

Appendix D Geotechnical Test Results and Geotechnical Plots





Contract Number: 55407

Client Ref: **19453-GELO**

Report Date: **10-09-2021**

Client PO:

Client **Hydrock Limited**
Hydrock
First Floor
5 Castlebridge
5-19 Cowbridge Road East
Cardiff
CF11 9AB
Tel: 02920 023665 Mob: 07392 081090

Contract Title: **Dunsbury Park**
For the attention of: **David Pethica**

Date Received: **17-08-2021**
Date Completed: **10-09-2021**

Test Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	44
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	33
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	15
BRE Reduced Suite includes pH, water & acid soluble sulphate and total sulphur Sub-contracted Test - @ Non Accredited Test	19
Dry Den/MC (Vibrating Hammer Method) BS 1377:1990 - Part 4 : 3.7 - * UKAS	3
Dry Den/MC (4.5kg Rammer Method 1 litre mould/CBR Mould) BS 1377:1990 - Part 4 : 3.6 - * UKAS	1

Notes: ~~Observations and Interpretations are outside the UKAS Accreditation~~
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)
Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)



Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 55407

Test Description	Qty
CBR: Rem specified MC and tested at top only BS 1377:1990 - Part 4 : 7 - * UKAS	13
Soaking or Curing CBR specimens BS 1377:1990 - Part 4 : 7.3 - @ Non Accredited Test	28
One-dimensional Consolidation 75mm or 50mm diameter specimens (5 days) BS 1377:1990 - Part 5 : 3 - * UKAS	7
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

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Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd

Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk



**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND
PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.3 & 5.3)**

Contract Number	55407	
Site Name	Dunsbury Park	
Date Tested	02/09/2021	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
WS101			0.50	-	0.70	Brown fine gravelly sandy silty CLAY.
WS101			5.00	-		Brown fine sandy silty CLAY.
WS401			2.50	-		Brown fine sandy silty CLAY.
WS402			4.00	-		Brown fine sandy silty CLAY.
WS403			2.00	-		Brown fine sandy silty CLAY.
WS404			4.60	-	5.00	Brown fine sandy silty CLAY.
WS405			3.80	-		Brown fine sandy silty CLAY.
WS406			3.80	-		Brown fine sandy silty CLAY.
WS602			0.60	-	1.00	Brown fine sandy silty CLAY.
WS603			1.80	-		Brown fine sandy silty CLAY.
WS604			3.60	-		Brown fine sandy silty CLAY.
WS605			2.70	-		Brown fine sandy silty CLAY.
WS606			5.00	-		Brown fine sandy silty CLAY.
WS701			1.50	-		Brown fine sandy silty CLAY.
WS702			0.70	-		Brown fine sandy silty CLAY.
WS703			3.80	-	4.00	Brown fine sandy silty CLAY.
WS704			4.00	-		Brown fine sandy silty CLAY.
WS706			4.00	-		Brown fine sandy silty CLAY.
WS707			2.00	-	2.50	Brown fine sandy silty CLAY.
WS707			5.00	-		Brown fine sandy silty CLAY.
				-		
				-		
				-		
				-		

Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)



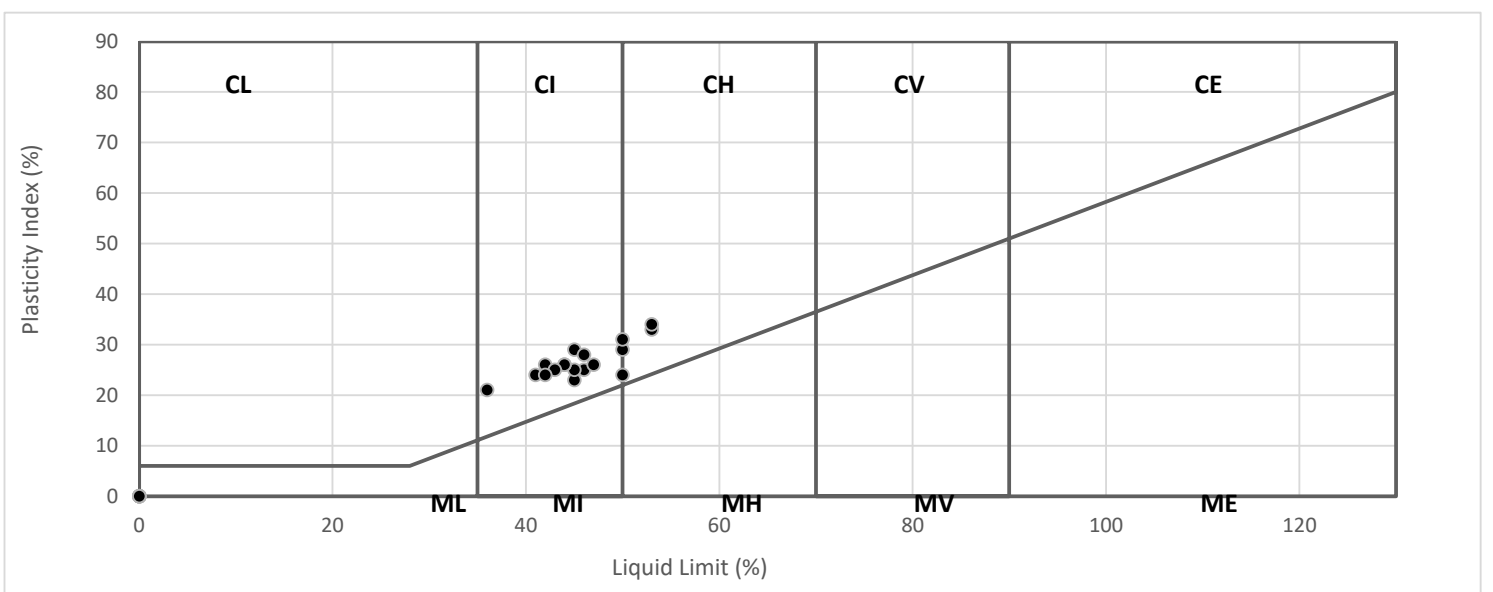
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)

Contract Number	55407	
Project Location	Dunsbury Park	
Date Tested	02/09/2021	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
WS101			0.50	-	0.70	16	36	15	21	60	CI Intermediate Plasticity
WS101			5.00	-		17	45	16	29	100	CI Intermediate Plasticity
WS401			2.50	-		23	53	20	33	100	CH High Plasticity
WS402			4.00	-		19	53	19	34	100	CH High Plasticity
WS403			2.00	-		20					
WS404			4.60	-	5.00	17	42	16	26	100	CI Intermediate Plasticity
WS405			3.80	-		22	45	22	23	100	CI Intermediate Plasticity
WS406			3.80	-		21	46	18	28	100	CI Intermediate Plasticity
WS602			0.60	-	1.00	24	46	21	25	100	CI Intermediate Plasticity
WS603			1.80	-		20	50	21	29	100	CI/H Inter/High Plasticity
WS604			3.60	-		21	45	20	25	100	CI Intermediate Plasticity
WS605			2.70	-		19	50	26	24	100	CI/H Inter/High Plasticity
WS606			5.00	-		19	44	18	26	100	CI Intermediate Plasticity
WS701			1.50	-		25	47	21	26	100	CI Intermediate Plasticity
WS702			0.70	-		19	41	17	24	100	CI Intermediate Plasticity
WS703			3.80	-	4.00	21	44	18	26	100	CI Intermediate Plasticity
WS704			4.00	-		22	50	19	31	100	CI/H Inter/High Plasticity
WS706			4.00	-		21	43	18	25	100	CI Intermediate Plasticity
WS707			2.00	-	2.50	25					
WS707			5.00	-		21	42	18	24	100	CI Intermediate Plasticity
				-							
				-							
				-							
				-							

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010



Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)



**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND
PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.3 & 5.3)**

Contract Number	55407	
Site Name	Dunsbury Park	
Date Tested	02/09/2021	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
TP101			2.50	-		Brown fine sandy silty CLAY.
TP101			3.00	-		Brown fine sandy silty CLAY.
TP102			1.50	-		Brown fine sandy silty CLAY.
TP102			2.00	-		Brown fine sandy silty CLAY.
TP102			2.50	-		Brown fine sandy silty CLAY.
TP103			3.00	-		Brown fine sandy silty CLAY.
TP401			0.60	-		Brown fine sandy silty CLAY.
TP402			1.00	-		Brown fine sandy silty CLAY.
TP403			2.50	-		Brown fine sandy silty CLAY.
TP405			3.00	-		Brown fine sandy silty CLAY.
TP406			2.50	-		Brown fine sandy silty CLAY.
TP601			0.60	-		Brown fine sandy silty CLAY.
TP603			3.20	-		Brown fine sandy silty CLAY.
TP604			1.20	-		Brown fine sandy silty CLAY.
TP608			1.80	-		Brown fine sandy silty CLAY.
TP609			0.80	-		Brown fine sandy silty CLAY.
TP701			1.80	-		Brown fine sandy silty CLAY.
TP702			0.80	-		Brown fine sandy silty CLAY.
TP702			1.50	-		Brown fine sandy silty CLAY.
TP704			0.50	-		Brown fine sandy silty CLAY.
TP704			3.00	-		Brown fine sandy silty CLAY.
				-		
				-		
				-		

Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)



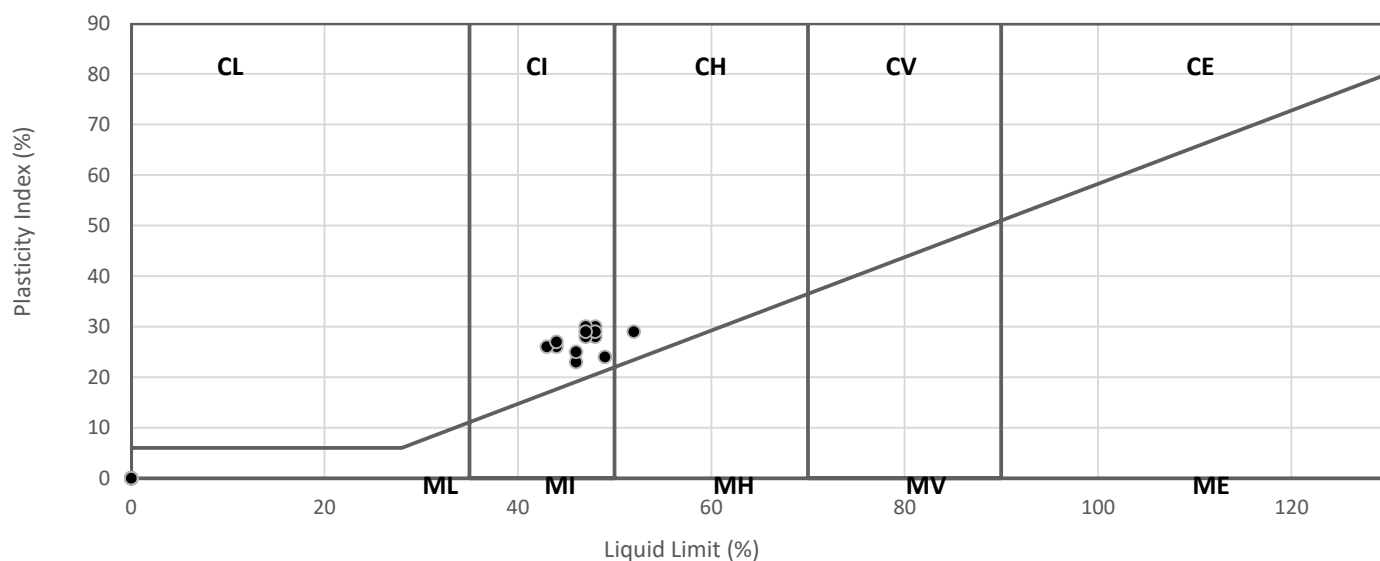
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)

Contract Number	55407	
Project Location	Dunsbury Park	
Date Tested	02/09/2021	

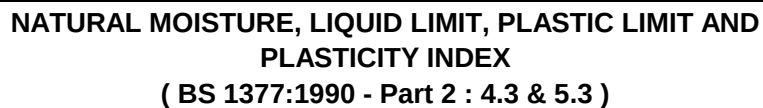
Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
TP101			2.50	-		16					
TP101			3.00	-		22					
TP102			1.50	-		23					
TP102			2.00	-		31					
TP102			2.50	-		22	44	18	26	100	CI Intermediate Plasticity
TP103			3.00	-		29	52	23	29	100	CH High Plasticity
TP401			0.60	-		20	48	18	30	100	CI Intermediate Plasticity
TP402			1.00	-		27	49	25	24	100	CI Intermediate Plasticity
TP403			2.50	-		17	47	17	30	100	CI Intermediate Plasticity
TP405			3.00	-		21	48	20	28	100	CI Intermediate Plasticity
TP406			2.50	-		29					
TP601			0.60	-		19	43	17	26	100	CI Intermediate Plasticity
TP603			3.20	-		23	47	19	28	100	CI Intermediate Plasticity
TP604			1.20	-		26	46	23	23	100	CI Intermediate Plasticity
TP608			1.80	-		24	46	21	25	100	CI Intermediate Plasticity
TP609			0.80	-		19	44	17	27	100	CI Intermediate Plasticity
TP701			1.80	-		24	48	19	29	100	CI Intermediate Plasticity
TP702			0.80	-		19	47	18	29	100	CI Intermediate Plasticity
TP702			1.50	-		24					
TP704			0.50	-		22					
TP704			3.00	-		26					
				-							
				-							
				-							

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010

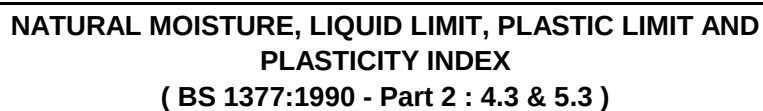


Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)

[illegible]

Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)







PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number	55407
Borehole/Pit No.	WS601

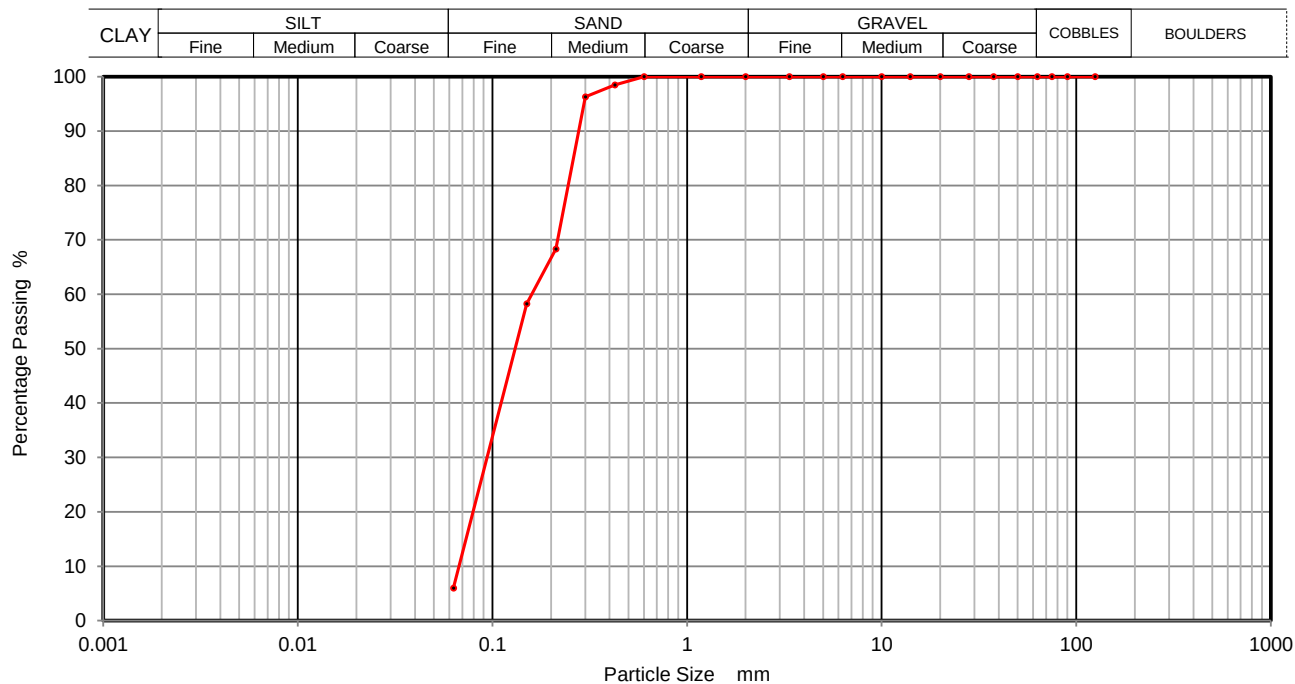
Site Name	Dunsbury Park
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Sample No.	
Depth Top	0.80
Depth Base	

Soil Description	Brown silty fine to coarse SAND.
------------------	----------------------------------

Date Tested	03/09/2021
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Sample Type	B
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Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	98		
0.3	96		
0.212	68		
0.15	58		
0.063	6		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	94
Silt and Clay	6

Remarks
 Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP404

Site Name Dunsbury Park

Sample No.

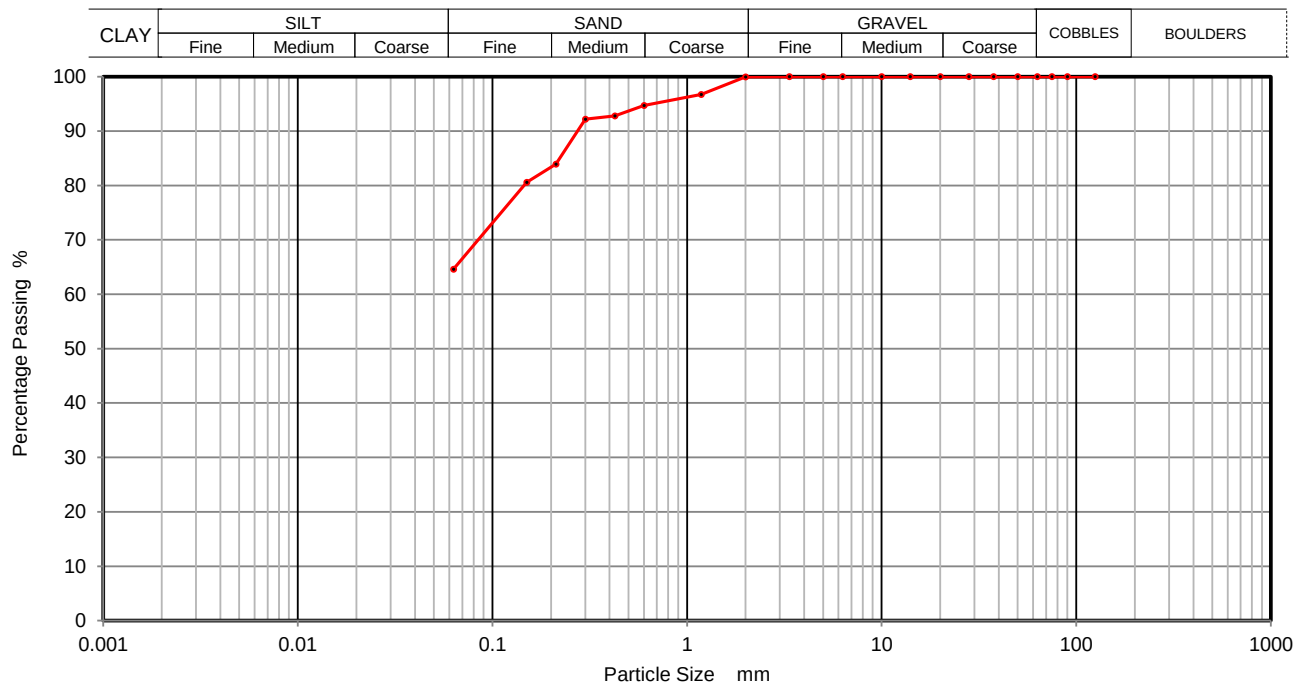
Soil Description Brown fine to medium sandy silty CLAY.

Depth Top 0.50

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	97		
0.6	95		
0.425	93		
0.3	92		
0.212	84		
0.15	81		
0.063	65		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	35
Silt and Clay	65

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



2788



PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP604

Site Name Dunsbury Park

Sample No.

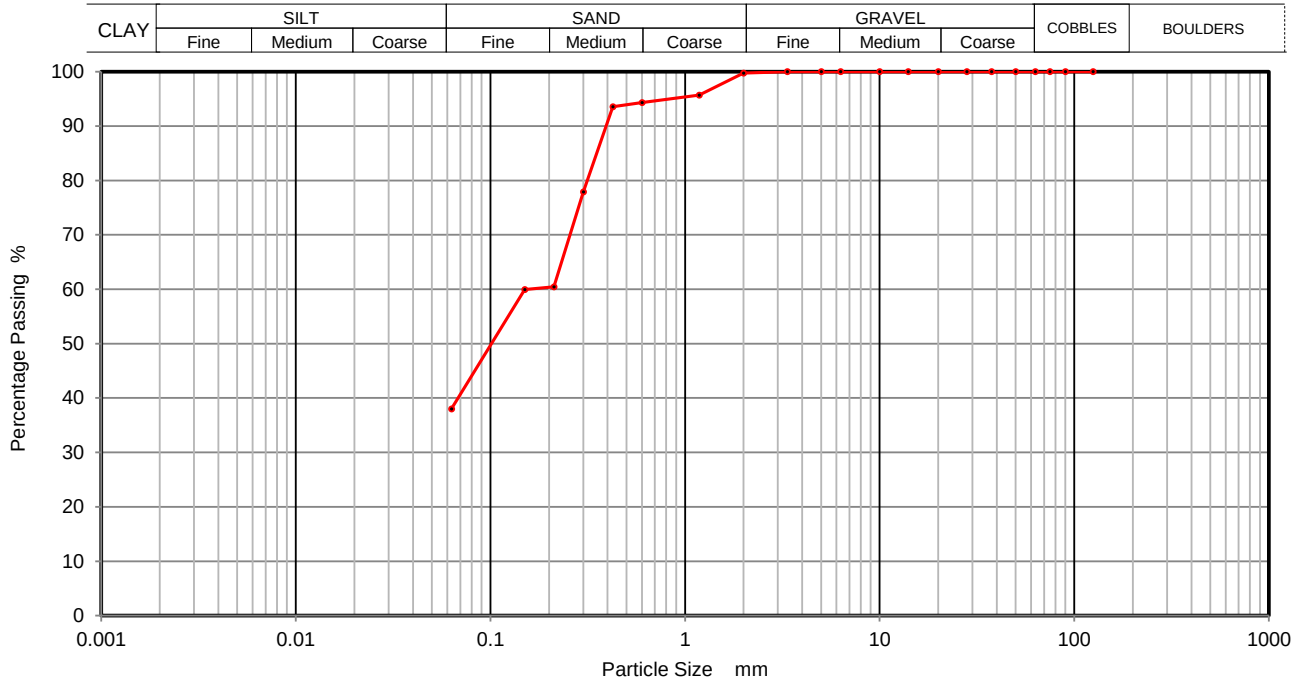
Soil Description Brown silty clayey fine to coarse SAND.

Depth Top 1.00

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	96		
0.6	94		
0.425	94		
0.3	78		
0.212	60		
0.15	60		
0.063	38		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	62
Silt and Clay	38

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



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PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP606

Site Name Dunsbury Park

Sample No.

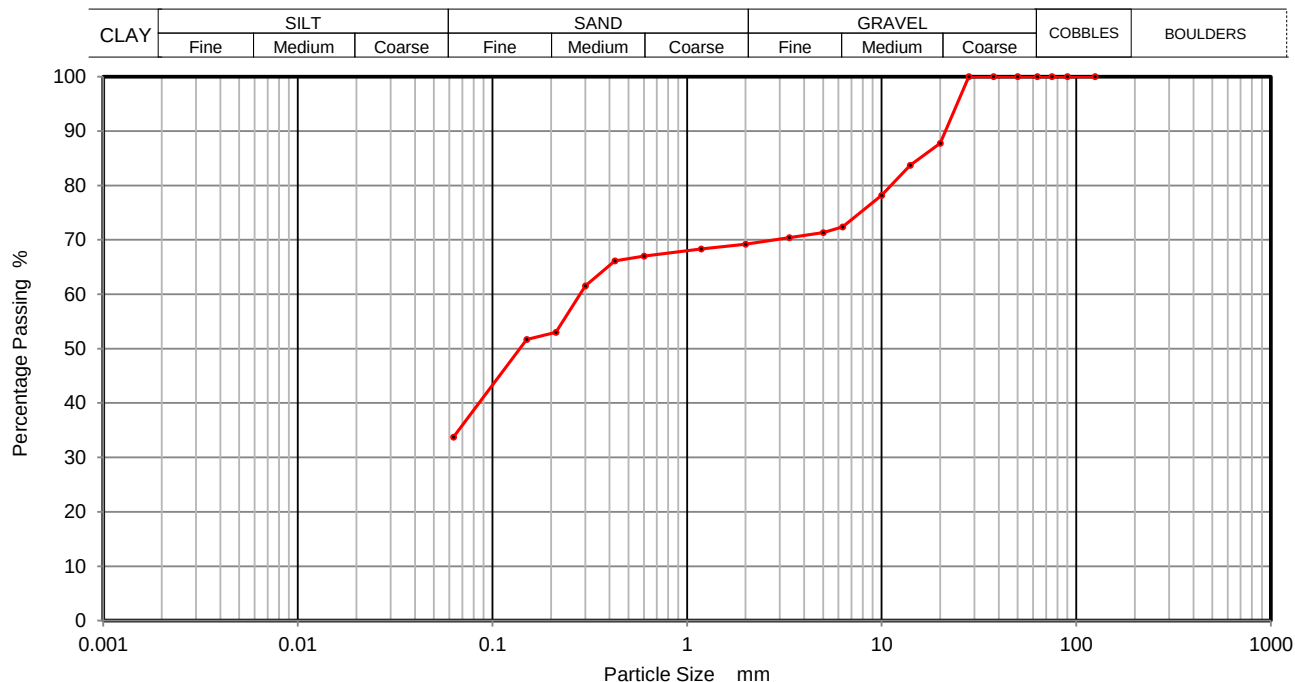
Soil Description Brown fine to coarse gravelly silty clayey fine to coarse SAND.

Depth Top 0.60

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	88		
14	84		
10	78		
6.3	72		
5	71		
3.35	70		
2	69		
1.18	68		
0.6	67		
0.425	66		
0.3	62		
0.212	53		
0.15	52		
0.063	34		

Sample Proportions	% dry mass
Cobbles	0
Gravel	31
Sand	35
Silt and Clay	34

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



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PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP607

Site Name Dunsbury Park

Sample No.

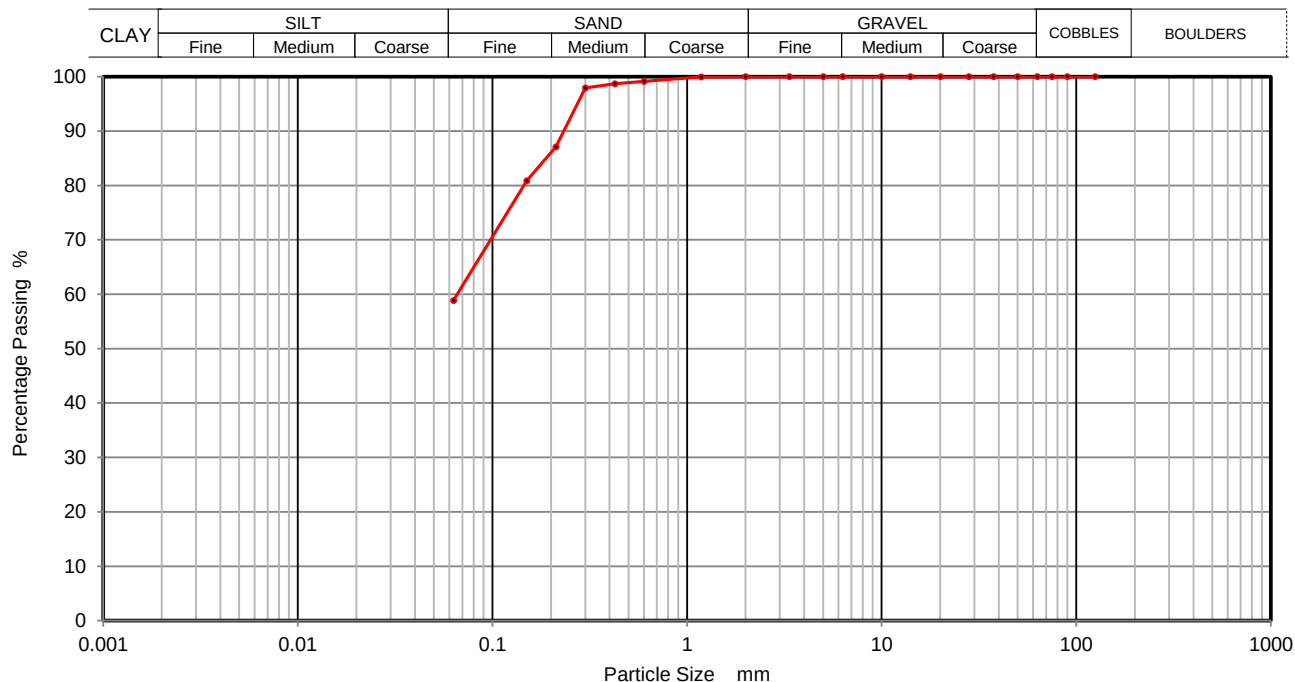
Soil Description Brown fine to coarse sandy silty CLAY.

Depth Top 0.70

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	99		
0.3	98		
0.212	87		
0.15	81		
0.063	59		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	41
Silt and Clay	59

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP608

Site Name Dunsbury Park

Sample No.

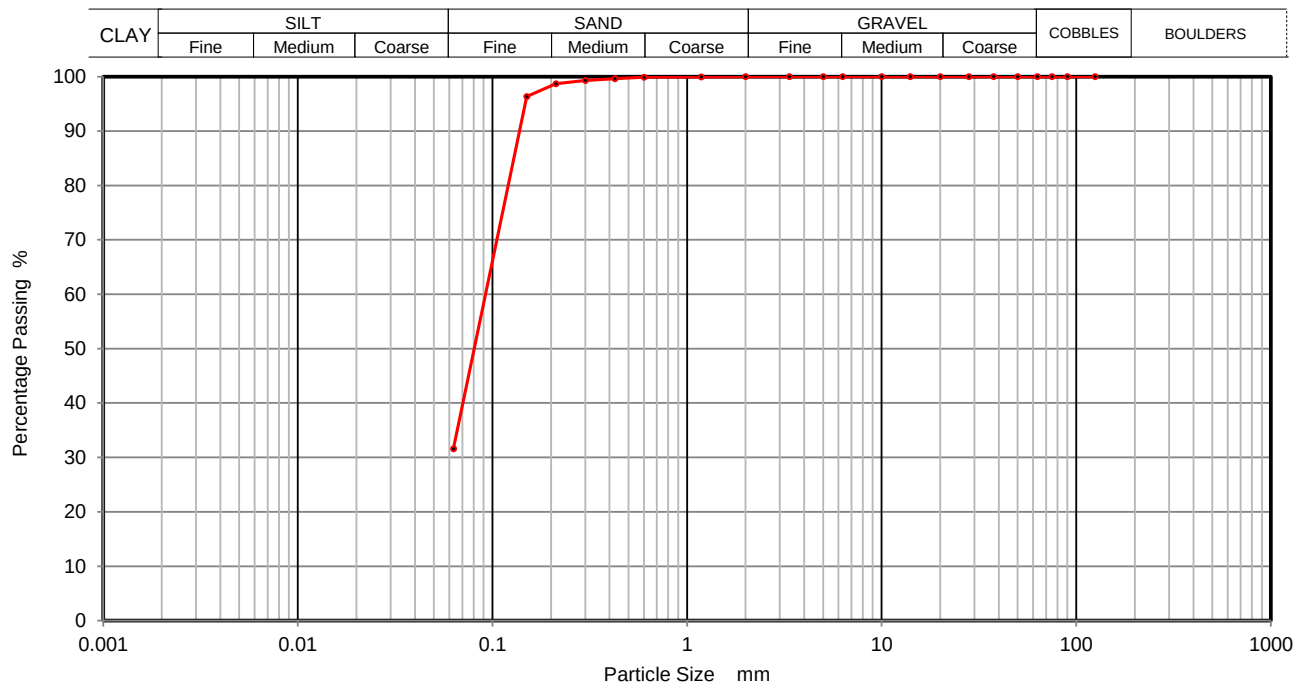
Soil Description Brown silty clayey fine to coarse SAND.

Depth Top 0.90

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	99		
0.15	96		
0.063	32		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	68
Silt and Clay	32

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



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PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP703

Site Name Dunsbury Park

Sample No.

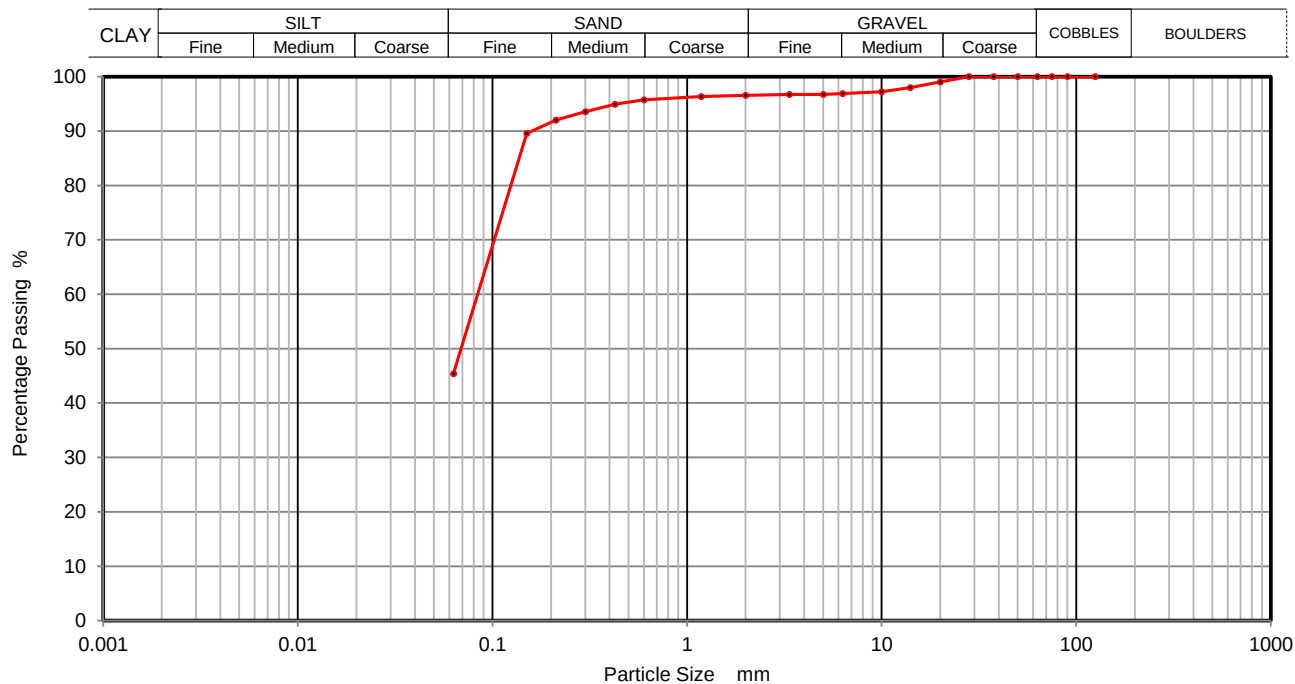
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 0.50

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	98		
10	97		
6.3	97		
5	97		
3.35	97		
2	97		
1.18	96		
0.6	96		
0.425	95		
0.3	94		
0.212	92		
0.15	90		
0.063	45		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	52
Silt and Clay	45

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



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PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP705

Site Name Dunsbury Park

Sample No.

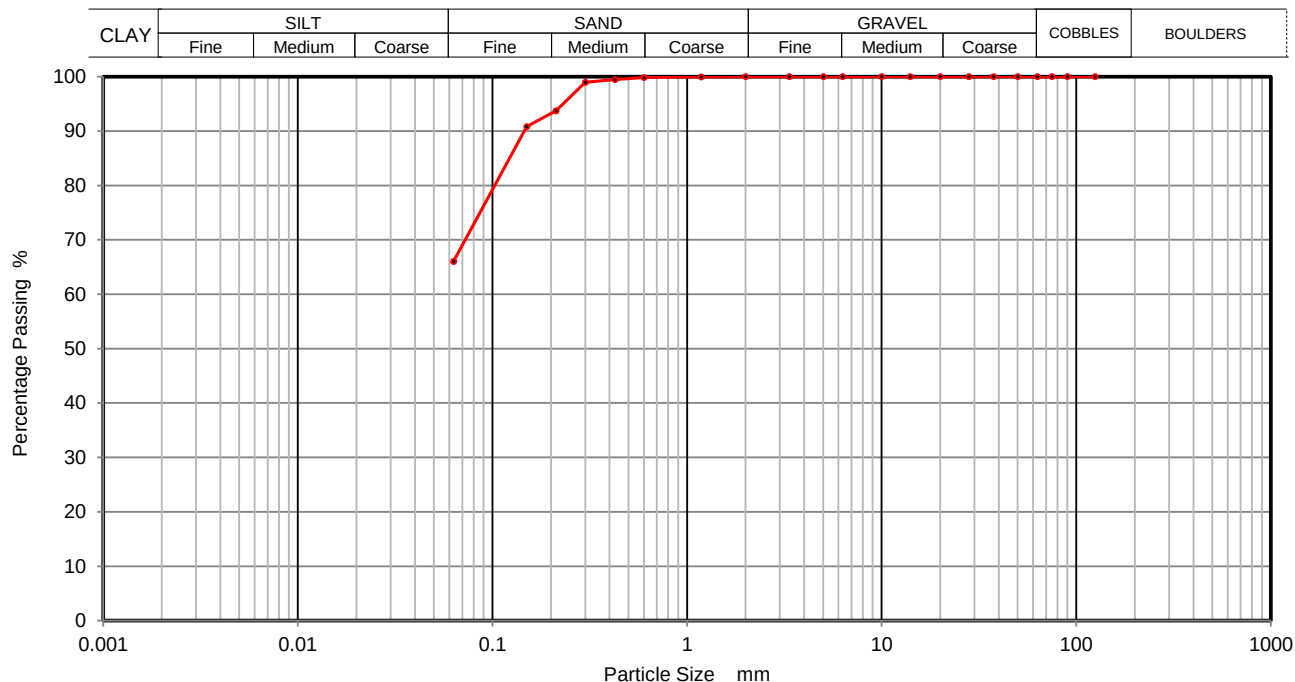
Soil Description Brown fine to coarse sandy silty CLAY.

Depth Top 2.80

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	99		
0.212	94		
0.15	91		
0.063	66		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	34
Silt and Clay	66

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



2788



PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP706

Site Name Dunsbury Park

Sample No.

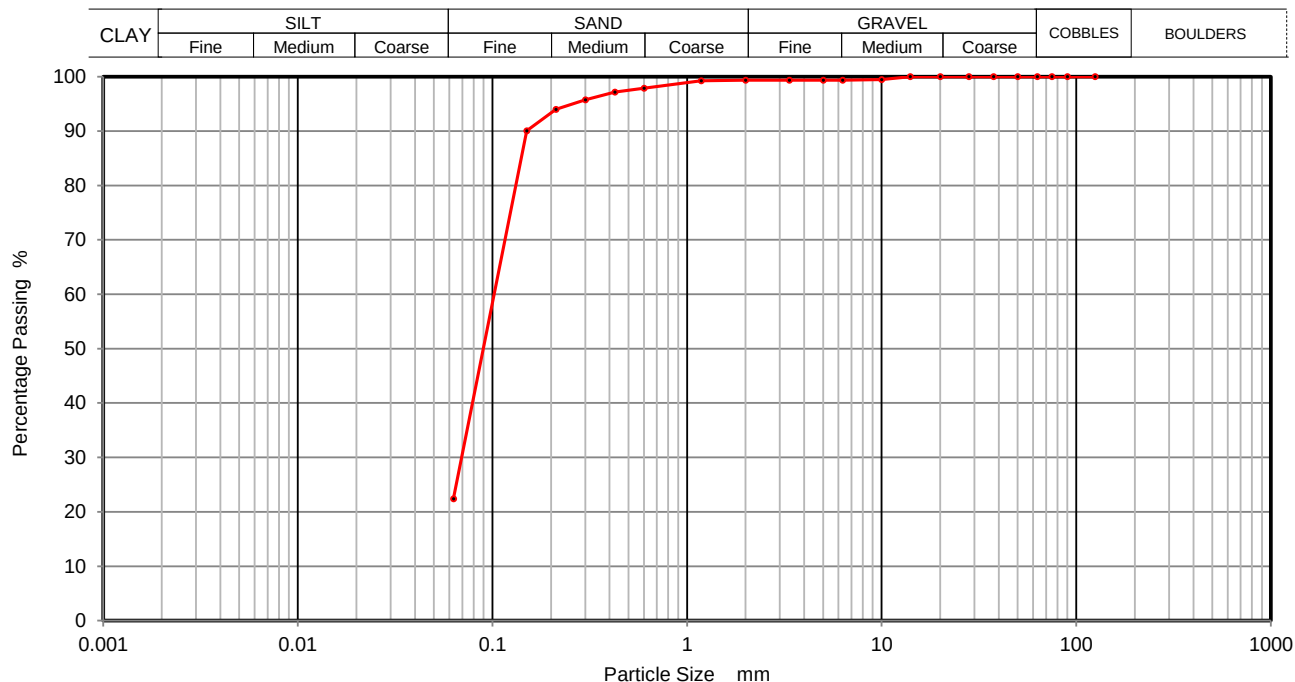
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 0.80

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	97		
0.3	96		
0.212	94		
0.15	90		
0.063	22		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	77
Silt and Clay	22

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	

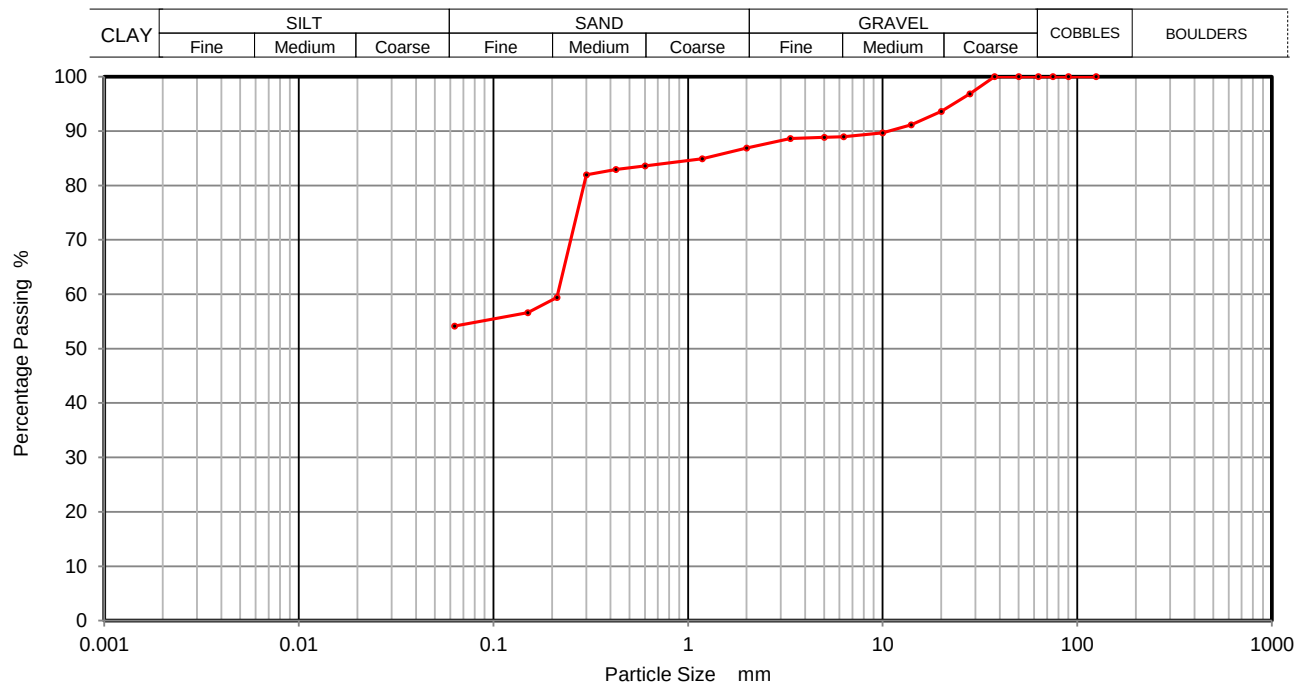


2788



**PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2**

	PARTICLE SIZE DISTRIBUTION BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Contract Number	55407
		Borehole/Pit No.	TP707
Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown fine slightly gravelly fine to coarse sandy silty CLAY.	Depth Top	1.70
		Depth Base	
Date Tested	03/09/2021	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	97		
20	94		
14	91		
10	90		
6.3	89		
5	89		
3.35	89		
2	87		
1.18	85		
0.6	84		
0.425	83		
0.3	82		
0.212	59		
0.15	57		
0.063	54		

MC in accordance with BS1377 Part 2 1990 Clause 3.2	
Moisture Content %	19

Sample Proportions	% dry mass
Cobbles	0
Gravel	13
Sand	33
Silt and Clay	54

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. TP709

Site Name Dunsbury Park

Sample No.

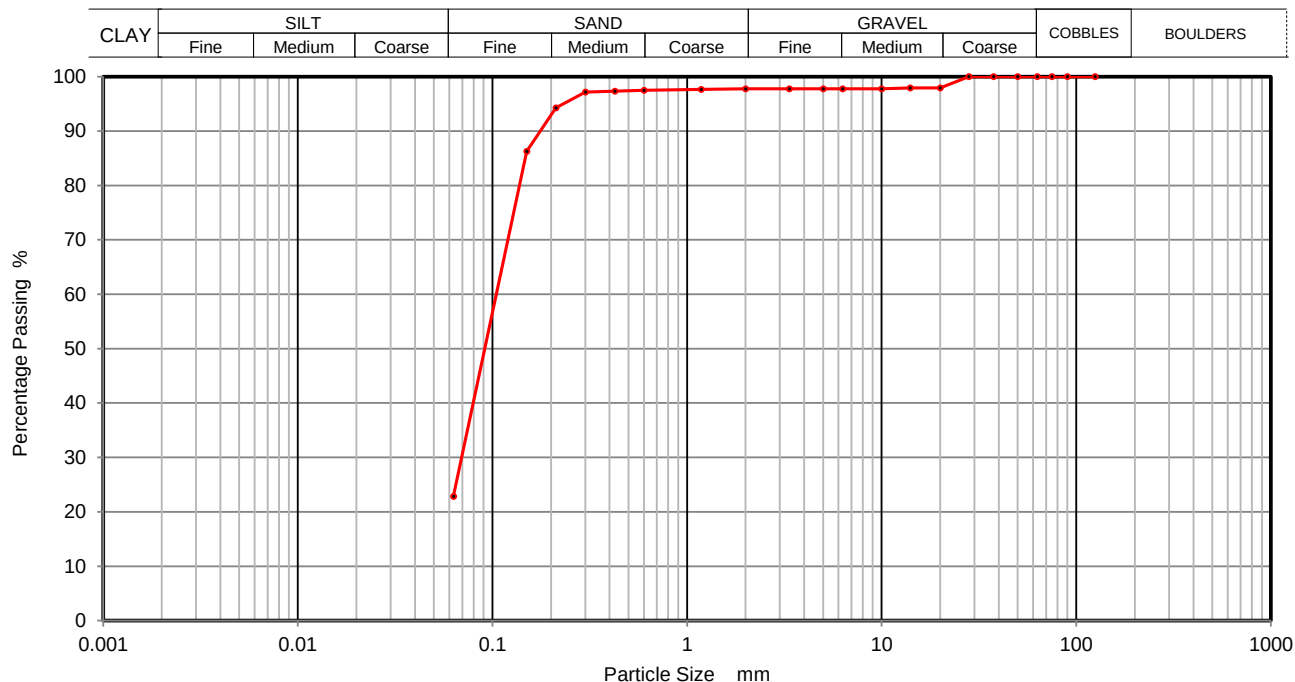
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 0.80

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	98		
5	98		
3.35	98		
2	98		
1.18	98		
0.6	98		
0.425	97		
0.3	97		
0.212	94		
0.15	86		
0.063	23		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	75
Silt and Clay	23

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	

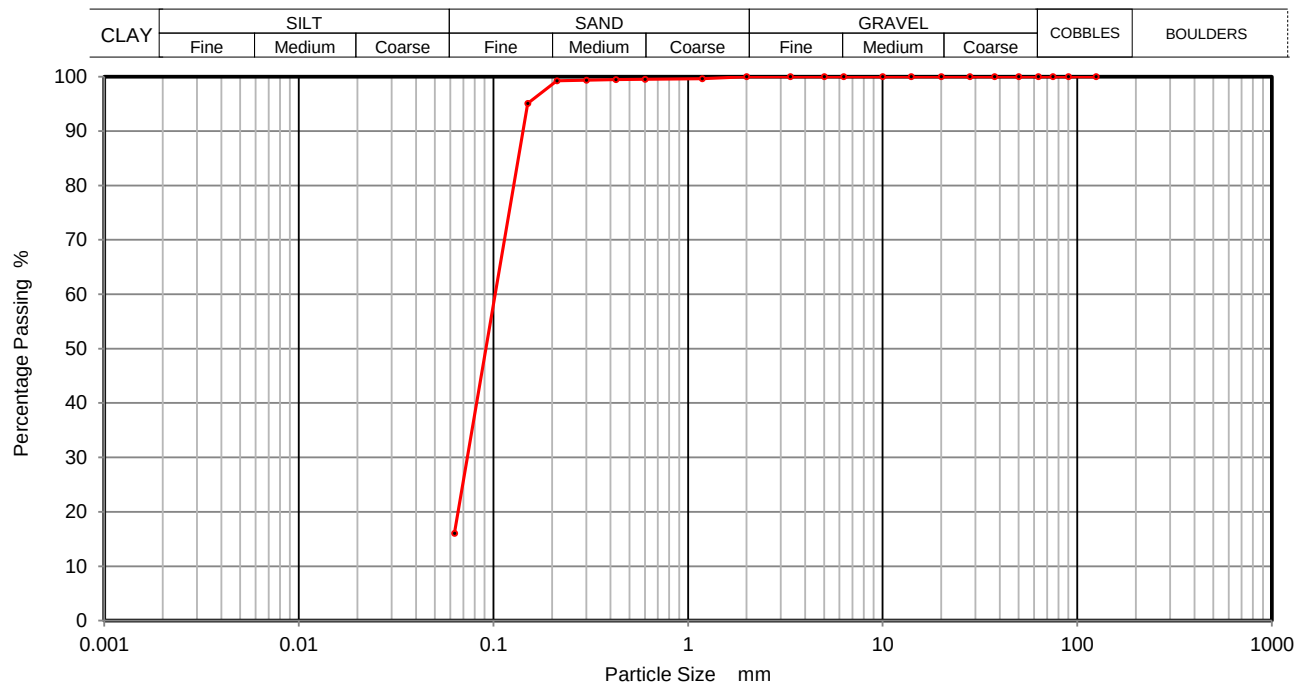


2788



**PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2**

	PARTICLE SIZE DISTRIBUTION BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Contract Number	55407
		Borehole/Pit No.	WS101
Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty clayey fine to coarse SAND.	Depth Top	1.50
		Depth Base	2.00
Date Tested	03/09/2021	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	99		
0.212	99		
0.15	95		
0.063	16		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	84
Silt and Clay	16

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. WS102

Site Name Dunsbury Park

Sample No.

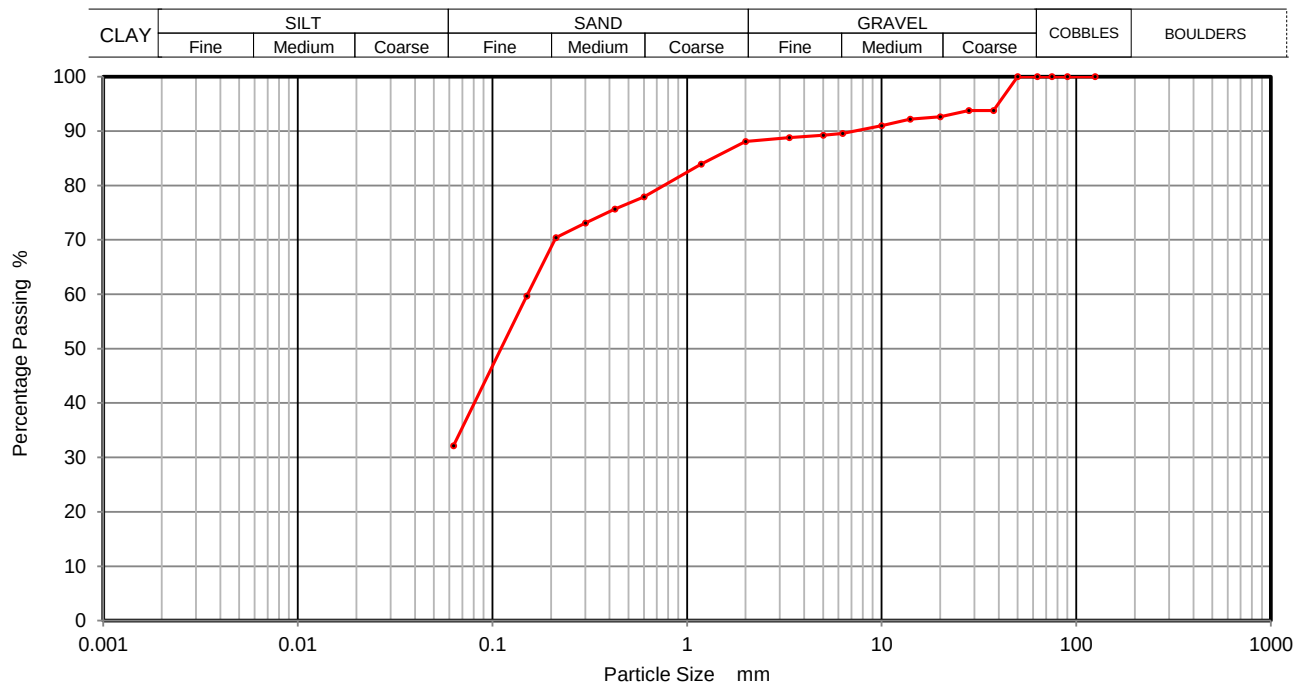
Soil Description Brown fine to medium gravelly silty clayey fine to coarse SAND.

Depth Top 0.50

Depth Base 1.00

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	94		
20	93		
14	92		
10	91		
6.3	90		
5	89		
3.35	89		
2	88		
1.18	84		
0.6	78		
0.425	76		
0.3	73		
0.212	70		
0.15	60		
0.063	32		

Sample Proportions	% dry mass
Cobbles	0
Gravel	12
Sand	56
Silt and Clay	32

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



2788



PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. WS401

Site Name Dunsbury Park

Sample No.

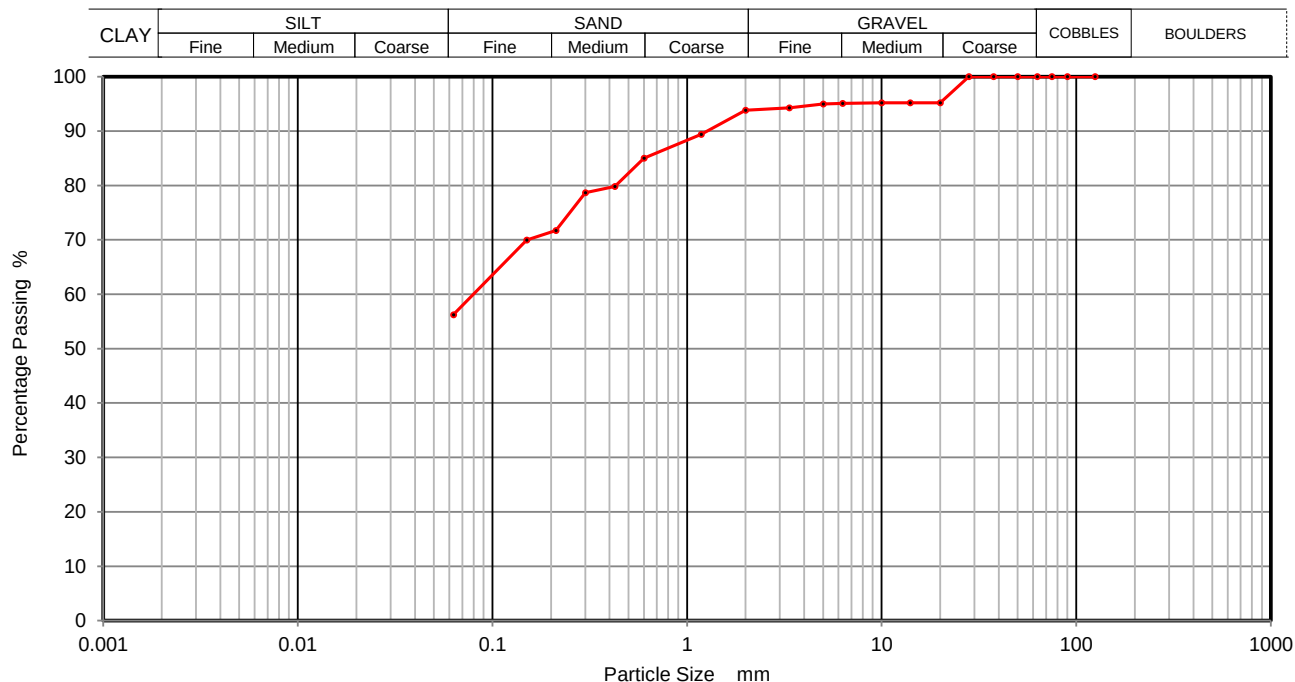
Soil Description Brown fine to medium gravelly fine to coarse sandy silty CLAY.

Depth Top 0.15

Depth Base 0.30

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	95		
14	95		
10	95		
6.3	95		
5	95		
3.35	94		
2	94		
1.18	89		
0.6	85		
0.425	80		
0.3	79		
0.212	72		
0.15	70		
0.063	56		

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	38
Silt and Clay	56

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



2788



PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55407

Borehole/Pit No. WS405

Site Name Dunsbury Park

Sample No.

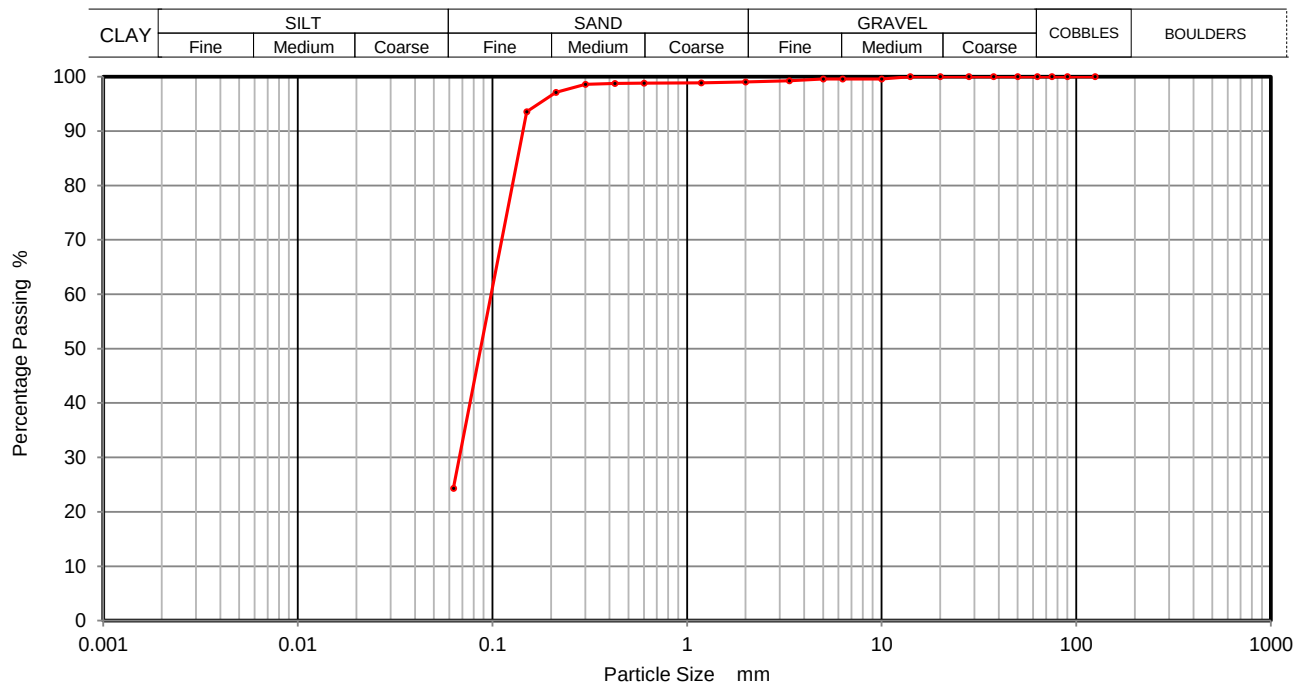
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 2.00

Depth Base 2.80

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	99		
0.212	97		
0.15	94		
0.063	24		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	75
Silt and Clay	24

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



2788



ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

TP102

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

2.50

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

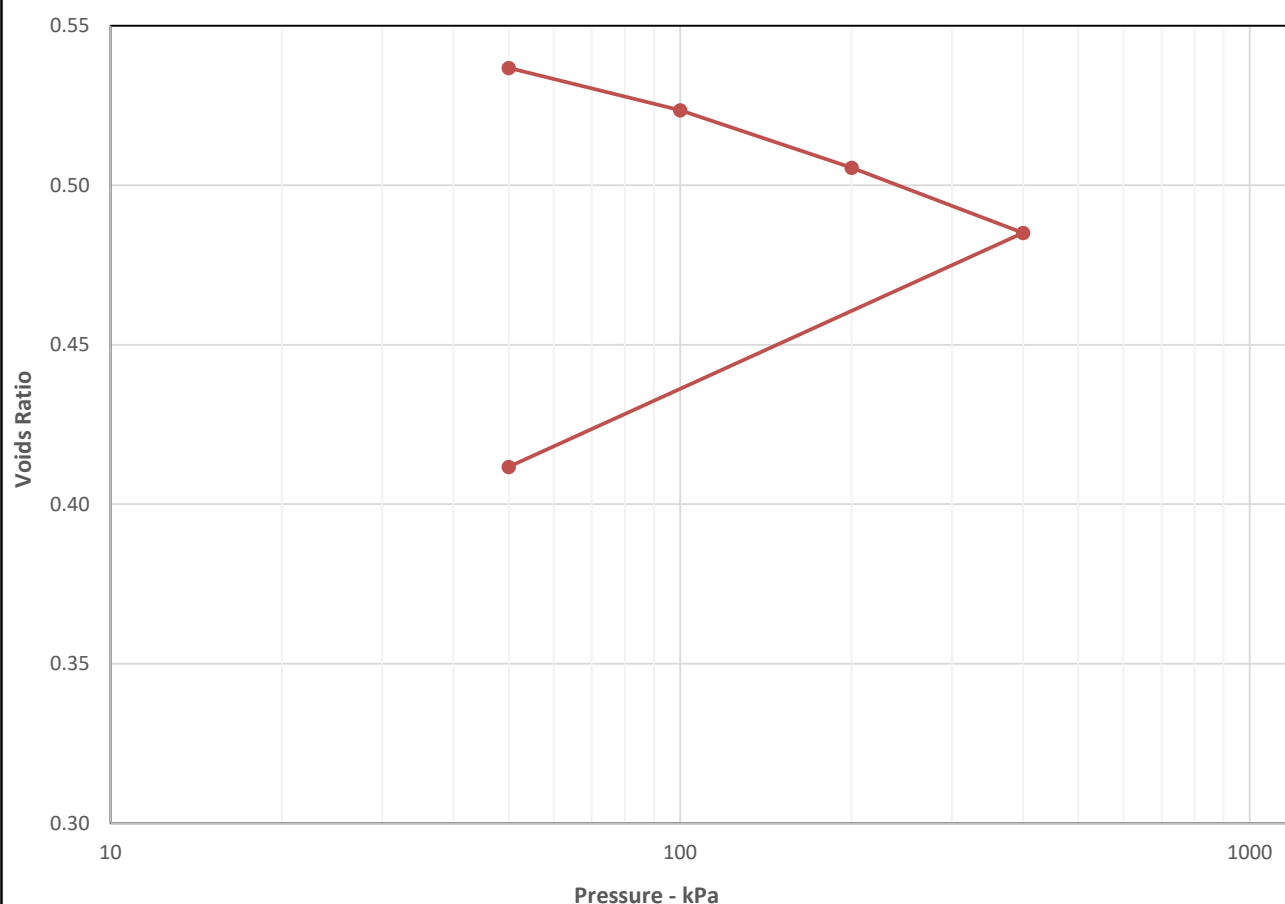
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	22	0	-	50	0.4	10		-			
Bulk Density (Mg/m3)	2.06	50	-	100	0.17	16		-			
Dry Density (Mg/m3)	1.69	100	-	200	0.12	10		-			
Voids Ratio	0.5685	200	-	400	0.07	17.0		-			
Degree of saturation	102.2	400	-	50	-0.14	31		-			
Height (mm)	19.84		-					-			
Diameter (mm)	50.24		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

TP605

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

3.50

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

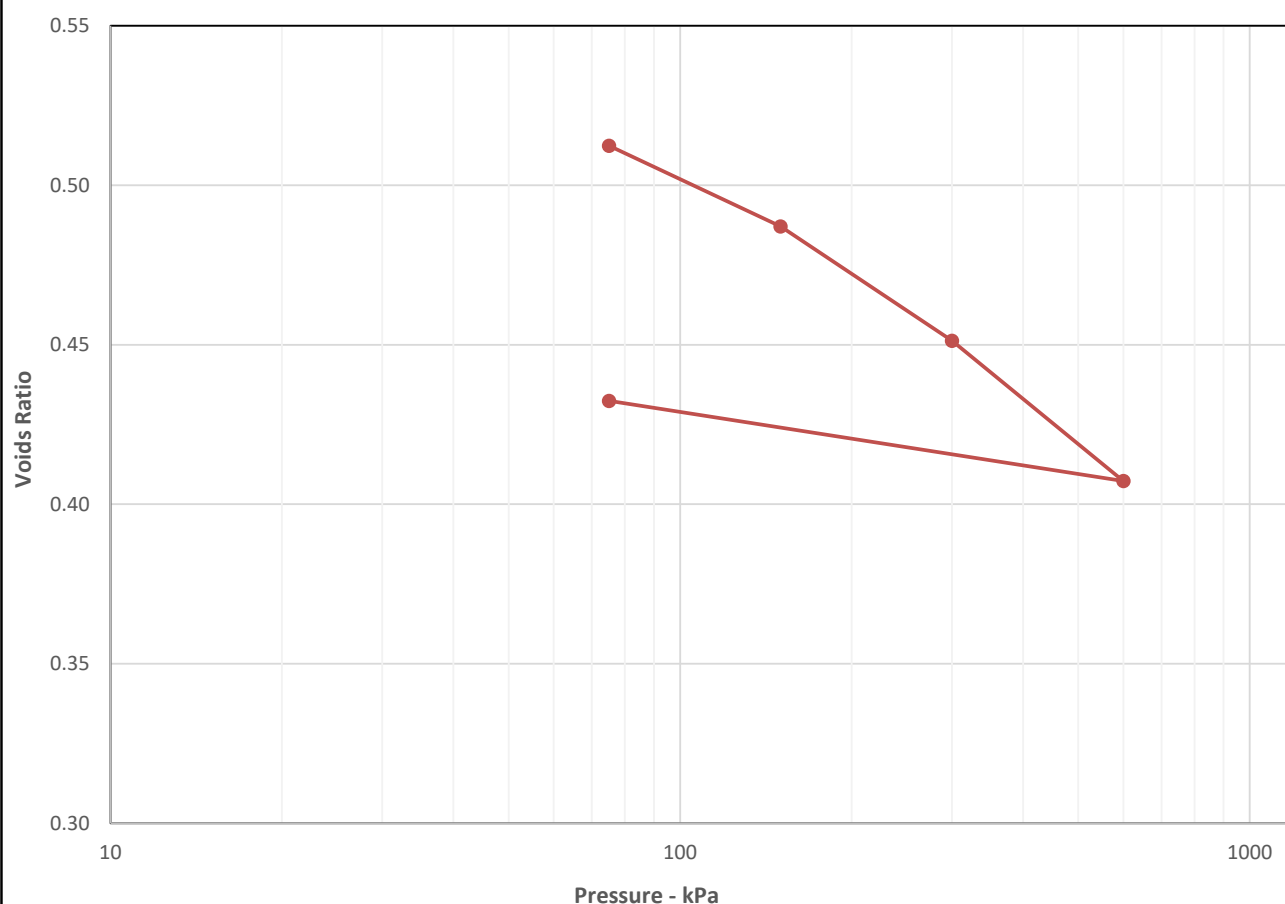
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	25	0	-	75	0.4	5.4		-			
Bulk Density (Mg/m3)	2.12	75	-	150	0.22	1.5		-			
Dry Density (Mg/m3)	1.70	150	-	300	0.16	2.3		-			
Voids Ratio	0.5591	300	-	600	0.10	1.5		-			
Degree of saturation	116.6	600	-	75	0.034	1.5		-			
Height (mm)	19.83		-					-			
Diameter (mm)	50.23		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

WS404

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

4.60

Depth Base (m)

5.00

Lab Temperature

20°C

Sample Location

Top

Remarks

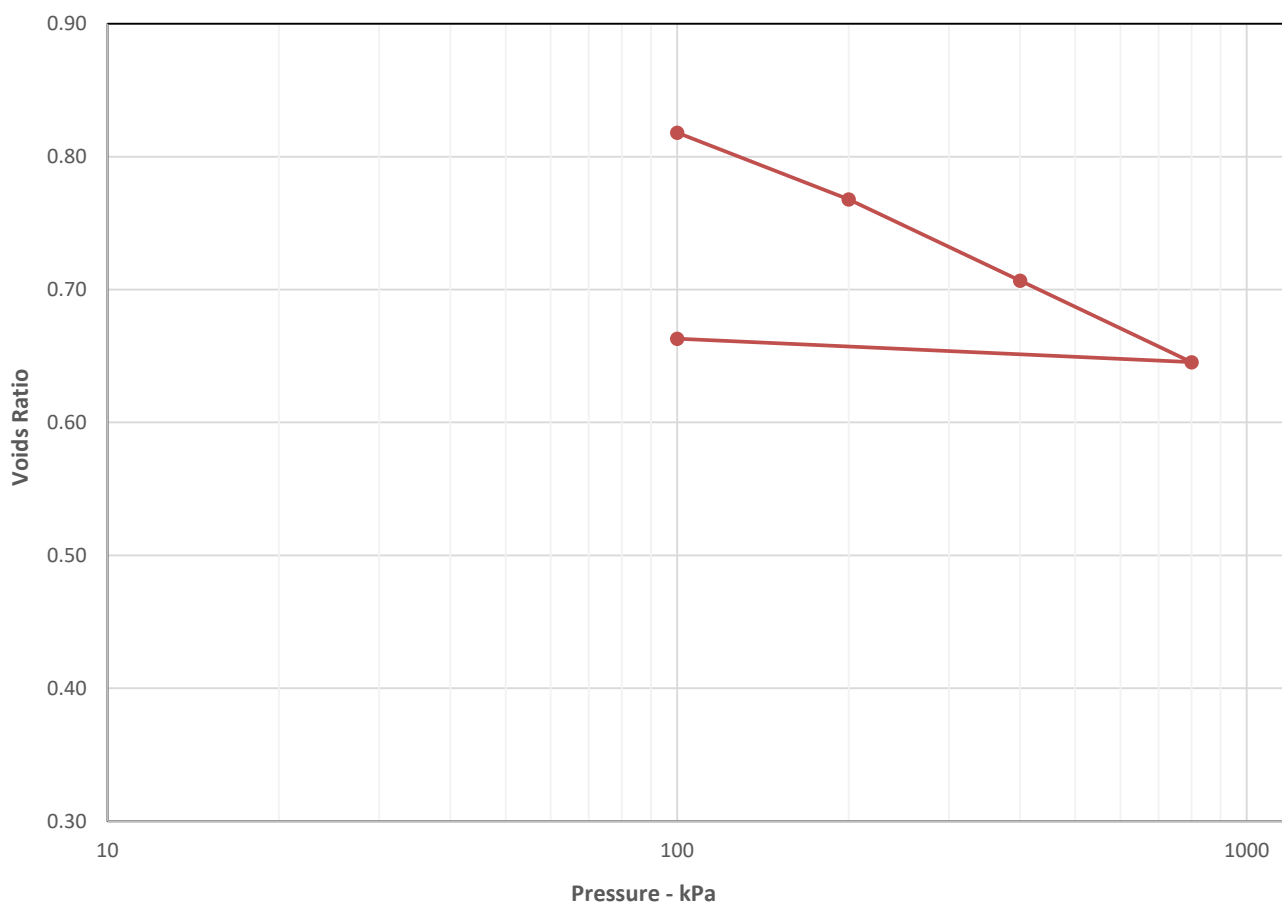
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	33	0	-	100	0.6	1.7		-			
Bulk Density (Mg/m3)	1.82	100	-	200	0.28	1.6		-			
Dry Density (Mg/m3)	1.37	200	-	400	0.17	1.5		-			
Voids Ratio	0.9338	400	-	800	0.09	2.2		-			
Degree of saturation	93.8	800	-	100	0.015	3.6		-			
Height (mm)	20.15		-					-			
Diameter (mm)	50.3		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

WS406

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

3.60

Depth Base (m)

4.00

Lab Temperature

20°C

Sample Location

Top

Remarks

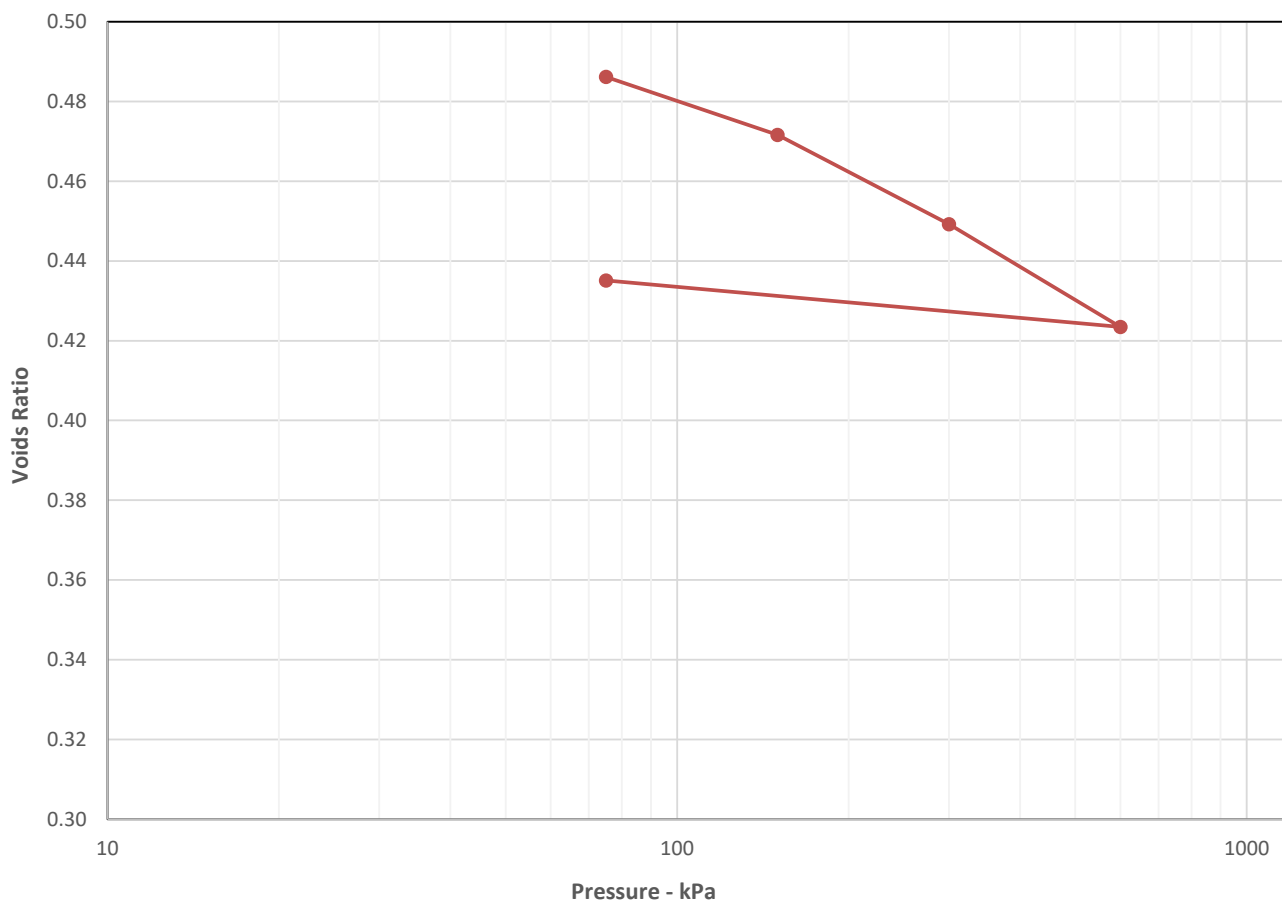
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	20	0	-	75	0.3	6.9		-			
Bulk Density (Mg/m3)	2.10	75	-	150	0.13	6.7		-			
Dry Density (Mg/m3)	1.75	150	-	300	0.1	9.7		-			
Voids Ratio	0.5154	300	-	600	0.06	6.3		-			
Degree of saturation	104.2	600	-	75	0.016	6.2		-			
Height (mm)	19.72		-					-			
Diameter (mm)	75.1		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

WS607

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

2.00

Depth Base (m)

2.50

Lab Temperature

20°C

Sample Location

Top

Remarks

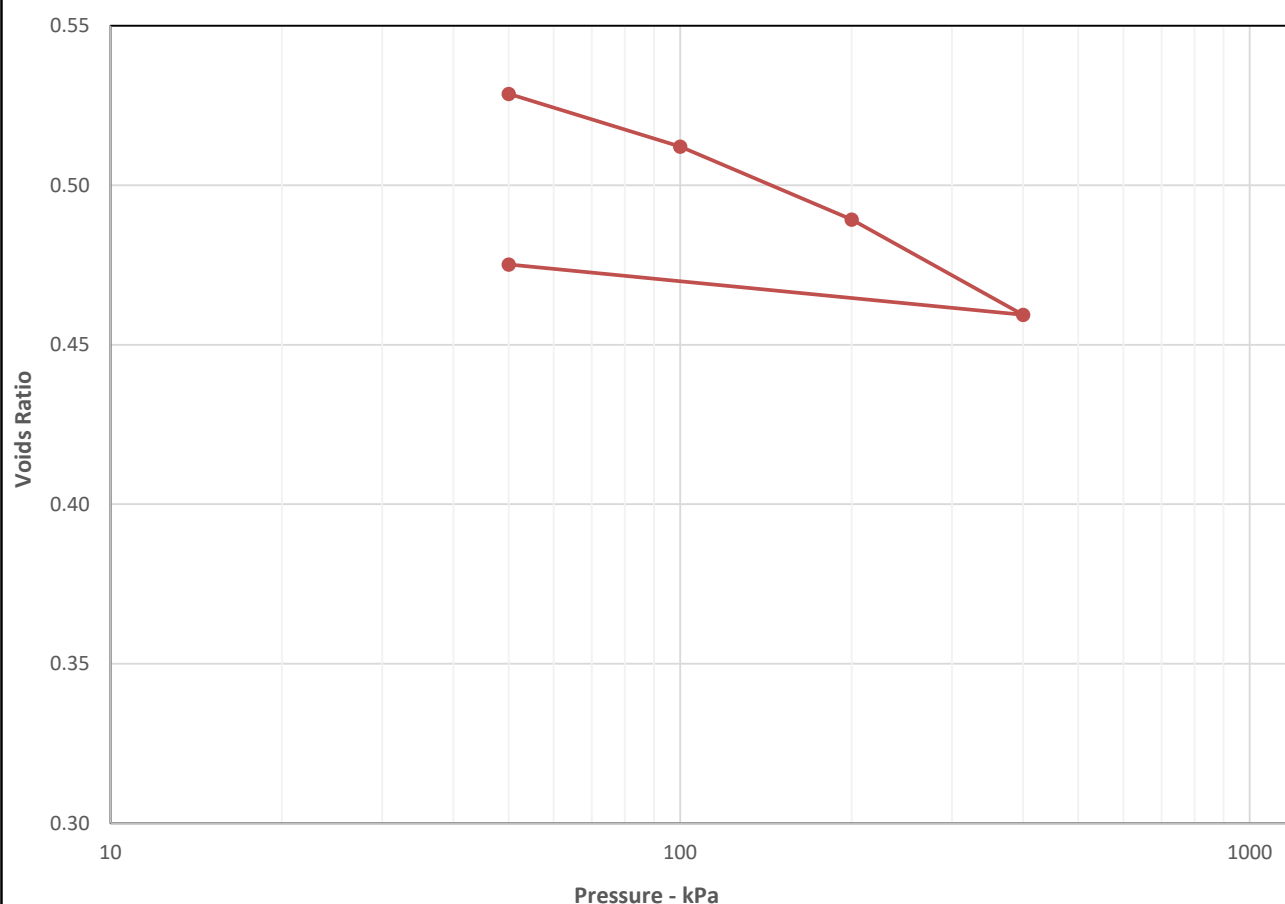
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	23	0	-	50	0.4	3.7		-			
Bulk Density (Mg/m3)	2.09	50	-	100	0.22	4.2		-			
Dry Density (Mg/m3)	1.70	100	-	200	0.15	2.7		-			
Voids Ratio	0.5628	200	-	400	0.10	3.0		-			
Degree of saturation	109.3	400	-	50	0.031	8.1		-			
Height (mm)	18.54		-					-			
Diameter (mm)	75.23		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

WS701

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

5.00

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

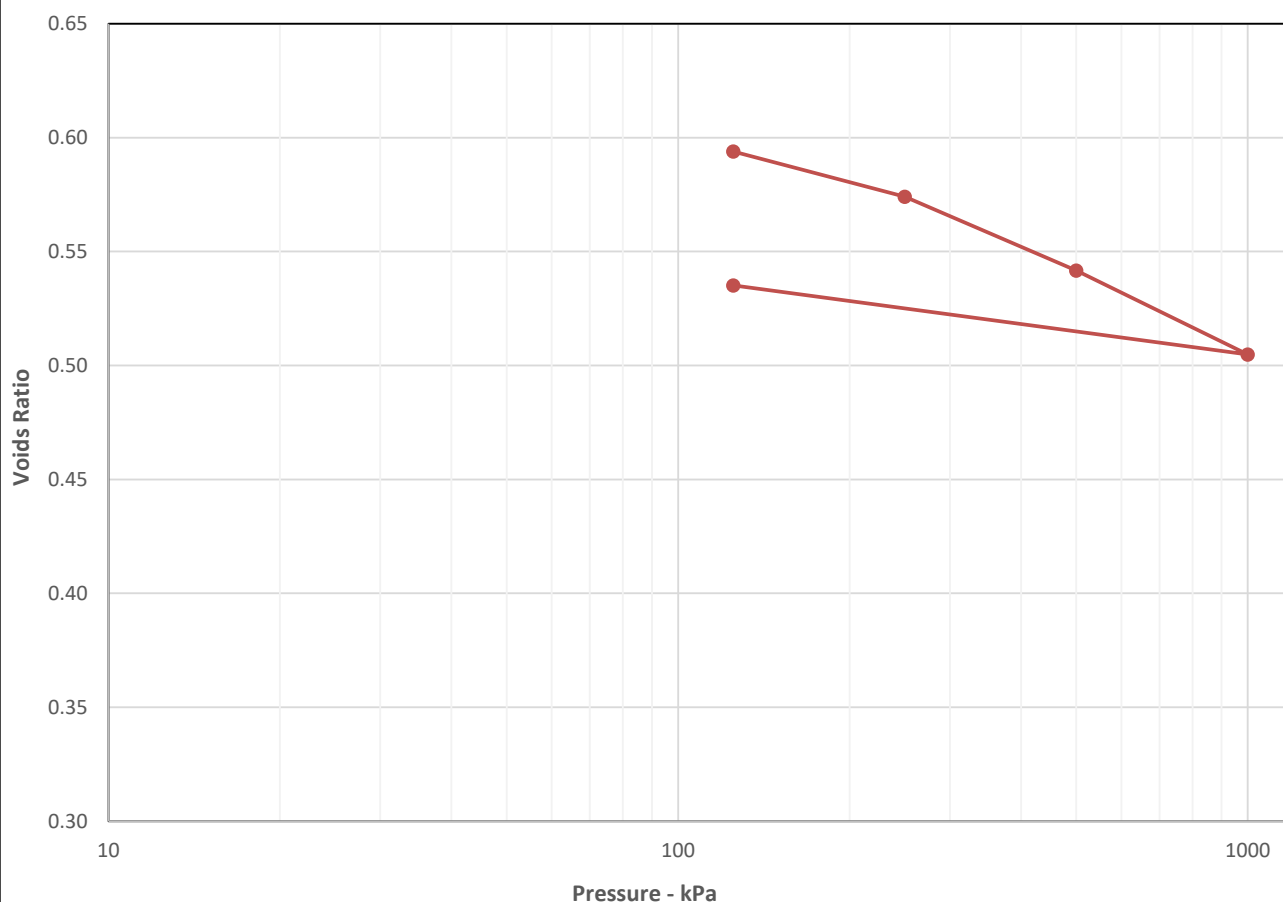
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	-183.0	0	-	125	0.3	4.4		-			
Bulk Density (Mg/m3)	-1.34	125	-	250	0.099	10		-			
Dry Density (Mg/m3)	1.61	250	-	500	0.082	6.6		-			
Voids Ratio	0.6444	500	-	1000	0.05	6.3		-			
Degree of saturation	-752.4	1000	-	125	0.023	6.3		-			
Height (mm)	20.2		-					-			
Diameter (mm)	75.29		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

WS701

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

5.00

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

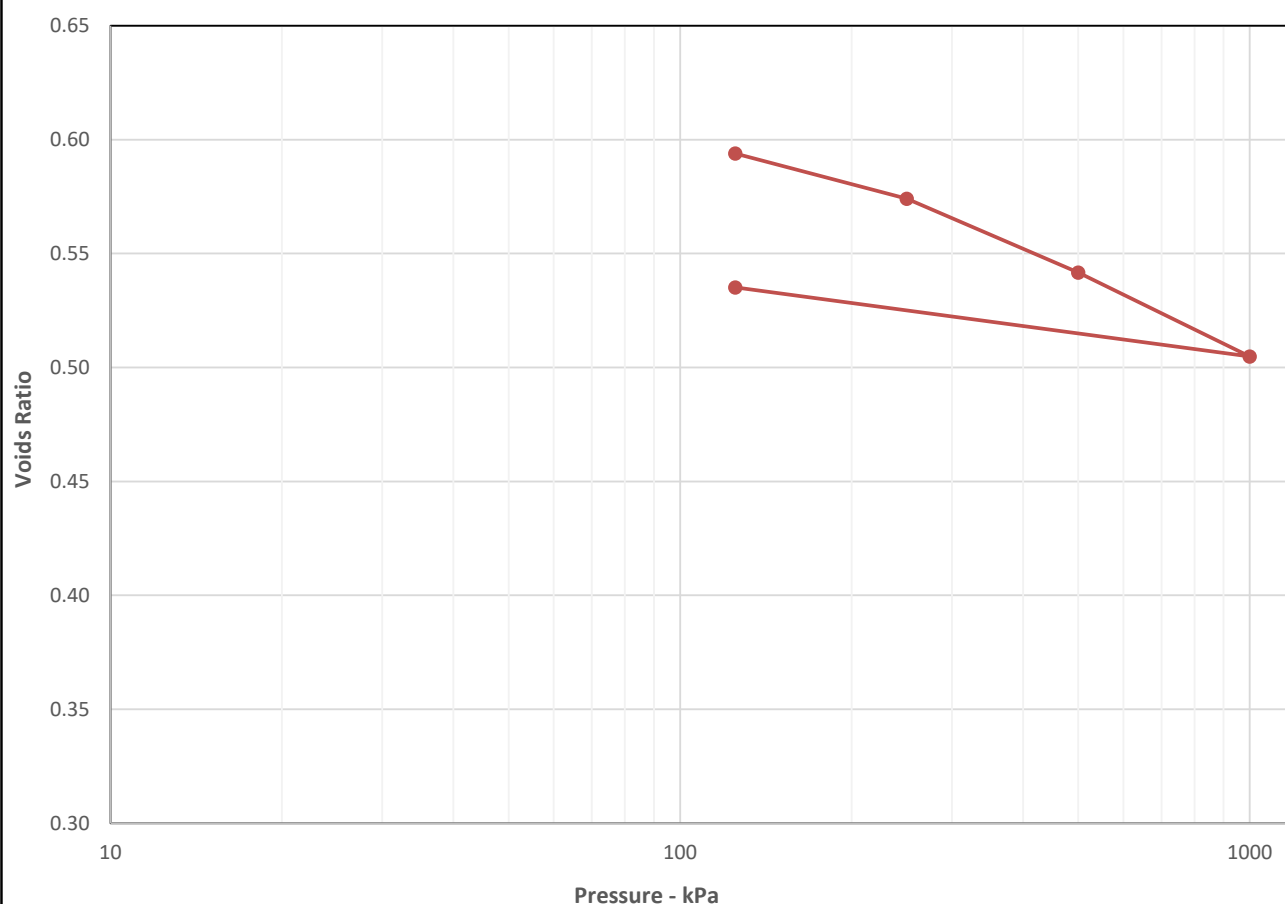
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	24	0	-	125	0.3	4.4		-			
Bulk Density (Mg/m3)	2.00	125	-	250	0.099	10		-			
Dry Density (Mg/m3)	1.61	250	-	500	0.082	6.6		-			
Voids Ratio	0.6444	500	-	1000	0.05	6.3		-			
Degree of saturation	98.9	1000	-	125	0.023	6.3		-			
Height (mm)	20.2		-					-			
Diameter (mm)	75.29		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	



2788



ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

55407

Borehole/Trialpit No.

WS702

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

4.50

Depth Base (m)

5.00

Lab Temperature

20°C

Sample Location

Top

Remarks

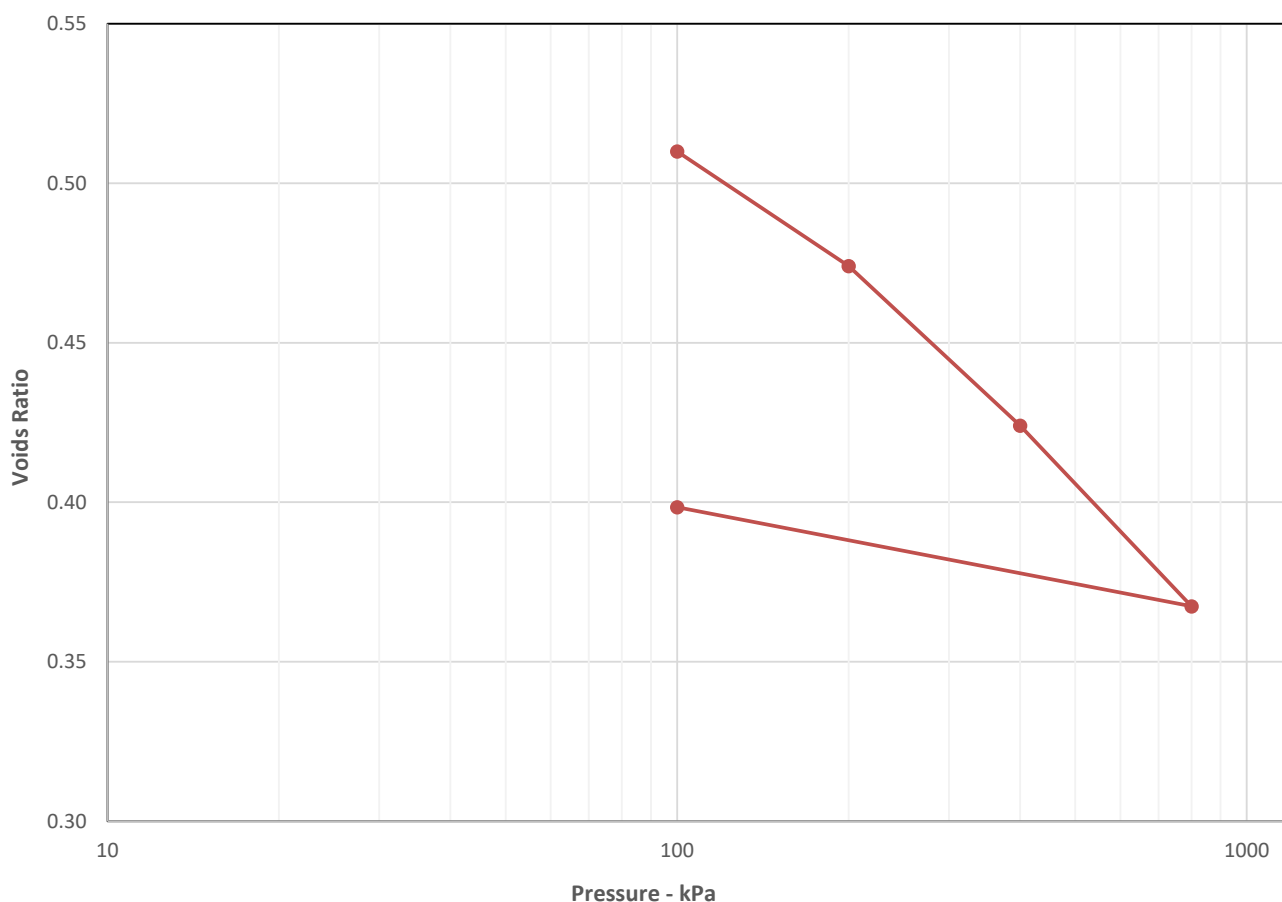
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	27	0	-	100	0.9	5.5		-			
Bulk Density (Mg/m3)	2.02	100	-	200	0.24	3.5		-			
Dry Density (Mg/m3)	1.60	200	-	400	0.17	4.6		-			
Voids Ratio	0.6605	400	-	800	0.10	3.0		-			
Degree of saturation	107.7	800	-	100	0.032	7.9		-			
Height (mm)	18.81		-					-			
Diameter (mm)	75.09		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





Certificate of Analysis

Certificate Number 21-17749

Issued: 31-Aug-21

Client GEO Site and Testing Services Ltd
Unit 4
Heol Aur
Dafen Ind Est
Dafen
Carmarthenshire
SA14 8QN

Our Reference 21-17749

Client Reference 19453-GELO

Order No (not supplied)

Contract Title Dunsbury Park

Description 19 Soil samples.

Date Received 23-Aug-21

Date Started 23-Aug-21

Date Completed 31-Aug-21

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Adam Fenwick
Contracts Manager



2139

Summary of Chemical Analysis

Soil Samples

Our Ref 21-17749
 Client Ref 19453-GELO
 Contract Title Dunsbury Park

Lab No	1893781	1893782	1893783	1893784	1893785	1893786	1893787	1893788	1893789	1893790	1893791
Sample ID	TP7.07	TP6.05	TP4.01	TP1.02	WS4.01	WS4.03	WS6.07	WS6.06	WS4.05	WS7.03	TP1.01
Depth	3.00	1.00	2.50	3.50	0.80-1.00	0.40-0.80	0.60-1.00	4.00	0.60	1.60-2.30	2.00
Other ID											
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units											
Inorganics														
pH	DETSC 2008#		pH	6.0	6.5	5.9	7.8	7.6	10.6	6.1	8.0	9.9	5.2	6.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	11	< 10	700	600	880	230	13	430	75	21	19
Sulphur as S, Total	DETSC 2320	0.01	%	0.04	< 0.01	0.45	0.55	1.2	0.06	0.02	0.47	0.01	0.03	< 0.01
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.10	0.02	0.19	0.16	0.22	0.11	0.05	0.12	0.04	0.05	0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 21-17749
 Client Ref 19453-GELO
 Contract Title Dunsbury Park

Lab No	1893792	1893793	1893794	1893795	1893796	1893797	1893798	1893799
Sample ID	TP1.04	TP4.05	TP6.01	WS6.01	TP7.09	TP7.06	TP7.02	TP7.01
Depth	0.50	1.00	2.10	3.20	0.80	2.50	0.80	1.80
Other ID								
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units								
Inorganics											
pH	DETSC 2008#		pH	11.0	6.8	7.6	5.9	6.7	5.3	6.1	6.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	160	21	42	24	12	< 10	< 10	< 10
Sulphur as S, Total	DETSC 2320	0.01	%	0.10	0.01	< 0.01	< 0.01	0.03	0.01	< 0.01	< 0.01
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.13	0.01	0.02	0.02	0.08	0.04	0.02	0.02

Information in Support of the Analytical Results

Our Ref 21-17749
 Client Ref 19453-GELO
 Contract Dunsbury Park

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1893781	TP7.07 3.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893782	TP6.05 1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893783	TP4.01 2.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893784	TP1.02 3.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893785	WS4.01 0.80-1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893786	WS4.03 0.40-0.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893787	WS6.07 0.60-1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893788	WS6.06 4.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893789	WS4.05 0.60 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893790	WS7.03 1.60-2.30 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893791	TP1.01 2.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893792	TP1.04 0.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	

Information in Support of the Analytical Results

Our Ref 21-17749
Client Ref 19453-GELO
Contract Dunsbury Park

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1893793	TP4.05 1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893794	TP6.01 2.10 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893795	WS6.01 3.20 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893796	TP7.09 0.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893797	TP7.06 2.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893798	TP7.02 0.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893799	TP7.01 1.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report



California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP101

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium gravelly silty CLAY

Depth Top 0.50

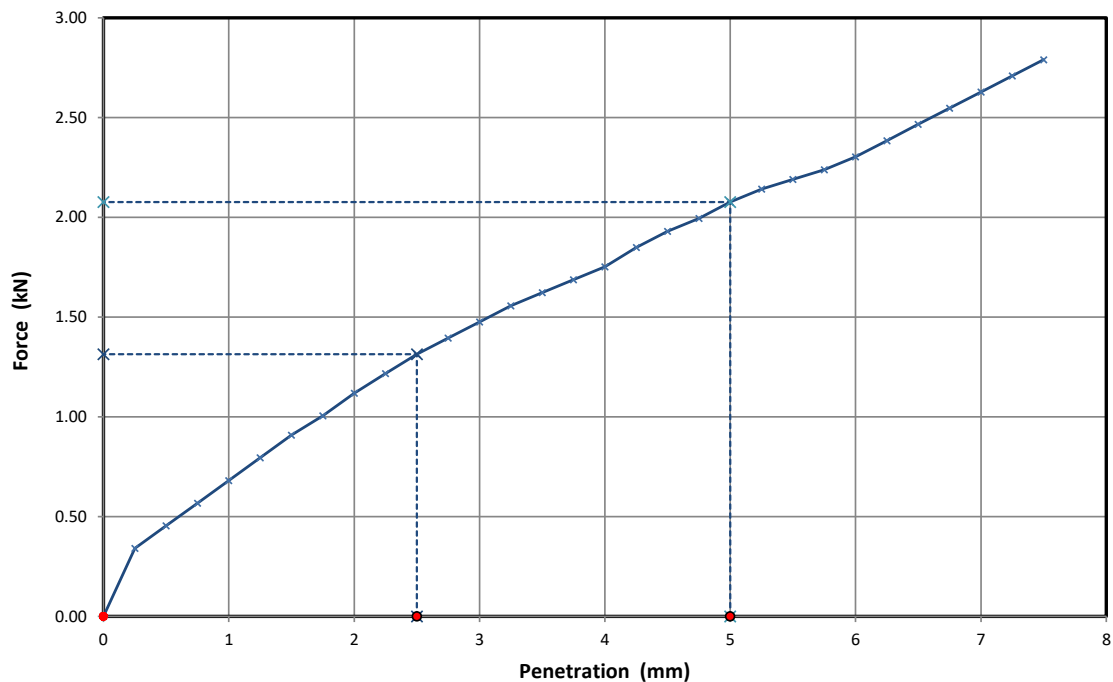
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 6

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	16
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.97
Dry Density (Mg/m ³)	1.70

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.17
Remarks	

CBR Test Values			
2.5mm Top	10	2.5mm Bottom	
5mm Top	10	5mm Bottom	
CBR Value %	10	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



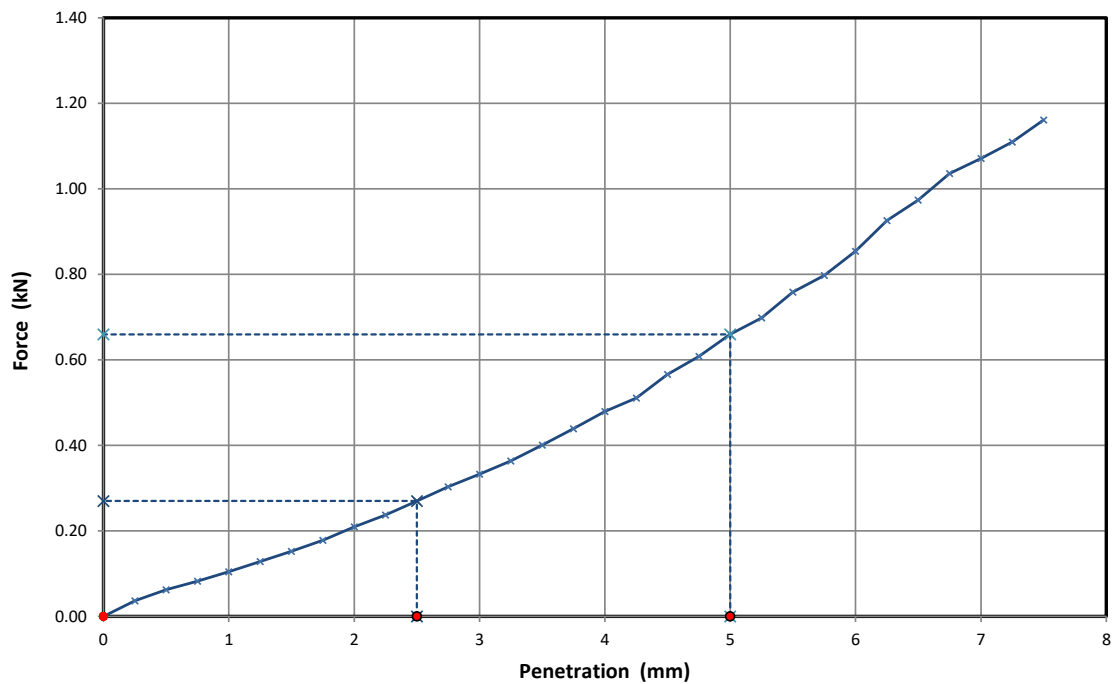


**California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7**

Contract Number 55407

Borehole/Pit No. TP102

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.75
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	18
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.99
Dry Density (Mg/m3)	1.68

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.16
Remarks	

CBR Test Values			
2.5mm Top	2	2.5mm Bottom	
5mm Top	3.3	5mm Bottom	
CBR Value %	3.3	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



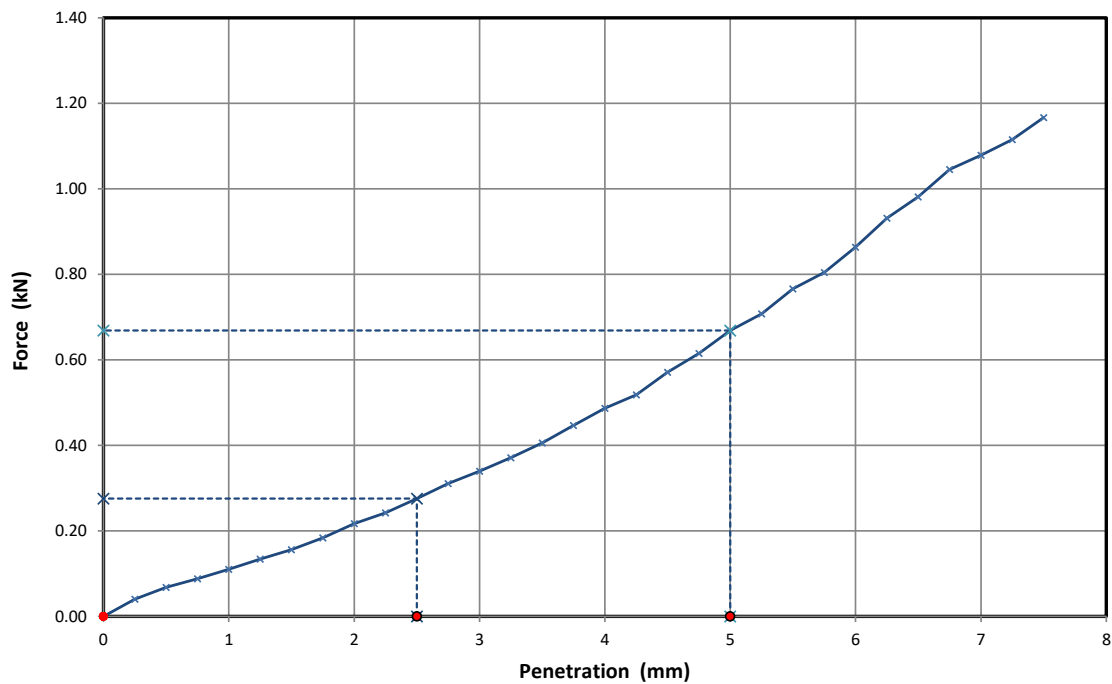


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP103

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	1.00
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	25
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.99
Dry Density (Mg/m ³)	1.60

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	2.1	2.5mm Bottom	
5mm Top	3.3	5mm Bottom	
CBR Value %	3.3	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP104

Site Name Dunsbury Park

Sample No.

Soil Description Brown silty CLAY

Depth Top 0.50

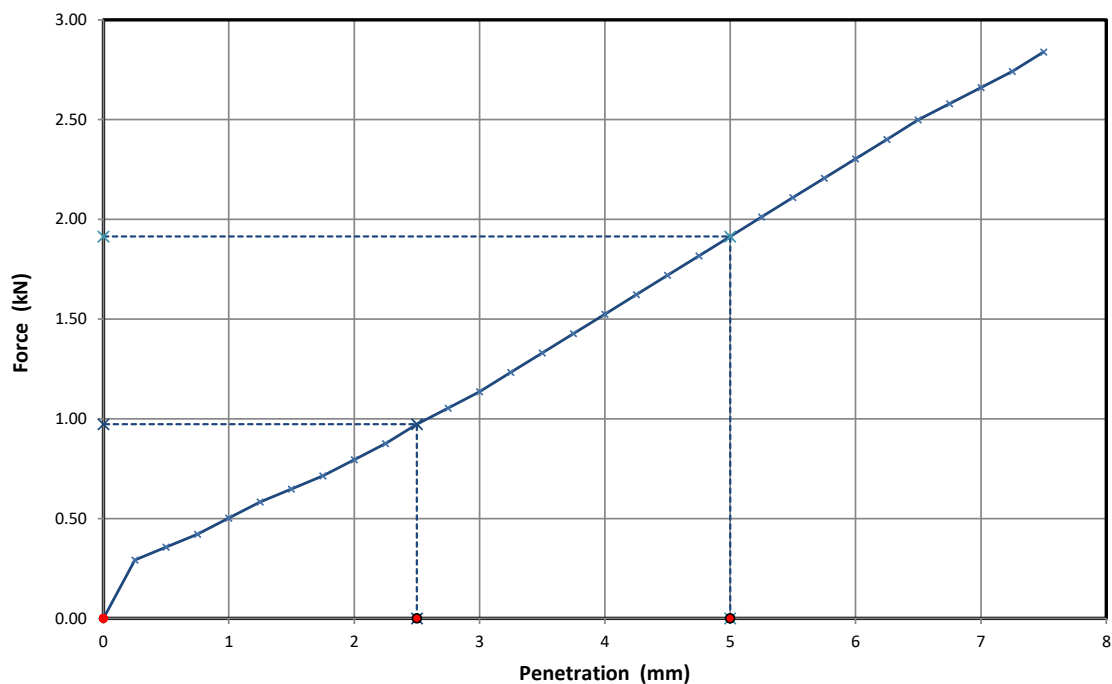
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 0

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	21
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.99
Dry Density (Mg/m ³)	1.65

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	7.4	2.5mm Bottom	
5mm Top	9.6	5mm Bottom	
CBR Value %	9.6	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



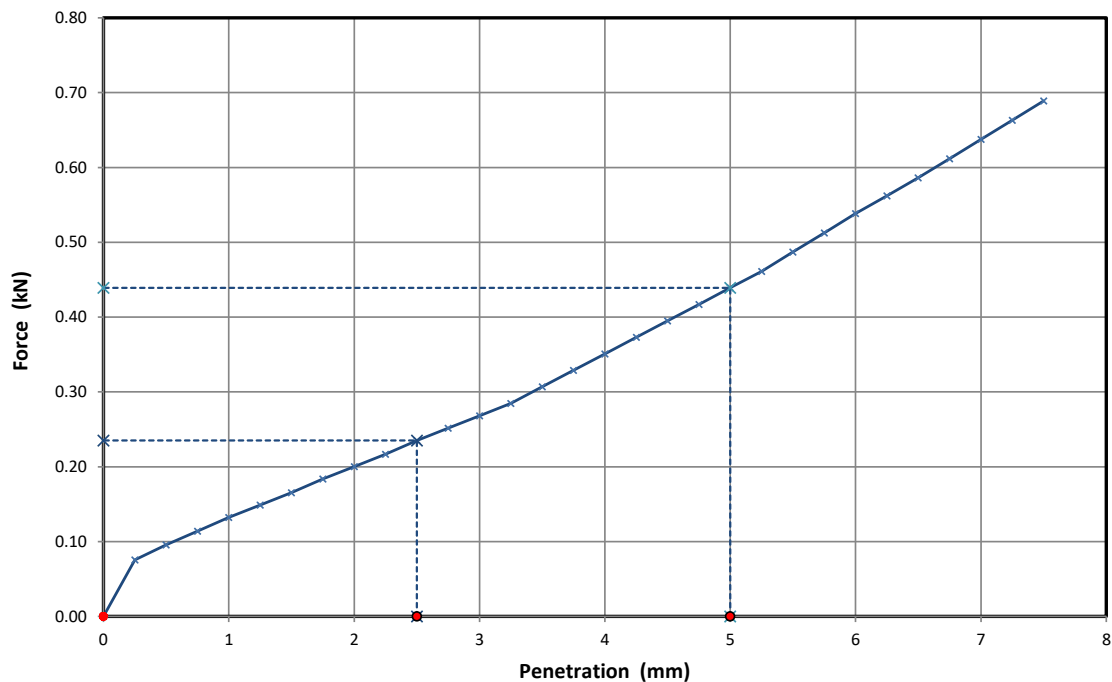


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP401

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.60
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	23
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.96
Dry Density (Mg/m3)	1.59

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	1.8	2.5mm Bottom	
5mm Top	2.2	5mm Bottom	
CBR Value %	2.2	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



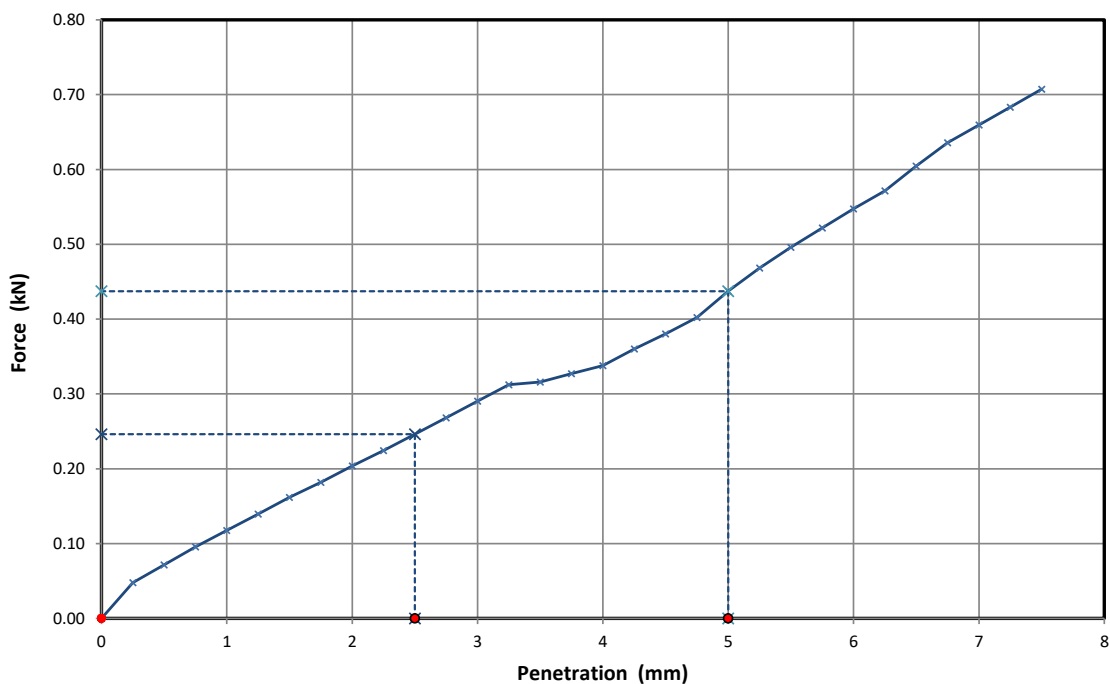


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP402

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	26
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.97
Dry Density (Mg/m3)	1.57

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	1.9	2.5mm Bottom	
5mm Top	2.2	5mm Bottom	
CBR Value %	2.2	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



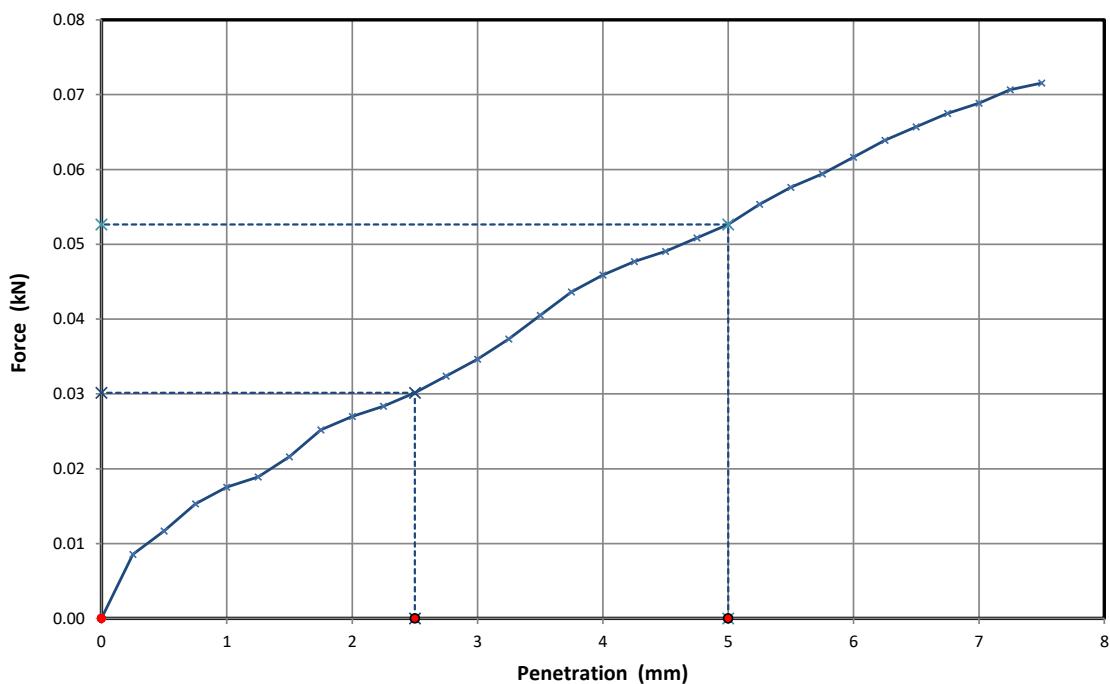


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP602

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.80
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	25
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.90
Dry Density (Mg/m ³)	1.52

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.18
Remarks	

CBR Test Values			
2.5mm Top	0.23	2.5mm Bottom	
5mm Top	0.26	5mm Bottom	
CBR Value %	0.26	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



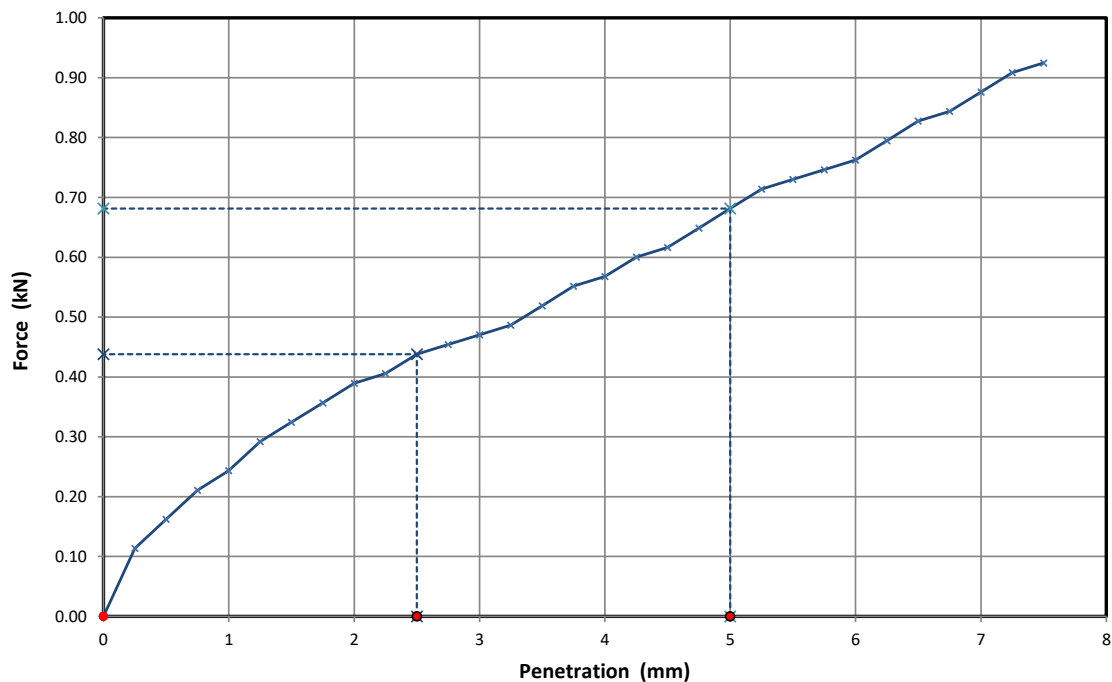


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP603

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	1.00
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	23
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.95
Dry Density (Mg/m3)	1.59

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	3.3	2.5mm Bottom	
5mm Top	3.4	5mm Bottom	
CBR Value %	3.4	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



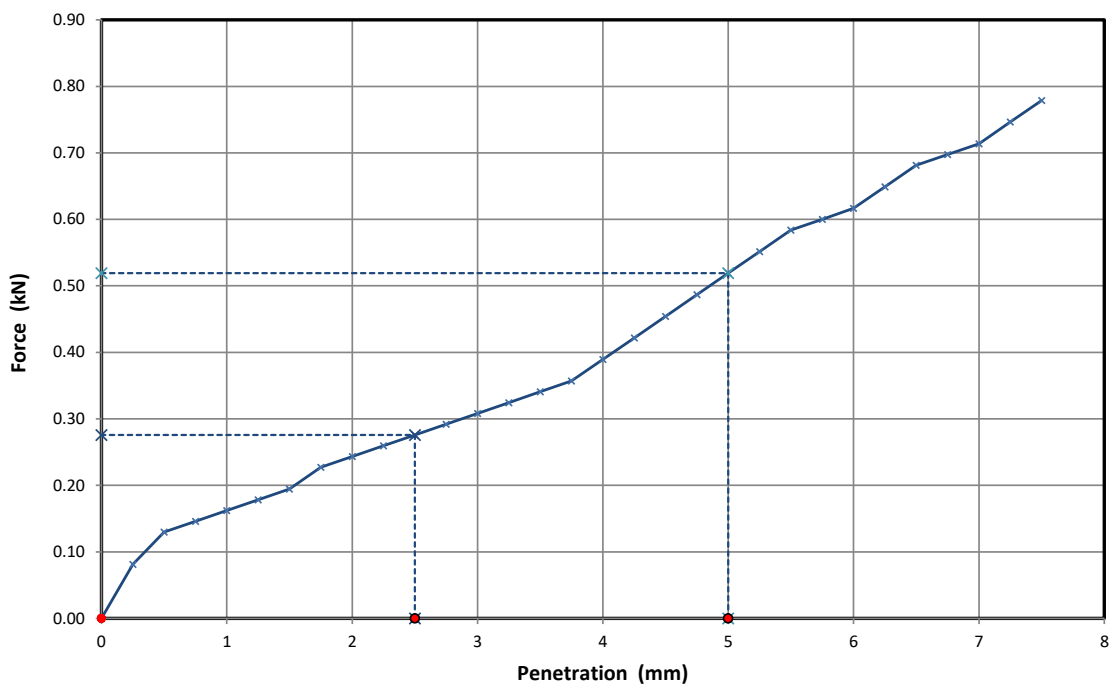


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP609

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.80
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	22
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.96
Dry Density (Mg/m ³)	1.60

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.14
Remarks	

CBR Test Values			
2.5mm Top	2.1	2.5mm Bottom	
5mm Top	2.6	5mm Bottom	
CBR Value %	2.6	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP704

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium sandy silty CLAY

Depth Top 0.50

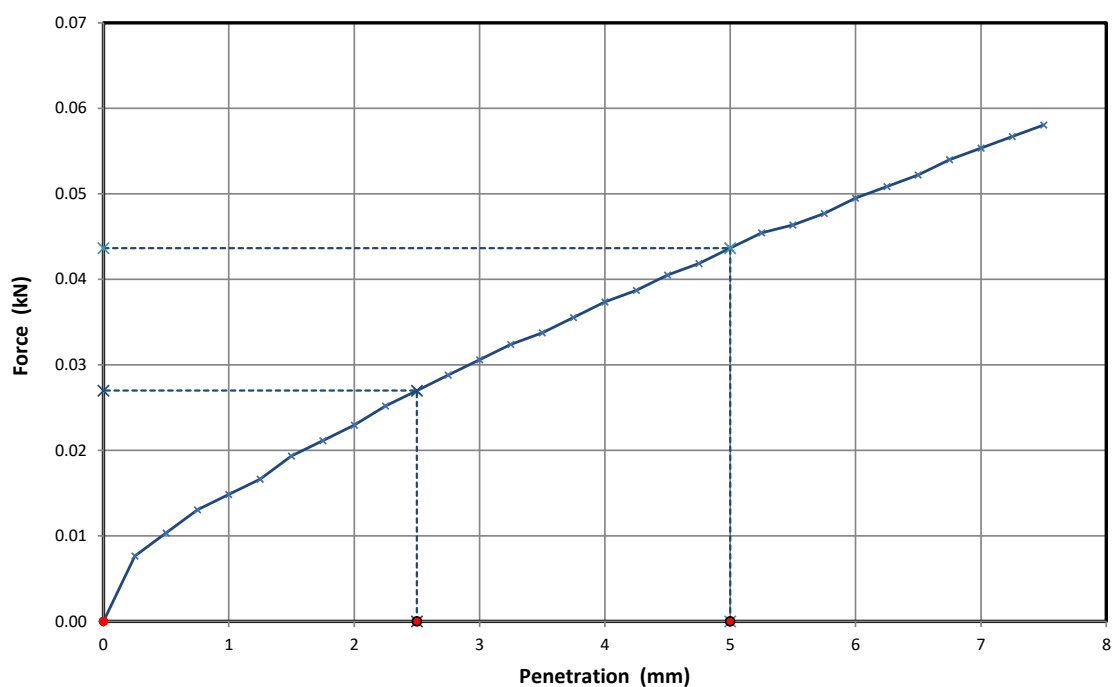
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 0

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	23
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.56

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	0.2	2.5mm Bottom	
5mm Top	0.22	5mm Bottom	
CBR Value %	0.22	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





**California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7**

Contract Number 55407

Borehole/Pit No. TP707

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium gravelly silty CLAY

Depth Top 0.70

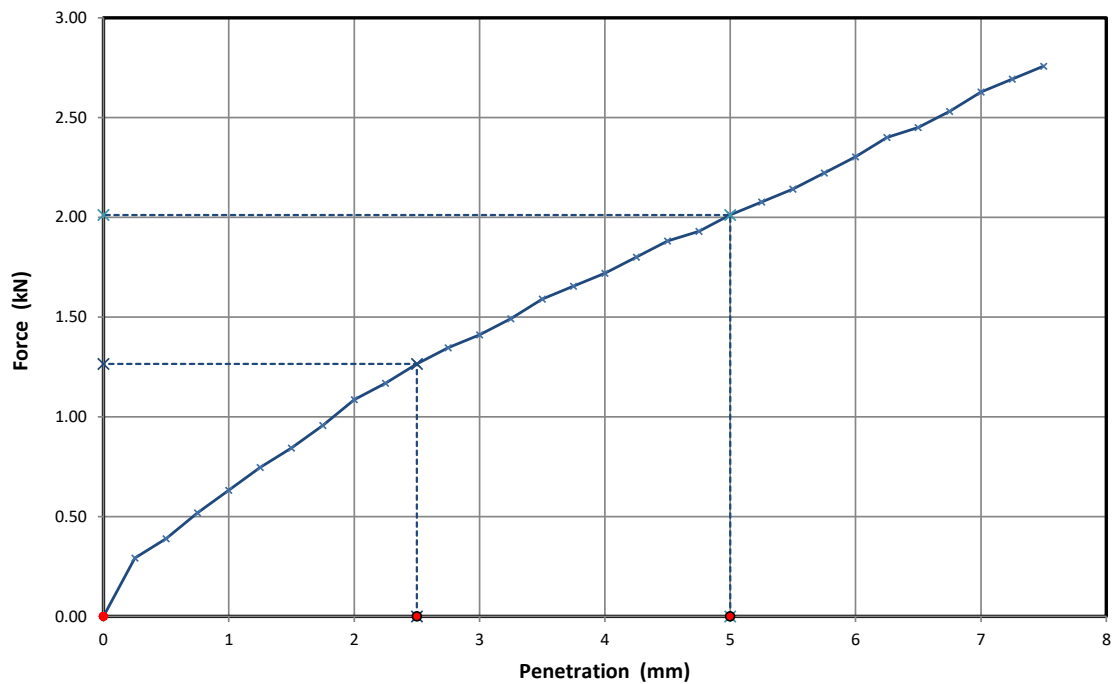
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 6

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	17
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.96
Dry Density (Mg/m3)	1.67

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.15
Remarks	

CBR Test Values			
2.5mm Top	9.6	2.5mm Bottom	
5mm Top	10	5mm Bottom	
CBR Value %	10	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP709

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium sandy silty CLAY

Depth Top 0.80

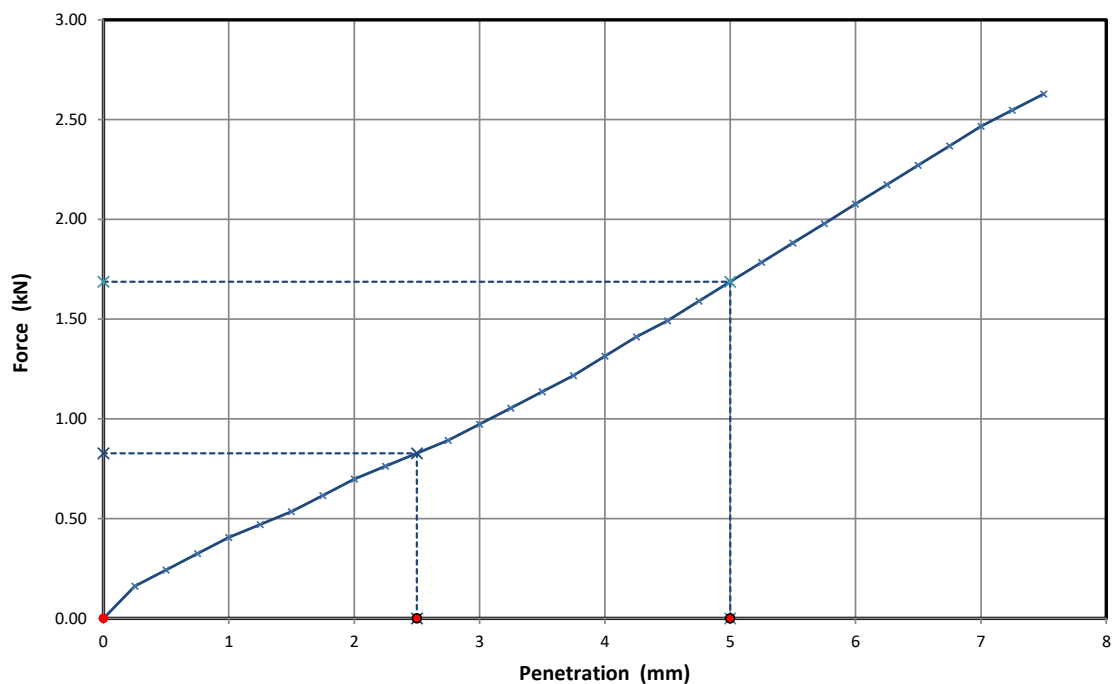
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 0

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.94
Dry Density (Mg/m3)	1.69

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	6.3	2.5mm Bottom	
5mm Top	8.4	5mm Bottom	
CBR Value %	8.4	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





**California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7**

Contract Number 55407

Borehole/Pit No. TP710

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium sandy silty CLAY

Depth Top 0.90

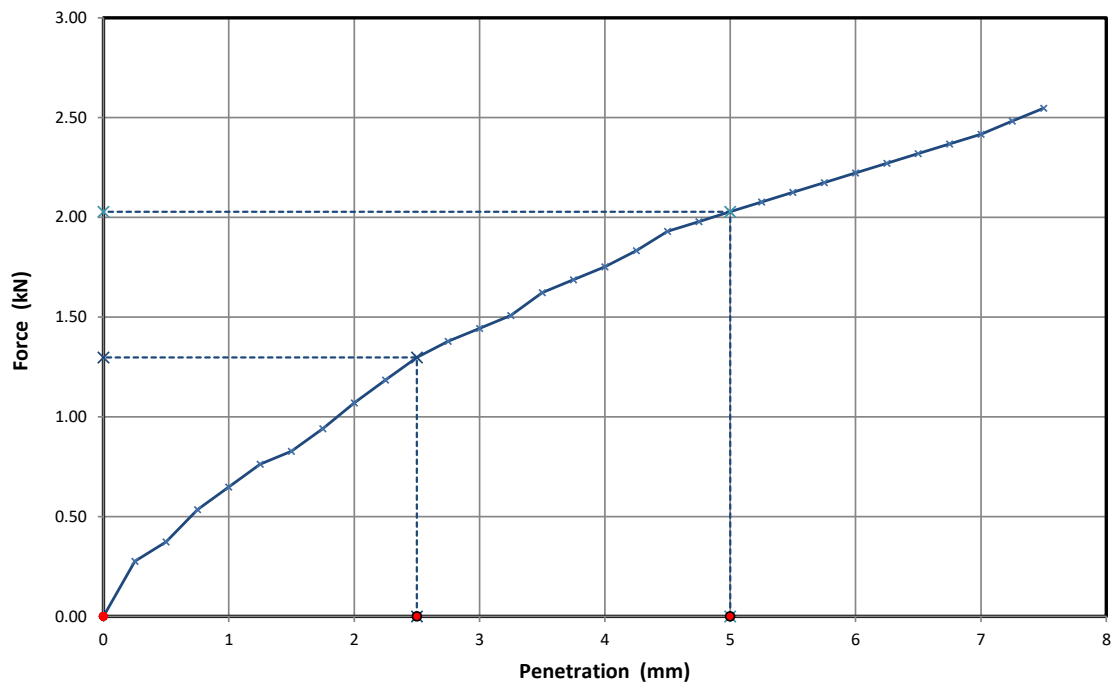
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 0

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	18
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.95
Dry Density (Mg/m3)	1.65

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.17
Remarks	

CBR Test Values			
2.5mm Top	9.8	2.5mm Bottom	
5mm Top	10	5mm Bottom	
CBR Value %	10	CBR Value %	

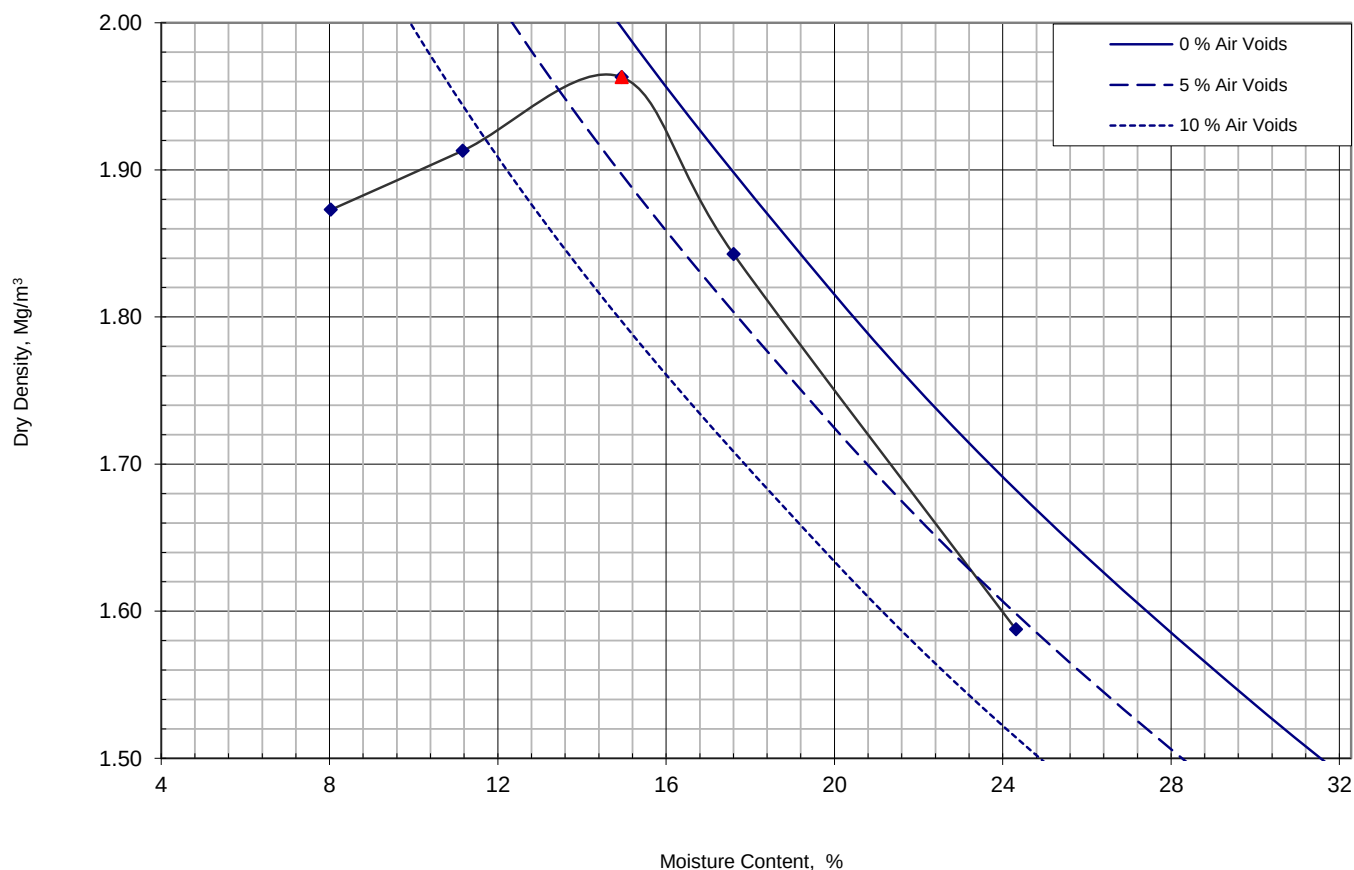
Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



Dry Density / Moisture Content Relationship BS 1377:Part 4:1990

Contract Number 55407
Borehole / Pit No TP607

Project Location	Dunsbury Park	Sample No	
Date Tested	08/09/2021	Depth Top	2.00
Compaction Method	4.5 Kg Rammer	Depth Base	
Compaction Clause	BS1377:Part 4:1990, Clause 3.5	Sample Type	B
Sample Description	Brown silty CLAY		



Compaction Point	1	2	3	4	5						
Moisture Content	8.0	11	15	18	24						
Bulk Density	2.02	2.13	2.26	2.17	1.97						
Dry Density	1.87	1.91	1.96	1.84	1.59						

Initial Moisture Content	24	%
Maximum Dry Density	1.96	Mg/m3
Optimum Moisture Content	15.0	%
Particle Density	2.85 Assumed	Mg/m3
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



**Dry Density / Moisture Content Relationship
BS 1377:Part 4:1990**

Contract Number

55407

BH / TP No

WS102

Site Name

Dunsbury Park

Sample No

Sample Description

Brown fine gravelly sandy silty CLAY

Depth Top

0.5

Compaction Method

Vibrating Rammer

Depth Bottom

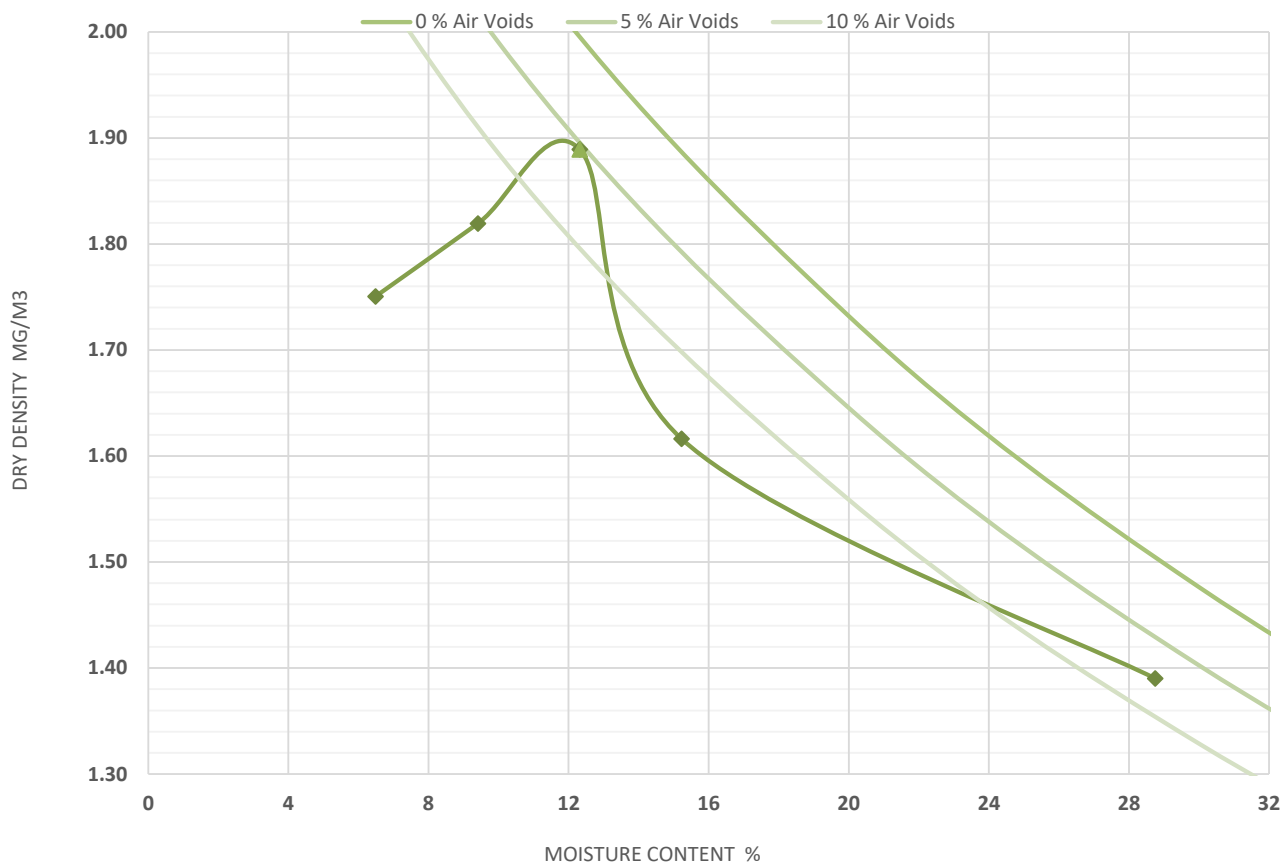
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Date Tested

09/09/2021

Sample Type

B



Compaction Point	1	2	3	4	5						
Moisture Content	6.5	9.4	12	15	29						
Bulk Density	1.86	1.99	2.12	1.86	1.79						
Dry Density	1.75	1.82	1.89	1.62	1.39						

Initial Moisture Content	29
Maximum Dry Density	1.89
Optimum Moisture Content	12
Particle Density	2.65
Material Retained 37.5mm	0
Material Retained 20mm	0

Operators	Checked	10/09/2021	Richard John	
Conor	Approved	11/09/2021	Paul Evans	





**Dry Density / Moisture Content Relationship
BS 1377:Part 4:1990**

Contract Number

55407

BH / TP No

TP606

Site Name

Dunsbury Park

Sample No

Sample Description

Brown fine sandy silty CLAY

Depth Top

0.6

Compaction Method

Vibrating Rammer

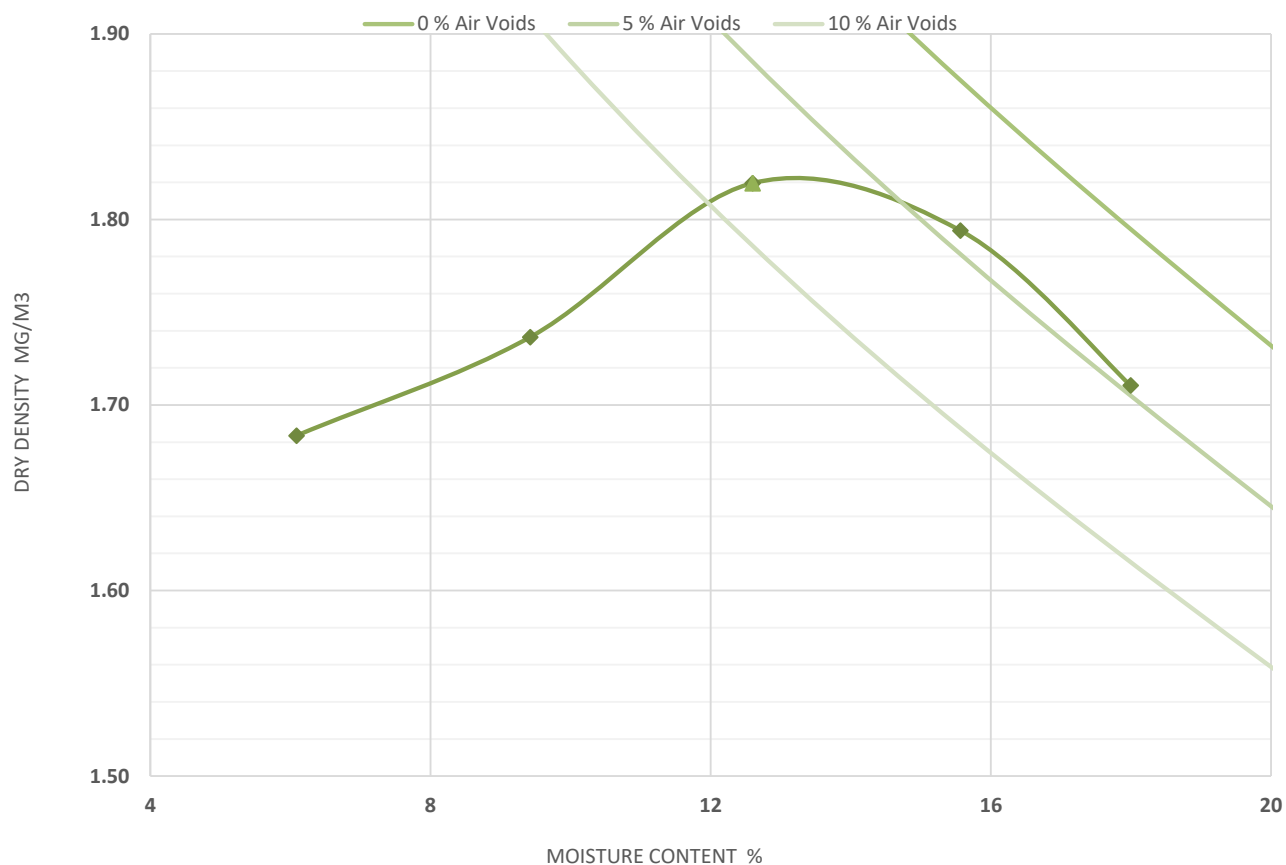
Depth Bottom

Date Tested

09/09/2021

Sample Type

B



Compaction Point	1	2	3	4	5						
Moisture Content	6.1	9.4	13	16	18						
Bulk Density	1.79	1.90	2.05	2.07	2.02						
Dry Density	1.68	1.74	1.82	1.79	1.71						

Initial Moisture Content	16
Maximum Dry Density	1.82
Optimum Moisture Content	13
Particle Density	2.65
Material Retained 37.5mm	0
Material Retained 20mm	0

Operators	Checked	10/09/2021	Richard John	
Conor	Approved	11/09/2021	Paul Evans	





**Dry Density / Moisture Content Relationship
BS 1377:Part 4:1990**

Contract Number

55407

BH / TP No

TP701

Site Name

Dunsbury Park

Sample No

Sample Description

Brown fine sandy silty CLAY

Depth Top

0.6

Compaction Method

Vibrating Rammer

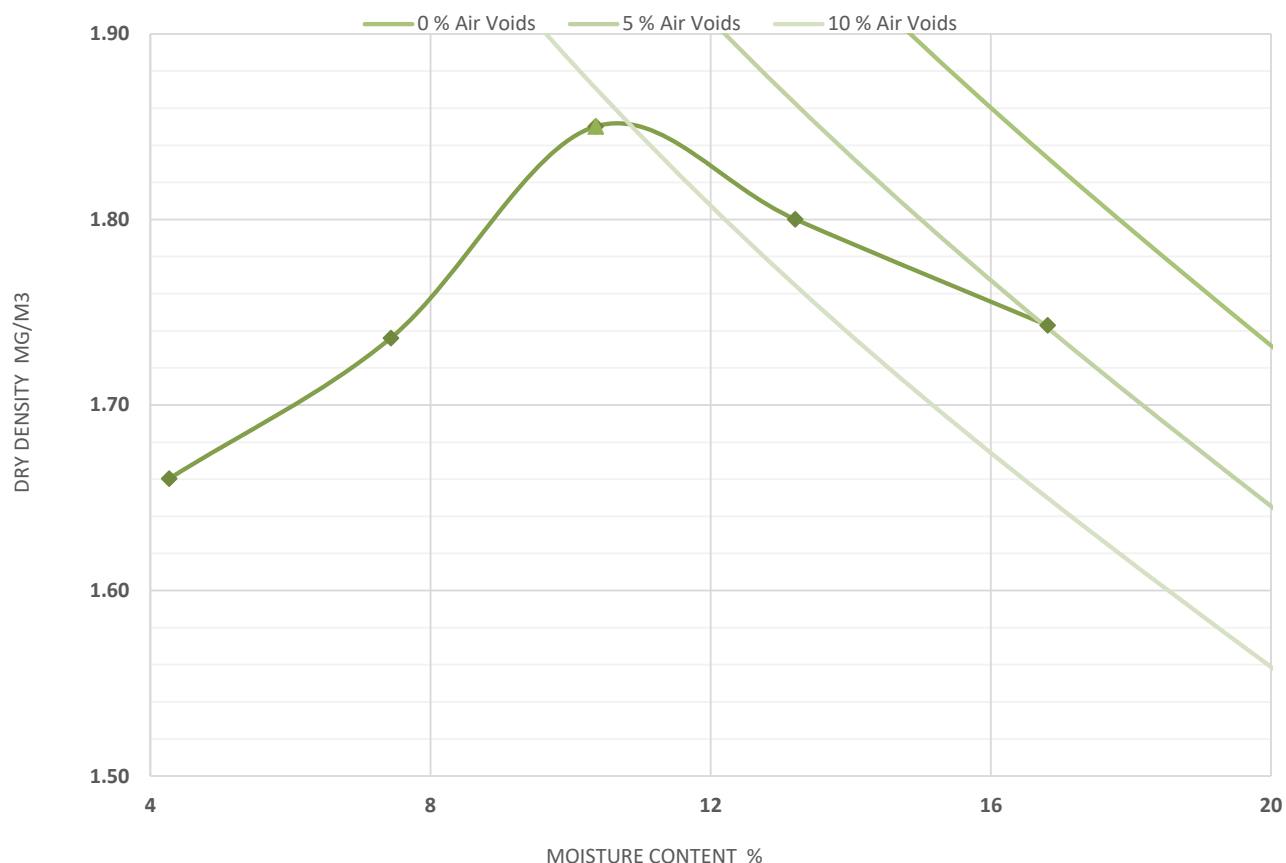
Depth Bottom

Date Tested

09/09/2021

Sample Type

B



Compaction Point	1	2	3	4	5						
Moisture Content	4.3	7.4	10	13	17						
Bulk Density	1.73	1.87	2.04	2.04	2.04						
Dry Density	1.66	1.74	1.85	1.80	1.74						

Initial Moisture Content	17
Maximum Dry Density	1.85
Optimum Moisture Content	10
Particle Density	2.65
Material Retained 37.5mm	0
Material Retained 20mm	0

Operators	Checked	10/09/2021	Richard John	
Conor	Approved	11/09/2021	Paul Evans	





Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 55427

Client Ref: **19453-GELO**

Report Date:

Client PO: **P009601**

Client **Hydrock Limited**
Hydrock
First Floor
5 Castlebridge
5-19 Cowbridge Road East
Cardiff
CF11 9AB
Tel: 02920 023665 Mob: 07392 081090

Contract Title: **Dunsbury Park Units 100, 400, 600, 700**
For the attention of: **Yacklin Panza**

Date Received: **06-09-2021**

Date Completed:

Test Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	18
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	16
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	6
Dry Den/MC (4.5kg Rammer Method 1 litre mould/CBR Mould) BS 1377:1990 - Part 4 : 3.6 - * UKAS	3
BRE Reduced Suite includes pH, water & acid soluble sulphate and total sulphur Sub-contracted Test - @ Non Accredited Test	8

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)

Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd

Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk



Laboratory Report



Contract Number: 55427

Test Description	Qty
Quick Undrained Triaxial Compression test - single specimen at one confining pressure (100mm or 38mm diameter) BS 1377:1990 - Part 7 : 8 - * UKAS	30
Quick Undrained Triaxial Compression test - set of 3 - 38mm diameter specimens BS 1377:1990 - Part 7 : 8 - * UKAS	2
Immediate Shear Strength - set of 3 60 x 60 mm Shear Box Specimens by Direct Shearing (note suitable for free draining material only) BS 1377:1990 - Part 7 : 4 - * UKAS	3
Samples Received - @ Non Accredited Test	152
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)
Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)



**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND
PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.3 & 5.3)**

Contract Number

55427

Site Name

Dunsbury Park Units 100, 400, 600, 700

Date Tested

14/09/2021

DESCRIPTIONS

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
BH1.01		D	1.50	-		Brown fine sandy silty CLAY.
BH4.01		D	1.50	-		Brown fine sandy silty CLAY.
BH4.01		D	3.00	-		Brown fine sandy silty CLAY.
BH4.01		D	4.50	-	4.95	Brown fine sandy silty CLAY.
BH4.02		D	1.00	-		Brown fine sandy silty CLAY.
BH4.02		D	2.00	-		Brown fine sandy silty CLAY.
BH6.01		D	2.00	-		Brown fine sandy silty CLAY.
BH6.02		D	1.50	-	1.95	Brown fine sandy silty CLAY.
BH6.02		D	2.50	-	2.95	Brown fine sandy silty CLAY.
BH6.03		D	0.50	-	1.00	Brown fine sandy silty CLAY.
BH6.03		D	3.30	-		Brown fine sandy silty CLAY.
BH6.03		D	5.00	-		Brown fine sandy silty CLAY.
BH7.01		D	3.00	-		Brown fine sandy silty CLAY.
BH7.02		D	0.50	-		Brown fine sandy silty CLAY.
BH7.02		D	3.00	-		Brown fine sandy silty CLAY.
BH7.02		D	5.00	-		Brown fine sandy silty CLAY.
BH7.03		D	0.50	-		Brown fine sandy silty CLAY.
BH7.03		D	6.00	-		Brown fine sandy silty CLAY.
				-		
				-		
				-		
				-		
				-		
				-		

Operators

Checked

23/09/2021

Richard John (Advanced Testing Manager)

Clayton Jenkins

Approved

23/09/2021

Paul Evans (Quality/Technical Manager)



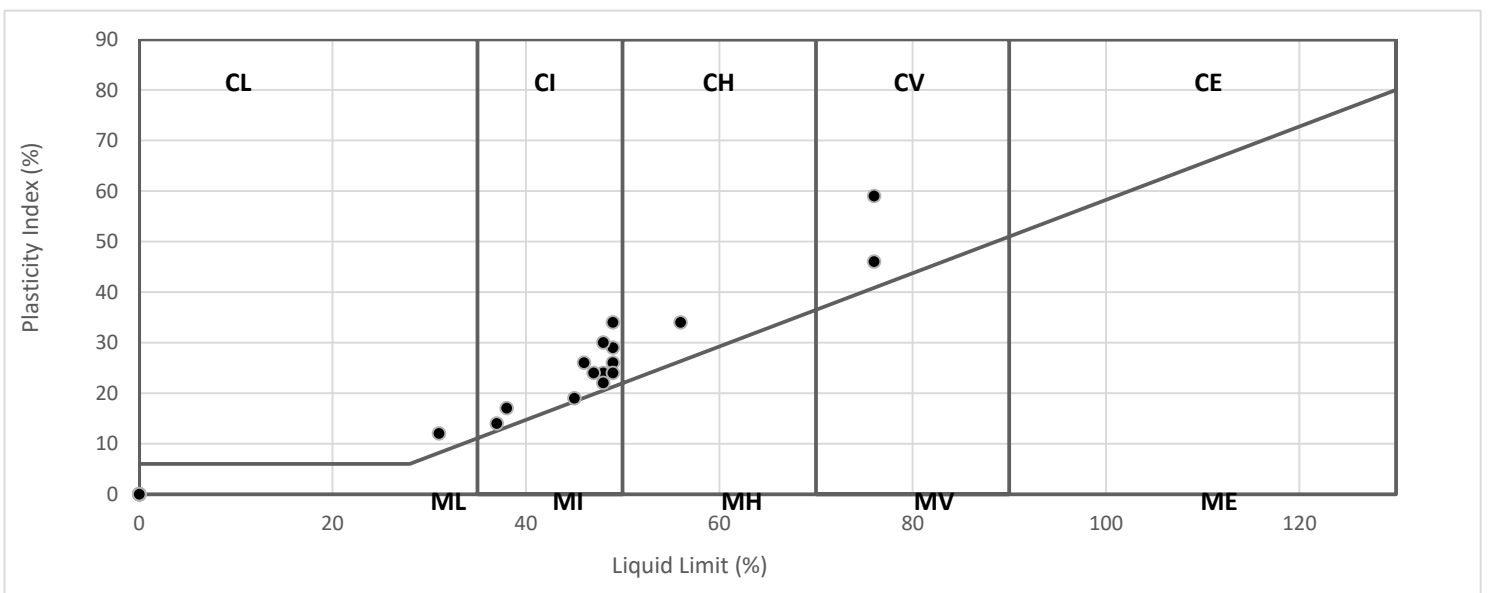
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)

Contract Number	55427	
Project Location	Dunsbury Park Units 100, 400, 600, 700	
Date Tested	14/09/2021	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BH1.01		D	1.50	-		30	76	30	46	100	CV Very High Plasticity
BH4.01		D	1.50	-		60					
BH4.01		D	3.00	-		18	76	17	59	100	CV Very High Plasticity
BH4.01		D	4.50	-	4.95	21	49	23	26	100	CI Intermediate Plasticity
BH4.02		D	1.00	-		22					
BH4.02		D	2.00	-		21	46	20	26	100	CI Intermediate Plasticity
BH6.01		D	2.00	-		25	38	21	17	100	CI Intermediate Plasticity
BH6.02		D	1.50	-	1.95	25	56	22	34	100	CH High Plasticity
BH6.02		D	2.50	-	2.95	24	49	15	34	100	CI Intermediate Plasticity
BH6.03		D	0.50	-	1.00	16	31	19	12	100	CL Low Plasticity
BH6.03		D	3.30	-		24	48	24	24	100	CI Intermediate Plasticity
BH6.03		D	5.00	-		23	49	20	29	100	CI Intermediate Plasticity
BH7.01		D	3.00	-		25	49	25	24	100	CI Intermediate Plasticity
BH7.02		D	0.50	-		22	37	23	14	100	CI Intermediate Plasticity
BH7.02		D	3.00	-		24	47	23	24	100	CI Intermediate Plasticity
BH7.02		D	5.00	-		26	45	26	19	100	CI Intermediate Plasticity
BH7.03		D	0.50	-		33	48	26	22	100	CI Intermediate Plasticity
BH7.03		D	6.00	-		22	48	18	30	100	CI Intermediate Plasticity
				-							
				-							
				-							
				-							
				-							
				-							

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010



Operators	Checked	23/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	23/09/2021	Paul Evans (Quality/Technical Manager)



PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55427

Borehole/Pit No. TP4.07

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

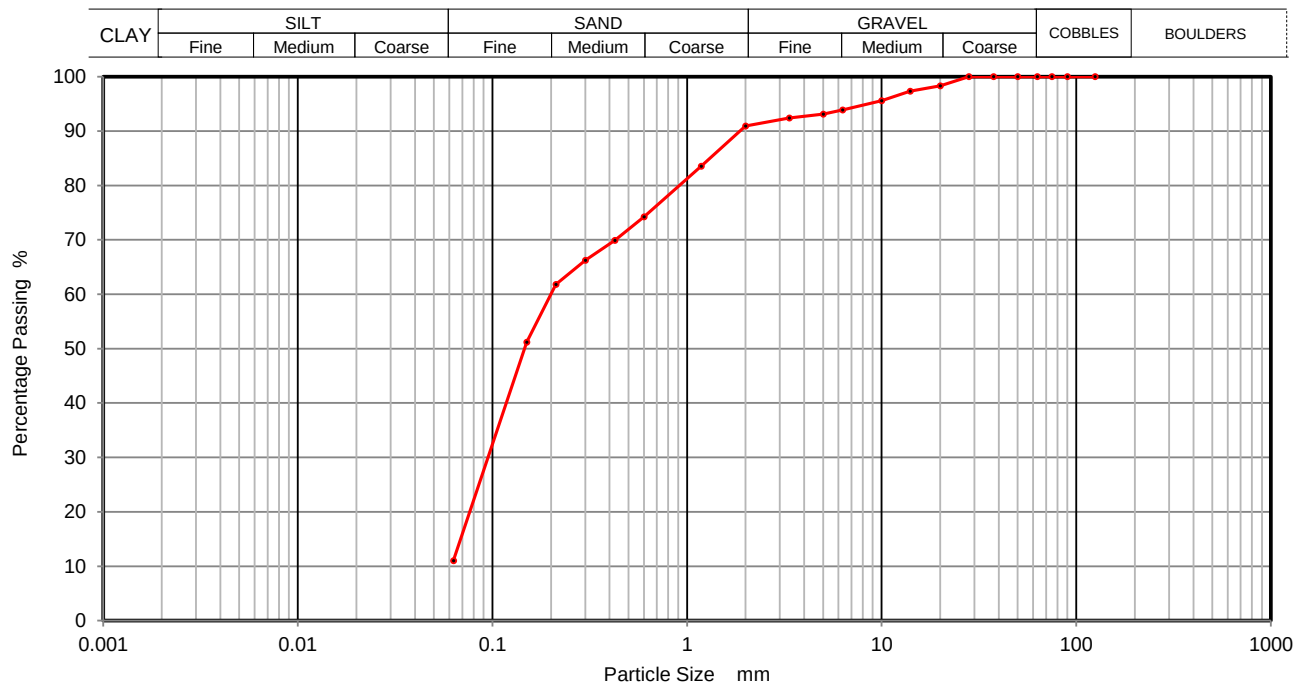
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 0.00

Depth Base 0.70

Date Tested 21/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	97		
10	96		
6.3	94		
5	93		
3.35	92		
2	91		
1.18	84		
0.6	74		
0.425	70		
0.3	66		
0.212	62		
0.15	51		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	9
Sand	80
Silt and Clay	11

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55427
 Borehole/Pit No. BH6.01

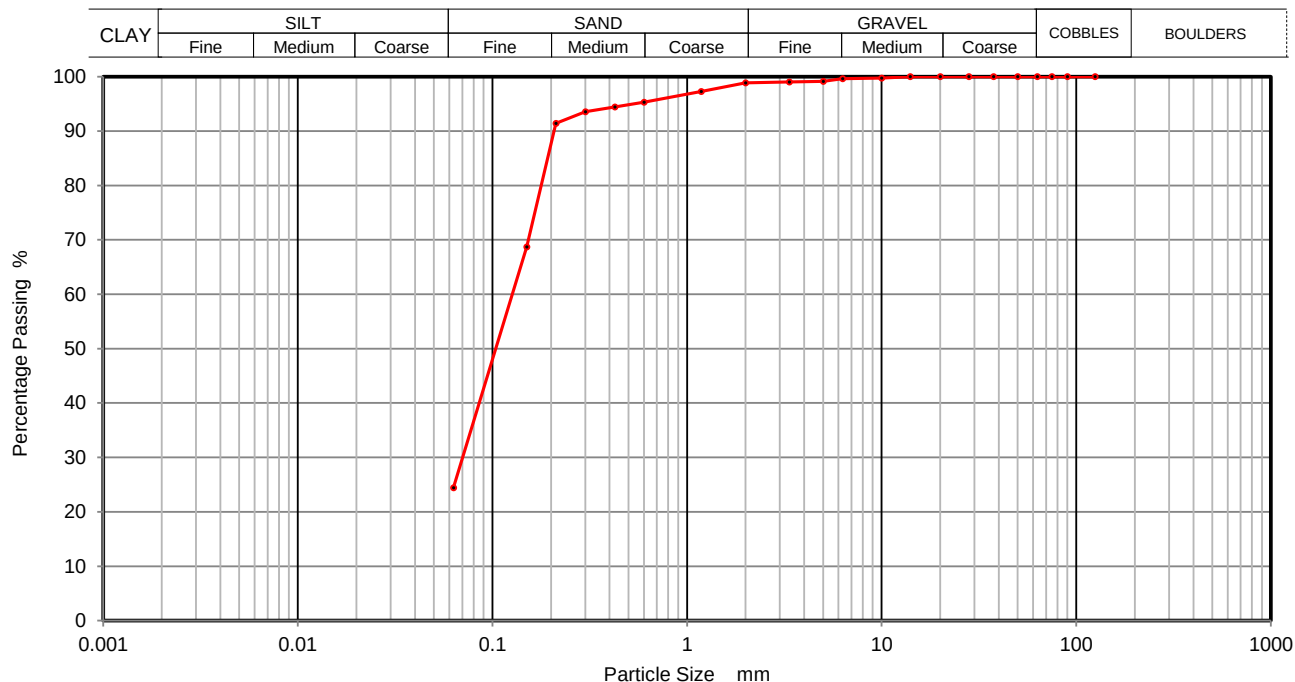
Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.
 Depth Top 0.50
 Depth Base 1.00

Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Date Tested 21/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	97		
0.6	95		
0.425	94		
0.3	94		
0.212	91		
0.15	69		
0.063	24		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	75
Silt and Clay	24

Remarks
 Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55427

Borehole/Pit No. BH6.02

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

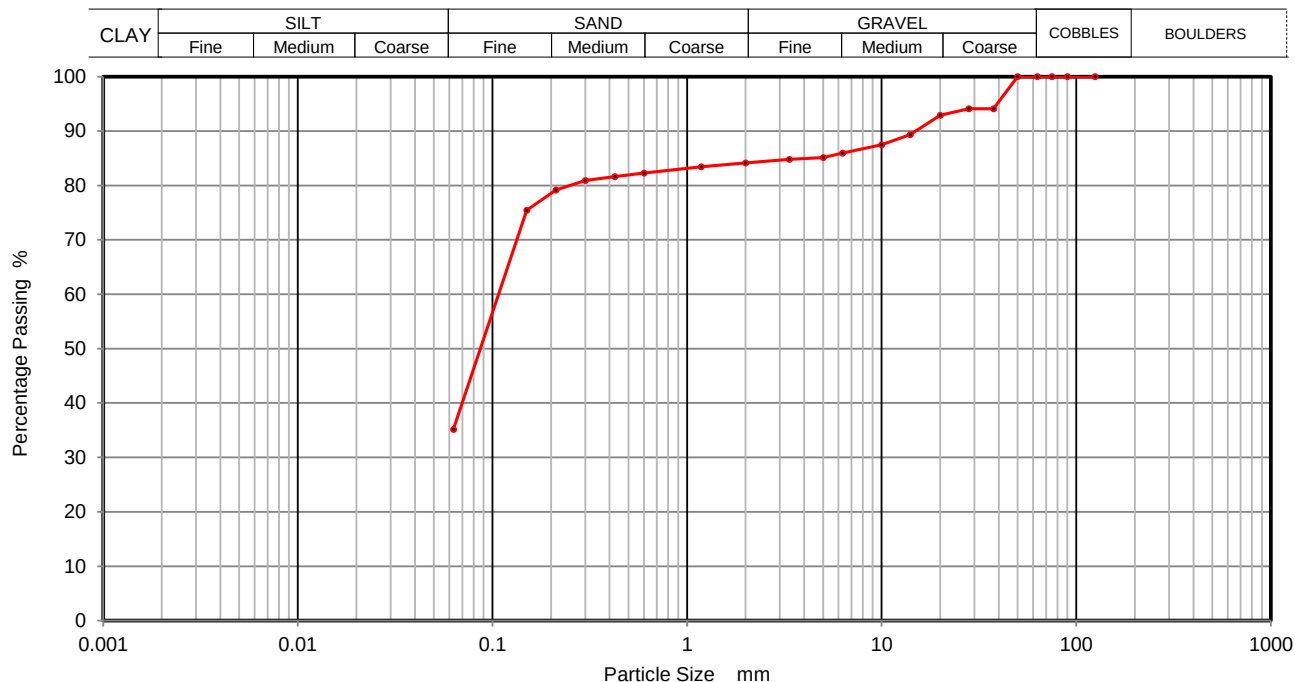
Soil Description Brown fine to coarse gravelly silty clayey fine to coarse SAND.

Depth Top 0.00

Depth Base 0.50

Date Tested 21/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	94		
20	93		
14	89		
10	87		
6.3	86		
5	85		
3.35	85		
2	84		
1.18	83		
0.6	82		
0.425	82		
0.3	81		
0.212	79		
0.15	75		
0.063	35		

Sample Proportions	% dry mass
Cobbles	0
Gravel	16
Sand	49
Silt and Clay	35

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55427

Borehole/Pit No. BH7.01

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

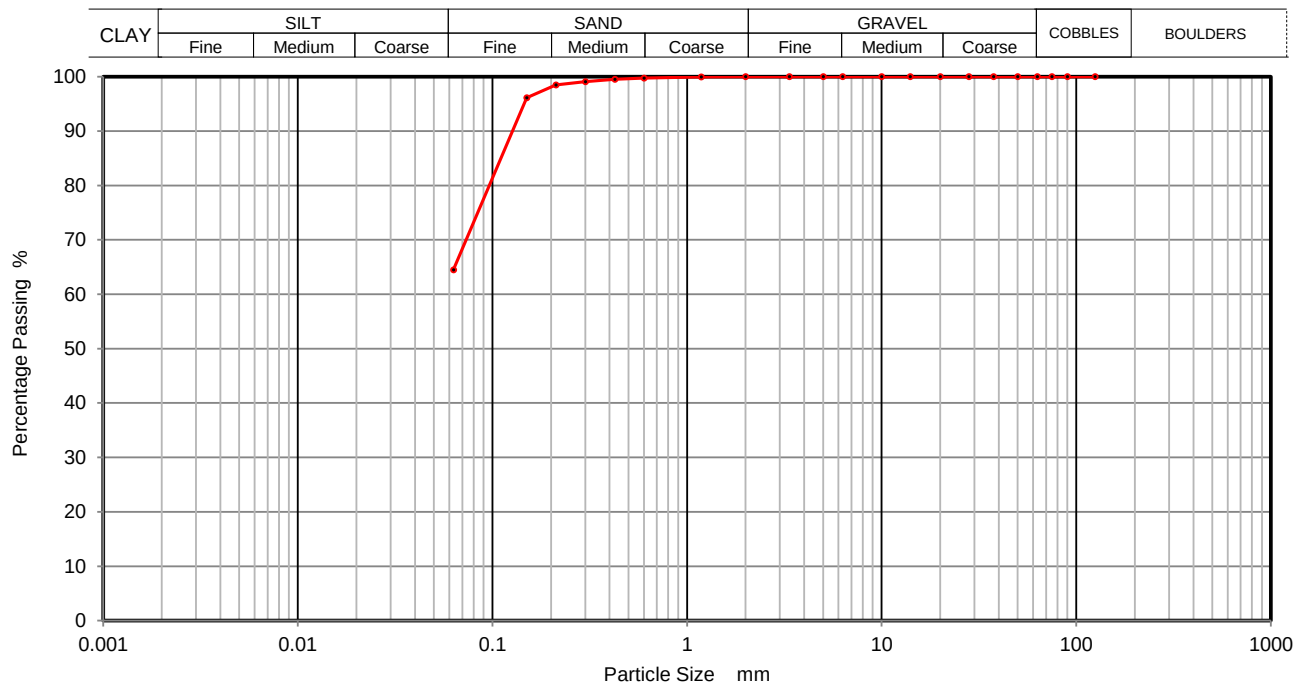
Soil Description Brown fine to coarse sandy silty CLAY.

Depth Top 0.50

Depth Base

Date Tested 21/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	98		
0.15	96		
0.063	65		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	35
Silt and Clay	65

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	



2788



PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 55427
Borehole/Pit No. BH7.02

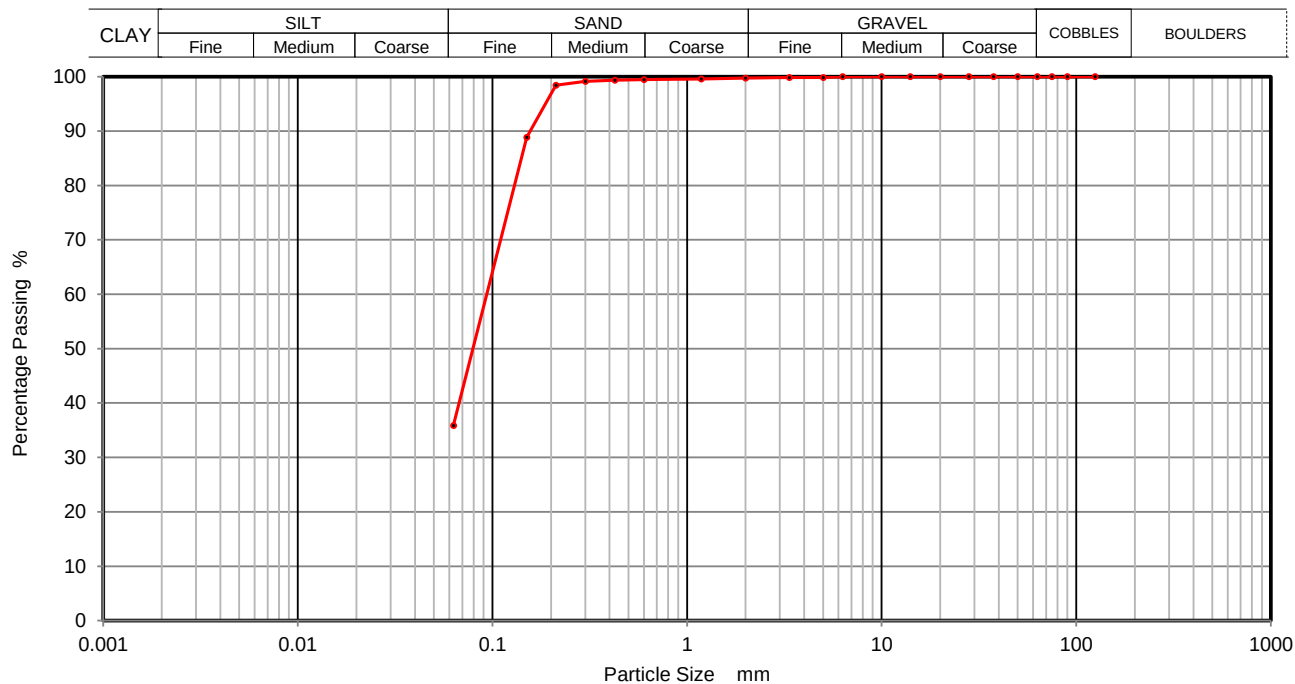
Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.
Depth Top 1.00
Depth Base

Soil Description Brown silty clayey fine to coarse SAND.

Date Tested 21/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	99		
0.3	99		
0.212	98		
0.15	89		
0.063	36		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	64
Silt and Clay	36

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	

