



TEST REPORT

Client Earth Environmental & Geotechnical Ltd

Address Houldsworth Mills Business & Arts Centre
Houldsworth Street
Reddish
Stockport
SK5 6DA

Contract A0697 -
Laund Road, Huddersfield

Job Number MRN 3507/40
Date of Issue 26 June 2019
Page 1 of 12

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. This does not, however, guarantee the balance of the materials from which the tested samples have been taken to be of equal quality.



33C, Vauxhall Industrial Estate, Greg Street, Reddish, Stockport SK5 7BR Tel: 0161 475 0870 Fax: 0161 475 0871

Email: steve@mtt-uk.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

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MURRAY RIX

UNIT 33C, VAUXHALL IND. ESTATE, GREG STREET
REDDISH, STOCKPORT, SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 – Laund Road. Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	TP4 D 2.8	DATE SAMPLED	13 June 2019
LAB SAMPLE No	83764	DATE RECEIVED	17 June 2019
DATE TESTED	18 June 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.2	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.35	

REMARKS

SIGNED 

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

DATE 26 June 2019

MURRAY RIX

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TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3

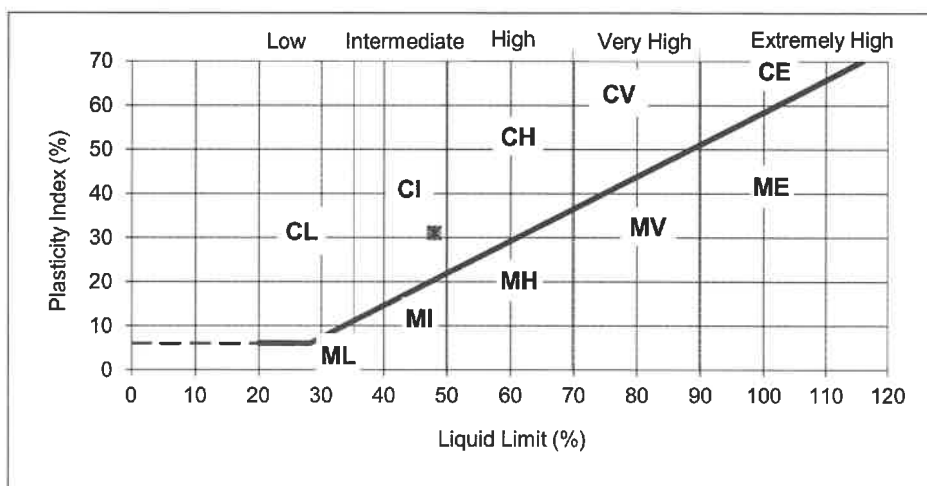
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 - Laund Road, Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	TP5 D 1	DATE SAMPLED	13-Jun-19
SAMPLE No.	83765	DATE RECEIVED	17-Jun-19
DATE TESTED	18-Jun-19	SAMPLED BY	Client

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

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
27	48	17	31	95



REMARKS

Sample tested in natural condition

SIGNED

NAME
Page 3 of 12

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

DATE 26-Jun-19

MURRAY RIX

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TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.5: 1990

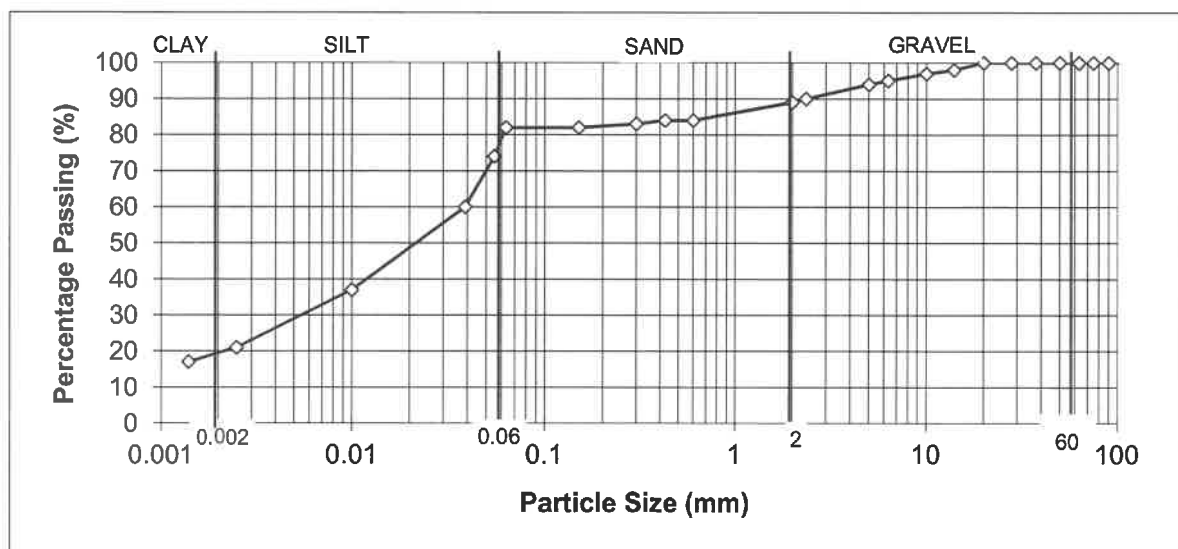
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 - Laund Road, Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	TP11 D 1	DATE SAMPLED	13-Jun-19
LAB SAMPLE No	83767	DATE RECEIVED	17-Jun-19
DATE TESTED	18-Jun-19	SAMPLED BY	Client

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

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2.36	90	
90	100		2	89	
75	100		0.6	84	
63	100		0.425	84	
50	100		0.3	83	
37.5	100		0.15	82	
28	100		0.063	82	
20	100		0.055	74	
14	98		0.039	60	
10	97		0.01	37	
6.3	95		0.0025	21	
5	94		0.0014	17	



REMARKS

As received moisture content = 40%

SIGNED

NAME

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

DATE

26-Jun-19

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TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3

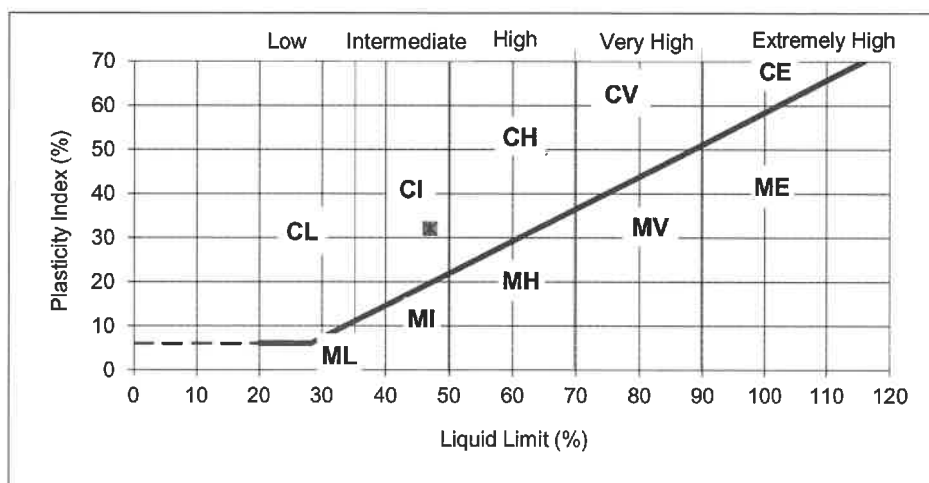
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 - Laund Road, Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	TP11 D 1	DATE SAMPLED	13-Jun-19
SAMPLE No.	83767	DATE RECEIVED	17-Jun-19
DATE TESTED	18-Jun-19	SAMPLED BY	Client

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

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
40	47	15	32	84



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

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26-Jun-19

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pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 – Laund Road. Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	TP11 D 1	DATE SAMPLED	13 June 2019
LAB SAMPLE No	83767	DATE RECEIVED	17 June 2019
DATE TESTED	18 June 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.28	

REMARKS

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pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 – Laund Road. Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	TP13 D 1.5	DATE SAMPLED	13 June 2019
LAB SAMPLE No	83768	DATE RECEIVED	17 June 2019
DATE TESTED	18 June 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	6.7	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.40	

REMARKS

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(Laboratory Manager)

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PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.5: 1990

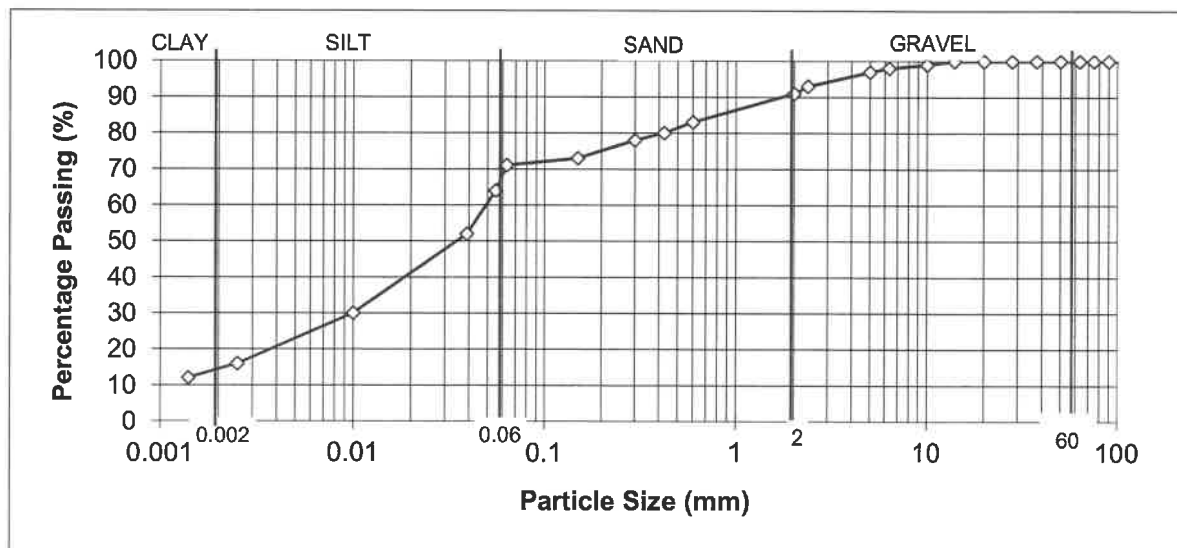
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 - Laund Road, Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	WS1 U 0.7-1	DATE SAMPLED	13-Jun-19
LAB SAMPLE No	83770	DATE RECEIVED	17-Jun-19
DATE TESTED	18-Jun-19	SAMPLED BY	Client

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

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2.36	93	
90	100		2	91	
75	100		0.6	83	
63	100		0.425	80	
50	100		0.3	78	
37.5	100		0.15	73	
28	100		0.063	71	
20	100		0.055	64	
14	100		0.039	52	
10	99		0.01	30	
6.3	98		0.0025	16	
5	97		0.0014	12	



REMARKS

As received moisture content = 32%

SIGNED

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LIQUID AND PLASTIC LIMIT

BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3

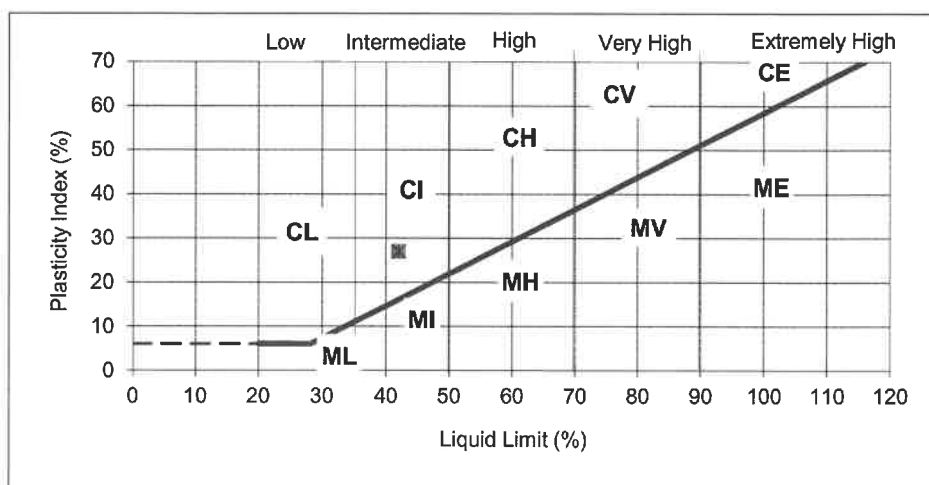
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 - Laund Road, Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	WS1 U 0.7-1	DATE SAMPLED	13-Jun-19
SAMPLE No.	83770	DATE RECEIVED	17-Jun-19
DATE TESTED	18-Jun-19	SAMPLED BY	Client

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

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
32	42	15	27	80



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

26-Jun-19

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TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION BS 1377: PART 7: 1990:CLAUSE 8 SINGLE STAGE

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 – Laund Road, Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	WS1 U 0.7-1	DATE SAMPLED	13 June 2019
LAB SAMPLE No	83770	DATE RECEIVED	17 June 2019
DATE TESTED	19 June 2019	SAMPLED BY	Client

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

SPECIMEN LENGTH	152	mm
SPECIMEN DIAMETER	81	mm
MOISTURE CONTENT OF SAMPLE	32	%
BULK DENSITY	1.78	Mg/m ³
DRY DENSITY	1.35	Mg/m ³
DEPTH OF TOP OF SPECIMEN	0.75	m
RATE OF STRAIN	2	%/min
RUBBER MEMBRANE THICKNESS	0.6	mm

SPECIMEN AT FAILURE



Measured Cell Pressure (kPa)	Strain at Failure (%)	Membrane Correction (kPa)	Corrected Max Deviator Stress (kPa)	Shear Stress Cu (kPa)
20	18	2.0	67.8	34

REMARKS

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CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 – Laund Road. Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	WS2 D 1.2	DATE SAMPLED	13 June 2019
LAB SAMPLE No	83771	DATE RECEIVED	17 June 2019
DATE TESTED	18 June 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.21	

REMARKS

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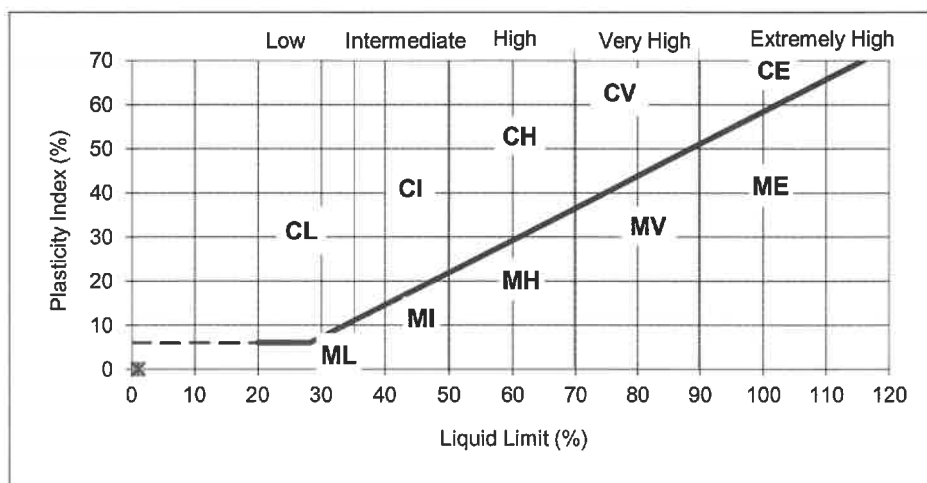
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A0697 - Laund Road, Huddersfield
JOB NUMBER	MRN 3507/40

SAMPLE LABEL	WS6 D 1.5	DATE SAMPLED	13-Jun-19
SAMPLE No.	83773	DATE RECEIVED	17-Jun-19
DATE TESTED	18-Jun-19	SAMPLED BY	Client

MATERIAL	Firm black brown slightly clayey sandy SILT with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
22	N/A	Non Plastic	N/A	83



REMARKS

Sample tested after wet sieving, Sample did contain some plastic material but due to the amount of fine sand and silt was found to be non plastic

SIGNED

NAME

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(Laboratory Manager)

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