

APPENDIX B

Trial Pit Logs

Trial Pit Log

Project Name: St Peters Close

Client: SG Estates

Date: 04/08/2021

Location:

Contractor: Harvey Plant Hire

Project No. : 2585

Crew Name:

Equipment: JCB 3CX

Location Number
TP01Location Type
TP

Level

Logged By
ESScale
1:25Page Number
Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.35			Medium dense brown slightly clayey SAND. (TOPSOIL)	
		1.00 1.00	D	HVP=85.0				Firm brown very sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of sandstone and coal. (GLACIAL TILL)	1
		2.10 2.20	D	HVP=40.0	2.10			Loose brown slightly gravelly SAND. Gravel is subrounded to subangular fine to coarse of sandstone and coal. (FLUVIOGLACIAL DEPOSITS)	2
					2.70			End of Borehole at 2.700m	3
									4
									5

Dimensions

Trench Support and Comment

Pumping Data

Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.80	0.60	Pit unstable at base.					

Remarks

Slow groundwater infiltration at base.



Trial Pit Log

Project Name: St Peters Close

Client: SG Estates

Date: 04/08/2021

Location:

Contractor: Harvey Plant Hire

Project No. : 2585

Crew Name:

Equipment: JCB 3CX

Location Number
TP02Location Type
TP

Level

Logged By
ESScale
1:25Page Number
Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40			Soft brown very sandy CLAY. (TOPSOIL)	
		1.20		HVP=80.0				Firm to stiff brownish blue very sandy gravelly CLAY. Gravel is subrounded to subangular fine to coarse of sandstone and coal. (GLACIAL TILL)	1
		2.00		HVP=85.0					2
					2.90			End of Borehole at 2.900m	3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.90	0.60	Pit Stable					

Remarks

No groundwater encountered.



Trial Pit Log

Project Name: St Peters Close		Client: SG Estates		Date: 04/08/2021	
Location:		Contractor: Harvey Plant Hire			
Project No. : 2585		Crew Name:		Equipment: JCB 3CX	
Location Number TP03	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40		Medium dense brown slightly clayey SAND. (TOPSOIL)		
		1.00		HVP=65.0			Firm brown very sandy gravelly CLAY. Gravel is subrounded to subangular fine to coarse of coal and mudstone. (GLACIAL TILL)	1	
		1.50		HVP=85.0				2	
					2.10		Loose brown slightly gravelly SAND. (FLUVIOGLACIAL DEPOSITS)		
					2.60		End of Borehole at 2.600m	3	
								4	
								5	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.90	0.60	Pit stable.					

Remarks						
No groundwater encountered.						



Trial Pit Log

Project Name: St Peters Close		Client: SG Estates		Date: 04/08/2021	
Location:		Contractor: Harvey Plant Hire			
Project No. : 2585		Crew Name:		Equipment: JCB 3CX	
Location Number TP05	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		2.40		HVP=90.0	0.20			Loose to medium dense brown clayey SAND. (TOPSOIL)	1
								Firm brown mottled orange very sandy gravelly CLAY with low cobble content. Gravel is subrounded to subangular fine to coarse of mudstone with occasional coal traces. Cobbles are rounded of mudstone. (GLACIAL TILL)	
					1.60			Loose brown slightly gravelly SAND Gravel is subrounded to subangular fine to coarse of mudstone with occasional coal traces. (FLUVIOGLACIAL DEPOSITS)	2
					2.00			Stiff brown mottled orange gravelly slightly sandy CLAY. Gravel is subrounded to subangular fine to coarse of mudstone with occasional coal. (GLACIAL TILL)	
					2.70			End of Borehole at 2.700m	3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.90	0.60	Pit stable.					

Remarks

No groundwater encountered.



Trial Pit Log

Project Name: St Peters Close

Client: SG Estates

Date: 04/08/2021

Location:

Contractor: Harvey Plant Hire

Project No. : 2585

Crew Name:

Equipment: JCB 3CX

Location Number
TP04Location Type
TP

Level

Logged By
ESScale
1:25Page Number
Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES					Loose to medium dense brown slightly clayey SAND. (TOPSOIL)	
					0.45			Firm brown mottled orange very sandy gravelly CLAY. (GLACIAL TILL)	1
		1.20	D						
		1.50		HVP=90.0					
		2.00		HVP=85.0					2
					2.40			Loose brown slightly gravelly SAND. Gravel is subrounded to rounded fine to coarse of sandstone with occasional coal. (FLUVIOGLACIAL DEPOSITS)	
					2.75			End of Borehole at 2.750m	3
									4
									5

Dimensions

Trench Support and Comment

Pumping Data

Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.80	0.60	Pit stable.					

Remarks

No groundwater encountered.



Trial Pit Log

Project Name: St Peters Close

Client: SG Estates

Date: 04/08/2021

Location:

Contractor: Harvey Plant Hire

Project No. : 2585

Crew Name:

Equipment: JCB 3CX

Location Number
TP06Location Type
TP

Level

Logged By
ESScale
1:25Page Number
Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.45			Loose dark brown very gravelly SAND. (FLUVIOGLACIAL DEPOSITS)	
		1.00	D					Firm to stiff brown mottled blue sandy gravelly CLAY. (GLACIAL TILL)	1
		2.00		HVP=100.0					2
					2.70			End of Borehole at 2.700m	3
									4
									5

Dimensions

Trench Support and Comment

Pumping Data

Pit Length
2.00Pit Width
0.60Pit Stability
Pit stable.

Shoring Used

Remarks

Date

Rate

Remarks

Remarks

Becoming wet at 2.50m.



Trial Pit Log

Project Name: St Peters Close		Client: SG Estates		Date: 04/08/2021	
Location:		Contractor: Harvey Plant Hire			
Project No. : 2585		Crew Name:		Equipment: JCB 3CX	
Location Number TP07	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30			Soft dark brown sandy gravelly CLAY. Gravel is subrounded to subangular fine to coarse of mixed lithologies. (TOPSOIL)	
		1.00	D					Firm to stiff brown mottled blue sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mudstone with occasional coal. (GLACIAL TILL)	1
		2.00		HVP=94.0					2
					2.70			End of Borehole at 2.700m	3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.90	0.60	Pit stable.					

Remarks

No groundwater encountered.



Trial Pit Log

Project Name: St Peters Close		Client: SG Estates		Date: 04/08/2021	
Location:		Contractor: Harvey Plant Hire			
Project No. : 2585		Crew Name:		Equipment: JCB 3CX	
Location Number TP08	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30			Sift brown sandy gravelly CLAY. Gravel is subrounded to subangular fine to coarse of mixed lithologies. (TOPSOIL)	
								Soft to firm brown mottled grey sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mudstone with occasional coal. (GLACIAL TILL)	1
		2.00		HVP=65.0					2
					2.30				
					2.50			Loose brown gravelly clayey SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (FLUVIOGLACIAL DEPOSITS)	
		2.70		HVP=80.0				Firm to stiff brown mottled grey sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)	
					2.90			End of Borehole at 2.900m	3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
2.00	0.60	Pit stable.					

Remarks

No groundwater encountered.



Trial Pit Log

Project Name: St Peters Close		Client: SG Estates		Date: 04/08/2021	
Location:		Contractor: Harvey Plant Hire			
Project No. : 2585		Crew Name:		Equipment: JCB 3CX	
Location Number TP09	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.35			Loose dark brown very gravelly slightly clayey SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL)	
		1.00	D					Firm to stiff brown mottled blue sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mudstone and occasional coal. (GLACIAL TILL)	1
		1.50		HVP=80.0					2
					2.60			Thin band of sand between 2.30 and 2.40m.	
								End of Borehole at 2.600m	3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.80	0.60	Pit stable.					

Remarks

No groundwater encountered.



Trial Pit Log

Project Name: St Peters Close		Client: SG Estates		Date: 04/08/2021	
Location:		Contractor: Harvey Plant Hire			
Project No. : 2585		Crew Name:		Equipment: JCB 3CX	
Location Number TP10	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.35		Loose dark brown very gravelly SAND. Gravel is subangular to angular fine to coarse of mixed lithologies. (TOPSOIL)		
		1.00	D				Firm to stiff brown mottled blue very sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mudstone with occasional coal. (GLACIAL TILL)	1	
					2.70			2	
							End of Borehole at 2.750m	3	
								4	
								5	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
2.00	0.60	Pit stable.					

Remarks	
No groundwater encountered.	

Trial Pit Log

Project Name: St Peters Close		Client: SG Estates		Date: 04/08/2021	
Location:		Contractor: Harvey Plant Hire			
Project No. : 2585		Crew Name:		Equipment: JCB 3CX	
Location Number TP11	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.40			Loose dark brown very gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL)	
		1.00	D					Soft to firm brown very sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)	1
		1.50							
		1.80	D		1.70			Firm to stiff brown mottled blue sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mudstone with occasional coal. (GLACIAL TILL)	2
		2.50			2.75			End of Borehole at 2.700m	3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.90	0.60	Pit stable.					

Remarks	
No groundwater encountered.	

Date: 09/09/2021

Contractor: Harvey Plant Hire

Equipment: JCB 3CX

Page Number
Sheet 1 of 1

- 1
- 2
- 3
- 4
- 5

Remarks
No groundwater encountered. Soakaway test carried out.



Trial Pit Log

Project Name: St Peters Close additional SI		Client: SG Estates		Date: 09/09/2021	
Location: Rhosrobin		Contractor: Harvey Plant Hire			
Project No. : 2609		Crew Name:		Equipment: JCB 3CX	
Location Number TP202	Location Type TP	Level	Logged By ES	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25			Grass over brown gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL) Soft brown gravelly sandy CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)	
								Sand content increasing with depth from 1.10m.	1
					2.00			End of Borehole at 2.000m	2
									3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.40	0.60	Pit Stable					

Remarks

No groundwater encountered.



Project Name: St Peters Close additional SI				Client: SG Estates				Date: 09/09/2021				
Location: Rhosrobin				Contractor: Harvey Plant Hire								
Project No. : 2609				Crew Name:				Equipment: JCB 3CX				
Location Number TP203		Location Type TP		Level		Logged By ES		Scale 1:25		Page Number Sheet 1 of 1		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description				
		Depth (m)	Type	Results								
					0.20			Grass over very gravelly SAND. Gravel is subangular to subrounded fine to coarse of mixed lithologies. (TOPSOIL)	1			
					1.30			Loose brown gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (FLUVIOGLACIAL DEPOSITS)	2			
								End of Borehole at 1.300m	3			
									4			
									5			
Dimensions				Trench Support and Comment				Pumping Data				
Pit Length		Pit Width		Pit Stability		Shoring Used		Remarks		Date	Rate	Remarks
1.40		0.60		Pit Stable								
Remarks No groundwater encountered. Soakaway testing carried out.												
												

Trial Pit Log

Project Name: St Peters Close additional SI			Client: SG Estates			Date: 09/09/2021			
Location: Rhosrobin			Contractor: Harvey Plant Hire						
Project No. : 2609			Crew Name:			Equipment: JCB 3CX			
Location Number TP204		Location Type TP		Level		Logged By ES		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20		 Grass over loose brown very clayey gravelly SAND. Gravel is subangular to angular fine to coarse of mixed lithologies. (TOPSOIL)	1	
					1.80		 Stiff brown mottled blue gravelly slightly gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)		
							End of Borehole at 1.800m	2	
								3	
								4	
								5	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.50	1.80	Pit stable					

Remarks
 No groundwater encountered.



Trial Pit Log

Project Name: St Peters Close additional SI		Client: SG Estates		Date: 09/09/2021	
Location: Rhosrobin		Contractor: Harvey Plant Hire			
Project No. : 2609		Crew Name:		Equipment: JCB 3CX	
Location Number TP205	Location Type TP	Level	Logged By	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.15			Grass over loose brown gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL)	
					1.50			Firm brown sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)	1
								End of Borehole at 1.500m	2
									3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.50	0.60	Pit Stable					

Remarks

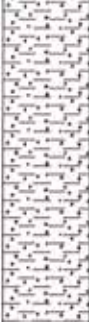
Soakaway carried out. No drop in level recorded over day.



<u>GroundSolve Ltd</u>		Trial Pit Log												
Project Name: St Peters Close additional SI					Client: SG Estates					Date: 09/09/2021				
Location: Rhosrobin					Contractor: Harvey Plant Hire									
Project No. : 2609					Crew Name:					Equipment: JCB 3CX				
Location Number TP206			Location Type TP		Level		Logged By ES		Scale 1:25		Page Number Sheet 1 of 1			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description						
		Depth (m)	Type	Results										
					0.25			Grass over loose brown very gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL)	1					
					1.50			Soft to firm very sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)						
								End of Borehole at 1.500m	2					
									3					
									4					
									5					
Dimensions				Trench Support and Comment				Pumping Data						
Pit Length 1.40		Pit Width 0.60		Pit Stability Pit stable.	Shoring Used		Remarks		Date	Rate	Remarks			
Remarks No groundwater encountered.														

Trial Pit Log

Project Name: St Peters Close additional SI			Client: SG Estates			Date: 09/09/2021			
Location: Rhosrobin			Contractor: Harvey Plant Hire						
Project No. : 2609			Crew Name:			Equipment: JCB 3CX			
Location Number TP208		Location Type TP		Level		Logged By ES		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25		 Grass over loose brown slightly gravelly SAND Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL)	1	
					1.40		 Stiff brown gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)		
							End of Borehole at 1.400m	2	
								3	
								4	
								5	

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.50	0.60	Pit Stable					

Remarks No groundwater encountered.							

APPENDIX C

Borehole Logs

Percussion Drilling Log

Project Name: St Peters Close additional SI		Client: SG Estates		Date: 14/09/2021	
Location: Rhosrobin		Contractor: Harvey Plant Hire			
Project No. : 2609		Crew Name: Cheshire Drilling		Drilling Equipment: Dando 2000	
Borehole Number BH01	Hole Type CP	Level	Logged By ES	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40			Grass over brown gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL)	
								Loose gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (FLUVIOGLACIAL DEPOSITS)	1
		2.50 - 3.50	B						2
					3.50			Medium dense brown clayey gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (FLUVIOGLACIAL DEPOSITS)	4
		4.50 - 5.50	B		4.50			Medium dense sandy subrounded to subangular fine to coarse GRAVEL of mixed lithologies with high cobble content. Cobbles are rounded of sandstone and limestone. (FLUVIOGLACIAL DEPOSITS)	5
		5.50 - 6.50	B						6
		7.00 - 8.00	B						7
									8
		9.00 - 10.00	B						9
					10.00			End of Borehole at 10.000m	10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
10.00	200	10.00	200								

Remarks No groundwater encountered. Falling head depths carried out at various depths.										
--	--	--	--	--	--	--	--	--	--	---

Percussion Drilling Log

Project Name: St Peters Close additional SI		Client: SG Estates		Date: 15/09/2021	
Location: Rhosrobin		Contractor: Harvey Plant Hire			
Project No. : 2609		Crew Name: Cheshire Drilling		Drilling Equipment: Dando 2000	
Borehole Number BH02	Hole Type CP	Level	Logged By ES	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40			Grass over brown gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies.	
								(TOPSOIL) Loose to medium dense clayey gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (FLUVIOGLACIAL DEPOSITS)	1
		2.30	B		2.30			Firm brown very sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)	2
									3
									4
					5.00			Cobbles or angular limestone recorded @ 4.85m. End of Borehole at 5,000m	5
									6
									7
									8
									9
									10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
				4.85		01.00					

Remarks No groundwater encountered.	
--	---

Percussion Drilling Log

Project Name: St Peters Close additional SI		Client: SG Estates		Date: 14/09/2021	
Location: Rhosrobin		Contractor: Harvey Plant Hire			
Project No. : 2609		Crew Name: Cheshire Drilling		Drilling Equipment: Dando 2000	
Borehole Number BH2A	Hole Type CP	Level	Logged By ES	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.50			Grass over brown gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL) Soft to firm brown mottled blue sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)	1
									2
									3
									4
		5.00	B		4.80			Medium dense brown very gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (FLUVIOGLACIAL DEPOSITS)	5
									6
		6.00	B						7
									8
		7.00	B						9
					7.50			End of Borehole at 7.500m	10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
7.50	200	7.50	200								

Remarks

No groundwater encountered. Falling head tests carried out at various depths.

Percussion Drilling Log

Project Name: St Peters Close additional SI		Client: SG Estates		Date: 15/09/2021	
Location: Rhosrobin		Contractor: Harvey Plant Hire			
Project No. : 2609		Crew Name: Cheshire Drilling		Drilling Equipment: Dando 2000	
Borehole Number BH03	Hole Type CP	Level	Logged By ES	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.60			Grass over brown gravelly SAND. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (TOPSOIL)	
								Firm brown very gravelly sandy CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL TILL)	1
									2
									3
									4
		5.00	B		4.40			Medium dense brown very gravelly slightly clayey SAND with medium cobble content. Gravel is subrounded to rounded fine to coarse of mixed lithologies. Cobbles are rounded of sandstone and limestone. (FLUVIOGLACIAL DEPOSITS)	5
									6
									7
								Cobble content increasing with depth from 7.0m.	8
									9
					10.00				10
								End of Borehole at 10.000m	

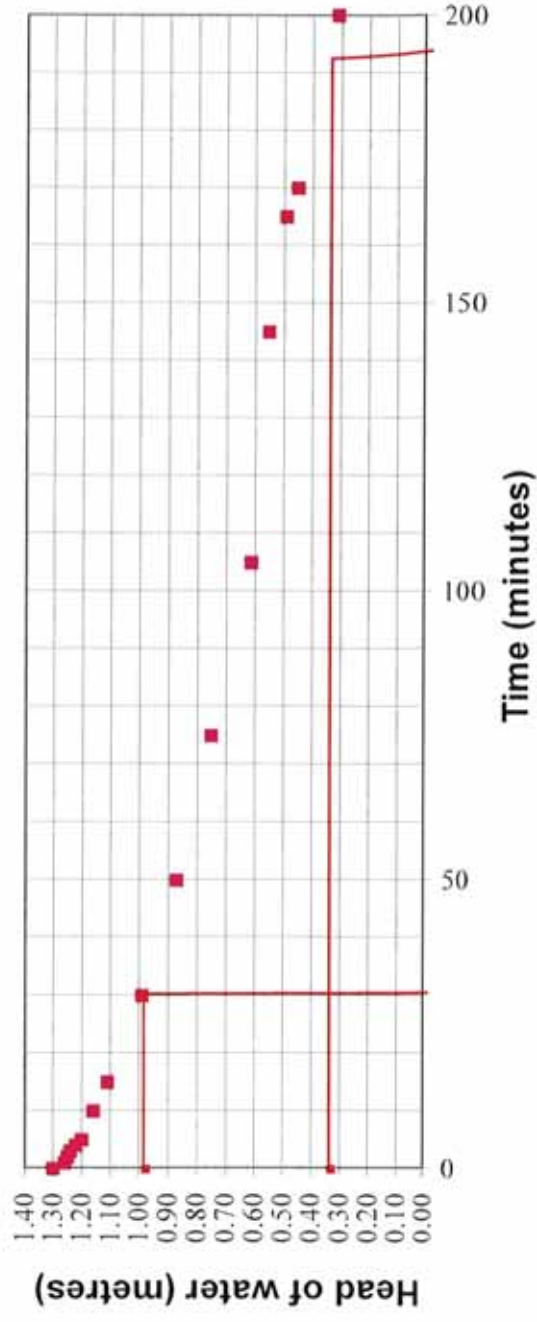
Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
0.00	200	0.00	200								

Remarks

No groundwater encountered. Falling head tests carried out at various depths.

APPENDIX D

Soakaway Test Results

[illegible]

Depth (m)	Length (m)	Width (m)	Head at 75% Vol (m)	Head at 25% Vol (m)	Water depth(t=0) (m)	Effective Area Ap50 m2	Vp75-Vp25 Volume of water m3	Adjustment Factor *	t75 (mins)	t25 (mins)	Infiltration rate m/s
2.00	1.40	0.60	0.975	0.33	1.30	3.440	0.546	1.00	30	192	1.633E-05

* with gravel filter adjustment factor = 0.30, with no filter = 1.0

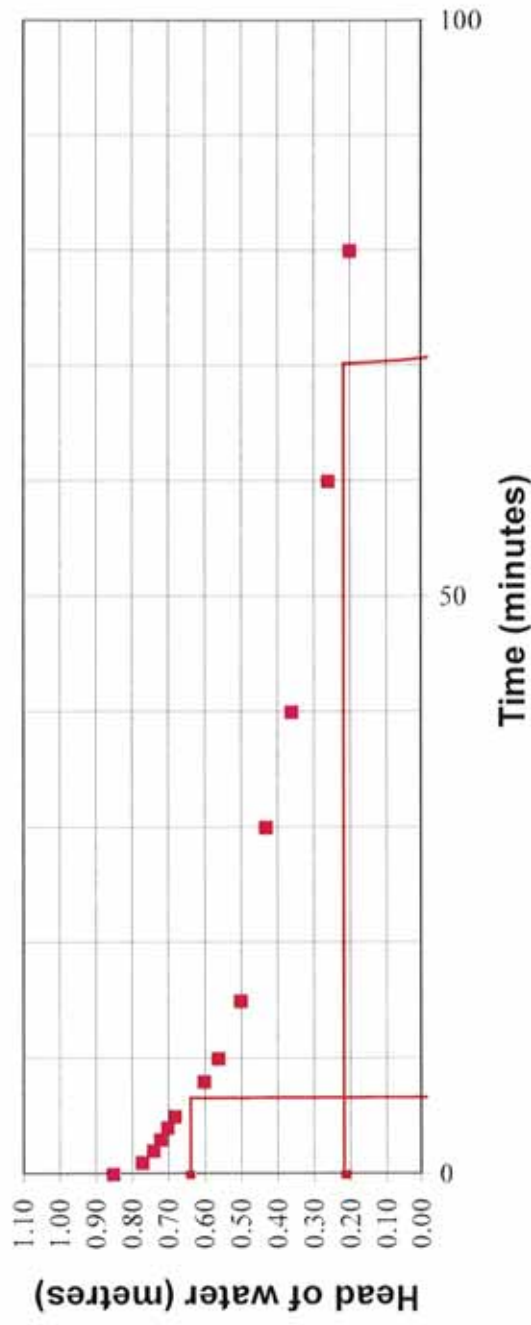
TP1- Test 3

Figure 1 is a scatter plot with a step-line showing the relationship between Head of water (metres) on the Y-axis and Time (minutes) on the X-axis. The Y-axis ranges from 0.00 to 1.40 in increments of 0.10. The X-axis ranges from 0 to 200 in increments of 50. Red square data points are plotted, and a red step-line connects them. The head starts at approximately 1.20 metres at 0 minutes, drops sharply to about 0.90 metres at 10 minutes, remains constant until 155 minutes, and then drops to about 0.30 metres. There are several data points between 0 and 10 minutes showing a gradual decrease from 1.20 to 1.00 metres.

Time (minutes)	Head of water (metres)
0	1.20
5	1.18
10	1.15
15	1.12
20	1.10
25	1.08
30	1.05
35	1.02
40	1.00
45	0.95
50	0.90
100	0.90
155	0.90
160	0.30
170	0.40
180	0.50
190	0.60
200	0.30

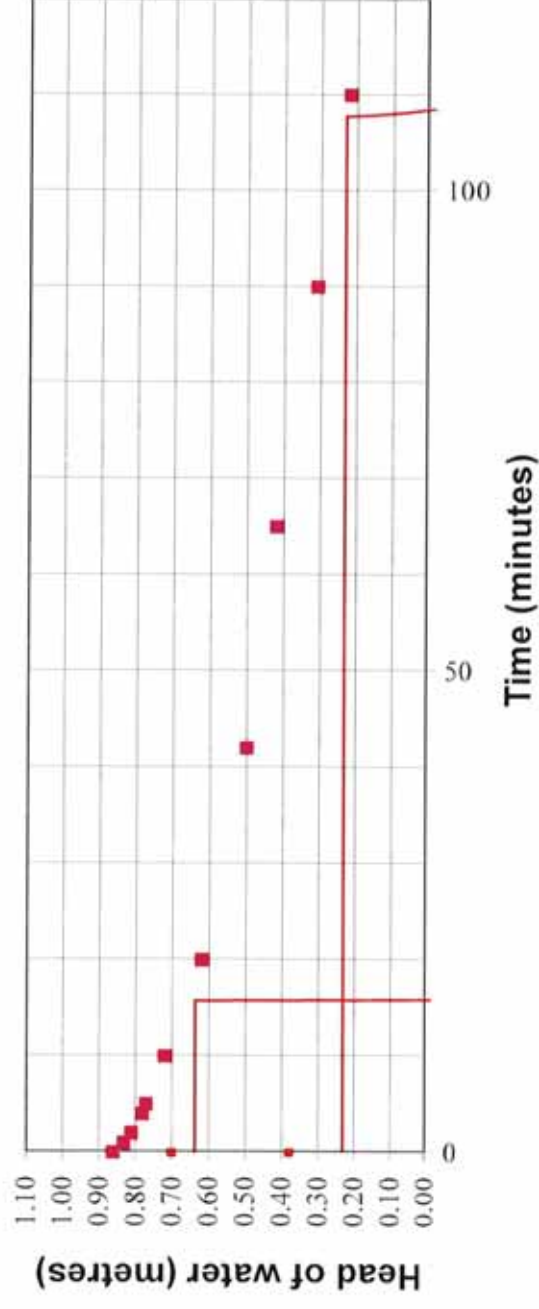
Depth (m)	Length (m)	Width (m)	Head at 75% Vol (m)	Head at 25% Vol (m)	Water depth(t=0) (m)	Effective Area Ap50 m2	Vp75-Vp25 Volume of water m3	Adjustment Factor *	t75 (mins)	t25 (mins)	Infiltration rate m/s
1.80	1.40	0.60	0.900	0.30	1.20	3.240	0.504	1.00	30	159	2.010E-05

* with gravel filter adjustment factor = 0.30, with no filter = 1.0

[illegible]

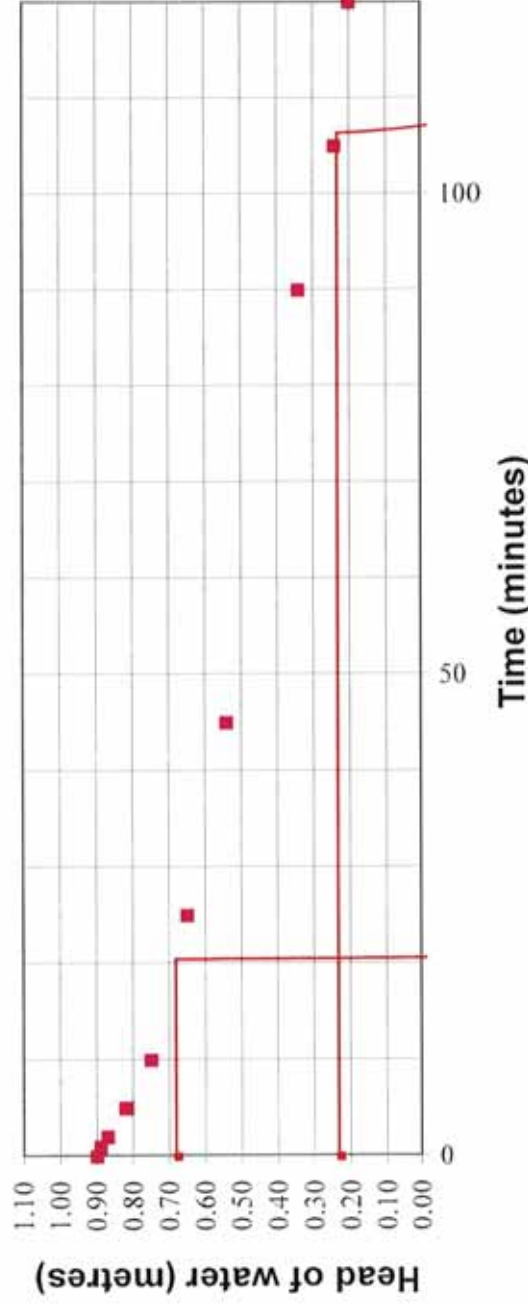
Depth (m)	Length (m)	Width (m)	Head at 75% Vol (m)	Head at 25% Vol (m)	Water depth(l=0) (m)	Effective Area Ap50 m2	Vp75-Vp25 Volume of water m3	Adjustment Factor *	t75 (mins)	t25 (mins)	Infiltration rate m/s
1.30	1.30	0.60	0.638	0.21	0.85	2.395	0.332	1.00	8	70	3.721E-05

* with gravel filter adjustment factor = 0.30, with no filter = 1.0

[illegible]

Depth (m)	Length (m)	Width (m)	Head at 75% Vol (m)	Head at 25% Vol (m)	Water depth(t=0) (m)	Effective Area Ap50 m ²	Vp75-Vp25 Volume of water m ³	Adjustment Factor *	t75 (mins)	t25 (mins)	Infiltration rate m/s
1.30	1.30	0.60	0.645	0.22	0.66	2.414	0.335	1.00	15	108	2.490E-05

* with gravel filter adjustment factor = 0.30, with no filter = 1.0

[illegible]

Depth (m)	Length (m)	Width (m)	Head at 75% Vol (m)	Head at 25% Vol (m)	Water depth(l=0) (m)	Effective Area Ap50 m2	Vp75-Vp25 Volume of water m3	Adjustment Factor *	t75 (mins)	t25 (mins)	Infiltration rate m/s
1.30	1.30	0.60	0.675	0.23	0.90	2.490	0.351	1.00	20	108	2.670E-05

* with gravel filter adjustment factor = 0.30, with no filter = 1.0

APPENDIX E

Falling Head Permeability Test Results

GroundSolve Ltd
Unit 1 Well House Barns
Chester Road
Bretton
Flintshire CH4 0DH

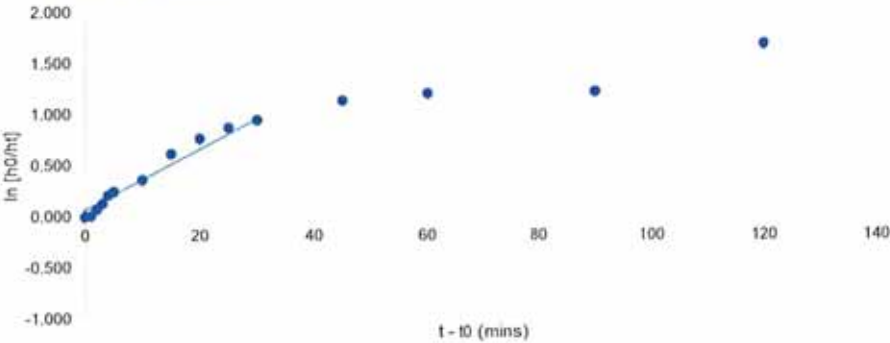
FALLING HEAD TEST PERMEABILITY CALCULATION
Variable Head Test Method, BS EN ISO 22282-2:2012

Project No.	2609
Project Name	St Peters Close
Borehole	BH1
Date	

BH Depth (m)	4.00
Casing Depth (m)	3.00
Casing Dia (m)	0.15
Casing Height (m)	0.00

L/D Ratio	3.85
Shape Factor	2.4205

Time (mins)	Depth to Water	ln (h0/ht)
0	1.63	0.000
1	1.65	0.008
2	1.80	0.074
3	1.92	0.131
4	2.08	0.211
5	2.15	0.248
10	2.35	0.362
15	2.72	0.616
20	2.90	0.768
25	3.01	0.873
30	3.08	0.946
45	3.24	1.137
60	3.29	1.205
90	3.30	1.220
120	3.56	1.684
		-0.523
		-0.523
		-0.523
		-0.523
		-0.523



α (gradient)	0.03399
Area of BH (m ²)	0.05552

Infiltration Rate, k	7.796E-04 m/s
----------------------	---------------

Notes	Test carried out between 3&4m, within slightly clayey sand and gravels.
-------	---

GroundSolve Ltd
Unit 1 Well House Barns
Chester Road
Bretton
Flintshire CH4 0DH

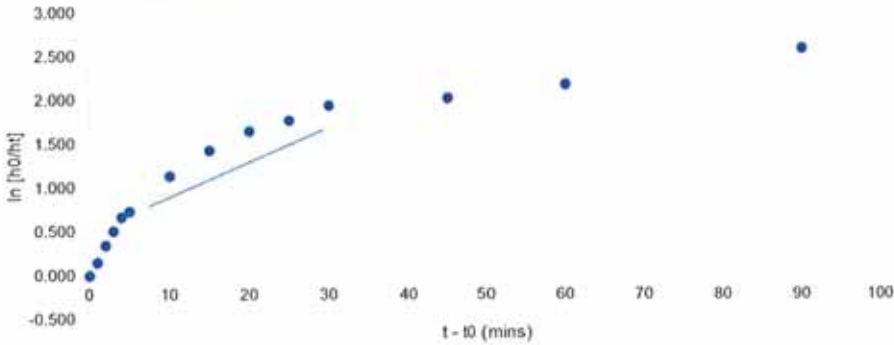
FALLING HEAD TEST PERMEABILITY CALCULATION
Variable Head Test Method, BS EN ISO 22282-2:2012

Project No.	2609
Project Name	St Peters Close
Borehole	BH1
Date	

Time (mins)	Depth to Water	ln (h0/ht)
0	0.20	0.000
1	0.94	0.150
2	1.75	0.346
3	2.32	0.511
4	2.79	0.671
5	2.95	0.732
10	3.80	1.137
15	4.23	1.429
20	4.48	1.648
25	4.60	1.773
30	4.74	1.942
45	4.80	2.024
60	4.90	2.179
90	5.10	2.584
		-0.037
		-0.037
		-0.037
		-0.037
		-0.037
		-0.037

BH Depth (m)	5.50
Casing Depth (m)	4.50
Casing Dia (m)	0.15
Casing Height (m)	0.00

L/D Ratio	3.85
Shape Factor	2.4205



α (gradient)	0.05784
Area of BH (m ²)	0.05552

Infiltration Rate, k	1.37E10-4 m/s
----------------------	---------------

Notes	Test carried out between 4.5+5.5m, within sand and gravels.
-------	---

GroundSolve Ltd
Unit 1 Well House Barns
Chester Road
Bretton
Flintshire CH4 0DH

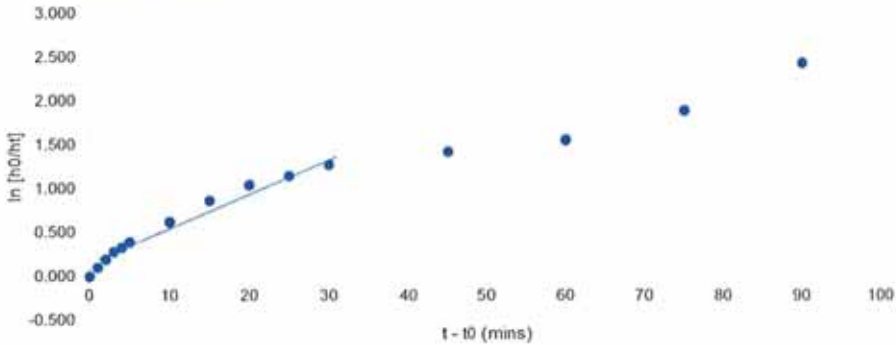
FALLING HEAD TEST PERMEABILITY CALCULATION
Variable Head Test Method, BS EN ISO 22282-2:2012

Project No.	2609
Project Name	St Peters Close
Borehole	8H1
Date	

BH Depth (m)	6.50
Casing Depth (m)	5.50
Casing Dia (m)	0.15
Casing Height (m)	0.00

L/D Ratio	3.85
Shape Factor	2.4205

Time (mins)	Depth to Water	ln (h0/ht)
0	0.80	0.000
1	1.35	0.101
2	1.80	0.193
3	2.20	0.282
4	2.40	0.329
5	2.65	0.392
10	3.44	0.622
15	4.10	0.865
20	4.50	1.047
25	4.70	1.153
30	4.91	1.277
45	5.13	1.426
60	5.30	1.558
75	5.64	1.891
90	6.00	2.434
		-0.131
		-0.131
		-0.131
		-0.131
		-0.131



α (gradient)	0.04127
Area of BH (m ²)	0.05552

Infiltration Rate, k	9.466E-04 m/s
----------------------	---------------

Notes	Test carried out between 5.5+6.5m, within sand and gravels.
-------	---

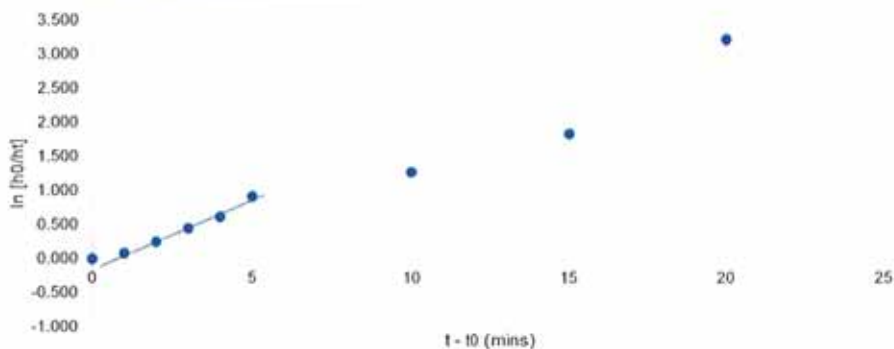
Variable Head Test Method, BS EN ISO 22282-2:2012

Project No.	2609
Project Name	St Peters Close
Borehole	BH1
Date	

BH Depth (m)	8.00
Casing Depth (m)	7.00
Casing Dia (m)	0.15
Casing Height (m)	0.00

L/D Ratio	3.85
Shape Factor	2.4205

Time (mins)	Depth to Water	ln (h0/ht)
0	3.00	0.000
1	3.40	0.083
2	4.10	0.248
3	4.80	0.446
4	5.30	0.616
5	6.00	0.916
10	6.60	1.273
15	7.20	1.833
20	7.80	3.219
		-0.470
		-0.470
		-0.470
		-0.470
		-0.470



α (gradient)	0.14604
Area of BH (m^2)	0.05552

Infiltration Rate, k	3.350E-03 m/s
------------------------	---------------

Notes	Test carried out between 7+8m, slightly sand and gravels.
-------	---

GroundSolve Ltd
Unit 1 Well House Barns
Chester Road
Bretton
Flintshire CH4 0DH

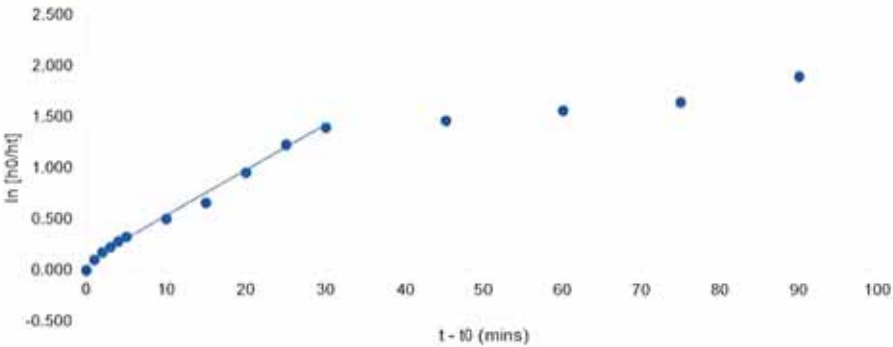
FALLING HEAD TEST PERMEABILITY CALCULATION
Variable Head Test Method, BS EN ISO 22282-2:2012

Project No.	2609
Project Name	St Peters Close
Borehole	BH2a
Date	

BH Depth (m)	6.00
Casing Depth (m)	5.00
Casing Dia (m)	0.15
Casing Height (m)	0.00

L/D Ratio	3.85
Shape Factor	2.4205

Time (mins)	Depth to Water	ln (h0/ht)
0	1.78	0.000
1	2.20	0.105
2	2.46	0.176
3	2.63	0.225
4	2.82	0.283
5	2.96	0.328
10	3.45	0.504
15	3.83	0.665
20	4.38	0.957
25	4.77	1.233
30	4.96	1.401
45	5.03	1.470
60	5.12	1.568
75	5.19	1.651
90	5.37	1.902
		-0.352
		-0.352
		-0.352
		-0.352
		-0.352



α (gradient)	0.04389
Area of BH (m ²)	0.05552

Infiltration Rate, k	1.007E-03 m/s
----------------------	---------------

Notes	Test carried out between 5+6m, within sand and gravels.
-------	---

GroundSolve Ltd

Unit 1 Well House Barns
Chester Road
Bretton
Flintshire CH4 0DH

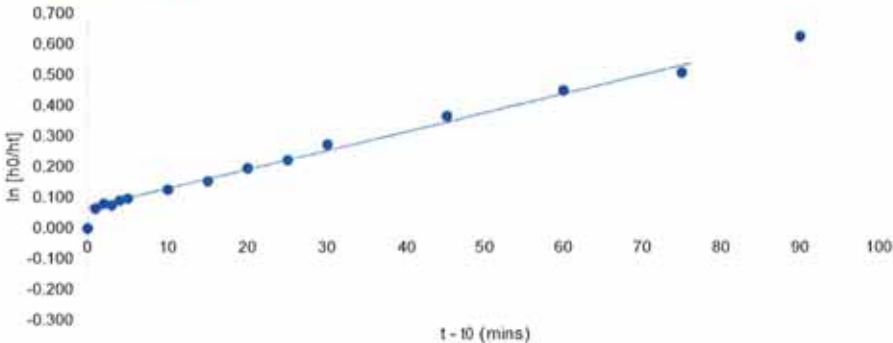
FALLING HEAD TEST PERMEABILITY CALCULATION
Variable Head Test Method, BS EN ISO 22282-2:2012

Project No.	2609
Project Name	St Peters Close
Borehole	BH3
Date	

BH Depth (m)	6.00
Casing Depth (m)	5.00
Casing Dia (m)	0.15
Casing Height (m)	0.00

L/D Ratio	3.85
Shape Factor	2.4205

Time (mins)	Depth to Water	ln (h0/ht)
0	0.95	0.000
1	1.27	0.065
2	1.34	0.080
3	1.32	0.076
4	1.39	0.091
5	1.42	0.098
10	1.55	0.126
15	1.67	0.154
20	1.85	0.196
25	1.96	0.223
30	2.16	0.274
45	2.50	0.367
60	2.78	0.450
75	2.96	0.508
90	3.30	0.626
		-0.172
		-0.172
		-0.172
		-0.172
		-0.172



α (gradient)	0.00650
Area of BH (m ²)	0.05552

Infiltration Rate, k	1.491E-04 m/s
----------------------	---------------

Notes	Test carried out between 5+6m, within sand and gravels.
-------	---

Variable Head Test Method, BS EN ISO 22282-2:2012

L/D Ratio	3.85
Shape Factor	2.4205

Figure 1 is a scatter plot with a line of best fit. The y-axis is labeled $\ln [\eta_0/\eta_t]$ and ranges from -1.500 to 4.000 with major ticks every 0.500. The x-axis is labeled $t - t_0 \text{ (mins)}$ and ranges from 0 to 16 with major ticks every 2 units. There are 8 data points plotted as blue circles. A solid blue line represents the linear fit to the data. The data points are approximately at (0, 0.1), (1, 0.1), (2, 0.5), (3, 0.9), (4, 1.3), (5, 1.6), (10, 3.2), and (15, 3.4).

$t - t_0 \text{ (mins)}$	$\ln [\eta_0/\eta_t]$
0	0.1
1	0.1
2	0.5
3	0.9
4	1.3
5	1.6
10	3.2
15	3.4

Notes	Test carried out between 6+7m, within sand and gravels.
-------	---

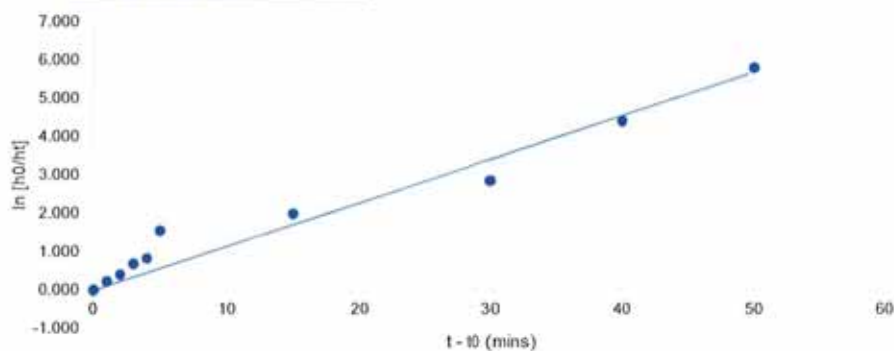
Variable Head Test Method, BS EN ISO 22282-2:2012

Project No.	2609
Project Name	St Peters Close
Borehole	BH3
Date	

BH Depth (m)	9.00
Casing Depth (m)	8.00
Casing Dia (m)	0.15
Casing Height (m)	0.00

L/D Ratio	3.85
Shape Factor	2.4205

Time (mins)	Depth to Water	ln (h ₀ /ht)
0	2.40	0.000
1	3.72	0.223
2	4.60	0.405
3	5.68	0.687
4	6.10	0.822
5	7.60	1.551
15	8.10	1.992
30	8.62	2.855
40	8.92	4.413
50	8.98	5.799
		-0.310
		-0.310
		-0.310
		-0.310
		-0.310



α (gradient)	0.09808
Area of BH (m^2)	0.05552

Infiltration Rate, k	2.250E-03 m/s
------------------------	---------------

Notes	Test carried out between 8+9m, within sand and gravels.
-------	---