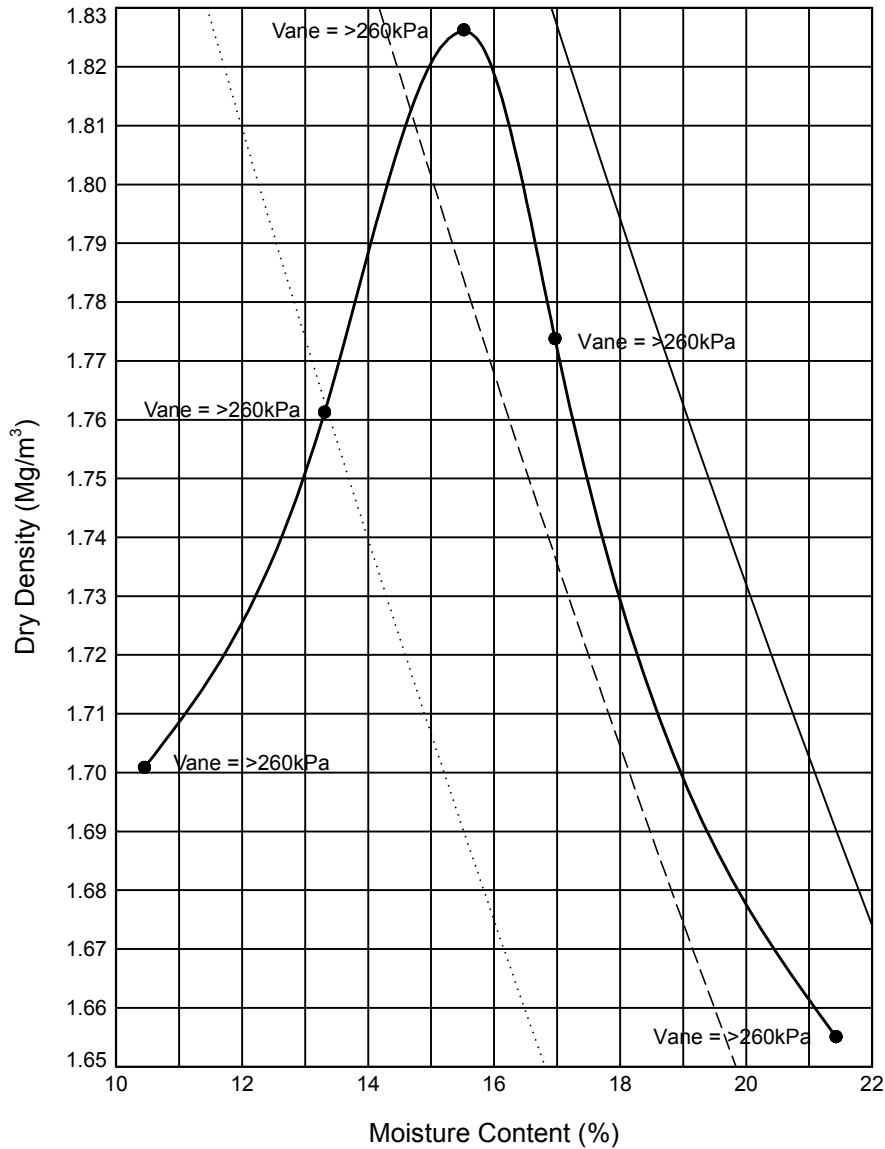


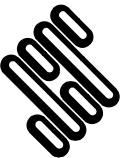


DRY DENSITY / MOISTURE CONTENT RELATIONSHIP TEST

In accordance with clauses 3.3,3.4,3.5,3.6,3.7 of BS1377:Part 4:1990

Position ID: **OTBFS1A** Sample Ref: - Sample Type: **B** Depth (m): -



Initial Sample Conditions		Test Details		Test Results	
Initial Moisture Content (%)	: 17	Compaction Type	: Light	Maximum Dry Density (Mg/m³)	: 1.83
% Retained on 37.5mm BS Sieve	: 0	Mass of Rammer (kg)	: 2.5	Optimum Moisture Content (%)	: 16
% Retained on 20.0mm BS Sieve	: 1	Type of Mould	: 1 LITRE	Method Used:	Clause 3.3
Particle Density - assumed (Mg/m³)	: 2.65			Remarks:	
Size of Soil Pieces	: <20mm	Separate samples were used.			
Sample Description				Key to Air Voids Lines	
Brown mottled black, orange and grey slightly gravelly slightly sandy silty CLAY				——— 0%	----- 5%
			 10%	

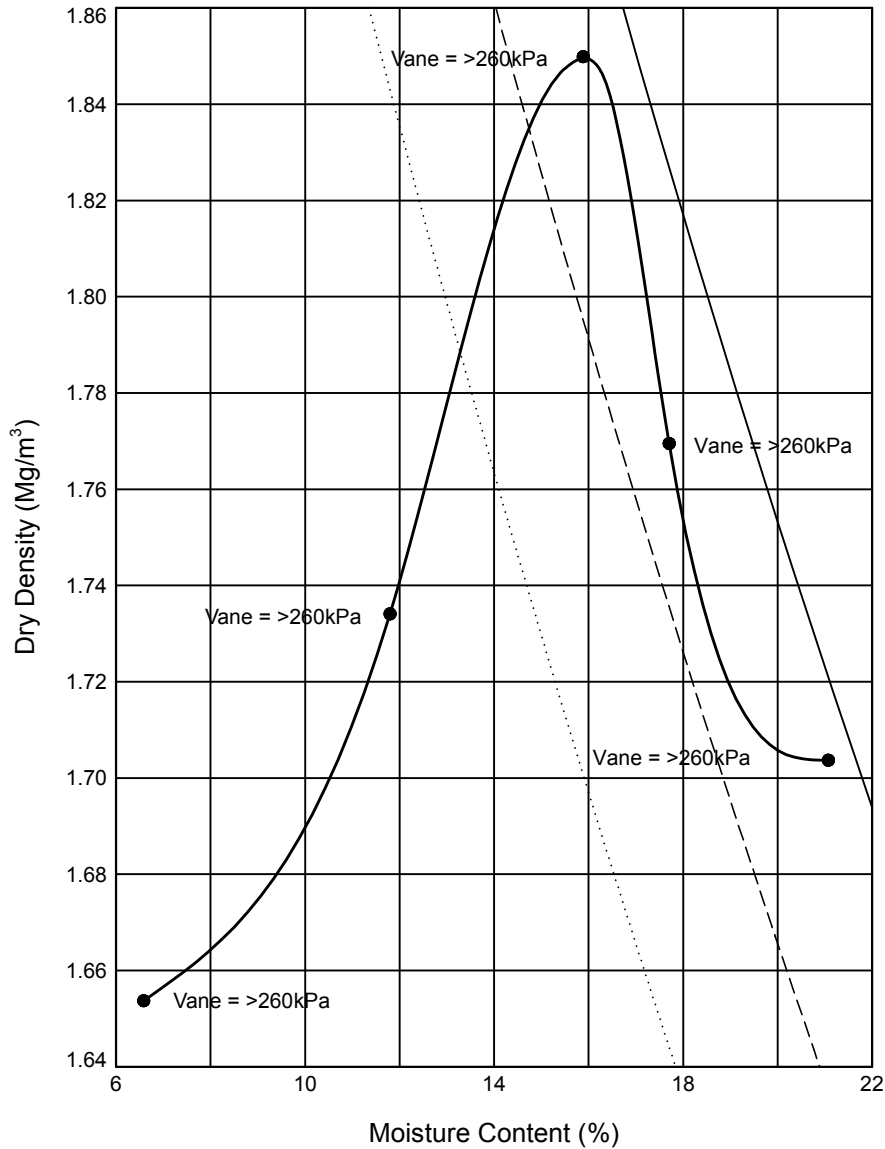
 STRUCTURAL SOILS 1a Princess Street Bedminster Bristol BS3 4AG	Compiled By		Date
	 DAISY RICHARDS		26/07/19
	Contract		Contract Ref:
Far Shay Quarry Mineral Liner		748987	
			

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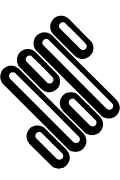
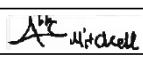

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP TEST

In accordance with clauses 3.3, 3.4, 3.5, 3.6, 3.7 of BS1377:Part 4:1990
NON-STANDARD TEST

Position ID: **OTBFS3A** Sample Ref: - Sample Type: **B** Depth (m): -



Initial Sample Conditions		Test Details	Test Results
Initial Moisture Content (%)	: 16	Compaction Type : Light	Maximum Dry Density (Mg/m ³) : 1.85
% Retained on 37.5mm BS Sieve	: 0	Mass of Rammer (kg): 2.5	Optimum Moisture Content (%) : 16
% Retained on 20.0mm BS Sieve	: 6	Type of Mould : 1 LITRE	Method Used: Clause 3.3
Particle Density - assumed (Mg/m ³)	: 2.70		Remarks: All material >20mm removed prior to test
Size of Soil Pieces	: <20mm	Single sample was used.	
Sample Description			Key to Air Voids Lines
Brown slightly gravelly slightly sandy CLAY			——— 0% - - - - 5% 10%

 STRUCTURAL SOILS 1a Princess Street Bedminster Bristol BS3 4AG	Compiled By		Date
	 ABBY MITCHELL		06/08/19
	Contract		Contract Ref:
Far Shay Quarry Mineral Liner		748987	
			

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DETERMINATION OF CONSTANT HEAD PERMEABILITY IN A TRIAXIAL CELL

BS1377:Part 6:1990, Clause 6

Position ID: **OTBFS1A** Sample Ref: - Sample Type: **B** Depth (m): -

Preparation method : **Recompacted at target moisture content of 16% (optimum moisture content)**

Orientation : **NA**

Description : **Brown mottled black, orange and grey slightly gravelly slightly sandy silty CLAY**

<u>Specimen Details</u>	<u>Initial</u>	<u>Consolidated</u>
Height (mm) :	97.86	97.46
Diameter (mm) :	101.86	101.44
Volume (cm ³) :	797.42	787.73

<u>Specimen Conditions</u>	<u>Initial</u>	<u>Final</u>
Moisture content (%) :	15	18
Bulk density (Mg/m ³) :	2.07	2.14
Dry density (Mg/m ³) :	1.79	1.81

Test Conditions

Saturation Stage

Method : **Cell and Back pressure increments** Final B value : **0.95**
 Duration (days) : **6**

Consolidation Stage

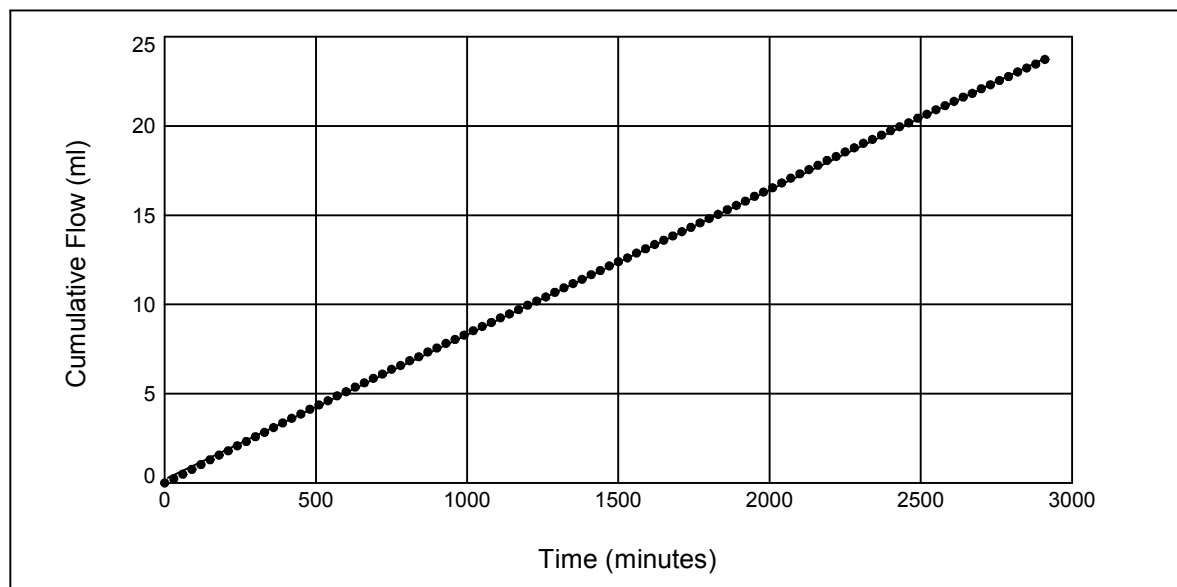
Cell Pressure (kPa) : **440** Back Pressure (kPa) : **390** Volume Change (ml) : **9.69**
 Duration (days) : **1**

Permeability Stage

Cell Pressure (kPa) : **440** Top Pressure (kPa) : **410** Base Pressure (kPa) : **390**
 Duration (days) : **2**

Mean Effective Stress : **40** Hydraulic Gradient : **21**

Coefficient of Permeability at 20 deg C (m/s) : **7.68E-10** Test Duration (days) : **9**



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	STRUCTURAL SOILS 1a Princess Street Bedminster Bristol BS3 4AG	Compiled By 	Date 13/08/19	
	Contract Far Shay Quarry Mineral Liner		Contract Ref: 748987	

DETERMINATION OF CONSTANT HEAD PERMEABILITY IN A TRIAXIAL CELL

BS1377:Part 6:1990, Clause 6

Position ID: **OTBFS3A** Sample Ref: - Sample Type: **B** Depth (m): -

Preparation method : **Recompacted at target moisture content of 16% (optimum moisture content)**

Orientation : **NA**

Description : **Brown slightly gravelly slightly sandy CLAY**

Specimen Details

	<u>Initial</u>	<u>Consolidated</u>
Height (mm) :	95.85	95.69
Diameter (mm) :	101.70	101.53
Volume (cm ³) :	778.66	774.73

Specimen Conditions

	<u>Initial</u>	<u>Final</u>
Moisture content (%) :	16	18
Bulk density (Mg/m ³) :	2.11	2.15
Dry density (Mg/m ³) :	1.82	1.83

Test Conditions

Saturation Stage

Method : **Cell and Back pressure increments** Final B value : **0.95**
Duration (days) : **6**

Consolidation Stage

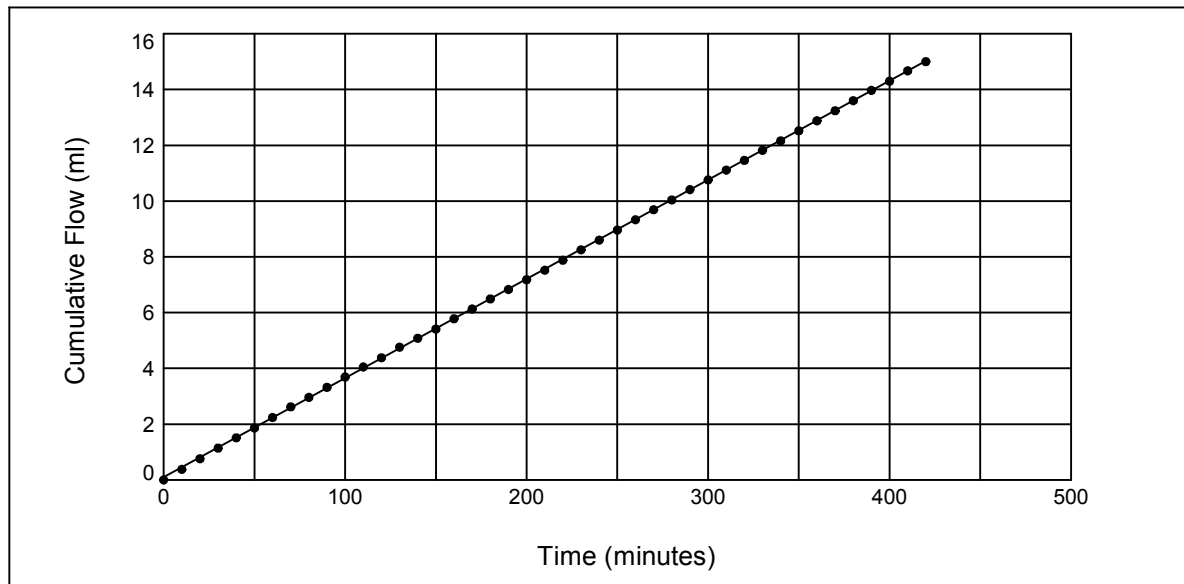
Cell Pressure (kPa) : **540** Back Pressure (kPa) : **490** Volume Change (ml) : **3.93**
Duration (days) : **1**

Permeability Stage

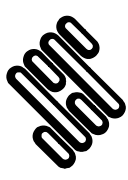
Cell Pressure (kPa) : **540** Top Pressure (kPa) : **510** Base Pressure (kPa) : **490**
Duration (days) : **1**

Mean Effective Stress : **40** Hydraulic Gradient : **21**

Coefficient of Permeability at 20 deg C (m/s) : **3.35E-09** Test Duration (days) : **8**



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STRUCTURAL SOILS
1a Princess Street
Bedminster
Bristol
BS3 4AG

Compiled By		Date
<i>D. Richards</i>		18/08/19
Contract		Contract Ref:
Far Shay Quarry Mineral Liner		748987