



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: 27/06/2018
Date Received: 20/06/2018
Date Tested: 17/07/2018
Sampled By: PIL/DN

Test Result

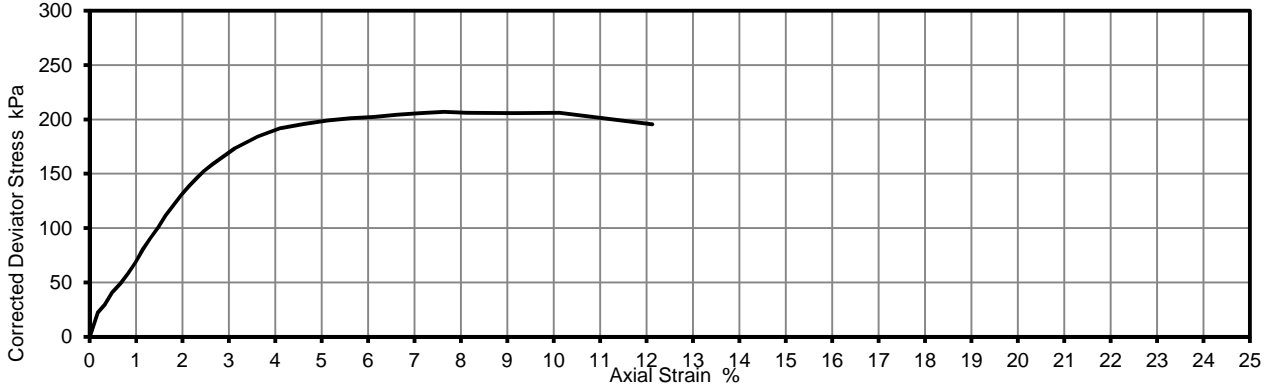
Laboratory Reference: 998170
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Brown CLAY

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

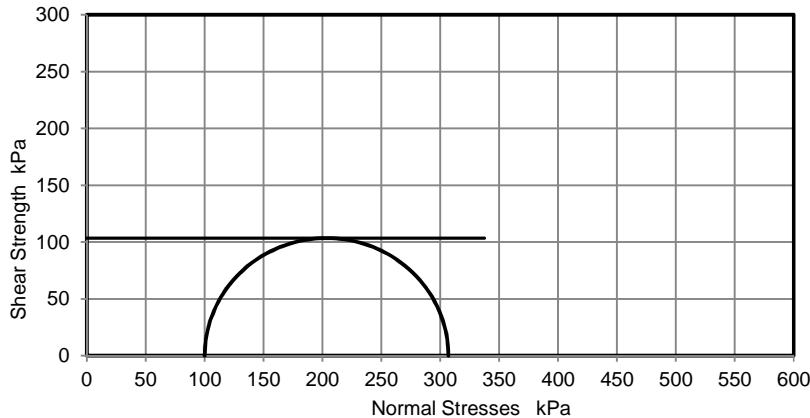
Test Number	1
Length	201.82 mm
Diameter	102.20 mm
Bulk Density	1.97 Mg/m ³
Moisture Content	26 %
Dry Density	1.57 Mg/m ³
Membrane Correction	0.54 kPa

Rate of Strain	1.98 %/min
Cell Pressure	100 kPa
Axial Strain at failure	7.6 %
Deviator Stress, (σ ₁ - σ ₃) _f	207 kPa
Undrained Shear Strength, c _u	103 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.30 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

Remarks:

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.

Comments:

Approved:

Signed:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Darren Berrill
Geotechnical General
Manager

Date Reported: 20/07/2018

for and on behalf of i2 Analytical Ltd

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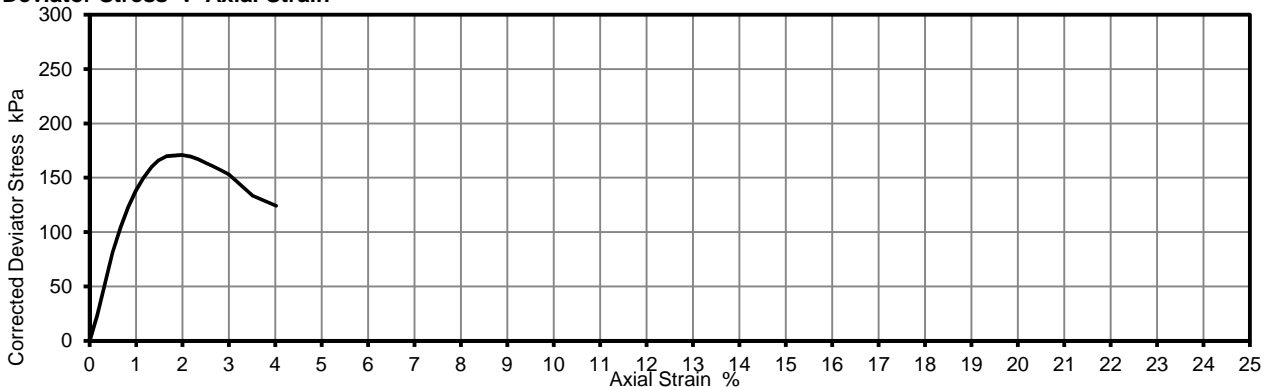
Laboratory Reference: 998171
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Brown CLAY

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

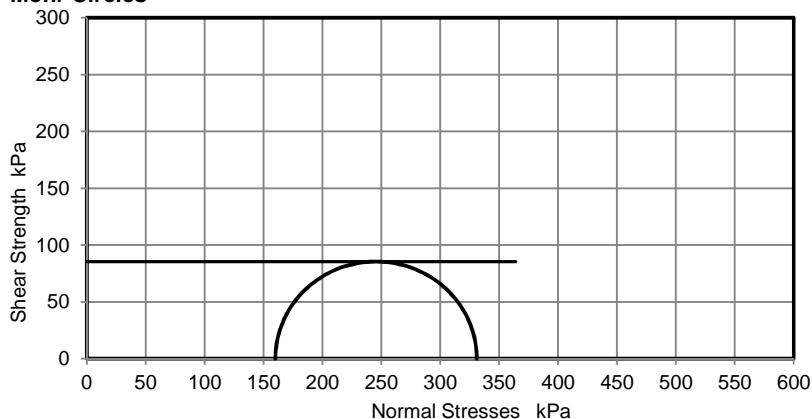
Test Number	1
Length	135.95 mm
Diameter	70.47 mm
Bulk Density	1.97 Mg/m ³
Moisture Content	27 %
Dry Density	1.55 Mg/m ³
Membrane Correction	0.20 kPa

Rate of Strain	2.00 %/min
Cell Pressure	160 kPa
Axial Strain at failure	1.8 %
Deviator Stress, (σ ₁ - σ ₃) _f	171 kPa
Undrained Shear Strength, c _u	85 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Brittle
Membrane thickness	0.28 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:

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PL Laboratory Manager
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Test Result

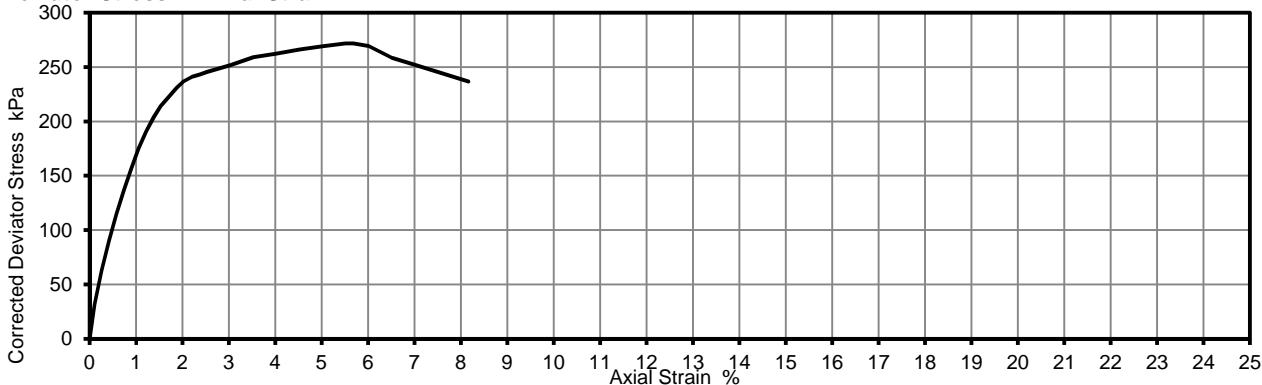
Laboratory Reference: 998172
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Brown CLAY

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

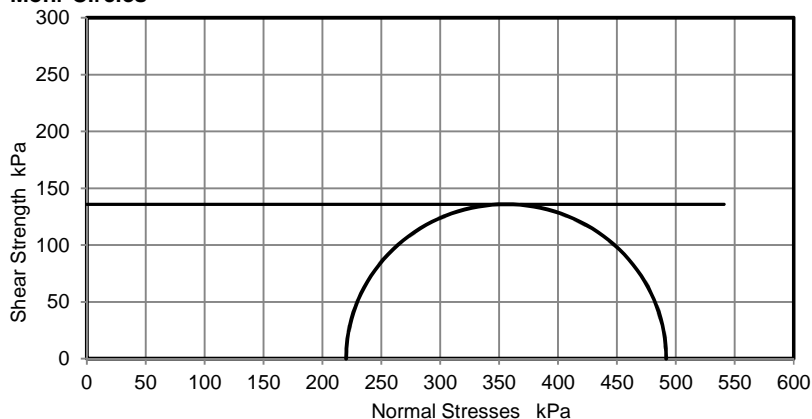
Test Number	1
Length	203.14 mm
Diameter	103.18 mm
Bulk Density	1.97 Mg/m3
Moisture Content	27 %
Dry Density	1.56 Mg/m3
Membrane Correction	0.44 kPa

Rate of Strain	1.97 %/min
Cell Pressure	220 kPa
Axial Strain at failure	5.7 %
Deviator Stress, (σ ₁ - σ ₃) _f	272 kPa
Undrained Shear Strength, c _u	136 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:

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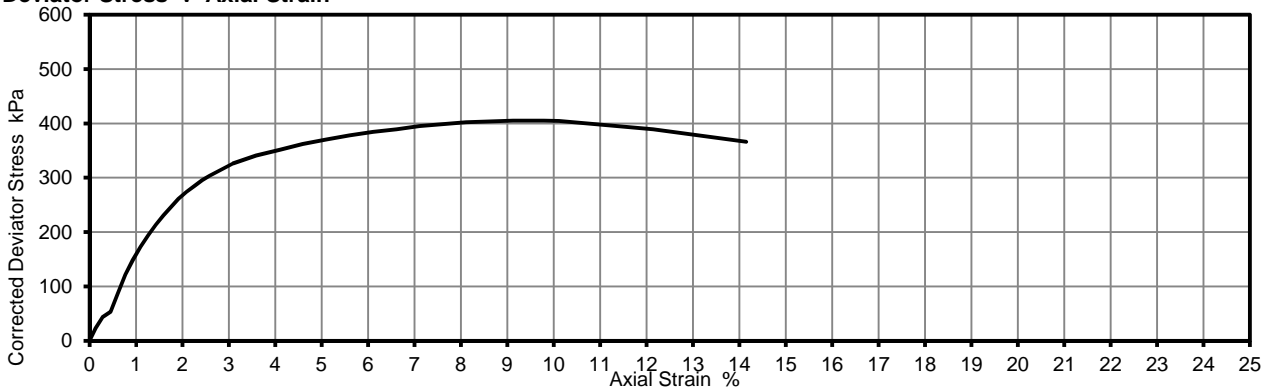
Laboratory Reference: 998173
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Brown CLAY

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

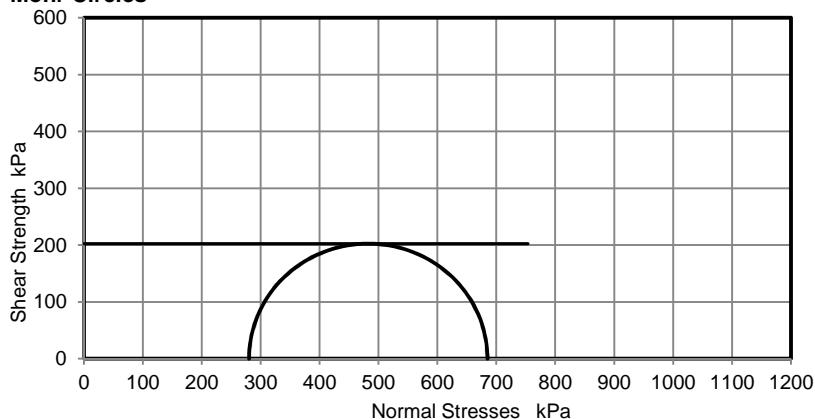
Test Number	1
Length	135.92 mm
Diameter	70.67 mm
Bulk Density	1.94 Mg/m ³
Moisture Content	25 %
Dry Density	1.56 Mg/m ³
Membrane Correction	0.68 kPa

Rate of Strain	2.00 %/min
Cell Pressure	280 kPa
Axial Strain at failure	9.8 %
Deviator Stress, (σ ₁ - σ ₃) _f	405 kPa
Undrained Shear Strength, c _u	202 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.22 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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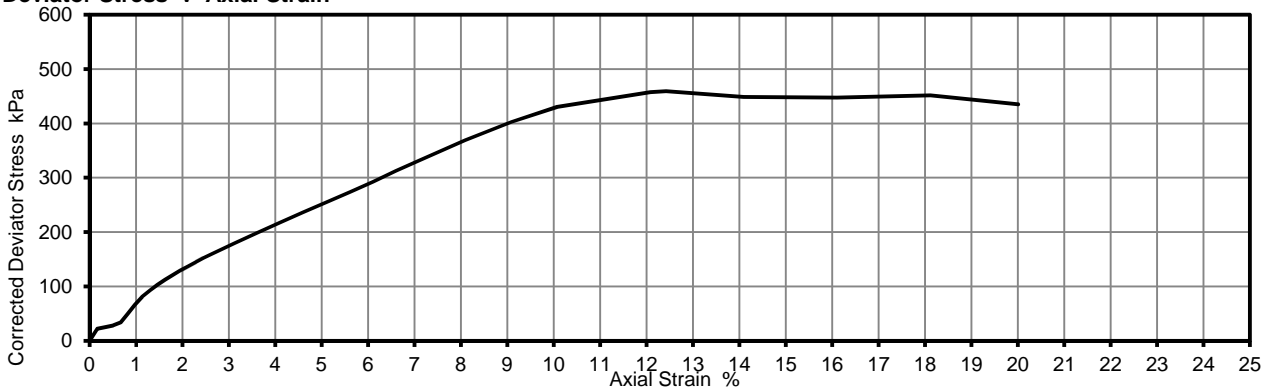
Laboratory Reference: 998174
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Yellowish brown slightly sandy CLAY

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

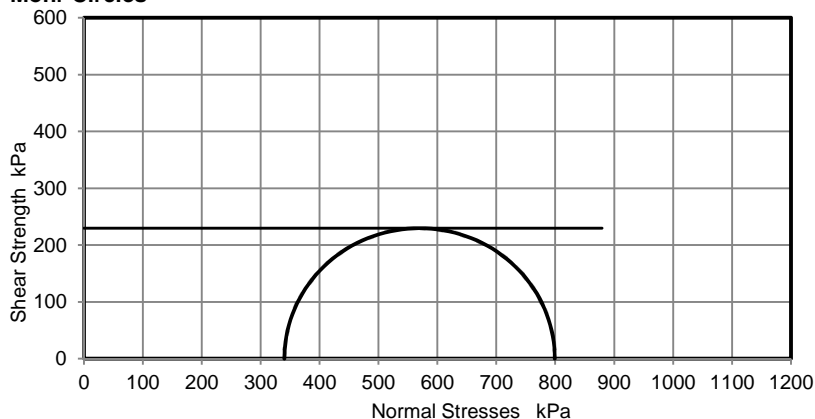
Test Number	1
Length	199.60 mm
Diameter	103.10 mm
Bulk Density	1.99 Mg/m ³
Moisture Content	20 %
Dry Density	1.66 Mg/m ³
Membrane Correction	0.69 kPa

Rate of Strain	2.00 %/min
Cell Pressure	340 kPa
Axial Strain at failure	12.4 %
Deviator Stress, (σ ₁ - σ ₃) _f	459 kPa
Undrained Shear Strength, c _u	230 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.27 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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Remarks:

Comments:

Approved:

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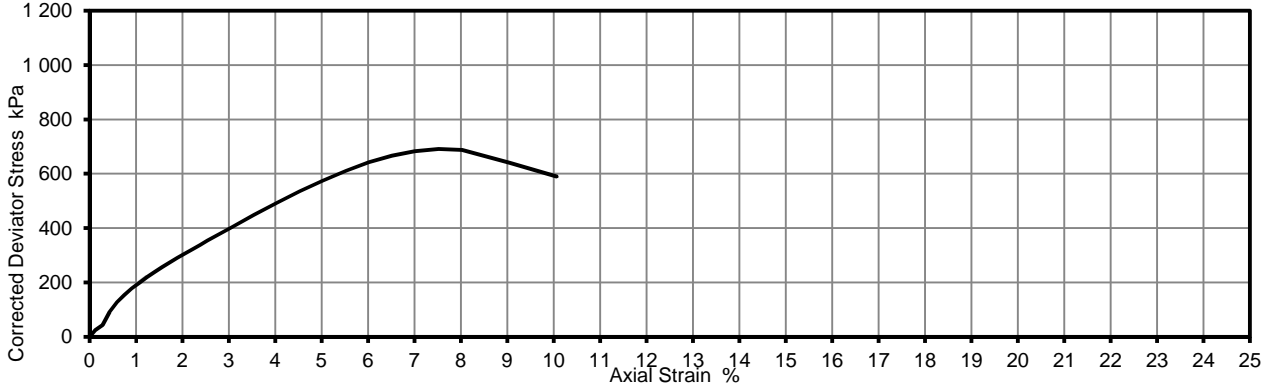
Laboratory Reference: 998175
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Brown CLAY

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

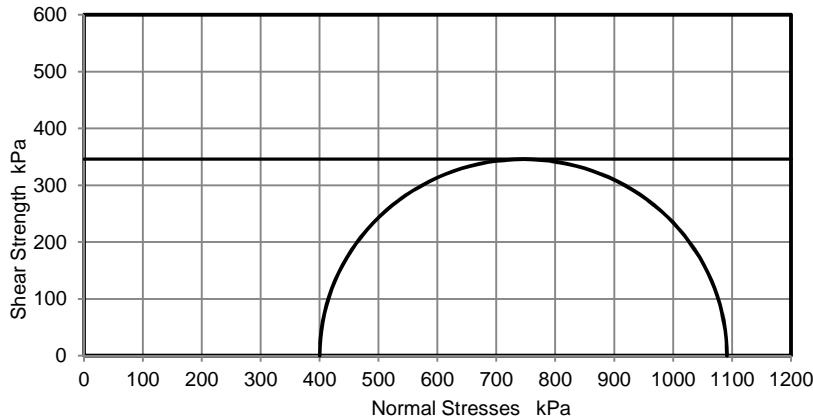
Test Number	1
Length	192.11 mm
Diameter	102.97 mm
Bulk Density	2.07 Mg/m ³
Moisture Content	24 %
Dry Density	1.67 Mg/m ³
Membrane Correction	0.50 kPa

Rate of Strain	2.00 %/min
Cell Pressure	400 kPa
Axial Strain at failure	7.5 %
Deviator Stress, (σ ₁ - σ ₃) _f	691 kPa
Undrained Shear Strength, c _u	346 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.28 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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Remarks:

Comments:

Approved:

Dariusz Piotrowski
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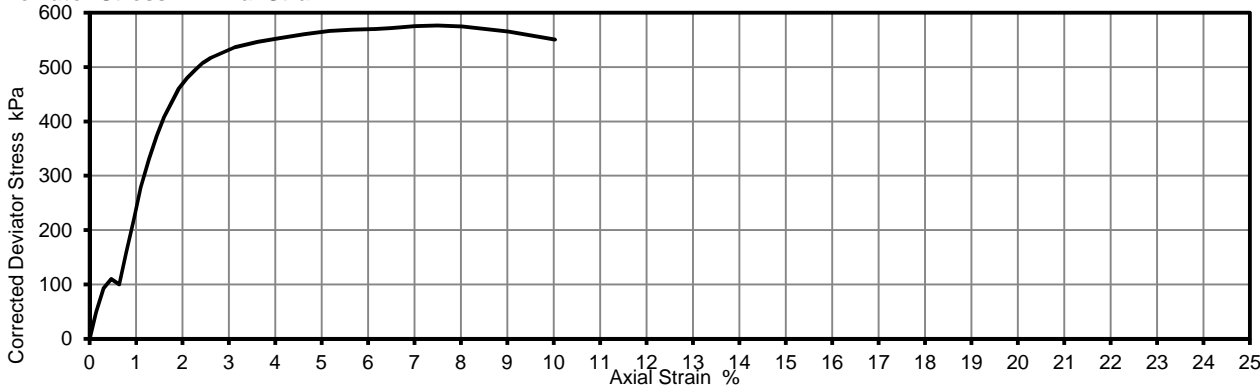
Laboratory Reference: 998176
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Grey to brown CLAY

Depth Top [m]: 23.00
Depth Base [m]: Not Given
Sample Type: U

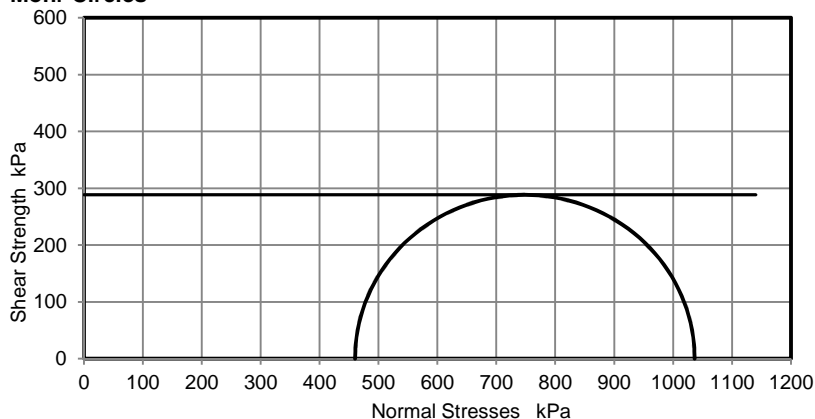
Test Number	1
Length	135.31 mm
Diameter	70.02 mm
Bulk Density	2.04 Mg/m ³
Moisture Content	18 %
Dry Density	1.72 Mg/m ³
Membrane Correction	0.49 kPa

Rate of Strain	2.00 %/min
Cell Pressure	460 kPa
Axial Strain at failure	7.5 %
Deviator Stress, (σ ₁ - σ ₃) _f	577 kPa
Undrained Shear Strength, c _u	288 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Brittle
Membrane thickness	0.19 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:

air voids

Comments:

Approved:

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

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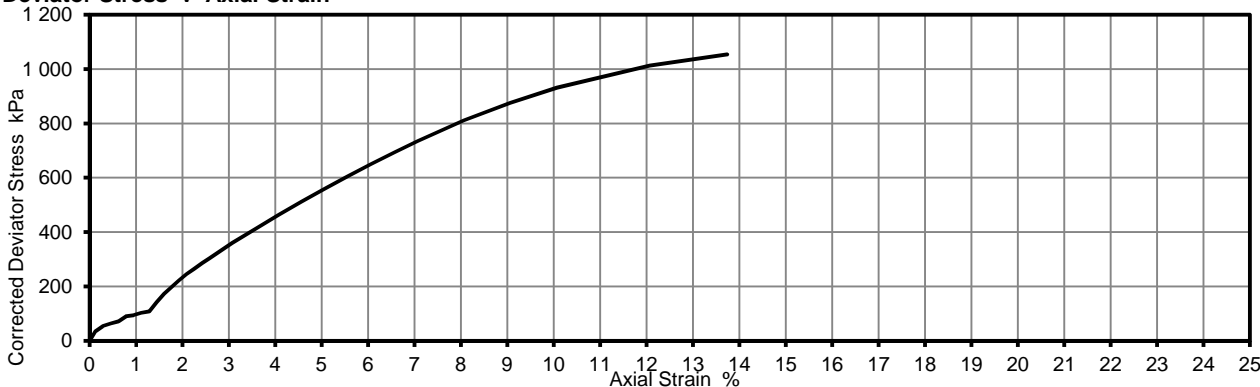
Laboratory Reference: 998177
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Brown to grey clayey SAND

Depth Top [m]: 26.00
Depth Base [m]: Not Given
Sample Type: U

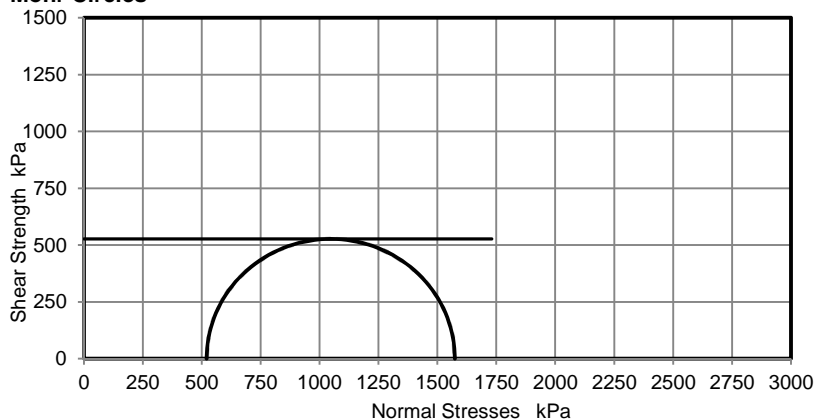
Test Number	1
Length	199.72 mm
Diameter	103.13 mm
Bulk Density	2.16 Mg/m ³
Moisture Content	12 %
Dry Density	1.94 Mg/m ³
Membrane Correction	0.74 kPa

Rate of Strain	2.00 %/min
Cell Pressure	520 kPa
Axial Strain at failure	13.7 %
Deviator Stress, (σ ₁ - σ ₃) _f	1053 kPa
Undrained Shear Strength, c _u	527 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Compound
Membrane thickness	0.27 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:

test terminated approaching load cell limit

Comments:

Approved:

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PL Laboratory Manager
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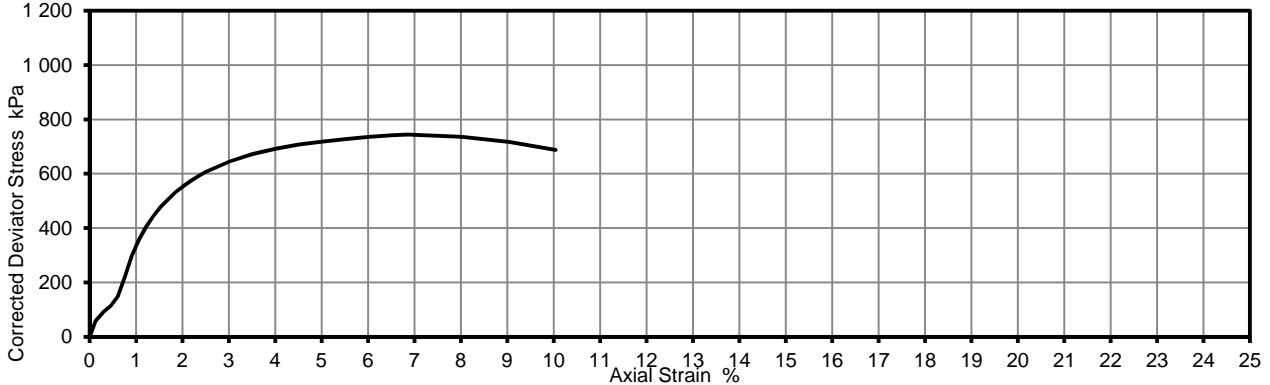
Laboratory Reference: 998178
Hole No.: BHDA101
Sample Reference: Not Given
Sample Description: Grey to brown CLAY

Depth Top [m]: 29.00
Depth Base [m]: Not Given
Sample Type: U

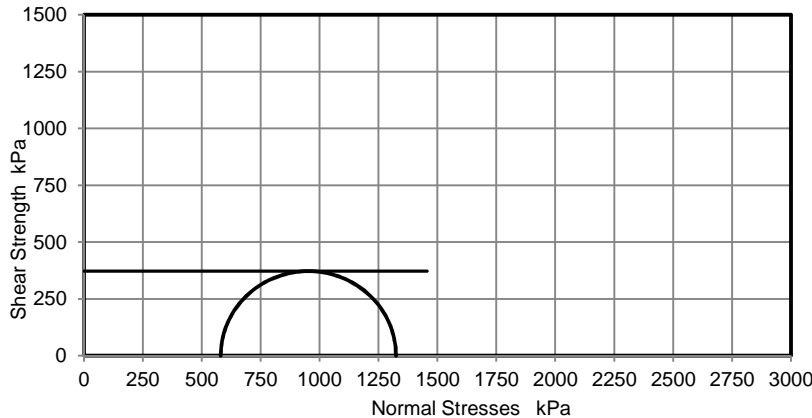
Test Number	1
Length	134.56 mm
Diameter	70.50 mm
Bulk Density	1.99 Mg/m ³
Moisture Content	21 %
Dry Density	1.65 Mg/m ³
Membrane Correction	0.56 kPa

Rate of Strain	2.00 %/min
Cell Pressure	580 kPa
Axial Strain at failure	6.9 %
Deviator Stress, (σ ₁ - σ ₃) _f	744 kPa
Undrained Shear Strength, c _u	372 kPa ½(σ ₁ - σ ₃) _f
Mode of Failure	Brittle
Membrane thickness	0.23 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

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Remarks:

air voids

Comments:

Approved:

Dariusz Piotrowski
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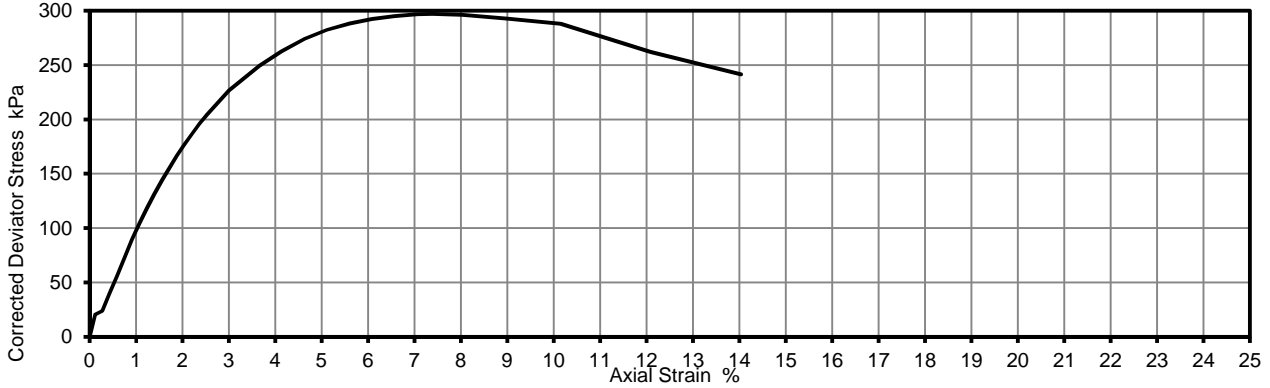
Laboratory Reference: 998183
Hole No.: BHDA102
Sample Reference: Not Given
Sample Description: Brown gravelly CLAY

Depth Top [m]: 6.50
Depth Base [m]: Not Given
Sample Type: U

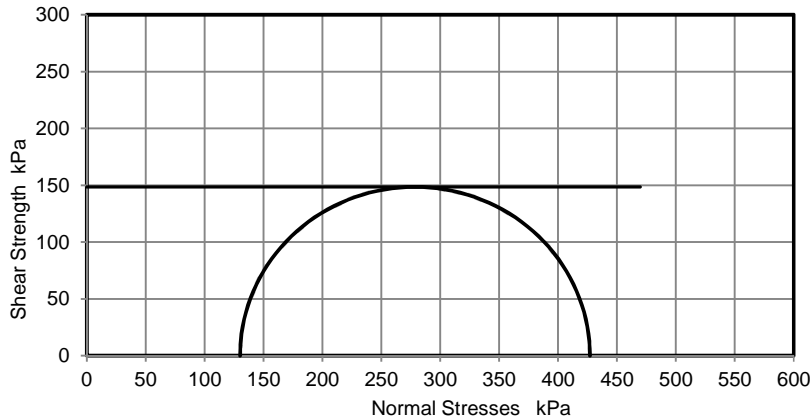
Test Number	1
Length	206.63 mm
Diameter	102.15 mm
Bulk Density	2.01 Mg/m3
Moisture Content	16 %
Dry Density	1.74 Mg/m3
Membrane Correction	0.44 kPa

Rate of Strain	1.94 %/min
Cell Pressure	130 kPa
Axial Strain at failure	7.4 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	297 kPa
Undrained Shear Strength, cu	148 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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Manager

for and on behalf of i2 Analytical Ltd

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