

PHOTOGRAPHS

Project Number : PC176880

Project : Coed Darcy



BH09 2.00-3.50m



BH09 3.50-5.00m

PHOTOGRAPHS

Project Number : PC176880

Project : Coed Darcy



BH09 5.00-6.50m



BH09 8.00-9.50m 2

PHOTOGRAPHS

Project Number : PC176880

Project : Coed Darcy



BH09 8.00-9.50m



BH10 1.20-5.00m

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



BH10 12.00-14.00m



BH11 3.20-5.30m

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



BH11 5.30-6.70m



BH12 2.00-6.50m

PHOTOGRAPHS

Project Number : PC176880

Project : Coed Darcy



BH12 6.50-9.50m



BH13 1.20-4.00m 2

PHOTOGRAPHS

Project Number : PC176880

Project : Coed Darcy



BH13 1.20-4.00m



BH13 4.00-6.50m

PHOTOGRAPHS

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BH13 6.50-8.00m



BH14 1.20-4.20m

PHOTOGRAPHS

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BH14 4.20-7.50m



BH14 7.50-10.00m

PHOTOGRAPHS

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BH15 1.20-6.50m



BH15 6.50-9.00m

PHOTOGRAPHS

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BH15 9.00-11.30m



BH18 0.50-1.50m

PHOTOGRAPHS

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BH18 1.50-3.50m



BH18 3.50-5.00m

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BH18 5.00-7.00m



BH18 7.00-8.50m

PHOTOGRAPHS

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BH18 8.50-10.00m



BH19 1.20-4.50m

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



BH19 4.50-7.50m



BH20 1.00-3.30m

PHOTOGRAPHS

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Project : Coed Darcy



BH20 3.30-5.30m



BH21 1.20-3.80m

PHOTOGRAPHS

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BH21 3.80-6.20m



BH21 6.20-8.30m

PHOTOGRAPHS

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BH22 1.20-5.70m



BH23 1.20-4.00m

PHOTOGRAPHS

Project Number : PCI76880

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BH23 4.00-5.50m



BH23 5.50-8.20m

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



BH24 1.20-5.00m



BH24 5.00-6.00m

Fieldwork Results - SPT Results Summary

Project COED DARCY

Project No PC176880

Client ST MODWEN DEVELOPMENTS LIMITED

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH01	1.20	65.65	S	-	8	17	15	20	15		50/225					>
BH01	2.20	64.65	S	-	4	6	17	11	12	10	50					*
BH01	3.20	63.65	S	-	5	15	16	10	15	9	50					*
BH01	4.20	62.65	S	-	5	6	6	8	11	13	38				*	
BH01	5.20	61.65	S	-	20	5	50				50/75					>
BH01	7.00	59.85	S	-	25		50				50/75					>
Driller			Clyne Jones				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005									
Hammer No.			AB.01													
Energy Ratio, Er (%)			60.00													
Calibration Date			17/02/2017													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS
geotechnical and geoenvironmental specialists

Fieldwork Results - SPT Results Summary

Project COED DARCY

Project No PC176880

Client ST MODWEN DEVELOPMENTS LIMITED

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH02	1.20	64.75	S	-	5	6	5	4	4	3	16		*			
BH02	2.20	63.75	S	-	1	3	8	5	5	9	27			*		
BH02	3.00	62.95	S	-	4	19	50				50/75					>
BH02	4.50	61.45	S	-	5	16	6	15	29		50/225					>
BH02	6.00	59.95	S	-	12	13	50				50/75					>
Driller			Clyne Jones				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005									
Hammer No.			AB.01													
Energy Ratio, Er (%)			60.00													
Calibration Date			17/02/2017													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

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Project No PC176880

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S - Standard Penetration Test (SPT)

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Fieldwork Results - SPT Results Summary

Project COED DARCY

Project No PC176880

Client ST MODWEN DEVELOPMENTS LIMITED

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH06	1.20	51.26	S	-	7	10	34	16/20			50/95					>
BH06	2.00	50.46	S	-	7	10	11	17	20	2/0	50/225					>
BH06	3.00	49.46	S	-	7	11	49	1			50/150					>
BH06	4.00	48.46	S	-	7	7	9	11	12	15	47					*
BH06	5.00	47.46	S	-	11	12	13	13	13	11/20	50/245					>
BH06	6.50	45.96	C	-	25/30		50/50				50/50					>
BH06	8.00	44.46	C	-	13	11	27	23/40			50/115					>
BH06	9.50	42.96	C	-	25/50		46/60	4/0			50/60					>
BH06	10.00	42.46	C	-	25/40		50/60				50/60					>
Driller			Keith Osbourne				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005									
Hammer No.			AP1046													
Energy Ratio, Er (%)			68.00													
Calibration Date			10/01/2017													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

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Project No PC176880

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C - SPT with cone

L - Split Spoon with liner used

Fieldwork Results - SPT Results Summary

Project COED DARCY

Project No PC176880

Client ST MODWEN DEVELOPMENTS LIMITED

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH08	1.20	64.66	S	-	3	4	3	6	4	3	16		*			
BH08	2.20	63.66	S	-	5	4	5	2	4	3	14		*			
BH08	3.20	62.66	S	-	1	2	1	2	1	2	6	*				
BH08	4.20	61.66	S	-	0	1	2	2	2	2	8	*				
BH08	5.20	60.66	S	-	10	9	8	9	6	6	29			*		
BH08	6.20	59.66	S	-	7	18/65	50/30				50/30					>
BH08	8.20	57.66	S	-	12	10	20	16	14/55		50/205					>
BH08	10.00	55.86	S	-	7	3	5	5	7	15	32			*		
BH08	11.50	54.36	S	-	8	5	7	9	10	10	36			*		
BH08	13.00	52.86	S	-	9	9	11	9	11	7	38			*		
BH08	14.50	51.36	S	-	7	7	40	10/65			50/140					>
Driller			Clyne Jones				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005									
Hammer No.			AB.01													
Energy Ratio, Er (%)			60.00													
Calibration Date			17/02/2017													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

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L - Split Spoon with liner used

GEOTECHNICS
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Fieldwork Results - SPT Results Summary

Project COED DARCY

Project No PC176880

Client ST MODWEN DEVELOPMENTS LIMITED

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH10	1.20	59.18	S	-	7	6	9	8	8	8	33				*		
BH10	2.00	58.38	S	-	4	6	5	7	6	8	26				*		
BH10	3.00	57.38	S	-	7	7	7	8	9	9	33				*		
BH10	4.00	56.38	S	-	4	5	4	6	6	6	22			*			
BH10	5.00	55.38	S	-	7	8	6	7	7	7	27				*		
BH10	6.50	53.88	S	-	4	9	9	10	9	11	39					*	
BH10	8.00	52.38	S	-	20	5/10	50/50				50/50						>
BH10	9.50	50.88	S	-	7	9	8	7	7	8	30				*		
BH10	11.00	49.38	S	-	6	8	10	9	11	12	42					*	
BH10	12.00	48.38	C	-	25/30		50/40				50/40						>
Driller			Keith Osbourne				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005										
Hammer No.			AP1046														
Energy Ratio, Er (%)			68.00														
Calibration Date			10/01/2017														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

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Project No PC176880

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Fieldwork Results - SPT Results Summary

Project COED DARCY

Project No PC176880

Client ST MODWEN DEVELOPMENTS LIMITED

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH12	1.20	48.56	S	-	8	13	19	23	8/10		50/160						>
BH12	2.00	47.76	S	-	7	6	10	11	12	12	45					*	
BH12	3.00	46.76	S	-	1	2	4	9	10	11	34				*		
BH12	4.00	45.76	S	-	7	14	15	17	12	6	50						*
BH12	5.00	44.76	S	-	6	7	11	12	14	11	48					*	
BH12	6.50	43.26	S	-	12	12	20	24	6/20		50/170						>
Driller			Keith Osbourne				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005										
Hammer No.			AP1046														
Energy Ratio, Er (%)			68.00														
Calibration Date			10/01/2017														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS
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Project No PC176880

S - Standard Penetration Test (SPT)

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S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

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S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

APPENDIX 5

Trial Pit Records

DATA SHEET - Symbols and Abbreviations used on Records



Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecon Probe Test
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content
(All other strengths from undrained triaxial testing)	
S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
()	Extrapolated value

Groundwater

Water Strike	
Depth Water Rose To	

Instrumentation

Seal

Filter

Seal

Strata

Made Ground Granular
Made Ground Cohesive
Topsoil
Cobbles and Boulders
Gravel
Sand
Silt
Clay
Peat

Note: Composite soil types shown by combined symbols

Chalk

Limestone

Sandstone

Coal

Strata, Continued

Mudstone

Siltstone

Metamorphic Rock

Fine Grained

Medium Grained

Coarse Grained

Igneous Rock

Fine Grained

Medium Grained

Coarse Grained

Backfill Materials

Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD Rock Quality Designation (% of intact core >100mm)

FRACTURE INDEX

Fractures/metre

FRACTURE Maximum

SPACING (m) Minimum

NI Non-intact core

NR No core recovery

AZCL Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

TRIAL PIT RECORD

Trial Pit

Project COED DARCY	Engineer ATKINS LIMITED	Trial Pit Project No TP01 PC176880
Client ST MODWEN DEVELOPMENTS LIMITED	National Grid Coordinates 271575.026 E 195866.249 N	Ground Level 48.56 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Dark brown sandy slightly clayey gravel with a high cobble content of subangular sandstone. Gravel is angular to subrounded fine to coarse sandstone, brick and concrete. At 0.30m, subangular sandstone boulder (0.6 x 0.4 x 0.3m)	G.L.		48.56
				MADE GROUND: Grey and greyish brown sandy clayey gravel with a high cobble content of subangular to tabular sandstone. Gravel is angular to subangular fine to coarse sandstone. Below 2.0m, slight hydrocarbon odour. At 2.30m, subangular sandstone boulder (0.7 x 0.55 x 0.22m) Below 3.00m, occasional angular cobbles of brick.	1.50		47.06
				Weak to medium strong grey and brown SANDSTONE, recovered as slightly sandy angular to subangular fine to coarse GRAVEL.	3.40		45.16
				End of Excavation	3.90		44.66

Excavation				Groundwater		
Plant Hyundai 145 LCR-9A	Width (B) 0.90	Depth Observed	Depth of Pit	Details		
Date 16/10/2017	Length (C) 4.50					
Shoring None.	Orientation 097 deg	None encountered during excavation				
Stability Unstable sidewalls.	Date Backfilled 16/10/2017					

Remarks The Trial Pit was terminated at a depth of 3.90m on bedrock.	Logged by AJS Checked by DRB Figure 1 of 1 08/12/2017
---	---

Symbols and abbreviations are explained on the accompanying key sheet.
All dimensions are in metres. Logged in accordance with BS5930:2015

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



TP01 redig length 2



TP01 redig side

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy

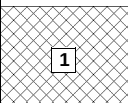
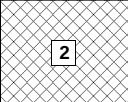
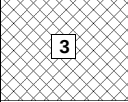


TP01 redig spoil

TRIAL PIT RECORD

Trial Pit

Project COED DARCY	Engineer ATKINS LIMITED	Trial Pit TP02 Project No PC176880
Client ST MODWEN DEVELOPMENTS LIMITED	National Grid Coordinates 271622.736 E 195828.516 N	Ground Level 51.94 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Dark brown sandy slightly clayey gravel with a low cobble content of subangular brick, sandstone and concrete. Gravel is angular to subrounded fine to coarse sandstone, brick, concrete and ceramic.	G.L.		51.94
				MADE GROUND: Dark brown and greyish brown sandy gravel with a high cobble content of subangular and tabular fine to coarse sandstone. Gravel is angular to subangular fine to coarse sandstone. Slight hydrocarbon odour.	0.70		51.24
				MADE GROUND: Grey dark grey and brown sandy slightly clayey gravel with a high cobble content of subangular and tabular sandstone. Gravel is subangular fine to coarse sandstone. Slight hydrocarbon odour.	1.40		50.54
				End of Excavation	2.10		49.84

Excavation				Groundwater		
Plant	Hyundai 145 LCR-9A	Width (B)	1.20	Depth Observed	Depth of Pit	Details
Date	16/10/2017	Length (C)	4.20			None encountered during excavation
Shoring	None.	Orientation	256 deg			
Stability	Side walls collapse between GL and 1.40m	Date Backfilled	16/10/2017			

Remarks  The Trial Pit was terminated at a depth of 2.10m on possible bedrock.	Logged by AJS Checked by DRB Figure 1 of 1 08/12/2017 
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Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:2015

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



TP02 length



TP02 side

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



TP02 spoil

TRIAL PIT RECORD

Trial Pit

Project **COED DARCY**

Engineer

ATKINS LIMITED

Trial Pit

TP03

Project No

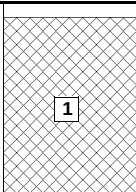
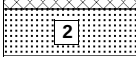
PC176880

Client **ST MODWEN DEVELOPMENTS LIMITED**

National Grid
Coordinates

**271519.404 E
195817.763 N**

Ground Level **53.79** m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Greyish brown sandy slightly clayey gravel with a high cobble content of subangular sandstone and brick. Gravel is angular to subrounded fine to coarse sandstone, brick, ceramic and concrete. Below 0.70m, becoming brown.	G.L.		53.79
				Weak to medium strong grey and brown SANDSTONE, recovered as angular to subangular fine to coarse gravel with a high subangular and tabular cobble content.	1.20		52.59
					1.50		52.29
				End of Excavation			

Excavation				Groundwater		
Plant	Hyundai 145 LCR-9A	Width (B)	0.90	Depth Observed	Depth of Pit	Details
Date	11/10/2017	Length (C)	5.00			
Shoring	None.	Orientation	107 deg			None encountered during excavation
Stability	Stable during excavation.	Date Backfilled	11/10/2017			

Remarks		The Trial Pit was terminated at a depth of 1.50m in bedrock.		Logged by	SI
				Checked by	DRB
				Figure	1 of 1
					08/12/2017
Symbols and abbreviations are explained on the accompanying key sheet.					
All dimensions are in metres.		Logged in accordance with BS5930:2015			

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



TP03 length



TP03 side

PHOTOGRAPHS

Project Number : PCI76880

Project : Coed Darcy



TP03 spoil

TRIAL PIT RECORD

Trial Pit

Project **COED DARCY**

Engineer

ATKINS LIMITED

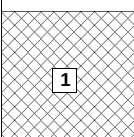
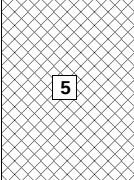
Trial Pit
Project No

TP04
PC176880

Client **ST MODWEN DEVELOPMENTS LIMITED**

National Grid
Coordinates **271481.278 E**
195852.633 N

Ground Level **49.53** m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Light grey silty sandy slightly clayey gravel. Gravel is angular to subangular medium to coarse limestone and granite.	G.L.		49.53
				MADE GROUND: Light grey slightly sandy slightly clayey gravel. Gravel is angular to subangular medium to coarse limestone and granite.	0.90		48.63
					1.10		48.43
				MADE GROUND: Brown and dark brown slightly sandy clayey gravel with a medium cobble content of subangular sandstone and brick. Gravel is angular to subrounded fine to coarse sandstone, brick and concrete.	1.50		48.03
					1.70		47.83
				MADE GROUND: Light grey silty sandy slightly clayey gravel. Gravel is angular to subangular medium to coarse limestone and granite.			
				MADE GROUND: Brown and brownish grey slightly sandy clayey gravel with a medium cobble content of subangular sandstone. Gravel is subangular to subrounded sandstone.	3.00		46.53
				End of Excavation			

Excavation				Groundwater		
Plant	Hyundai 145 LCR-9A	Width (B)	0.90	Depth Observed	Depth of Pit	Details
Date	16/10/2017	Length (C)	5.00			
Shoring	None.	Orientation	280 deg			None encountered during excavation
Stability	Unstable/sidewall collapse between 1.50 - 1.70m	Date Backfilled	16/10/2017			

Remarks		The Trial Pit was terminated at a depth of 3.00m on possible bedrock.		Logged by Checked by Figure		AJS DRB 1 of 1 08/12/2017	
Symbols and abbreviations are explained on the accompanying key sheet.							
All dimensions are in metres.		Logged in accordance with BS5930:2015					