

TEST REPORT

Client Earth Environmental & Geotechnical Ltd

Address Houldsworth Mill Business & Arts Centre
Houldsworth Mill
Reddish
Stockport
SK5 6DA

Contract A4575 -
Bentley Street

Job Number MRN 4288/69
Date of Issue 17 August 2022
Page 1 of 21

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



Andrew House, Hadfield Street, Dukinfield, Cheshire SK16 4QX Tel: 0161 475 0870
Email: enquiries@murrayrix.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

Murray Rix is the trading name of Murray Rix (Northern) Limited. Registered in England 2878361

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

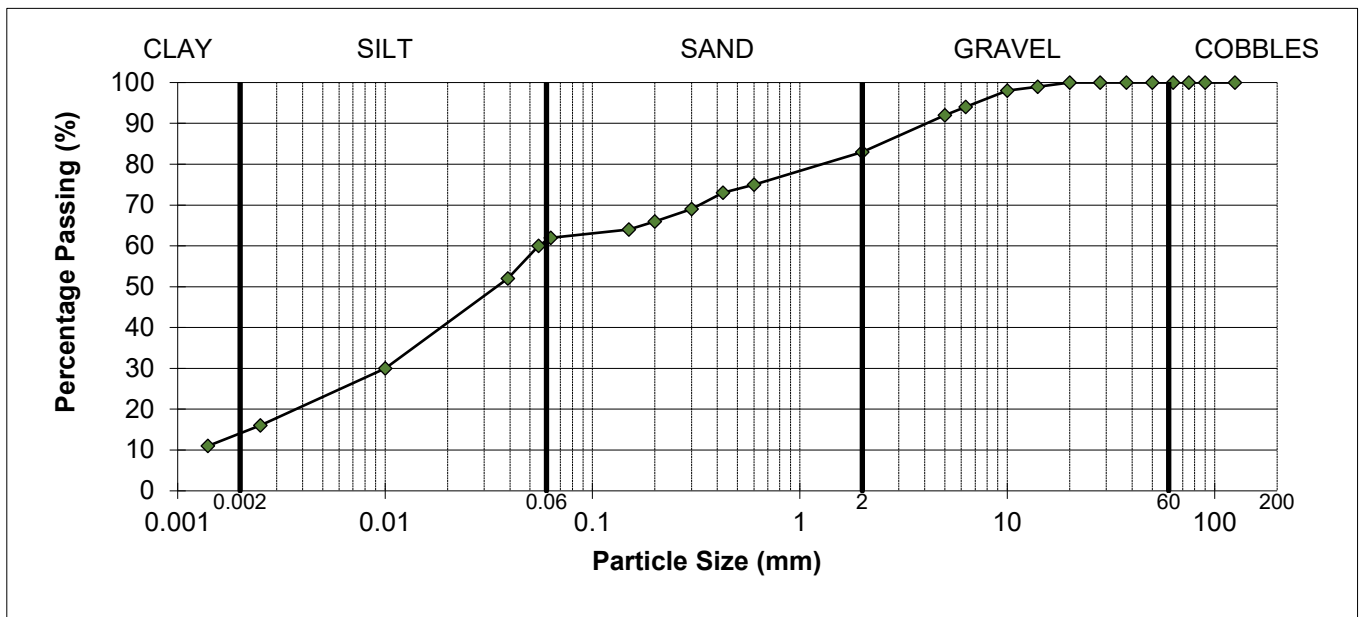
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP01 7.5-7.95	DATE SAMPLED	11-Jul-22
LAB SAMPLE No	114425	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Jul-22	SAMPLED BY	Client

MATERIAL	Soft to firm brown silty sandy CLAY with occasional gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	83	
90	100		0.6	75	
75	100		0.425	73	
63	100		0.3	69	
50	100		0.2	66	
37.5	100		0.15	64	
28	100		0.063	62	
20	100		0.055	60	
14	99		0.039	52	
10	98		0.01	30	
6.3	94		0.0025	16	
5	92		0.0014	11	



REMARKS

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

17-Aug-22

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



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LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014

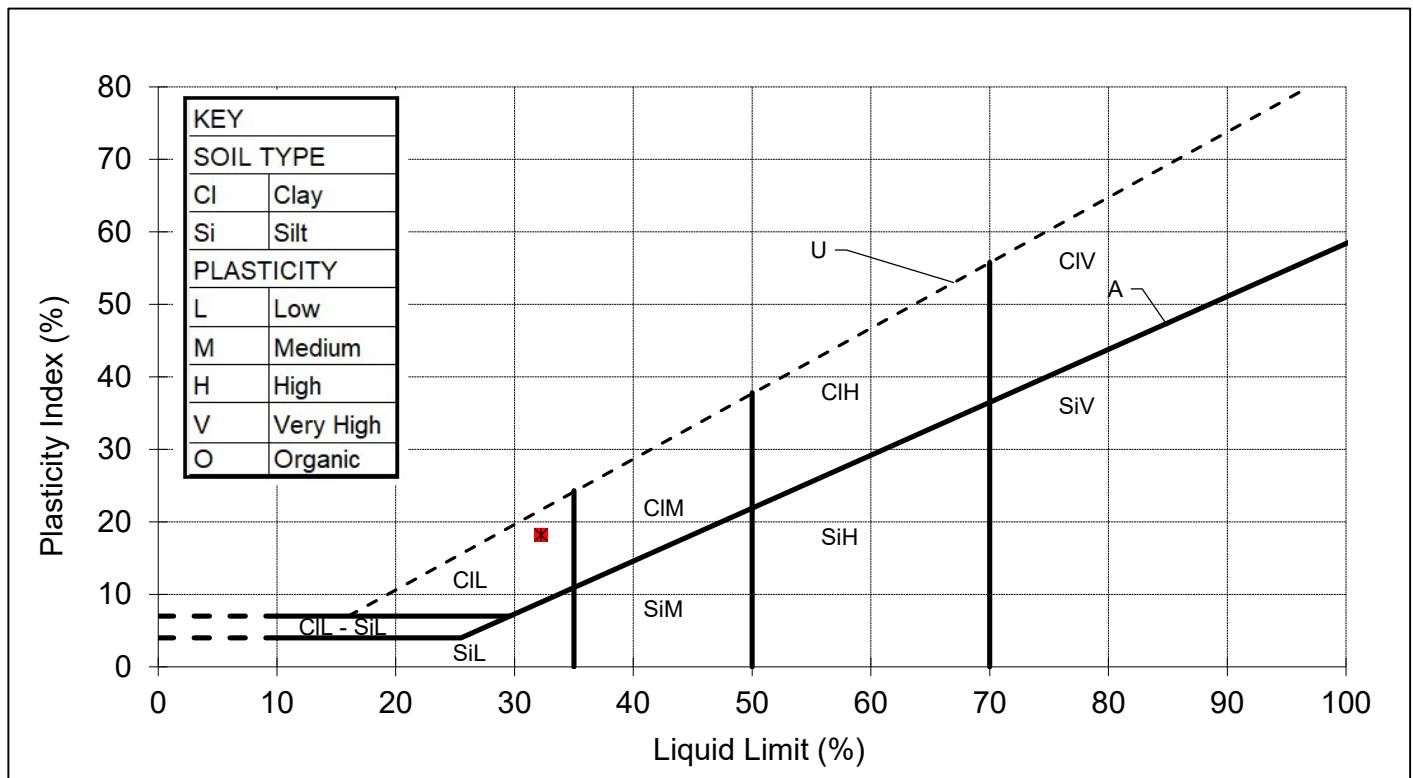
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP01 7.50-7.95	DATE SAMPLED	11-Jul-22
SAMPLE No.	114425	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with rare gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.8	33.1	0.9736
Determination 2 (avg)	21.8	33.1	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.3	32	14	18	73



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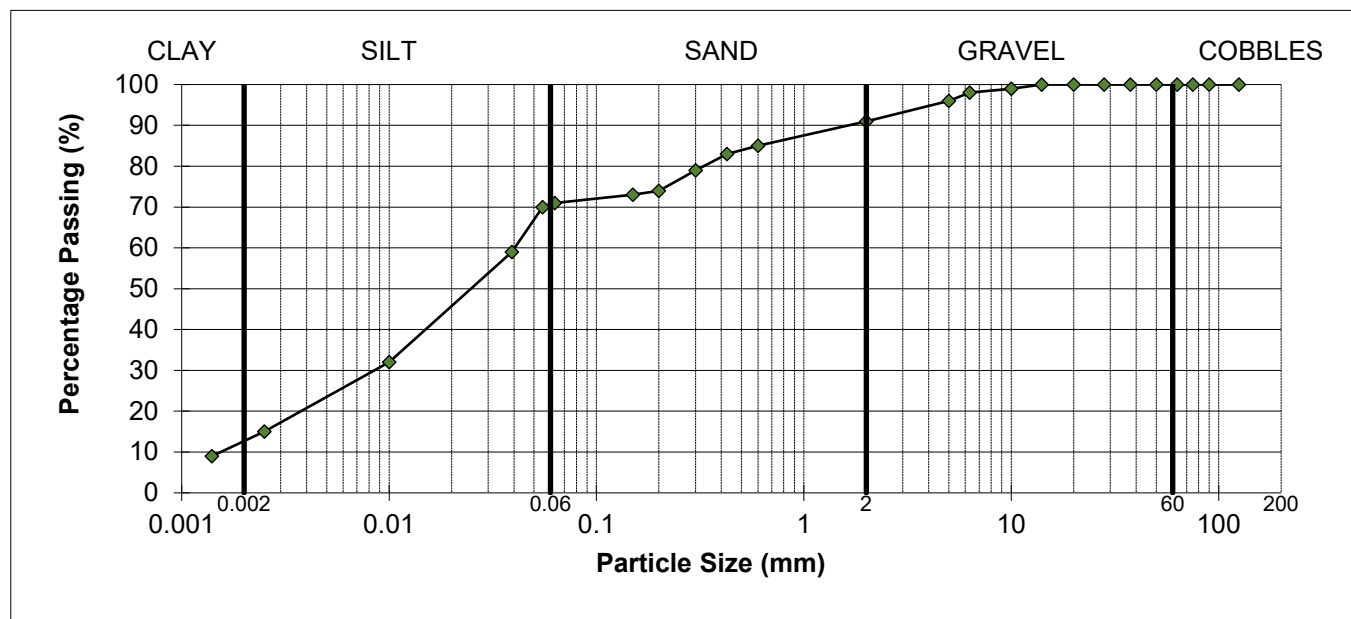
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CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP02 9.00-9.45	DATE SAMPLED	11-Jul-22
LAB SAMPLE No	114428	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Jul-22	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	91	
90	100		0.6	85	
75	100		0.425	83	
63	100		0.3	79	
50	100		0.2	74	
37.5	100		0.15	73	
28	100		0.063	71	
20	100		0.055	70	
14	100		0.039	59	
10	99		0.01	32	
6.3	98		0.0025	15	
5	96		0.0014	9	



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WATER CONTENT METHOD BS EN ISO 17892-1:2014

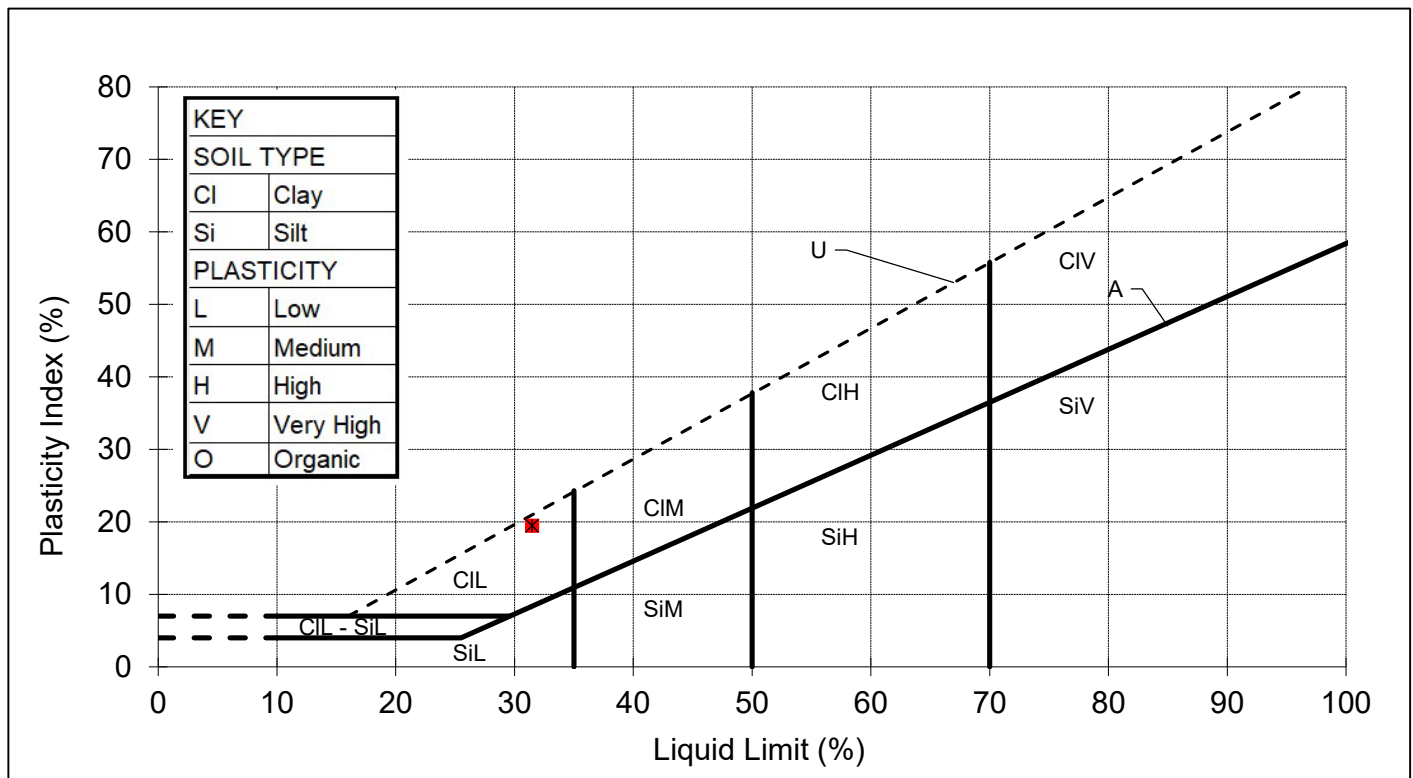
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP02 9.00-9.45	DATE SAMPLED	11-Jul-22
SAMPLE No.	114428	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.7	31.8	0.9896
Determination 2 (avg)	20.6	31.8	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
12.2	31	12	19	83



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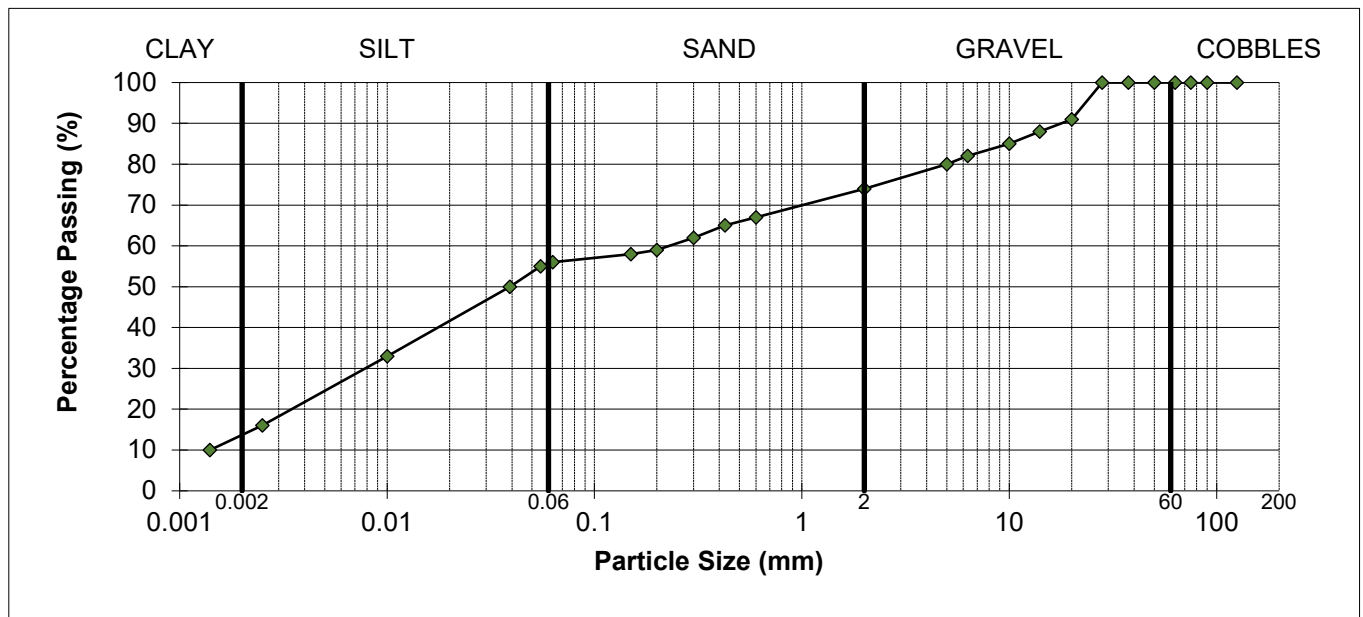
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP03 6.00-6.45	DATE SAMPLED	12-Jul-22
LAB SAMPLE No	114429	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with occasional gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	74	
90	100		0.6	67	
75	100		0.425	65	
63	100		0.3	62	
50	100		0.2	59	
37.5	100		0.15	58	
28	100		0.063	56	
20	91		0.055	55	
14	88		0.039	50	
10	85		0.01	33	
6.3	82		0.0025	16	
5	80		0.0014	10	



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WATER CONTENT METHOD BS EN ISO 17892-1:2014

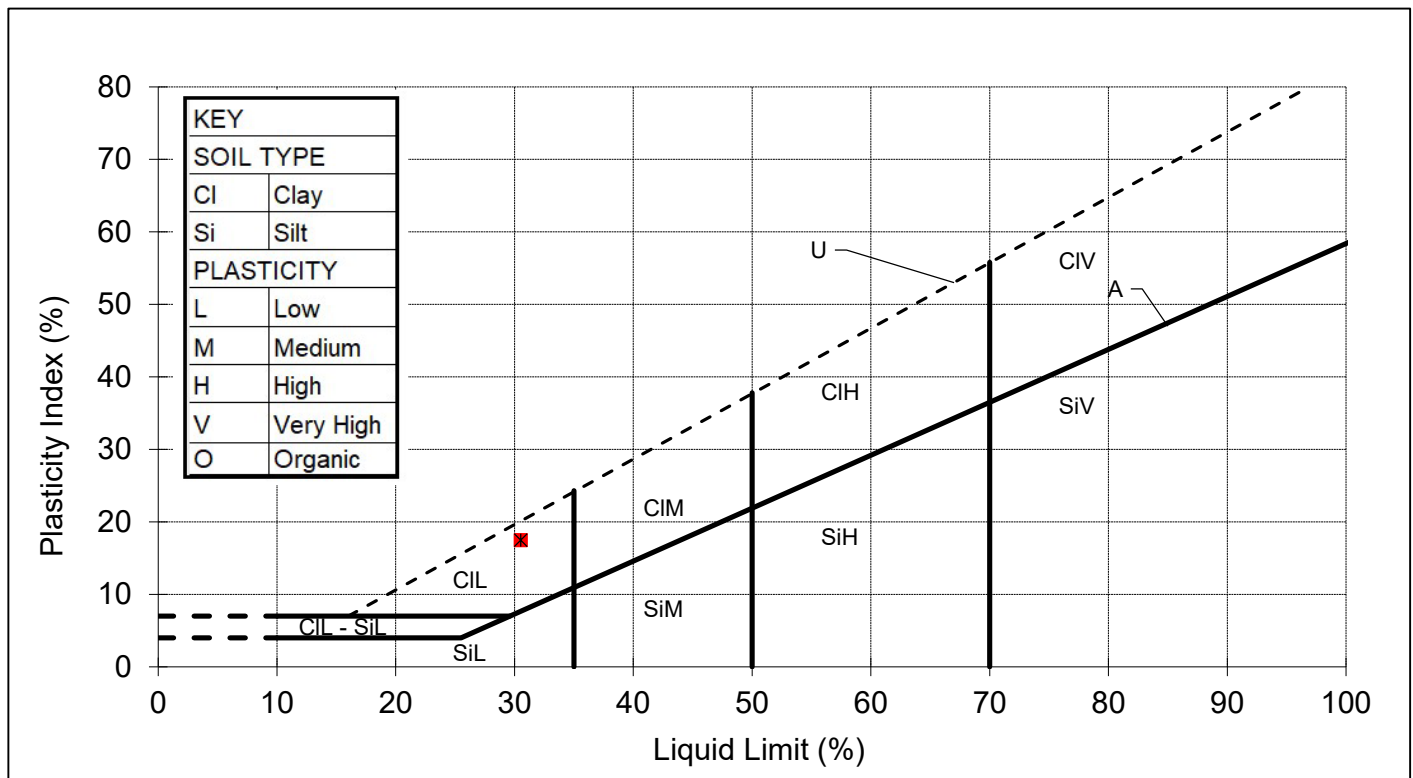
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP03 6.00-6.45	DATE SAMPLED	12-Jul-22
SAMPLE No.	114429	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.7	31.3	0.9749
Determination 2 (avg)	21.7	31.3	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.3	31	13	18	65



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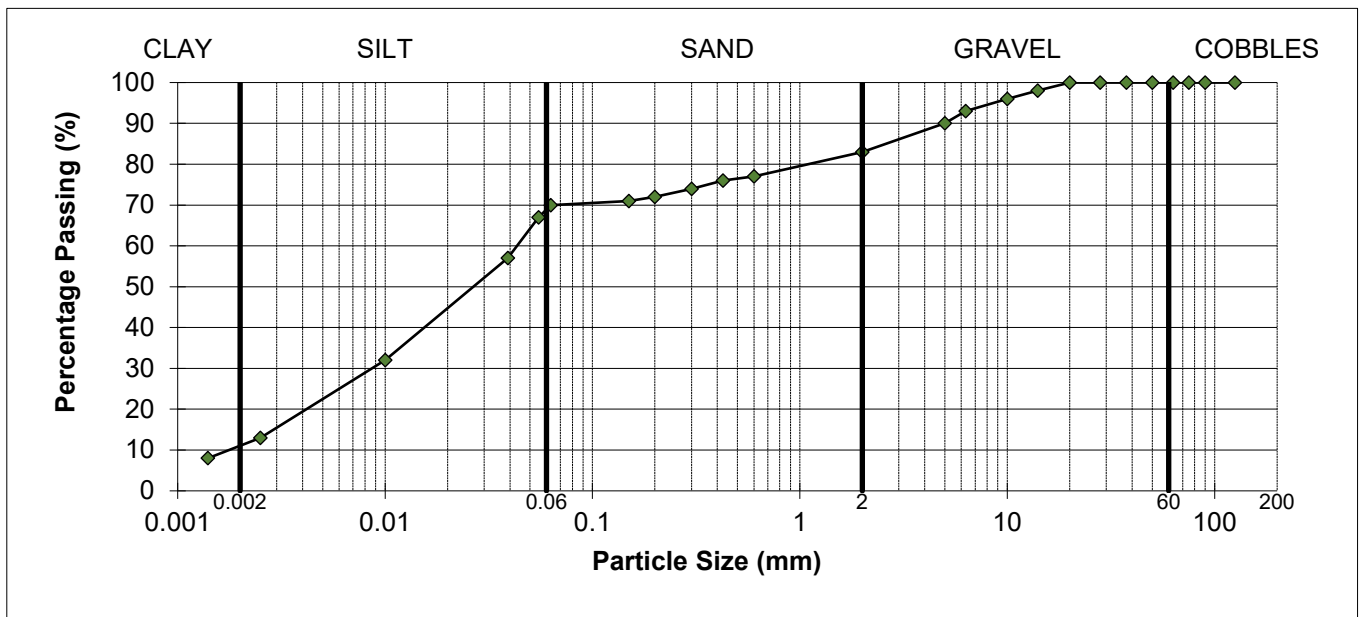
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP04 10.00	DATE SAMPLED	12-Jul-22
LAB SAMPLE No	114431	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with occasional gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	83	
90	100		0.6	77	
75	100		0.425	76	
63	100		0.3	74	
50	100		0.2	72	
37.5	100		0.15	71	
28	100		0.063	70	
20	100		0.055	67	
14	98		0.039	57	
10	96		0.01	32	
6.3	93		0.0025	13	
5	90		0.0014	8	



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014

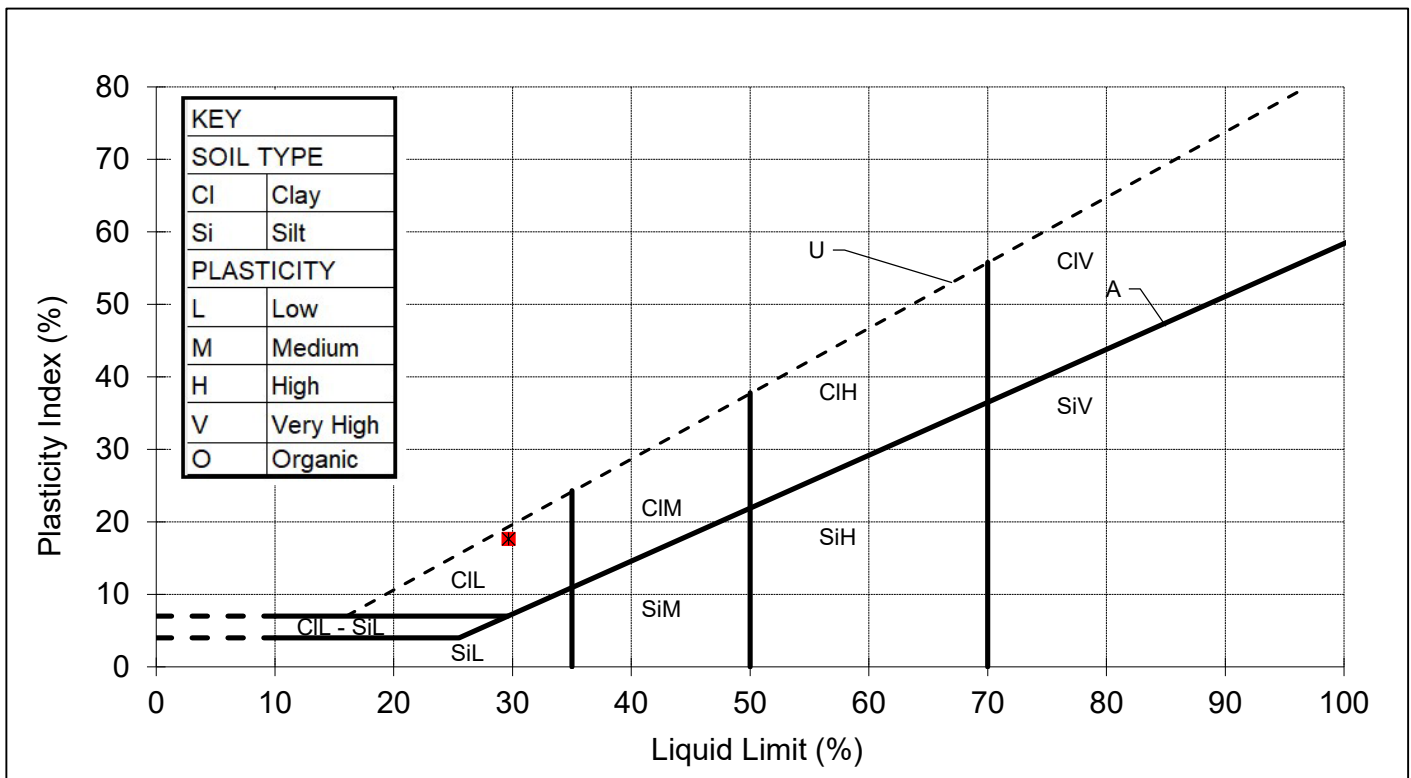
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP04 10.00	DATE SAMPLED	12-Jul-22
SAMPLE No.	114431	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	22.2	30.7	0.9695
Determination 2 (avg)	22.1	30.5	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.6	30	12	18	76



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WATER CONTENT METHOD BS EN ISO 17892-1:2014

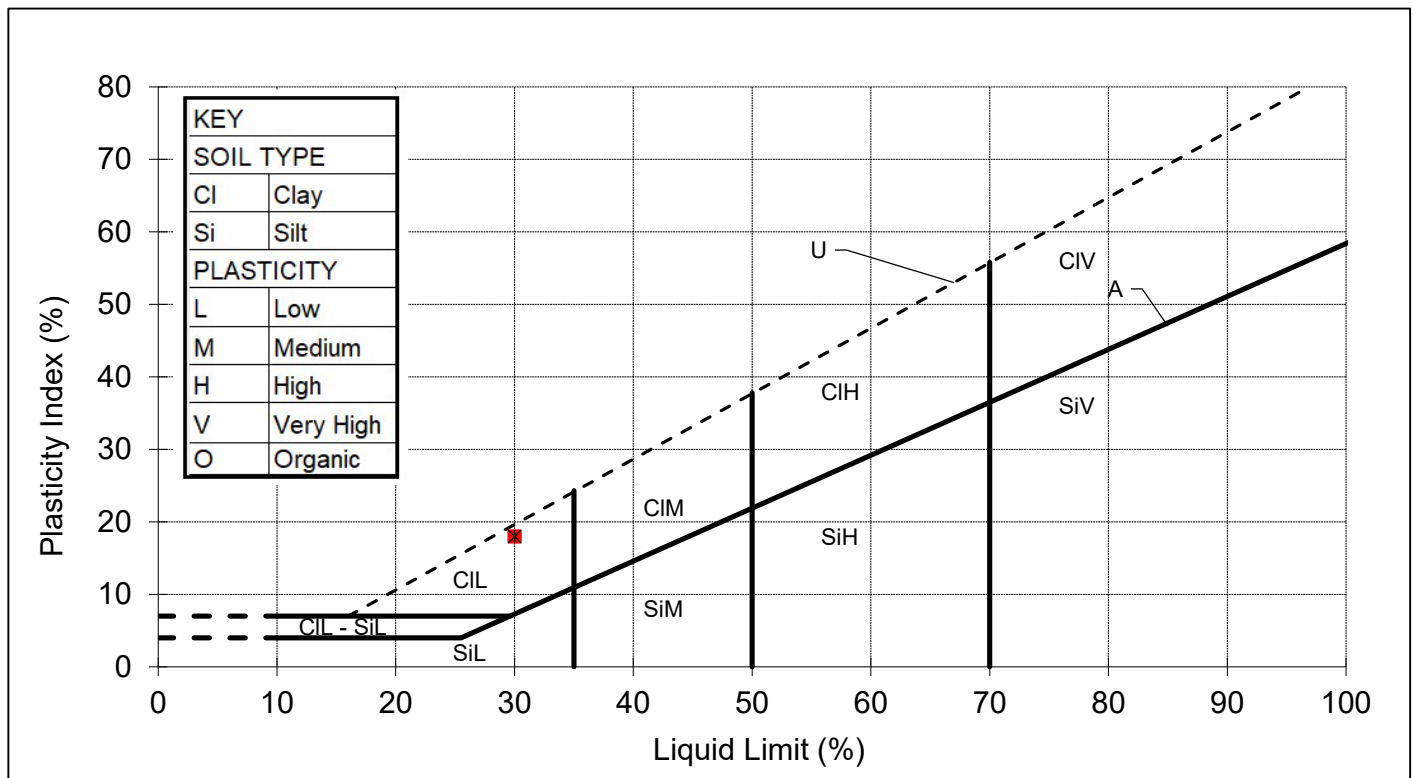
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP05 8.00	DATE SAMPLED	12-Jul-22
SAMPLE No.	114432	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.0	30.0	1.0000
Determination 2 (avg)	20.0	30.0	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.6	30	12	18	70



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014

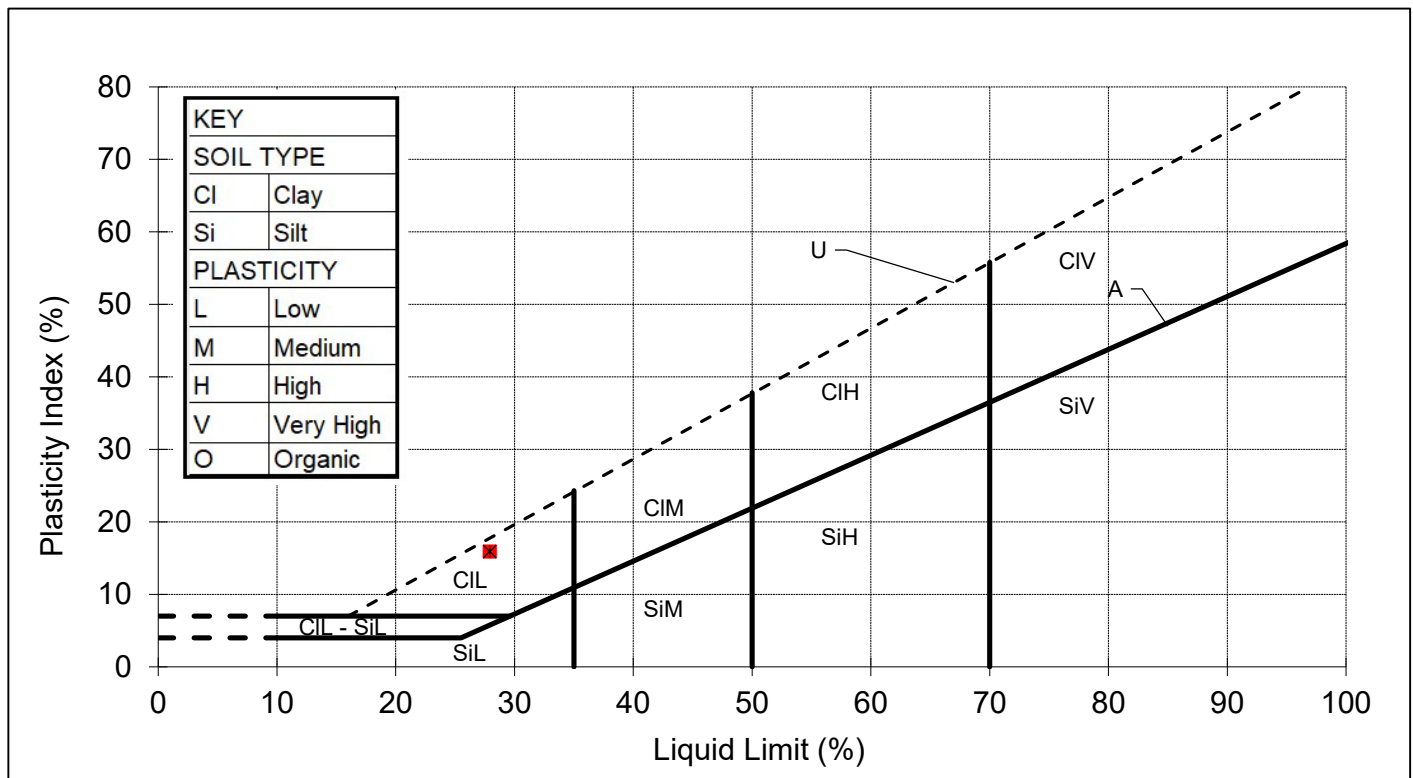
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP01 3.00-3.45	DATE SAMPLED	11-Jul-22
SAMPLE No.	114423	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Soft brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	22.2	28.7	0.9690
Determination 2 (avg)	22.2	28.9	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
22.7	28	12	16	72



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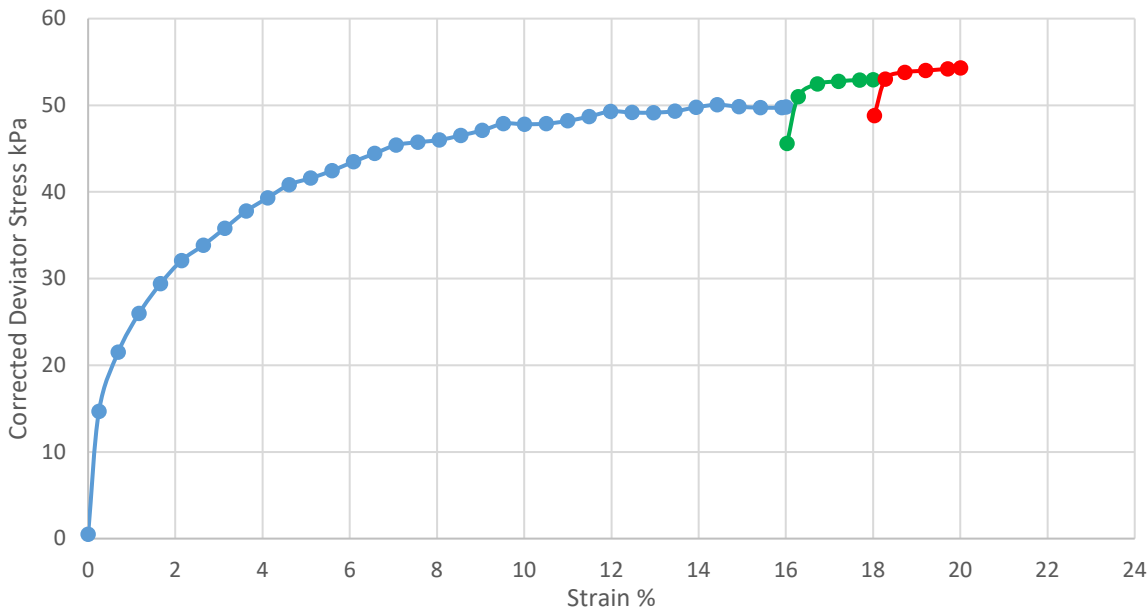
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: 1990 - Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP01 3.00-3.45	DATE SAMPLED	11-Jul-22
LAB SAMPLE No.	114423	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Aug-22	SAMPLED BY	Client
MATERIAL	Soft brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation Sample		

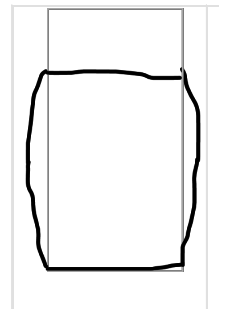
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	350	Specimen depth from top of Sample (mm)	50
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	204	Specimen Moisture Content (%)	23
		Specimen Diameter (mm)	102	Specimen Bulk Density (Mg/m3)	1.95
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.59
		Membrane Correction	1.26	1.37	1.49

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength Cu (kPa)
35	14	2	50.1	25
70	18	2	52.9	26
140	20	2	54.3	27

Remarks/Abnormalities

Name O.P Davies BA (Hons)
(Laboratory Manager)

Signed

Date 17 August 2022

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WATER CONTENT METHOD BS EN ISO 17892-1:2014

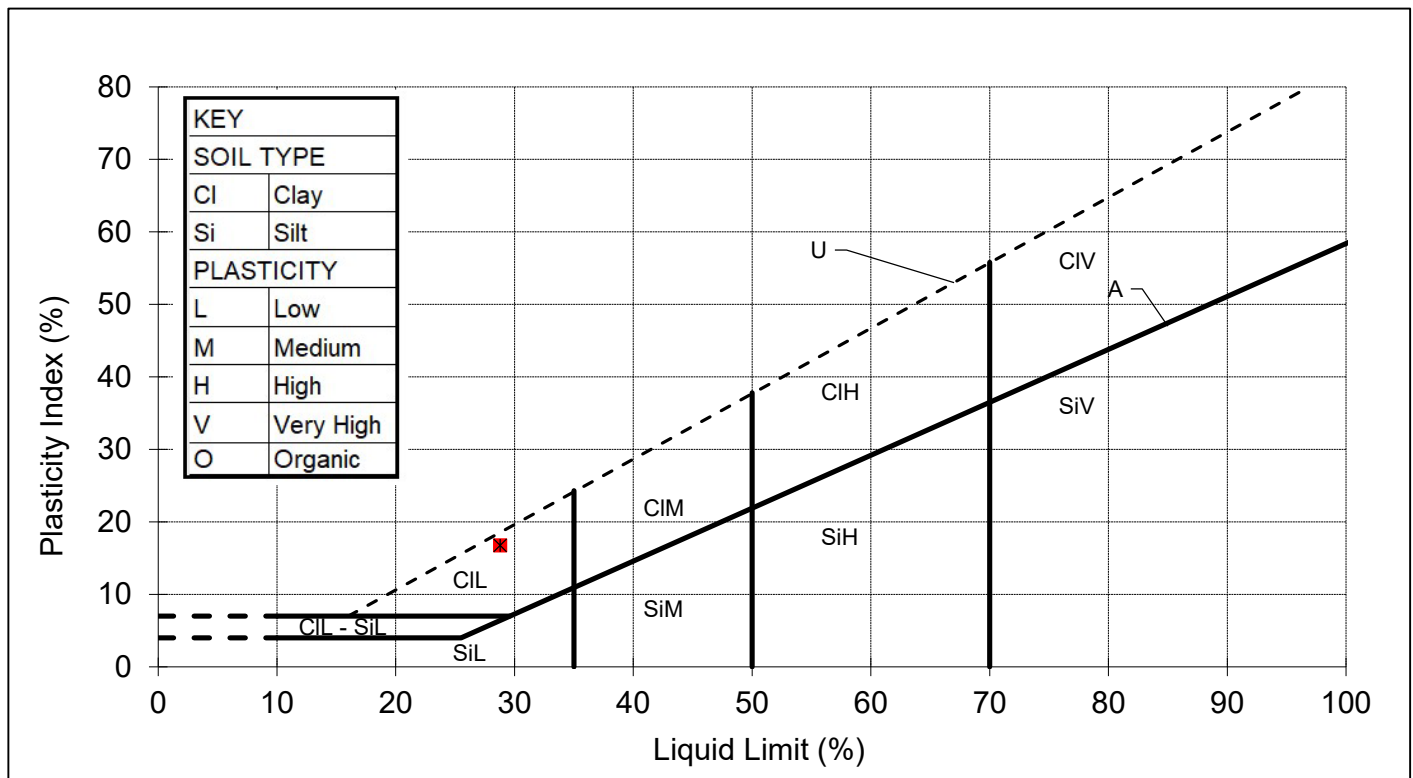
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP01 6.00-6.45	DATE SAMPLED	11-Jul-22
SAMPLE No.	114424	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.3	29.5	0.9808
Determination 2 (avg)	21.2	29.2	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.3	29	12	17	68



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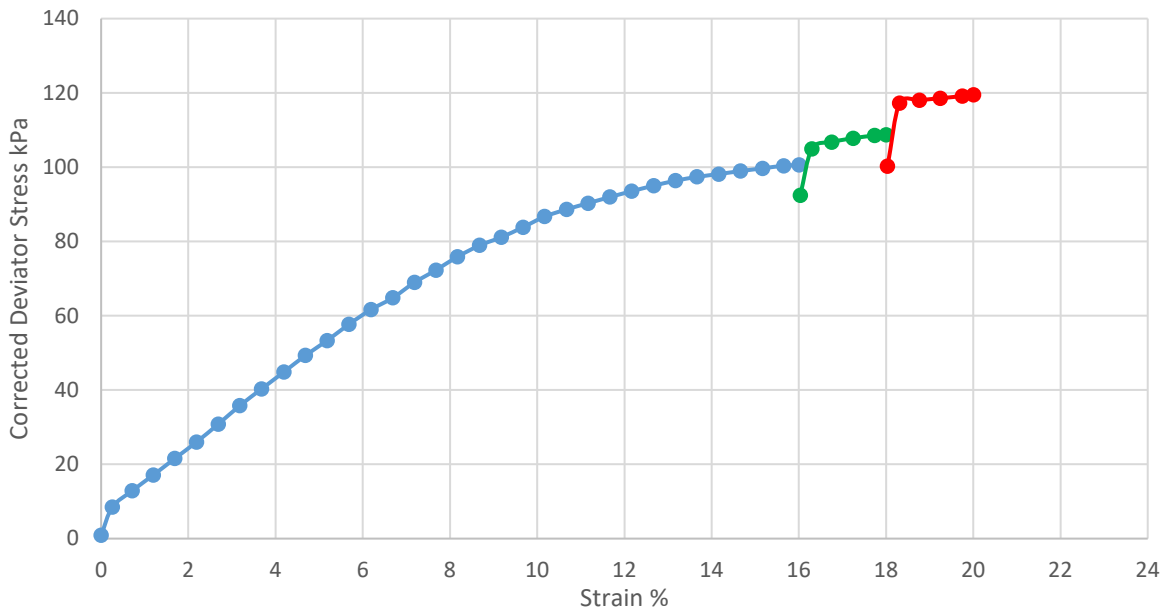
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: 1990 - Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP01 6.00-6.45	DATE SAMPLED	11-Jul-22
LAB SAMPLE No.	114424	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Aug-22	SAMPLED BY	Client
MATERIAL	Firm brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation Sample		

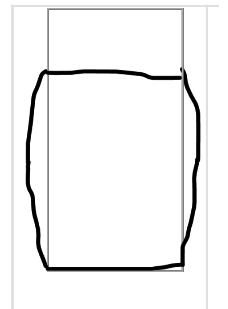
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	430	Specimen depth from top of Sample (mm)	100
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	200	Specimen Moisture Content (%)	16
		Specimen Diameter (mm)	103	Specimen Bulk Density (Mg/m3)	2.21
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.90
		Membrane Correction	1.24	1.35	1.47

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength Cu (kPa)
65	16	2	100.4	50
130	18	2	108.5	54
260	20	2	119.1	60

Remarks/Abnormalities

Name O.P Davies BA (Hons)
(Laboratory Manager)

Signed



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014

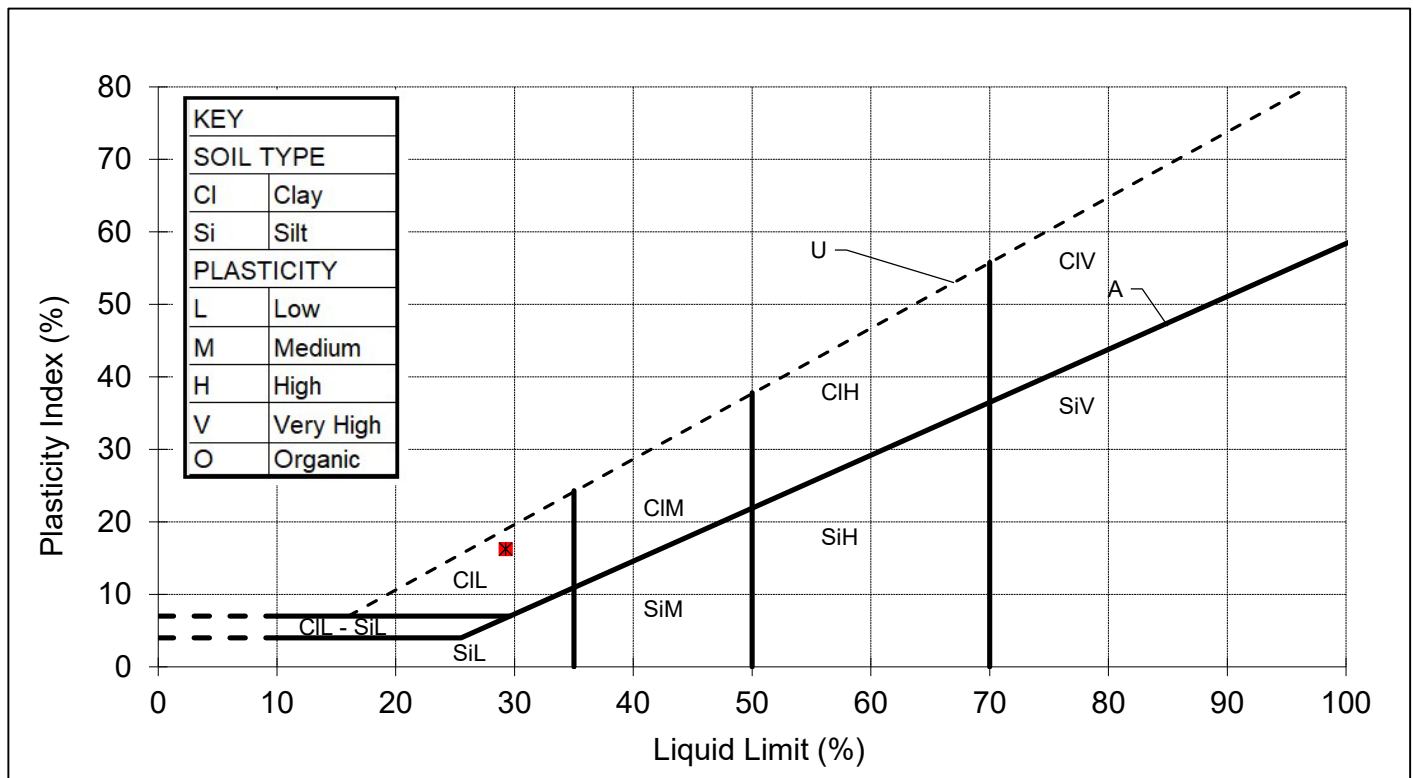
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP02 6.00-6.45	DATE SAMPLED	11-Jul-22
SAMPLE No.	114426	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.8	30.0	0.9736
Determination 2 (avg)	21.8	30.1	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.9	29	13	16	62



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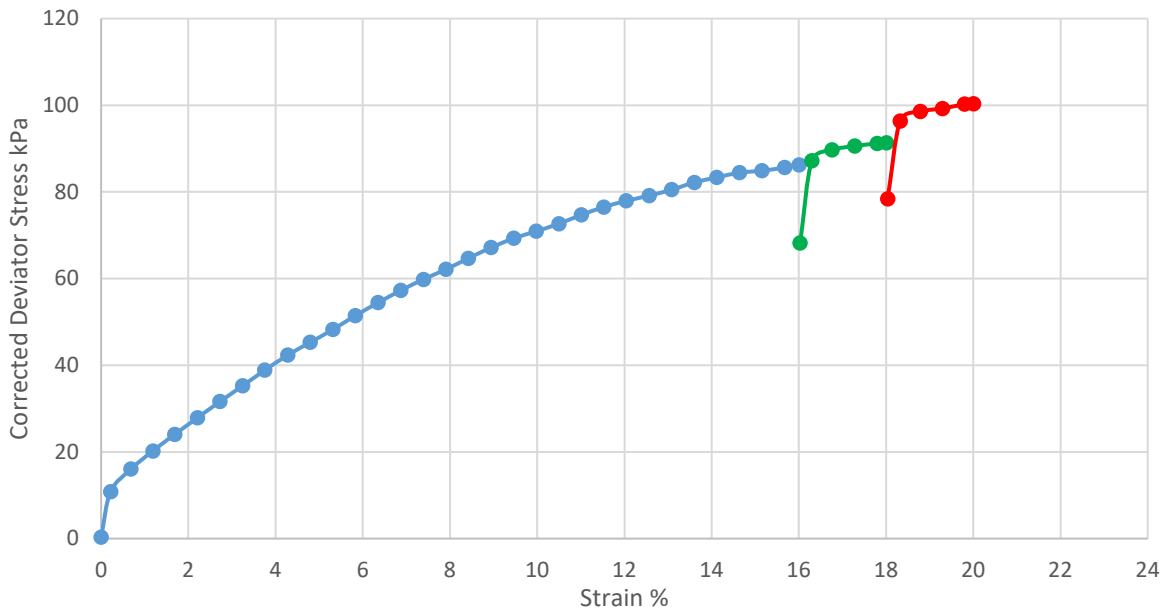
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: 1990 - Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP02 6.00-6.45	DATE SAMPLED	11-Jul-22
LAB SAMPLE No.	114426	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Aug-22	SAMPLED BY	Client
MATERIAL	Firm brown silty sandy CLAY with occasional gravel		
ADVISED SOURCE	Site Investigation Sample		

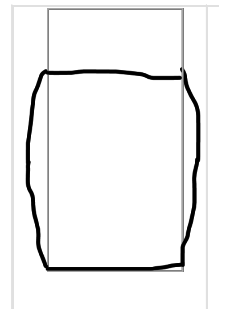
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	340	Specimen depth from top of Sample (mm)	30
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	193	Specimen Moisture Content (%)	22
		Specimen Diameter (mm)	105	Specimen Bulk Density (Mg/m3)	2.06
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.69
		Membrane Correction	1.22	1.33	1.44

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength Cu (kPa)
65	16	2	85.6	43
130	18	2	91.2	46
260	20	2	100.2	50

Remarks/Abnormalities

Name O.P Davies BA (Hons)
(Laboratory Manager)

Signed



Date 17 August 2022

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014

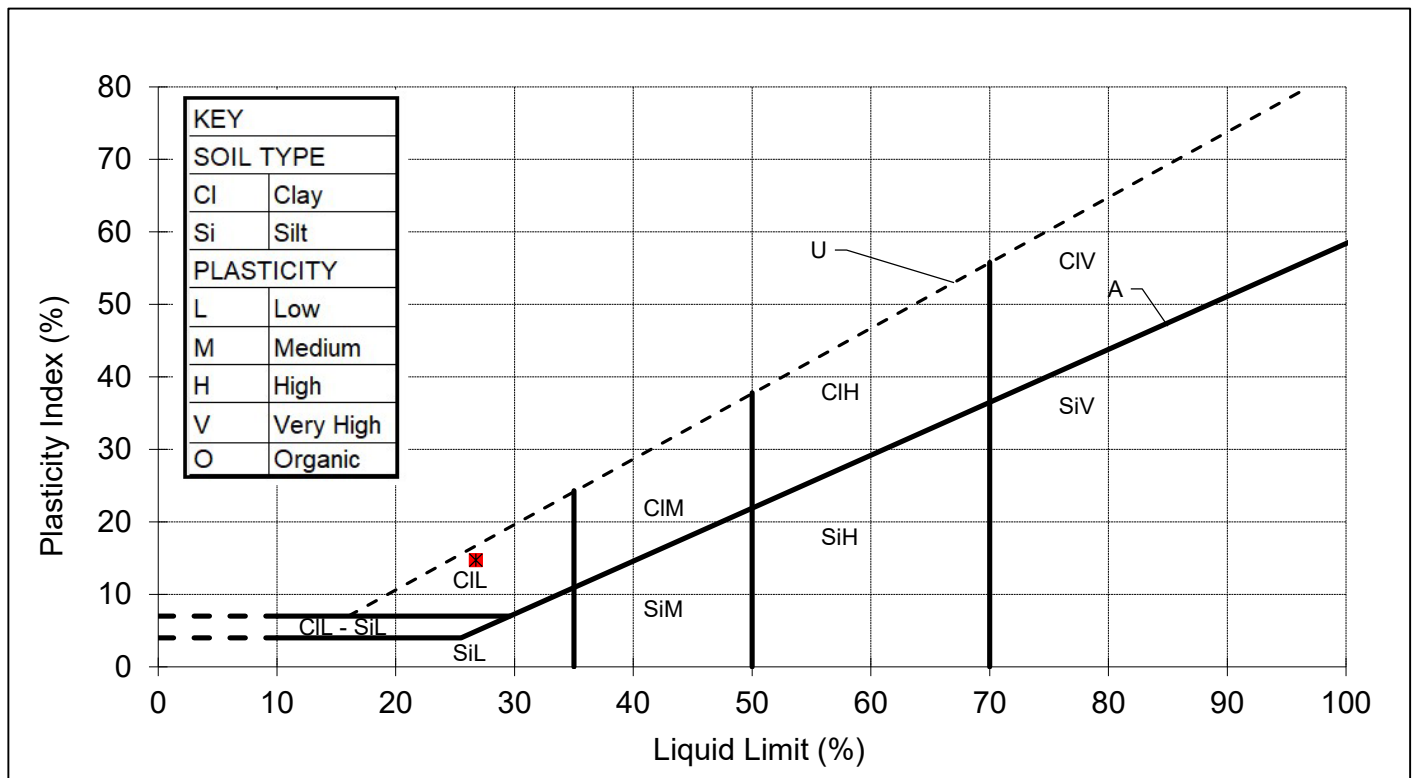
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP02 7.50-7.95	DATE SAMPLED	11-Jul-22
SAMPLE No.	114427	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Soft to firm brown silty sandy CLAY with frequent gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	22.4	27.6	0.9670	
Determination 2 (avg)	22.4	27.7		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.2	27	12	15	57



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

17-Aug-22

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TEST CERTIFICATE

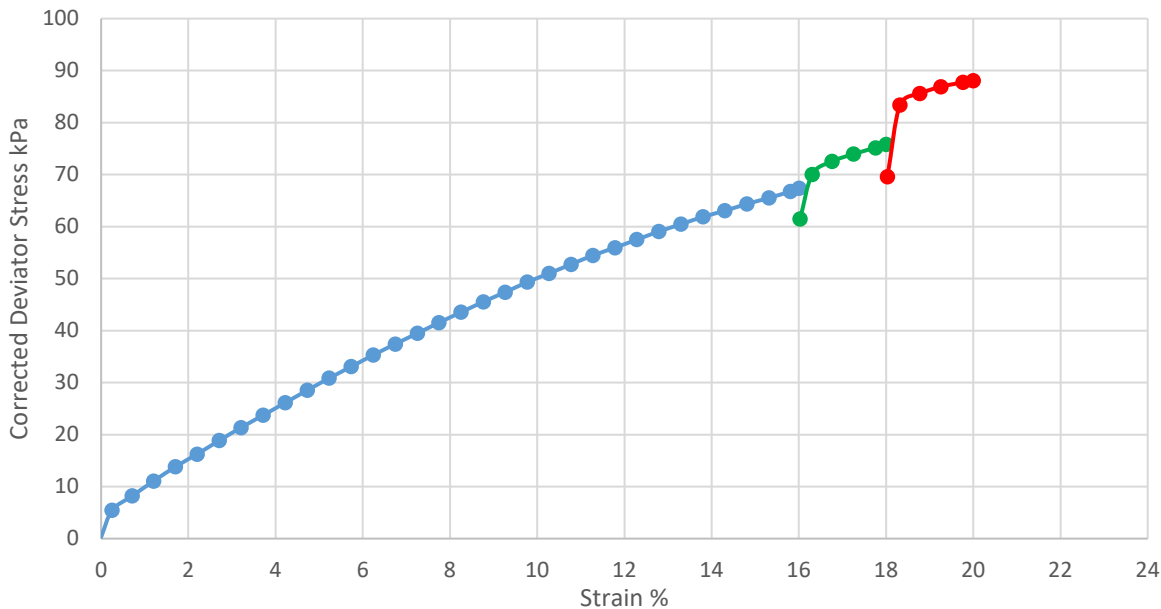
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: 1990 - Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP02 7.50-7.95	DATE SAMPLED	11-Jul-22
LAB SAMPLE No.	114427	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Aug-22	SAMPLED BY	Client
MATERIAL	Soft to firm brown silty sandy CLAY with frequent gravel		
ADVISED SOURCE	Site Investigation Sample		

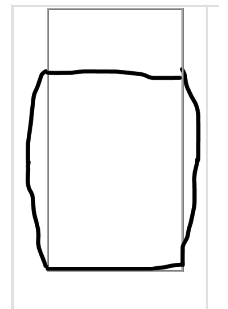
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	420	Specimen depth from top of Sample (mm)	100
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	199	Specimen Moisture Content (%)	16
		Specimen Diameter (mm)	101	Specimen Bulk Density (Mg/m3)	2.12
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.82
		Membrane Correction	1.27	1.38	1.49

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength Cu (kPa)
80	16	2	66.8	33
160	18	2	75.2	38
320	20	2	87.7	44

Remarks/Abnormalities

Name O.P Davies BA (Hons)
(Laboratory Manager)

Signed



Date 17 August 2022

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014

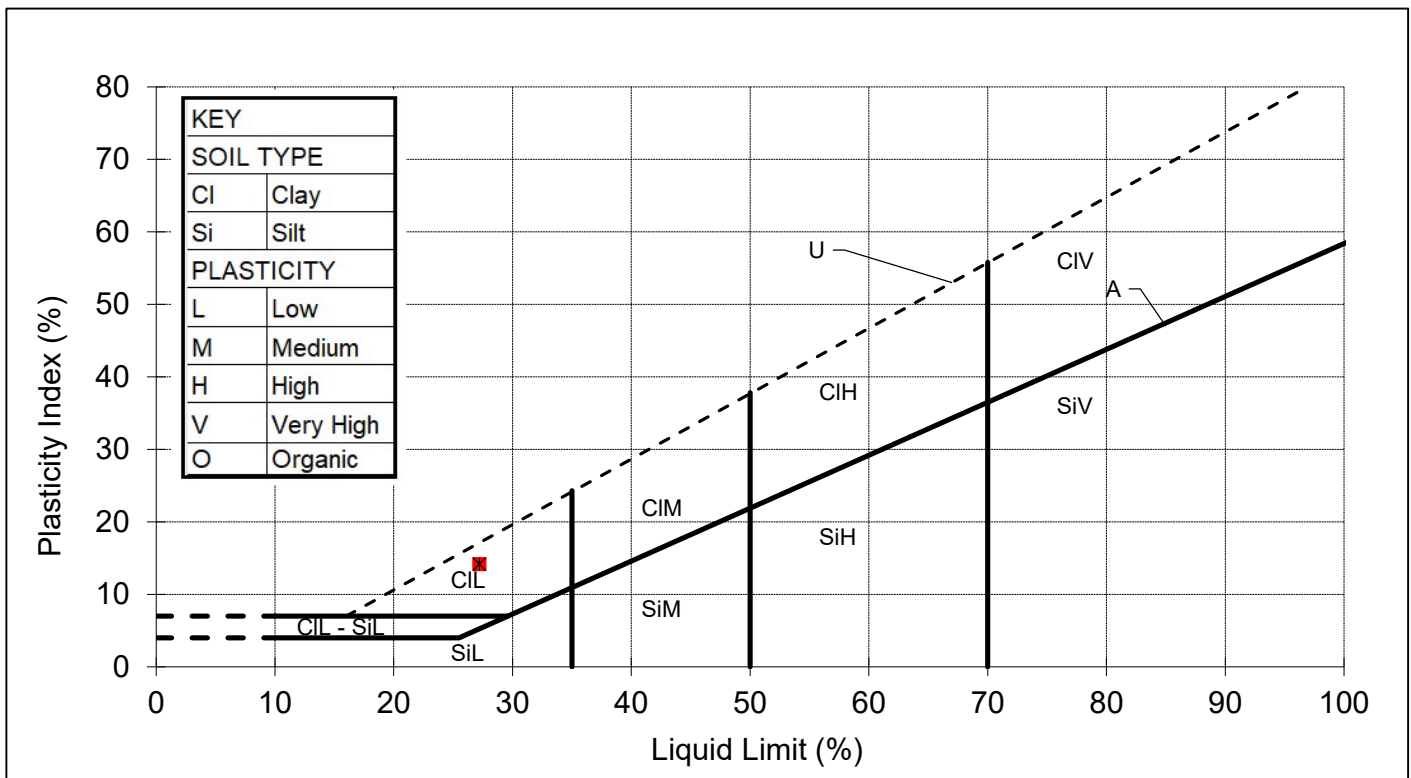
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP04 1.50-1.95	DATE SAMPLED	12-Jul-22
SAMPLE No.	114430	DATE RECEIVED	14-Jul-22
DATE TESTED	25-Jul-22	SAMPLED BY	Client

MATERIAL	Soft to firm brown silty sandy CLAY with frequent gravel		
ADVISED SOURCE	Site Investigation sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	22.7	0.9630	
Determination 2 (avg)	22.9		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.4	27	13	14	52



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

17-Aug-22

MURRAY RIX

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TEL 0161 475 0870

TEST CERTIFICATE

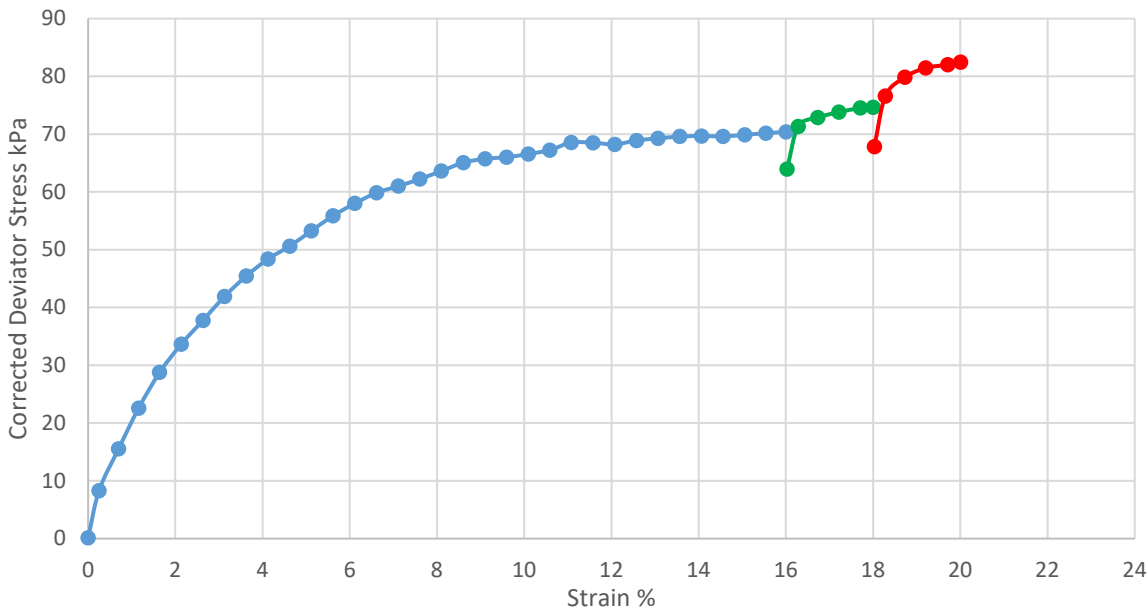
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: 1990 - Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

SAMPLE LABEL	CP04 1.50-1.95	DATE SAMPLED	12-Jul-22
LAB SAMPLE No.	114430	DATE RECEIVED	14-Jul-22
DATE TESTED	15-Aug-22	SAMPLED BY	Client
MATERIAL	Soft to firm brown silty sandy CLAY with frequent gravel		
ADVISED SOURCE	Site Investigation Sample		

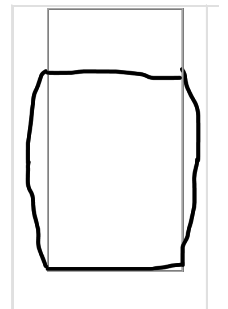
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	200	Specimen depth from top of Sample (mm)	25
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	202	Specimen Moisture Content (%)	16
		Specimen Diameter (mm)	101	Specimen Bulk Density (Mg/m3)	2.12
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.82
		Membrane Correction	1.27	1.39	1.50

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength Cu (kPa)
20	16	2	70.2	35
40	18	2	74.5	37
80	20	2	82.0	41

Remarks/Abnormalities

Name O.P Davies BA (Hons)
(Laboratory Manager)

Signed



Date 17 August 2022

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

DETERMINATION OF WATER-SOLUBLE SULPHATE IN SOIL
& DETERMINATION OF THE pH VALUE
BS 1377-3:2018+A1:2021, Cl. 7.3 & Cl. 12

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A4575 - Bentley Street
JOB NUMBER	MRN 4288/69

DATE TESTED	25-Jul-22	DATE SAMPLED	11, 12-Jul-22
SAMPLED BY	Client	DATE RECEIVED	14-Jul-22
PRE-TREATMENT	Air Dried	ADVISED SOURCE	Site Investigation Sample

Sample Number	Sample Reference	Material	% Ret. 2mm	pH Value	Water Soluble Sulphate as SO ₄ (mg/l)
114425	CP01 7.50-7.95	Soft to firm brown silty sandy CLAY with occasional gravel	17	7.4	200
114428	CP02 9.00-9.45	Firm brown silty sandy CLAY with occasional gravel	9	7.4	280
114429	CP03 6.00-6.45	Firm brown silty sandy CLAY with occasional gravel	26	7.5	180
114431	CP04 10.00	Firm brown silty sandy CLAY with occasional gravel	17	7.4	100
114432	CP05 8.00	Firm brown silty sandy CLAY with occasional gravel	18	7.7	90

REMARKS

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

17-Aug-22