



4041

TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



Client: LMB Geosolutions Ltd
Client Address: 28 Dresden Road
London
N19 3BD
Contact: Philip Lewis
Site Name: Castlewood House
Site Address: Not Given

Client Reference: LMB-CASTLEWOO
Job Number: 18-92021
Date Sampled: 21/06/2018
Date Received: 20/06/2018
Date Tested: 17/07/2018
Sampled By: PIL/DN

Test Result

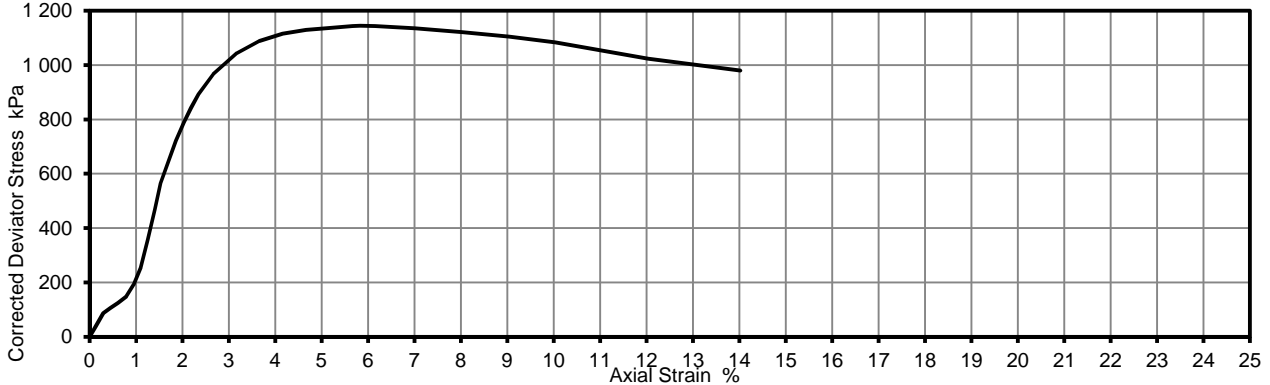
Laboratory Reference: 998197
Hole No.: BHDA102
Sample Reference: Not Given
Sample Description: Grey to yellowish brown CLAY

Depth Top [m]: 36.50
Depth Base [m]: Not Given
Sample Type: U

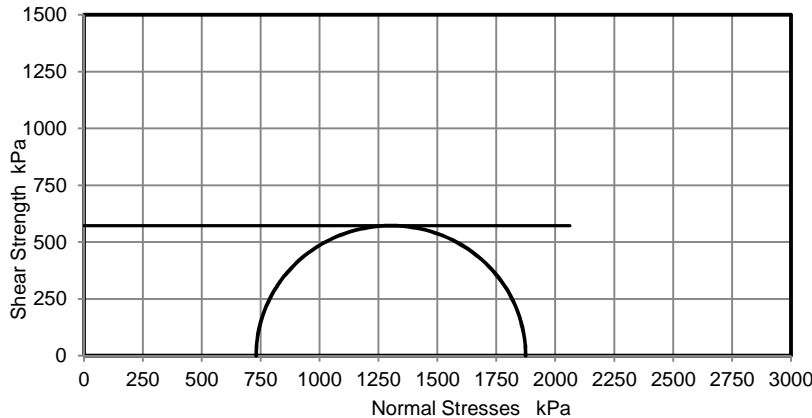
Test Number	1
Length	72.03 mm
Diameter	38.41 mm
Bulk Density	2.07 Mg/m3
Moisture Content	23 %
Dry Density	1.69 Mg/m3
Membrane Correction	0.89 kPa

Rate of Strain	2.00 %/min
Cell Pressure	730 kPa
Axial Strain at failure	5.8 %
Deviator Stress, (σ ₁ - σ ₃) _f	1144 kPa
Undrained Shear Strength, c _u	572 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Brittle
Membrane thickness	0.22 mm

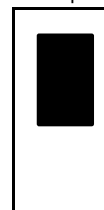
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 20/07/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

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Contact: Philip Lewis
Site Name: Castlewood House
Site Address: Not Given

Client Reference: LMB-CASTLEWOO
Job Number: 18-92021
Date Sampled: 25/06/2018
Date Received: 20/06/2018
Date Tested: 17/07/2018
Sampled By: PIL/DN

Test Result

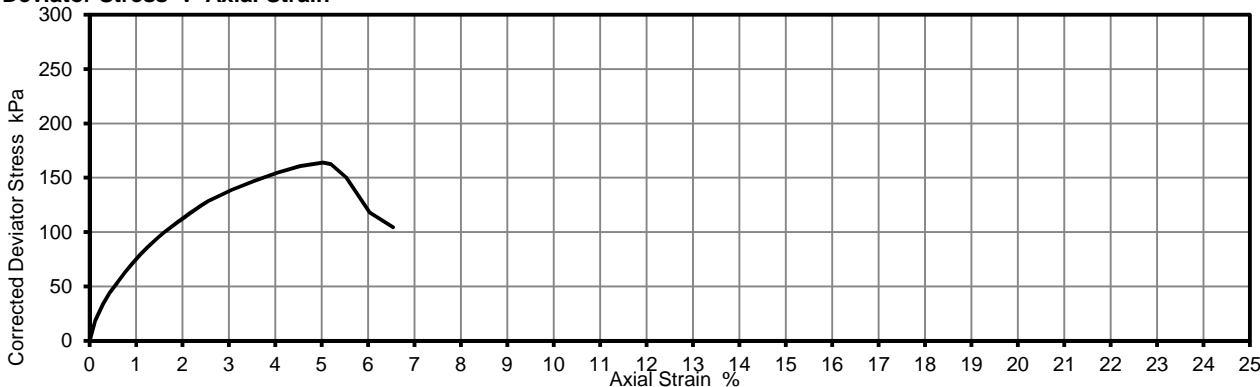
Laboratory Reference: 998200
Hole No.: BHDA103
Sample Reference: Not Given
Sample Description: Brown CLAY

Depth Top [m]: 5.00
Depth Base [m]: Not Given
Sample Type: U

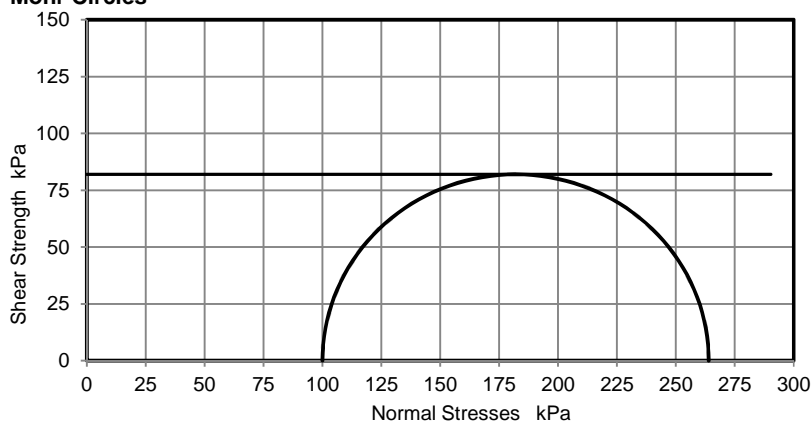
Test Number	1
Length	202.52 mm
Diameter	102.85 mm
Bulk Density	1.90 Mg/m3
Moisture Content	25 %
Dry Density	1.51 Mg/m3
Membrane Correction	0.35 kPa

Rate of Strain	1.98 %/min
Cell Pressure	100 kPa
Axial Strain at failure	5.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	164 kPa
Undrained Shear Strength, cu	82 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)f$
Mode of Failure	Brittle
Membrane thickness	0.25 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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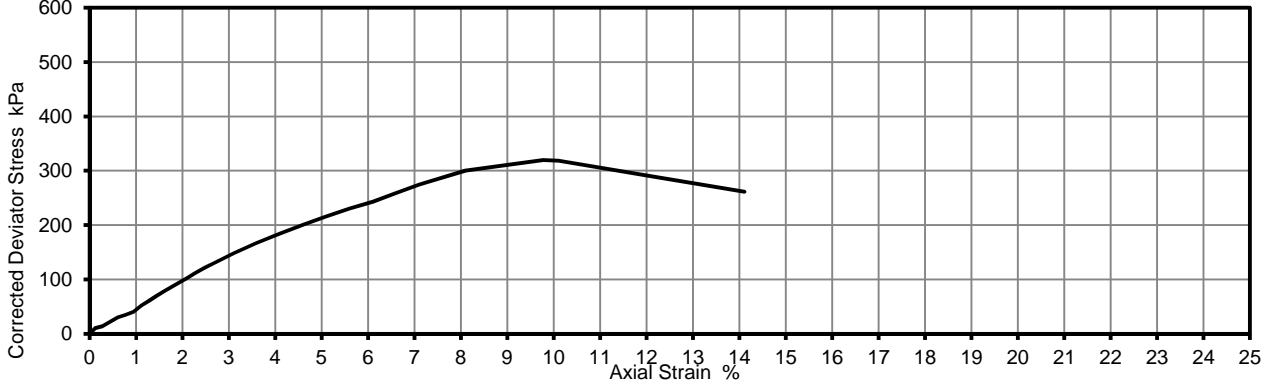
Laboratory Reference: 998201
Hole No.: BHDA103
Sample Reference: Not Given
Sample Description: Brown CLAY

Depth Top [m]: 8.00
Depth Base [m]: Not Given
Sample Type: U

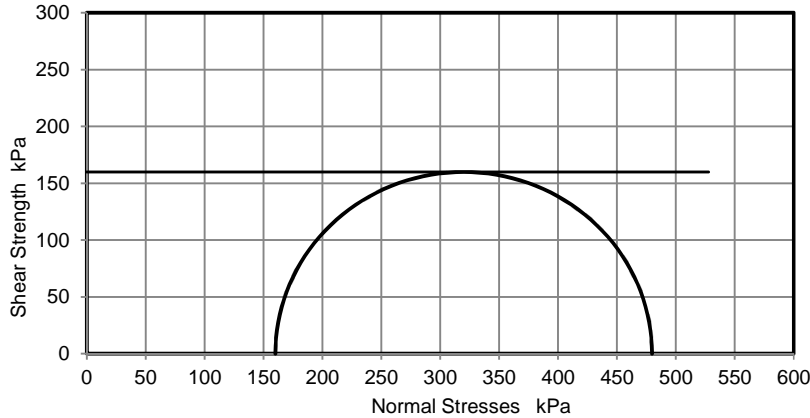
Test Number	1
Length	190.91 mm
Diameter	102.23 mm
Bulk Density	1.91 Mg/m ³
Moisture Content	25 %
Dry Density	1.52 Mg/m ³
Membrane Correction	0.54 kPa

Rate of Strain	2.00 %/min
Cell Pressure	160 kPa
Axial Strain at failure	9.8 %
Deviator Stress, (σ ₁ - σ ₃) _f	320 kPa
Undrained Shear Strength, c _u	160 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.25 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

Remarks:

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Contact: Philip Lewis
Site Name: Castlewood House
Site Address: Not Given

Client Reference: LMB-CASTLEWOO
Job Number: 18-92021
Date Sampled: 26/06/2018
Date Received: 20/06/2018
Date Tested: 18/07/2018
Sampled By: PIL/DN

Test Result

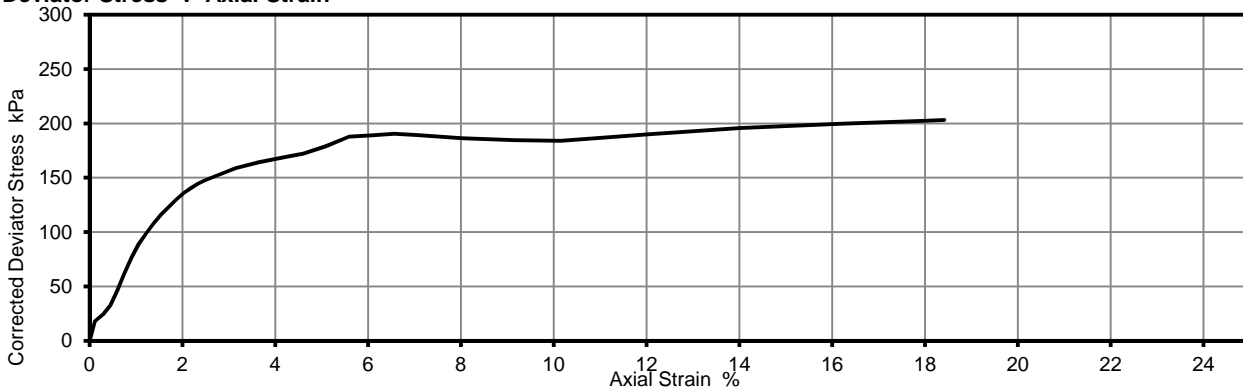
Laboratory Reference: 998202
Hole No.: BHDA103
Sample Reference: Not Given
Sample Description: Brown CLAY

Depth Top [m]: 11.00
Depth Base [m]: Not Given
Sample Type: U

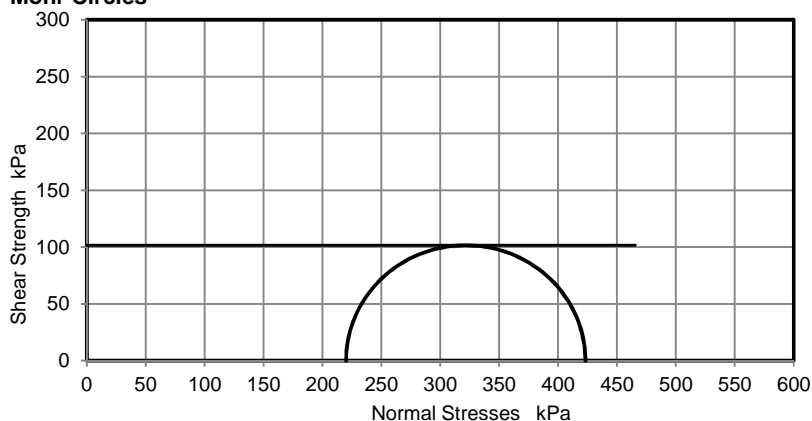
Test Number	1
Length	205.70 mm
Diameter	101.90 mm
Bulk Density	1.89 Mg/m ³
Moisture Content	28 %
Dry Density	1.48 Mg/m ³
Membrane Correction	0.92 kPa

Rate of Strain	1.94 %/min
Cell Pressure	220 kPa
Axial Strain at failure	18.4 %
Deviator Stress, (σ ₁ - σ ₃) _f	203 kPa
Undrained Shear Strength, c _u	102 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.26 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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Sampled By: PIL/DN

Test Result

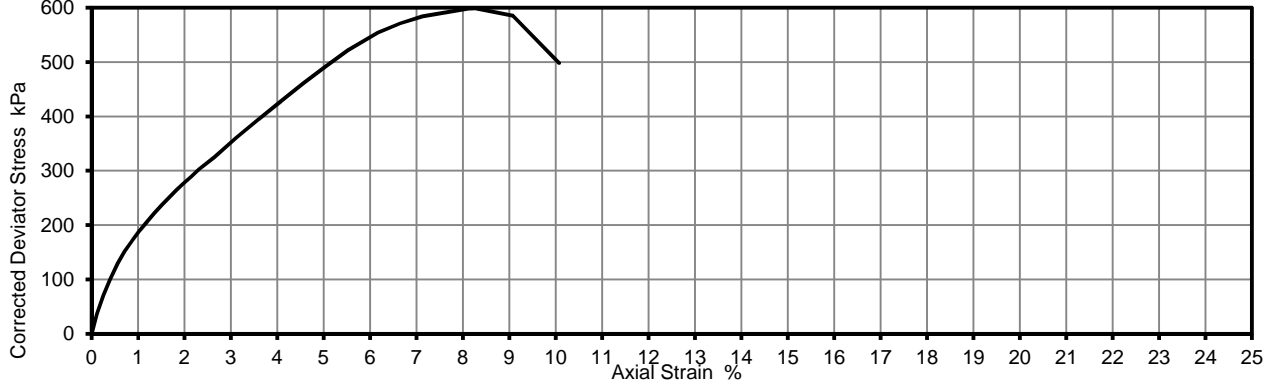
Laboratory Reference: 998203
Hole No.: BHDA103
Sample Reference: Not Given
Sample Description: Brown CLAY

Depth Top [m]: 14.00
Depth Base [m]: Not Given
Sample Type: U

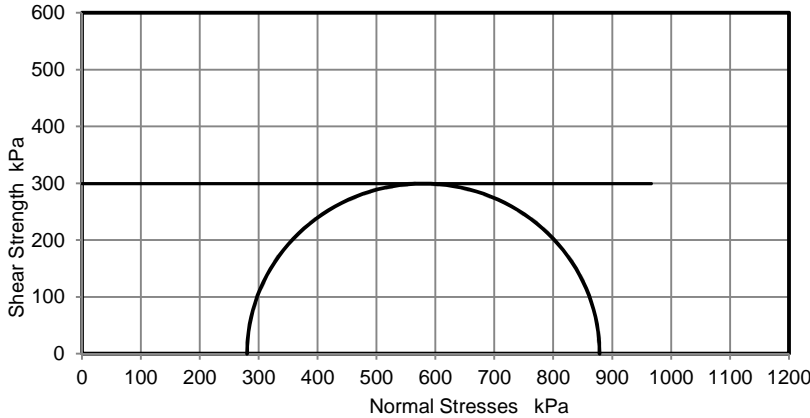
Test Number	1
Length	206.01 mm
Diameter	103.03 mm
Bulk Density	2.00 Mg/m ³
Moisture Content	24 %
Dry Density	1.61 Mg/m ³
Membrane Correction	0.57 kPa

Rate of Strain	1.94 %/min
Cell Pressure	280 kPa
Axial Strain at failure	8.3 %
Deviator Stress, (σ ₁ - σ ₃) _f	599 kPa
Undrained Shear Strength, c _u	299 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Brittle
Membrane thickness	0.30 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

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Site Name: Castlewood House
Site Address: Not Given

Client Reference: LMB-CASTLEWOO
Job Number: 18-92021
Date Sampled: 26/06/2018
Date Received: 20/06/2018
Date Tested: 18/07/2018
Sampled By: PIL/DN

Test Result

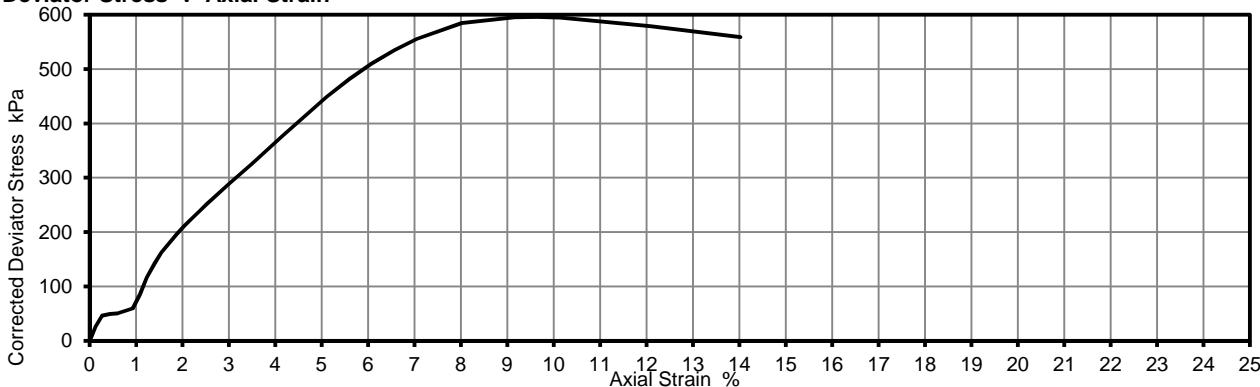
Laboratory Reference: 998204
Hole No.: BHDA103
Sample Reference: Not Given
Sample Description: Brown CLAY

Depth Top [m]: 17.00
Depth Base [m]: Not Given
Sample Type: U

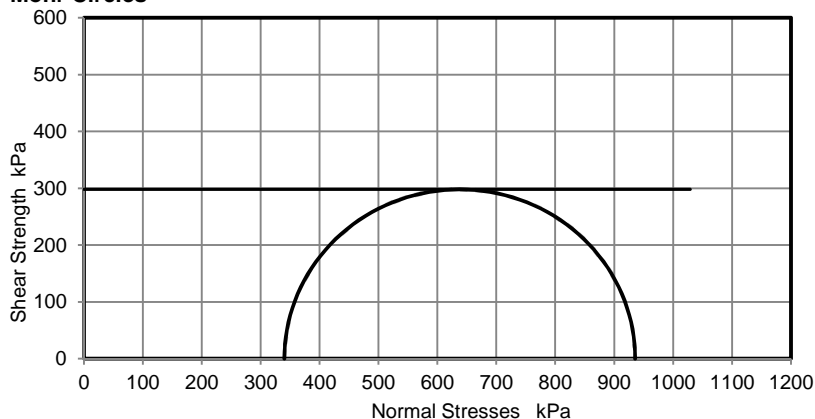
Test Number	1
Length	205.24 mm
Diameter	102.92 mm
Bulk Density	2.04 Mg/m3
Moisture Content	22 %
Dry Density	1.67 Mg/m3
Membrane Correction	0.63 kPa

Rate of Strain	1.95 %/min
Cell Pressure	340 kPa
Axial Strain at failure	9.6 %
Deviator Stress, (σ ₁ - σ ₃) _f	596 kPa
Undrained Shear Strength, c _u	298 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Plastic
Membrane thickness	0.30 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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London
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Contact: Philip Lewis
Site Name: Castlewood House
Site Address: Not Given

Client Reference: LMB-CASTLEWOO
Job Number: 18-92021
Date Sampled: 27/06/2018
Date Received: 20/06/2018
Date Tested: 17/07/2018
Sampled By: PIL/DN

Test Result

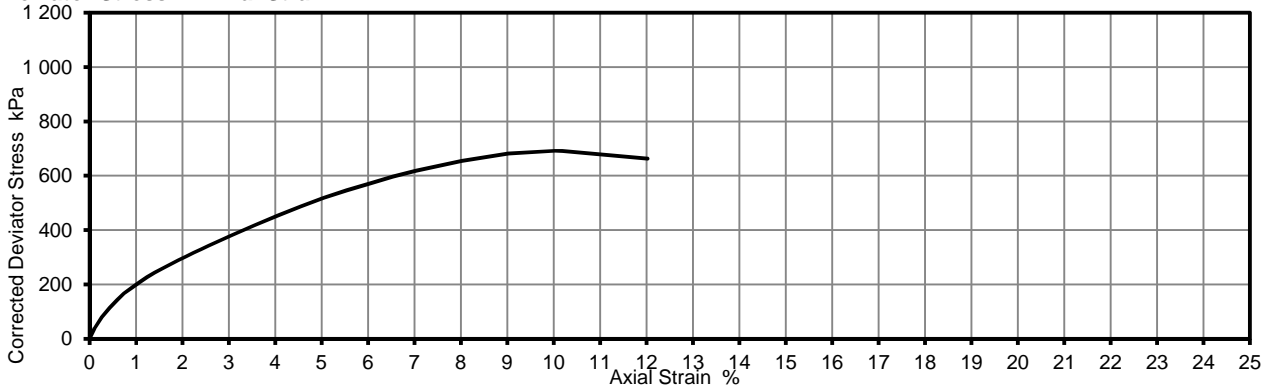
Laboratory Reference: 998205
Hole No.: BHDA103
Sample Reference: Not Given
Sample Description: Brown slightly gravelly CLAY

Depth Top [m]: 20.00
Depth Base [m]: Not Given
Sample Type: U

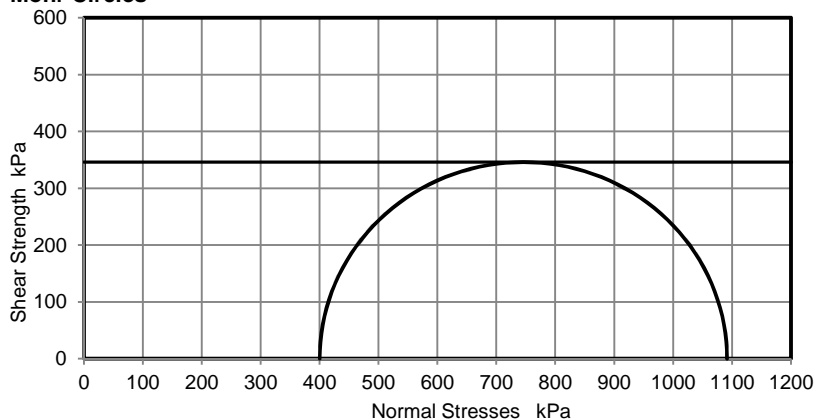
Test Number	1
Length	199.55 mm
Diameter	103.70 mm
Bulk Density	2.00 Mg/m3
Moisture Content	23 %
Dry Density	1.63 Mg/m3
Membrane Correction	0.54 kPa

Rate of Strain	2.00 %/min
Cell Pressure	400 kPa
Axial Strain at failure	10.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	692 kPa
Undrained Shear Strength, cu	346 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Brittle
Membrane thickness	0.25 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



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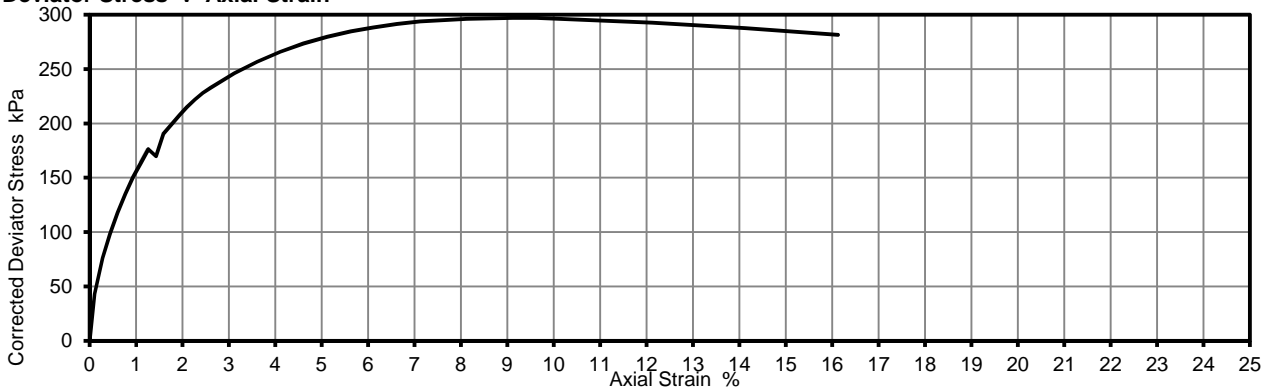
Laboratory Reference: 998211
Hole No.: BHDA104
Sample Reference: Not Given
Sample Description: Brown CLAY

Depth Top [m]: 5.00
Depth Base [m]: Not Given
Sample Type: U

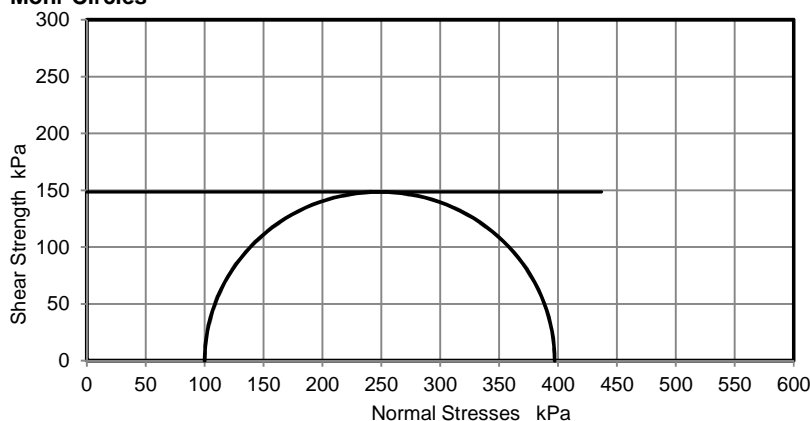
Test Number	1
Length	96.49 mm
Diameter	50.49 mm
Bulk Density	1.99 Mg/m ³
Moisture Content	26 %
Dry Density	1.59 Mg/m ³
Membrane Correction	0.86 kPa

Rate of Strain	2.00 %/min
Cell Pressure	100 kPa
Axial Strain at failure	9.6 %
Deviator Stress, (σ ₁ - σ ₃) _f	297 kPa
Undrained Shear Strength, c _u	149 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.20 mm

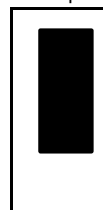
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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Site Address: Not Given

Client Reference: LMB-CASTLEWOO
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Date Sampled: 20/06/2018
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Sampled By: PIL/DN

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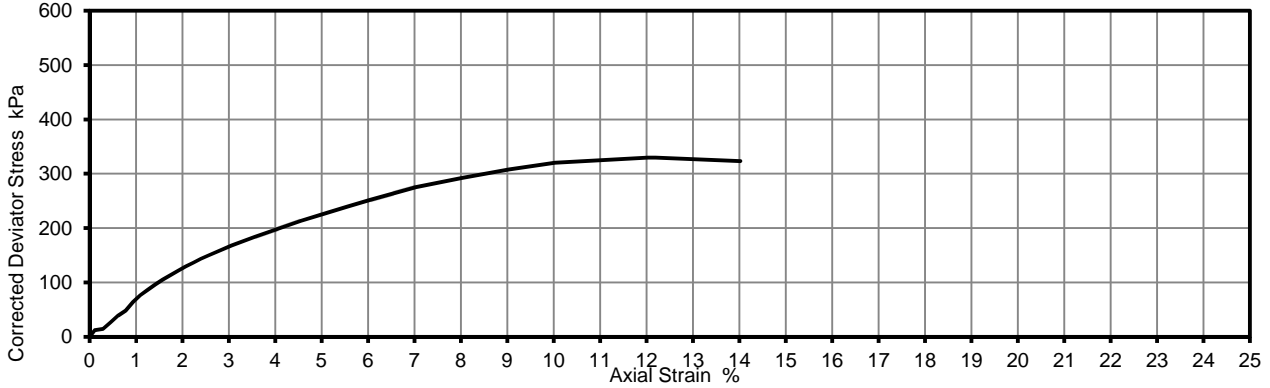
Laboratory Reference: 998213
Hole No.: BHDA104
Sample Reference: Not Given
Sample Description: Brown slightly sandy CLAY

Depth Top [m]: 7.00
Depth Base [m]: Not Given
Sample Type: U

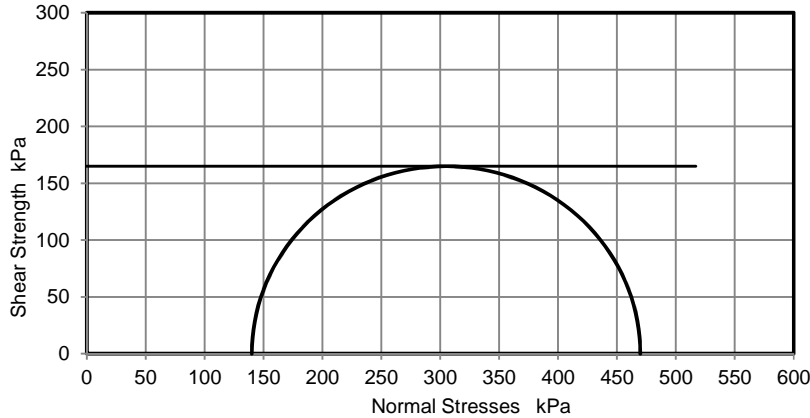
Test Number	1
Length	201.02 mm
Diameter	100.95 mm
Bulk Density	1.99 Mg/m3
Moisture Content	26 %
Dry Density	1.58 Mg/m3
Membrane Correction	0.64 kPa

Rate of Strain	1.99 %/min
Cell Pressure	140 kPa
Axial Strain at failure	12.2 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	330 kPa
Undrained Shear Strength, cu	165 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Compound
Membrane thickness	0.25 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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Site Address: Not Given

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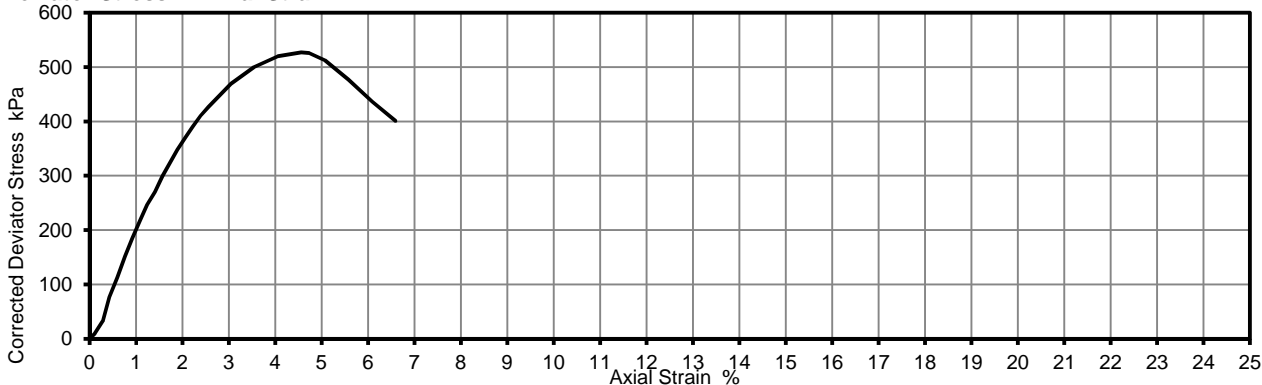
Laboratory Reference: 998215
Hole No.: BHDA104
Sample Reference: Not Given
Sample Description: Brown CLAY

Depth Top [m]: 10.00
Depth Base [m]: Not Given
Sample Type: U

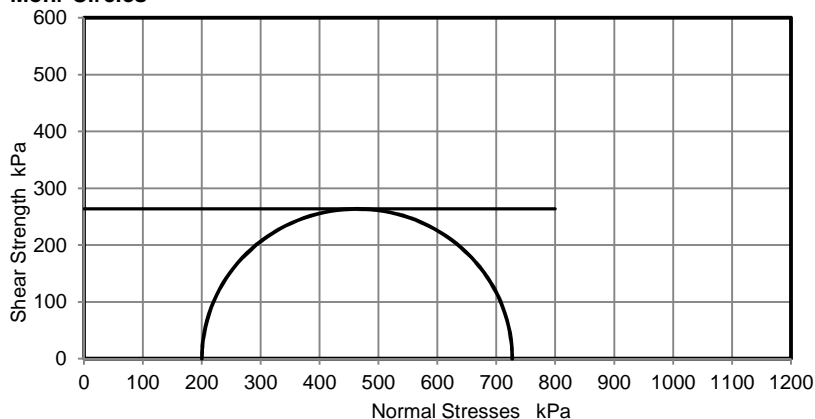
Test Number	1
Length	98.83 mm
Diameter	50.59 mm
Bulk Density	1.93 Mg/m ³
Moisture Content	27 %
Dry Density	1.52 Mg/m ³
Membrane Correction	0.54 kPa

Rate of Strain	2.00 %/min
Cell Pressure	200 kPa
Axial Strain at failure	4.6 %
Deviator Stress, (σ ₁ - σ ₃) _f	527 kPa
Undrained Shear Strength, c _u	263 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Brittle
Membrane thickness	0.22 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
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Date Reported: 20/07/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

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