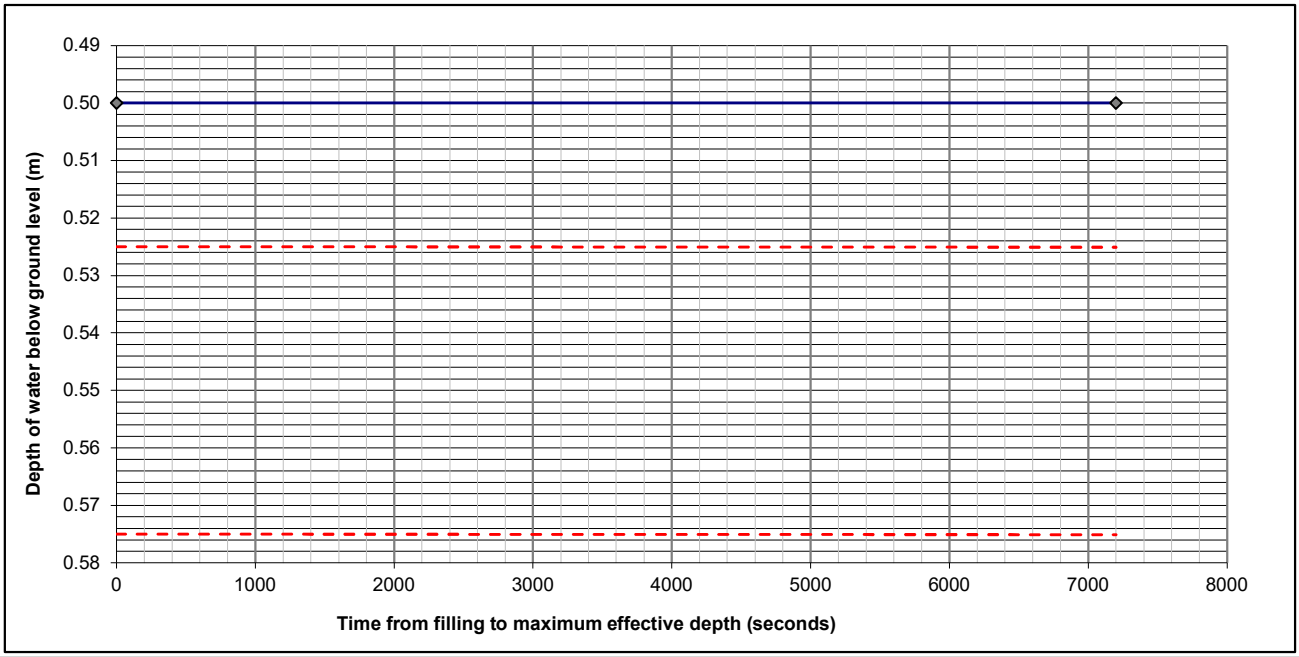
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Checked by: JC

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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	12/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP701
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.500
7200	120.00	0.500

PIT LENGTH (m):	2.80
PIT WIDTH (m):	0.60
PIT DEPTH (m):	0.60

Pit construction
Open - No Gravel

INPUT PARAMETERS:

Total volume of pit	(m^3)	0.17
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.08
Effective depth of Pit	(m)	0.10
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.17
Level of water in pit at 75% effective depth (p_{75})	(m)	0.03
Level of water in pit at 25% effective depth (p_{25})	(m)	0.08
Effective volume between 75% & 25% depth $Vp_{75\text{-}25}$ = V x Pg	(m^3)	0.08
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.02
Time at 75% effective depth (p_{75})	(s)	#N/A
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**#N/A**

WATER INPUT: 300 l 3mins

GEOLOGY OF TEST SECTION:
Made Ground

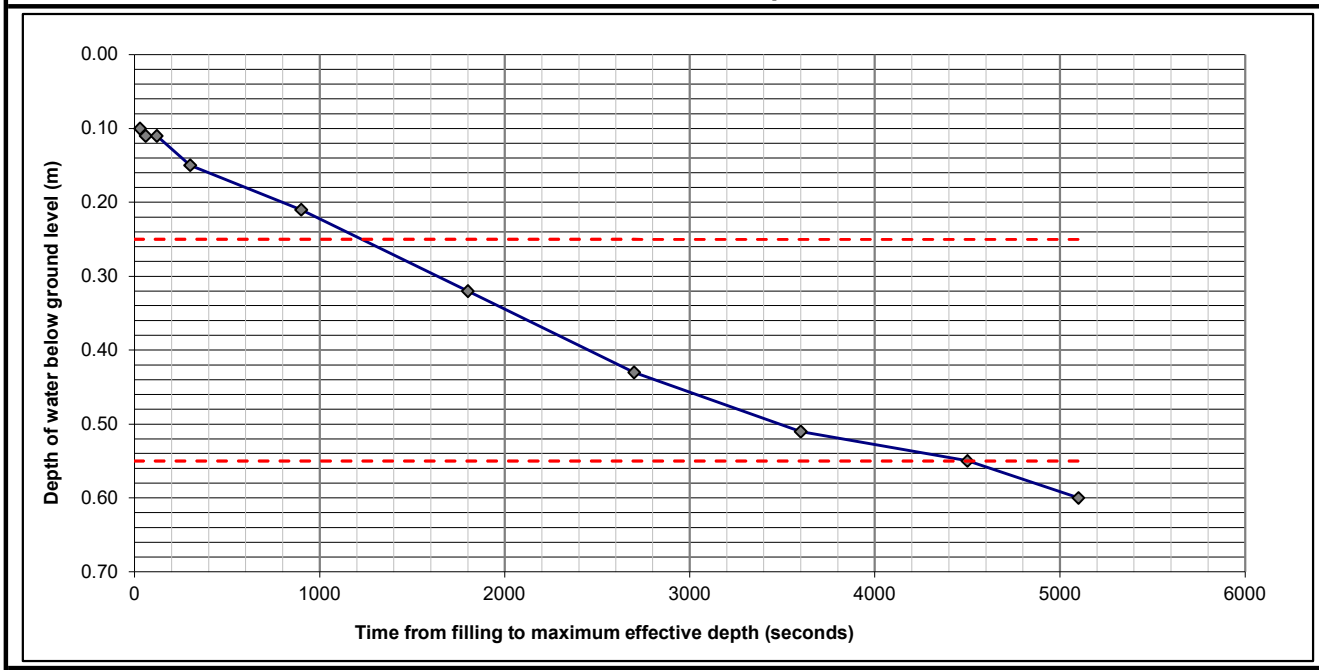
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Checked by: JC

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Ground Engineering Services

TETRA TECH

DATE:	13/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP702
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
30	0.50	0.100
60	1.00	0.110
120	2.00	0.110
300	5.00	0.150
900	15.00	0.210
1800	30.00	0.320
2700	45.00	0.430
3600	60.00	0.510
4500	75.00	0.550
5100	85.00	0.600

PIT LENGTH (m):	2.40	**Pit construction**
PIT WIDTH (m):	0.30	Open - No Gravel
PIT DEPTH (m):	0.70	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.43
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.22
Effective depth of Pit	(m)	0.60
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.43
Level of water in pit at 75% effective depth (p_{75})	(m)	0.15
Level of water in pit at 25% effective depth (p_{25})	(m)	0.45
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.22
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.34
Time at 75% effective depth (p_{75})	(s)	1228
Time at 25% effective depth (p_{25})	(s)	4500
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	3272

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**2.82E-05**

WATER INPUT:	900	l	5.25 mins

GEOLOGY OF TEST SECTION:
Made Ground

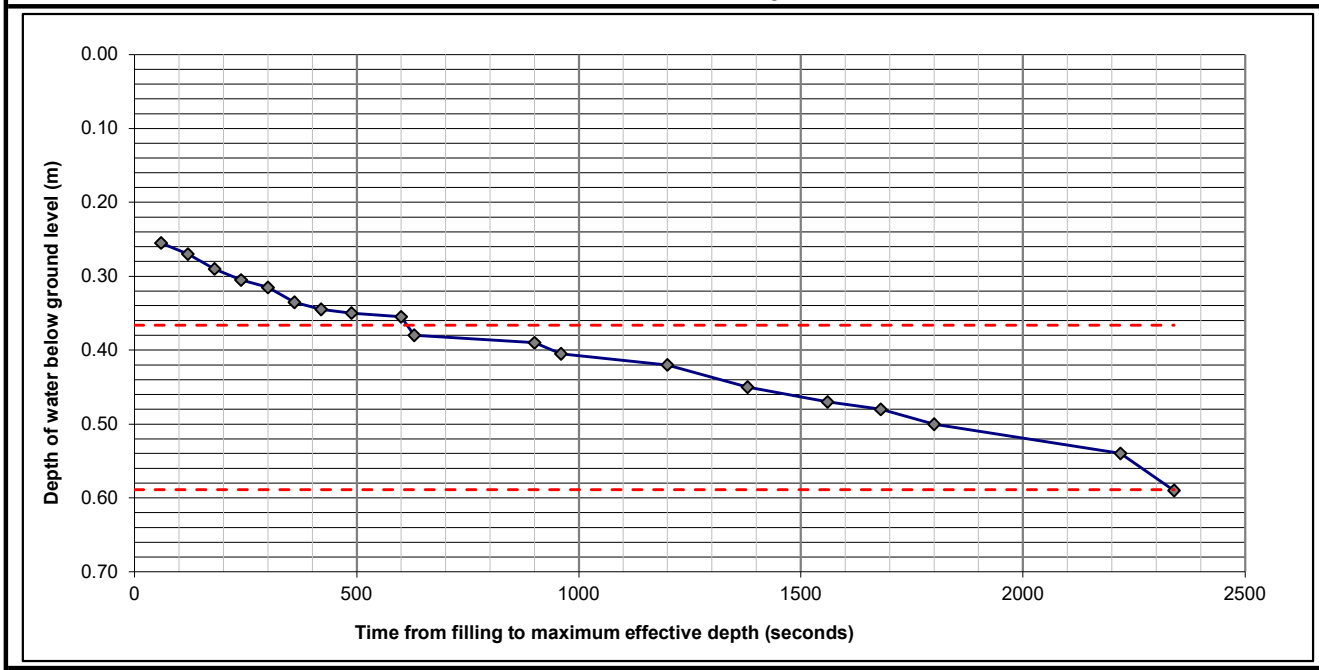
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Checked by: JC

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1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP702
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
60	1.00	0.255
120	2.00	0.270
180	3.00	0.290
240	4.00	0.305
300	5.00	0.315
360	6.00	0.335
420	7.00	0.345
489	8.15	0.350
600	10.00	0.355
630	10.50	0.380
900	15.00	0.390
960	16.00	0.405
1200	20.00	0.420
1380	23.00	0.450
1560	26.00	0.470
1680	28.00	0.480
1800	30.00	0.500
2220	37.00	0.540
2340	39.00	0.590

PIT LENGTH (m):	2.40	**Pit construction**
PIT WIDTH (m):	0.60	Open - No Gravel
PIT DEPTH (m):	0.70	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.64
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.32
Effective depth of Pit	(m)	0.45
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.64
Level of water in pit at 75% effective depth (p_{75})	(m)	0.11
Level of water in pit at 25% effective depth (p_{25})	(m)	0.33
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.32
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.78
Time at 75% effective depth (p_{75})	(s)	614
Time at 25% effective depth (p_{25})	(s)	2337
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	1724

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**6.70E-05**

WATER INPUT: 600 l 5:45 mins

GEOLOGY OF TEST SECTION:

Made Ground

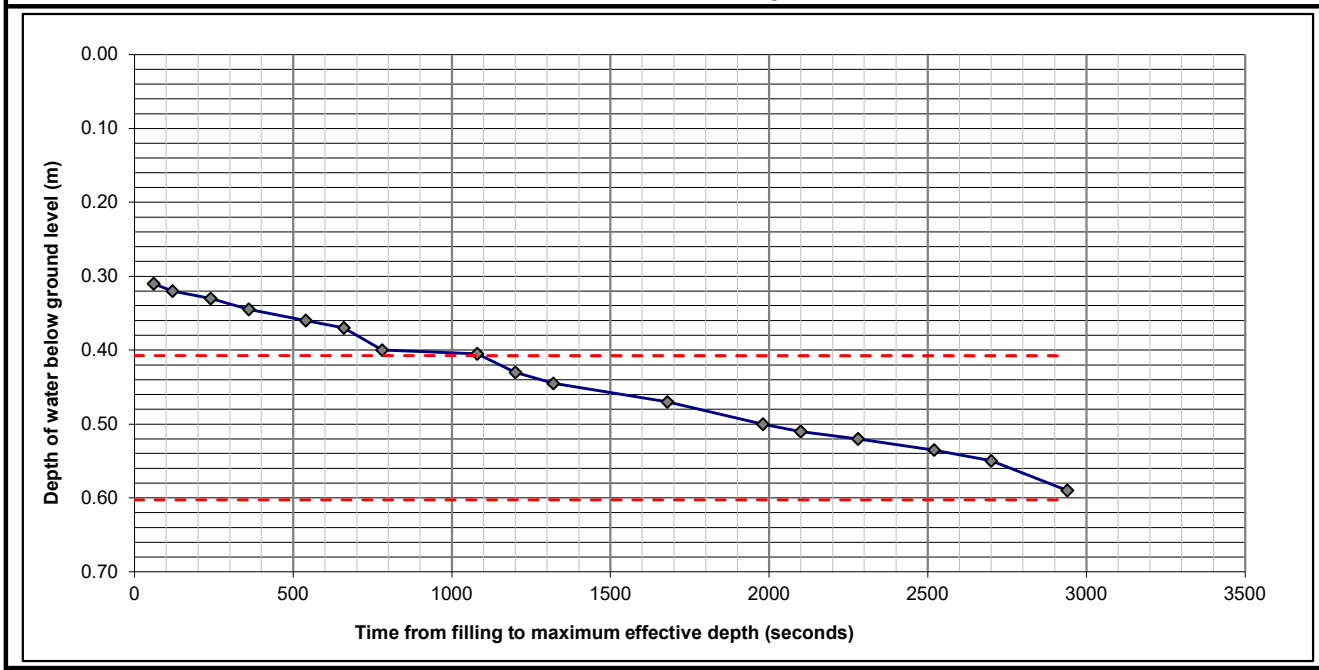
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Checked by: JC

Tetra Tech
1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	25/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP702
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
60	1.00	0.310
120	2.00	0.320
240	4.00	0.330
360	6.00	0.345
540	9.00	0.360
660	11.00	0.370
780	13.00	0.400
1080	18.00	0.405
1200	20.00	0.430
1320	22.00	0.445
1680	28.00	0.470
1980	33.00	0.500
2100	35.00	0.510
2280	38.00	0.520
2520	42.00	0.535
2700	45.00	0.550
2940	49.00	0.590

PIT LENGTH (m):	2.40	**Pit construction**
PIT WIDTH (m):	0.60	Open - No Gravel
PIT DEPTH (m):	0.70	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.56
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.28
Effective depth of Pit	(m)	0.39
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.56
Level of water in pit at 75% effective depth (p_{75})	(m)	0.10
Level of water in pit at 25% effective depth (p_{25})	(m)	0.29
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.28
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.61
Time at 75% effective depth (p_{75})	(s)	1092
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**#N/A**

WATER INPUT:	300 l	2:45 mins

GEOLOGY OF TEST SECTION:

Made Ground

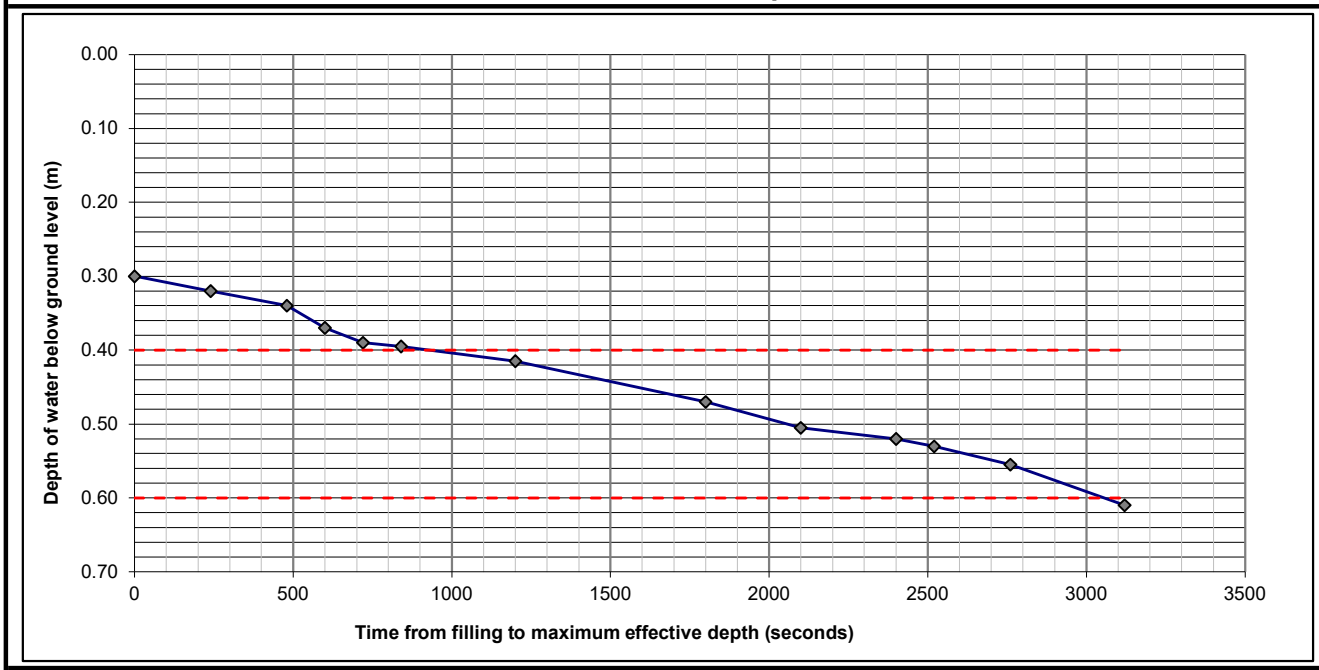
Compiled by:	SW
Checked by:	JC

Tetra Tech
1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	26/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP702
TEST NUMBER:	4

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.300
240	4.00	0.320
480	8.00	0.340
600	10.00	0.370
720	12.00	0.390
840	14.00	0.395
1200	20.00	0.415
1800	30.00	0.470
2100	35.00	0.505
2400	40.00	0.520
2520	42.00	0.530
2760	46.00	0.555
3120	52.00	0.610

PIT LENGTH (m):	2.40	**Pit construction**
PIT WIDTH (m):	0.60	Open - No Gravel
PIT DEPTH (m):	0.70	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.58
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.29
Effective depth of Pit	(m)	0.40
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.58
Level of water in pit at 75% effective depth (p_{75})	(m)	0.10
Level of water in pit at 25% effective depth (p_{25})	(m)	0.30
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.29
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.64
Time at 75% effective depth (p_{75})	(s)	930
Time at 25% effective depth (p_{25})	(s)	3055
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	2125

OUTPUT:

SOIL INFILTRATION RATE (f) $\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$ (m/s) **5.13E-05**

WATER INPUT: 300 l 4:25mins

GEOLOGY OF TEST SECTION:

Made Ground

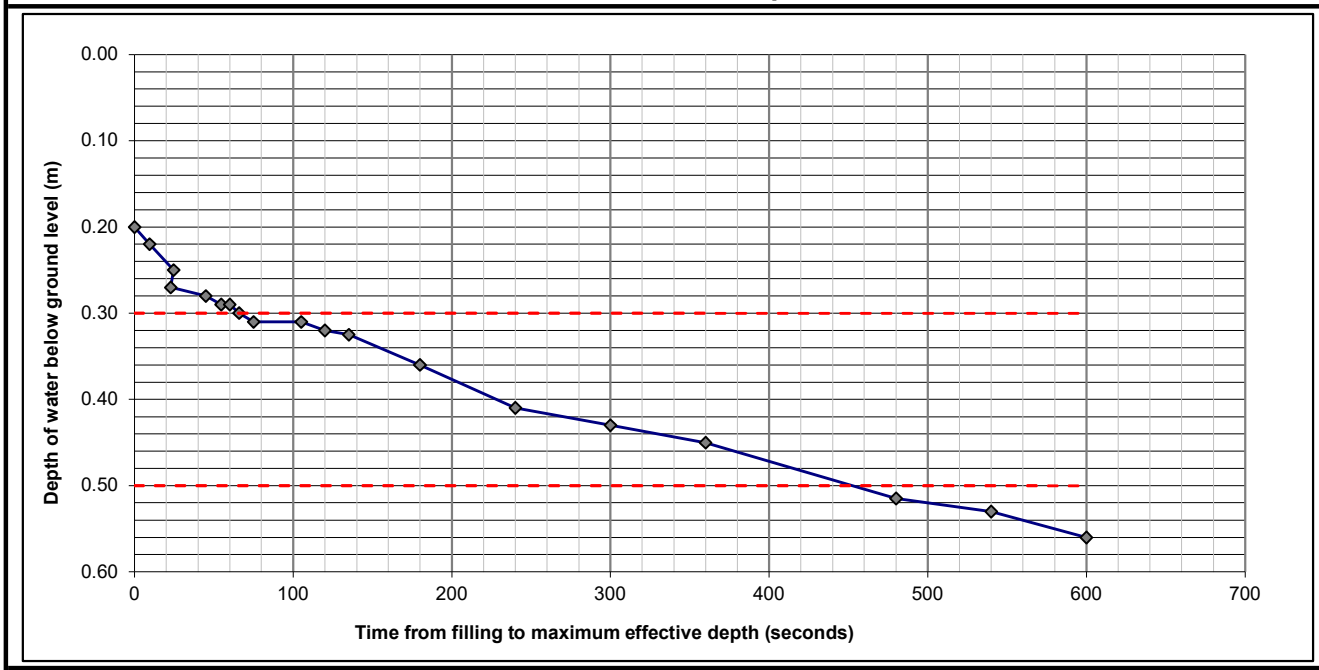
Compiled by: SW
Checked by: JC

Tetra Tech
1st Floor Hodge House, 114-116 St Mary's Street, Cardiff, CF10 1DY
Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	10/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP703
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.200
10	0.16	0.220
25	0.41	0.250
23	0.38	0.270
45	0.75	0.280
55	0.91	0.290
60	1.00	0.290
66	1.10	0.300
75	1.25	0.310
105	1.75	0.310
120	2.00	0.320
135	2.25	0.325
180	3.00	0.360
240	4.00	0.410
300	5.00	0.430
360	6.00	0.450
480	8.00	0.515
540	9.00	0.530
600	10.00	0.560

PIT LENGTH (m):	1.80	**Pit construction**
PIT WIDTH (m):	0.60	Open - No Gravel
PIT DEPTH (m):	0.60	

INPUT PARAMETERS:

Total volume of pit	(m^3)	0.43
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.22
Effective depth of Pit	(m)	0.40
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.43
Level of water in pit at 75% effective depth (p_{75})	(m)	0.10
Level of water in pit at 25% effective depth (p_{25})	(m)	0.30
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.22
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.04
Time at 75% effective depth (p_{75})	(s)	66
Time at 25% effective depth (p_{25})	(s)	452
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	386

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**2.74E-04**

WATER INPUT:	700	l	05:48

GEOLOGY OF TEST SECTION:

Made Ground

Compiled by: SW
Checked by: JC

After BRE Digest 365, Soakaway Design, 2016

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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	10/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP703
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.210
60	1.00	0.230
105	1.75	0.250
135	2.25	0.270
165	2.75	0.290
195	3.25	0.310
225	3.75	0.310
255	4.25	0.310
285	4.75	0.320
315	5.25	0.320
345	5.75	0.330
375	6.25	0.340
405	6.75	0.345
480	8.00	0.370
600	10.00	0.410
720	12.00	0.450
960	16.00	0.510

PIT LENGTH (m):	1.80	**Pit construction**
PIT WIDTH (m):	0.60	Open - No Gravel
PIT DEPTH (m):	0.60	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.42
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.21
Effective depth of Pit	(m)	0.39
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.42
Level of water in pit at 75% effective depth (p_{75})	(m)	0.10
Level of water in pit at 25% effective depth (p_{25})	(m)	0.29
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.21
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.02
Time at 75% effective depth (p_{75})	(s)	191
Time at 25% effective depth (p_{25})	(s)	930
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	739

OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**1.41E-04**

WATER INPUT: 550 l 4:30 Min

GEOLOGY OF TEST SECTION:

Made Ground

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Checked by: JC

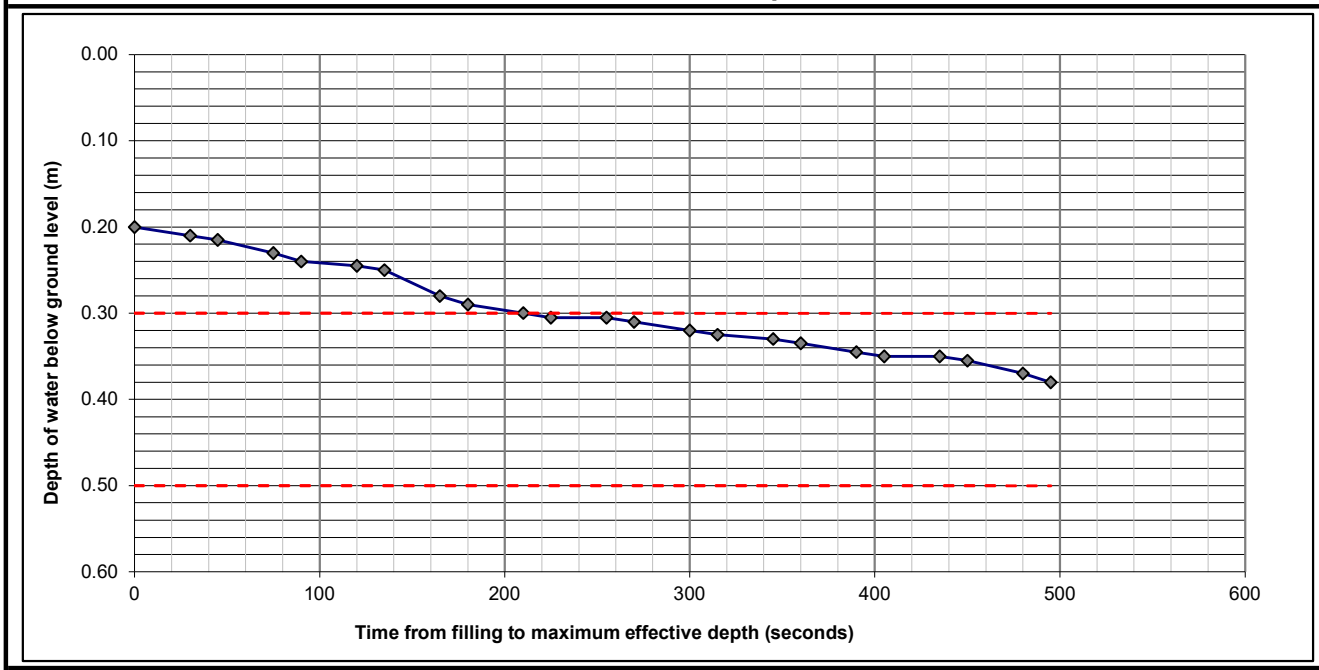
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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	10/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP703
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.200
30	0.50	0.210
45	0.75	0.215
75	1.25	0.230
90	1.50	0.240
120	2.00	0.245
135	2.25	0.250
165	2.75	0.280
180	3.00	0.290
210	3.50	0.300
225	3.75	0.305
255	4.25	0.305
270	4.50	0.310
300	5.00	0.320
315	5.25	0.325
345	5.75	0.330
360	6.00	0.335
390	6.50	0.345
405	6.75	0.350
435	7.25	0.350
450	7.50	0.355
480	8.00	0.370
495	8.25	0.380

PIT LENGTH (m):	1.80	**Pit construction**
PIT WIDTH (m):	0.60	Open - No Gravel
PIT DEPTH (m):	0.60	

INPUT PARAMETERS:		
Total volume of pit	(m^3)	0.43
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.22
Effective depth of Pit	(m)	0.40
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.43
Level of water in pit at 75% effective depth (p_{75})	(m)	0.10
Level of water in pit at 25% effective depth (p_{25})	(m)	0.30
Effective volume between 75% & 25% depth Vp_{75-25} = V x Pg	(m^3)	0.22
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.04
Time at 75% effective depth (p_{75})	(s)	210
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**#N/A**

WATER INPUT:	550	l	4:13 min

GEOLOGY OF TEST SECTION:

Made Ground

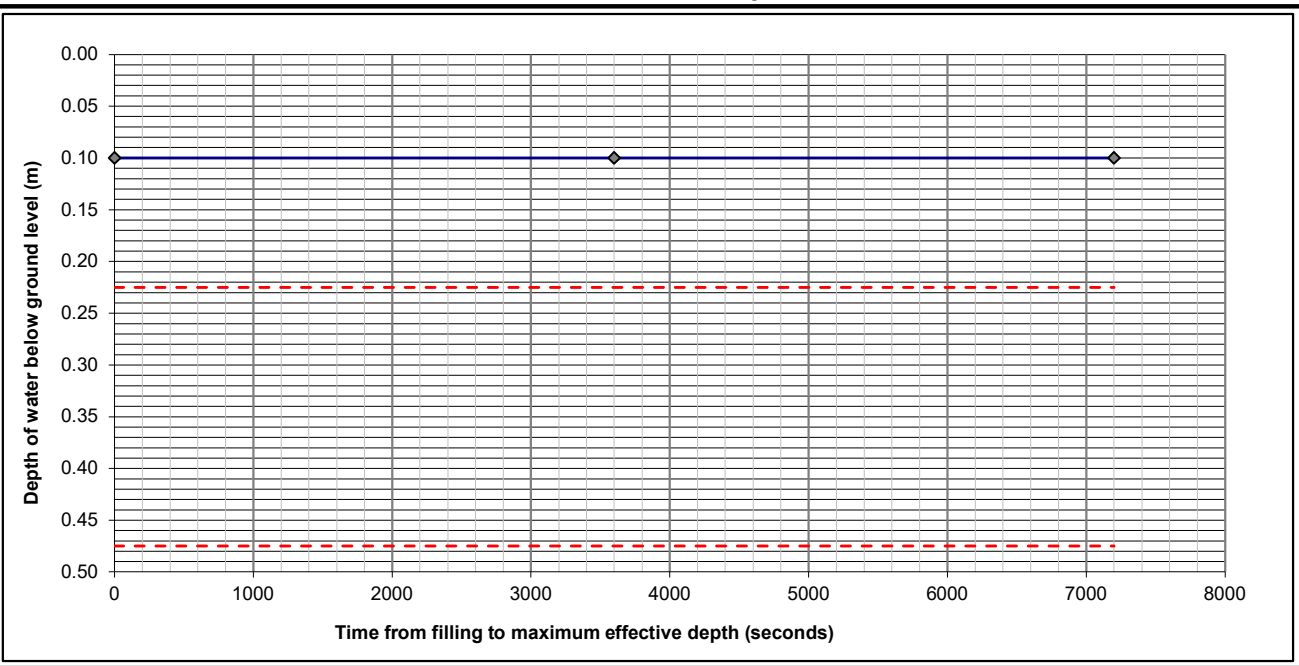
Compiled by: SW
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Environmental Consultancy
Ground Engineering Services

TETRA TECH

DATE:	13/03/2026
PROJECT No:	784-B077402
PROJECT NAME:	Goat_Mill_Road_GI
CLIENT:	Merthyr Tydfil County Borough
TRIAL PIT ID:	TP704
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
	0.00	0.100
3600	60.00	0.100
7200	120.00	0.100

PIT LENGTH (m):	2.40
PIT WIDTH (m):	0.60
PIT DEPTH (m):	0.60

Pit construction
Open - No Gravel

INPUT PARAMETERS:

Total volume of pit	(m^3)	0.72
Pit volume between 75% and 25% depths = L x W x ½D	(m^3)	0.36
Effective depth of Pit	(m)	0.50
Proportion of pit volume occupied by gravel solids	(0-1)	0.00
Maximum potential volume of Water	(m^3)	0.72
Level of water in pit at 75% effective depth (p_{75})	(m)	0.13
Level of water in pit at 25% effective depth (p_{25})	(m)	0.38
Effective volume between 75% & 25% depth $Vp_{75\text{-}25}$ = V x Pg	(m^3)	0.36
Surface area of pit up to 50% effective depth (A_{p50})	(m^2)	2.94
Time at 75% effective depth (p_{75})	(s)	#N/A
Time at 25% effective depth (p_{25})	(s)	#N/A
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A

OUTPUT:

SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	**#N/A**

WATER INPUT: 1700 l 8:28 mins

GEOLOGY OF TEST SECTION:
Made Ground

Compiled by: SW
Checked by: JC