



LABORATORY REPORT



4043

Contract Number: PSL16/0518

Report Date: 17 February 2016
Client's Reference: GSI0517
Client Name: Geocon Site Investigations Ltd
Suite 8 Marple House
39 Stockport Road
Marple, Stockport
SK6 6BD

For the attention of: Ian Walker

Contract Title: George Leigh Street, Manchester
Date Received: 05/02/2016
Date Commenced: 05/02/2016
Date Completed: 17/02/2016

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson
(Director)

A Watkins
(Director)

R Berriman
(Quality Manager)

D Lambe
(Senior Technician)

S Royle
(Senior Technician)

W Allen
(Senior Technician)

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

[illegible]

PSL
Professional Soils Laboratory

Checked / Approved		Date	17/02/16	Contract No:
George Leigh Street, Manchester				PSL16/0518
				Client Ref:
				GSI 0517

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

[illegible]

SYMBOLS : NP : Non Plastic

*** : Liquid Limit and Plastic Limit Wet Sieved.**



PSL
Professional Soils Laboratory

Checked / Approved

[Signature]

Date _____

17/02/16

Contract No:

PSL16/0518

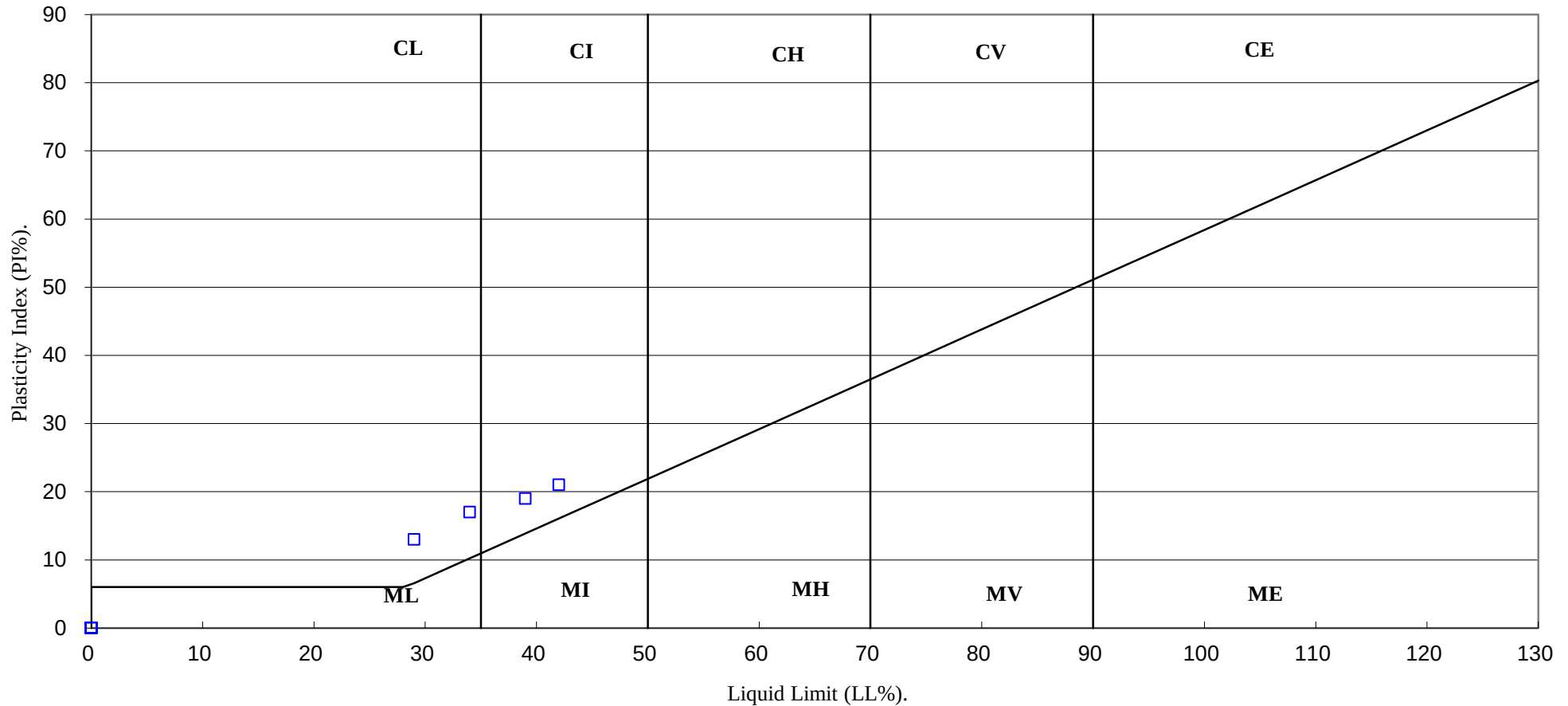
Client Ref:

GSI 0517

George Leigh Street, Manchester

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(BS5930 :2015)



PSL
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George Leigh Street, Manchester

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

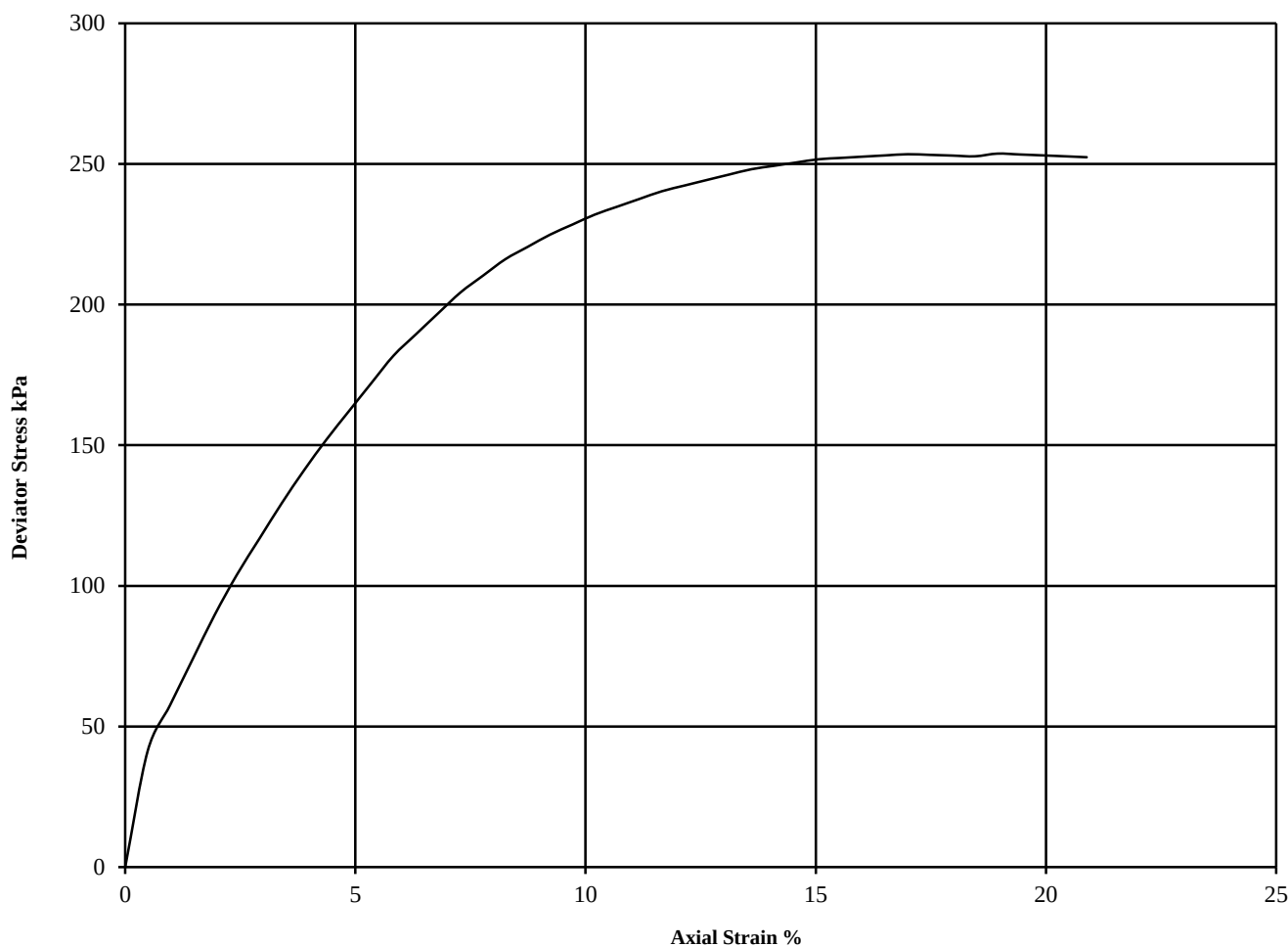
Hole Number: BH01

Top Depth (m): 12.50

Sample Number:

Base Depth (m):

Sample Type U100



Diameter (mm):		102.0	Height (mm):		210.0	Test:	UU Single Stage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34 See summary of soil descriptions.
				θ_3	$(\theta_1 - \theta_3)_f$	$\frac{1}{2}(\theta_1 - \theta_3)_f$			
1	16	2.20	1.90	250	254	127	18.9	Plastic	



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WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

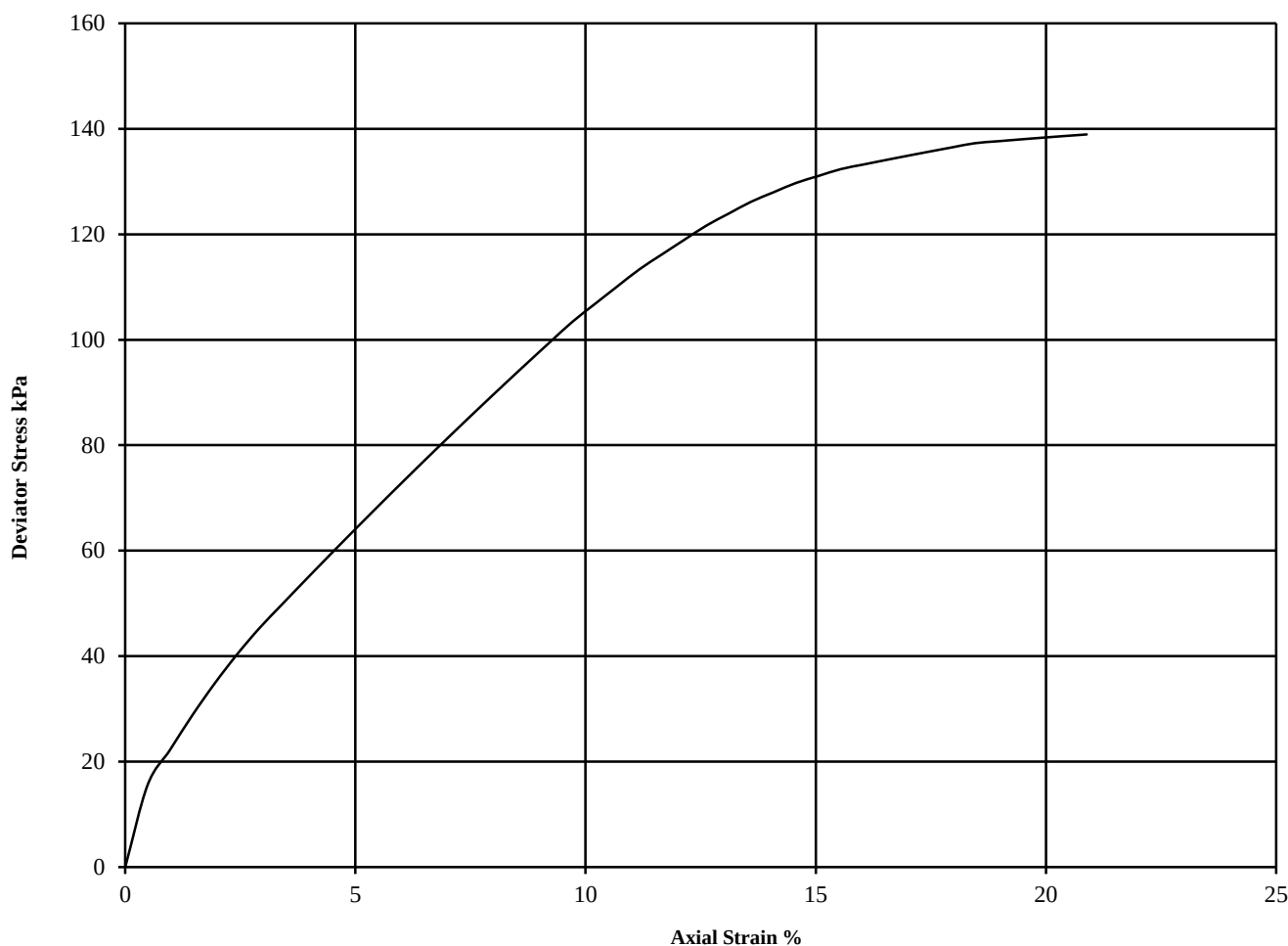
Hole Number: BH02

Top Depth (m): 6.50

Sample Number:

Base Depth (m):

Sample Type U100



Diameter (mm):		102.0	Height (mm):		210.0	Test:	UU Single Stage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.33 See summary of soil descriptions.
				θ_3	$(\theta_1 - \theta_3)_f$	$\frac{1}{2}(\theta_1 - \theta_3)_f$			
1	18	2.13	1.81	130	139	69	20.9	Plastic	



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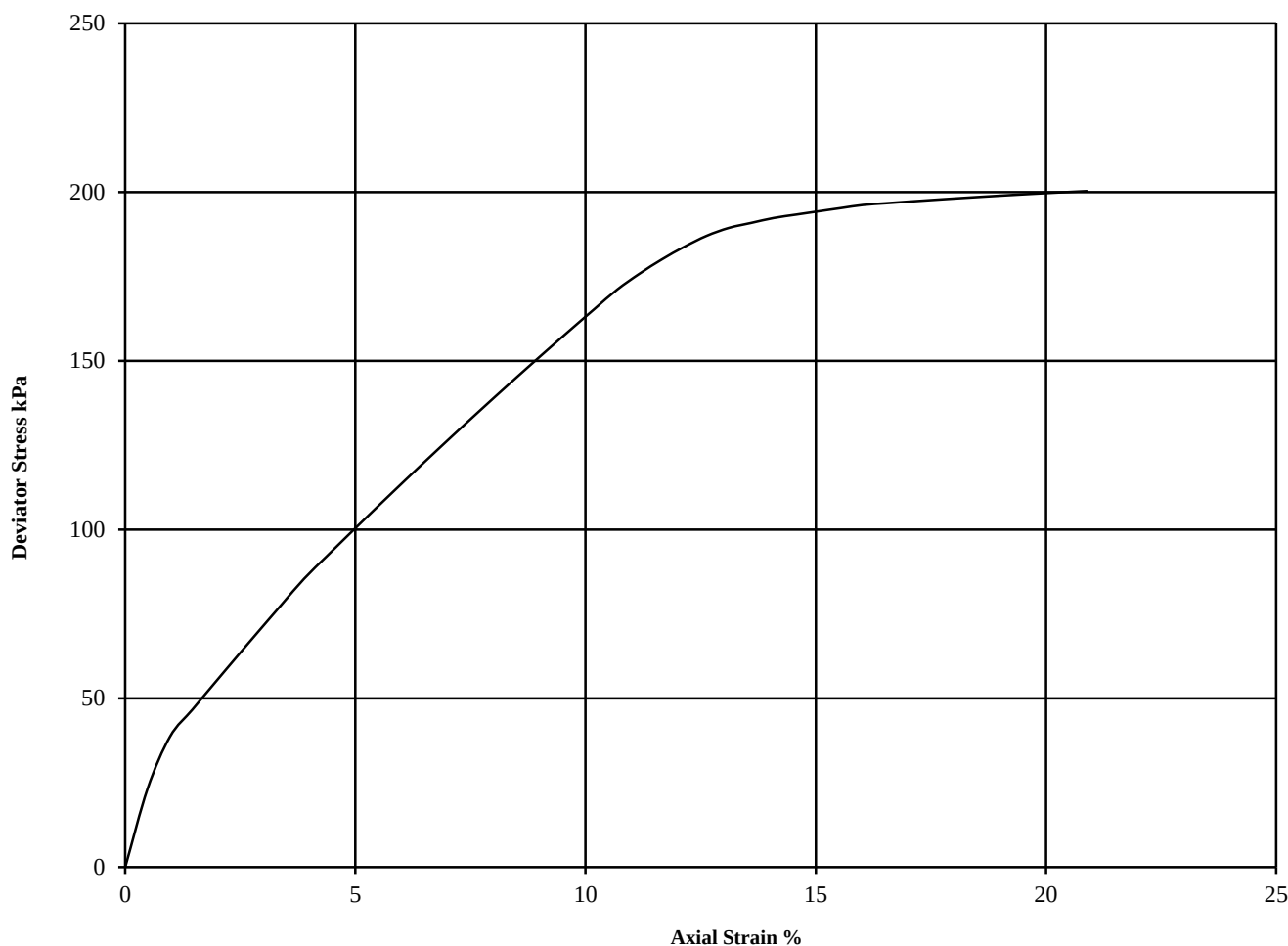
Hole Number: BH02

Top Depth (m): 9.50

Sample Number:

Base Depth (m):

Sample Type U100



Diameter (mm):		102.0	Height (mm):		210.0	Test:	UU Single Stage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample
									Sample taken from top of tube
									Rate of strain = 2 %/min
									Latex Membrane used 0.2 mm thick,
				θ_3	$(\theta_1-\theta_3)_f$	$^{1/2}(\theta_1-\theta_3)_f$			Correction applied 0.33
1	17	2.14	1.83	190	200	100	20.9	Plastic	See summary of soil descriptions.



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WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

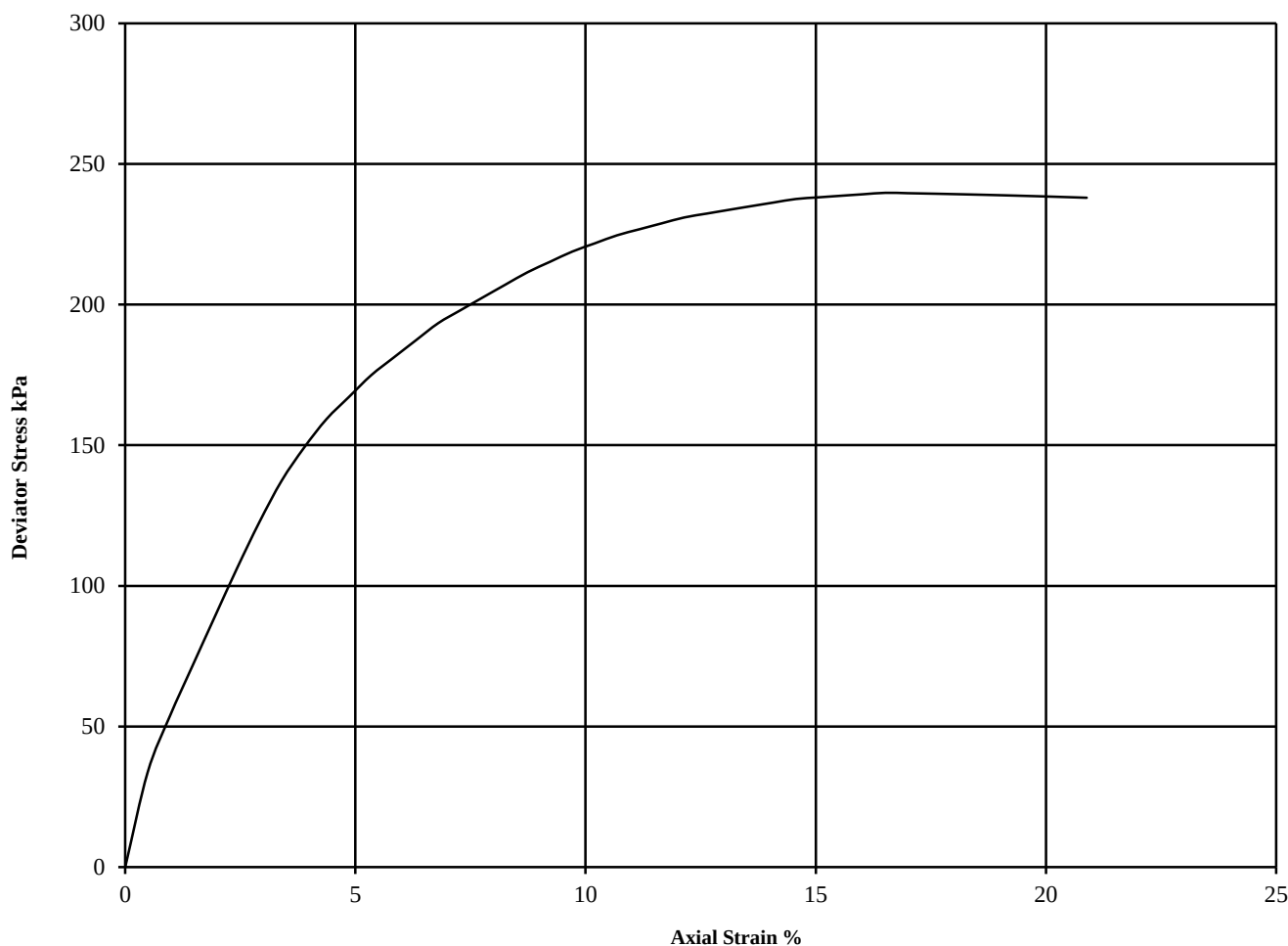
Hole Number: BH02

Top Depth (m): 12.50

Sample Number:

Base Depth (m):

Sample Type U100



Diameter (mm):		102.0	Height (mm):		210.0	Test:	UU Single Stage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34 See summary of soil descriptions.
				θ_3	$(\theta_1 - \theta_3)_f$	$\frac{1}{2}(\theta_1 - \theta_3)_f$			
1	17	2.18	1.87	250	240	120	16.5	Plastic	



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Client Ref:

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Certificate of Analysis

Certificate Number 16-57851

16-Feb-16

Client Professional Soils Laboratory Ltd
5/7 Hexthorpe Road
Hexthorpe
DN4 0AR

Our Reference 16-57851

Client Reference PSL16/0518

Order No (not supplied)

Contract Title George Leigh Street, Manchester

Description 4 Soil samples.

Date Received 10-Feb-16

Date Started 10-Feb-16

Date Completed 16-Feb-16

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

Notes Opinions and interpretations are outside the scope of UKAS 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 16-57851

Client Ref PSL16/0518

Contract Title George Leigh Street, Manchester

Lab No	940101	940102	940103	940104
Sample ID	BH01	BH02	BH02	BH02
Depth	9.50	0.50	4.00	8.00
Other ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l	11	14	14	< 10
Inorganics							
pH	DETSC 2008#			8.4	8.4	9.0	8.5
Chloride Aqueous Extract	DETSC 2055	1	mg/l	18	14	9.8	11
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l	< 1.0	< 1.0	1.4	< 1.0
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	140	140	340	51

Information in Support of the Analytical Results

Our Ref 16-57851
Client Ref PSL16/0518
Contract George Leigh Street, Manchester

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
940101	BH01 9.50 SOIL		PT 500ml	Sample date not supplied	
940102	BH02 0.50 SOIL		PT 500ml	Sample date not supplied	
940103	BH02 4.00 SOIL		PT 500ml	Sample date not supplied	
940104	BH02 8.00 SOIL		PT 500ml	Sample date not supplied	

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 and/or inappropriate containers 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